

The order of this data package is as follows:

1. Chain-of-Custody/Lab Request
2. Copies of field COCs
3. Validation Report
4. Laboratory analysis

Comments:

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 11162

EVENT NAME: Pajarito (TA-54) MY2017 Q3

SAMPLE ID: CAPA-17-130707

WORK ORDER:

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
Date Collected (MM/DD/YYYY):	4/6/17	OK	FIELD MATRIX:	WG	OK
TIME COLLECTED (HH:MM):	1207		MEDIA:	UA	
PRS ID:	OK		SAMPLE TECH CODE:	GSP	
LOCATION ID:	R-23		FIELD PREP:	UF	
LOCATION TYPE:	Mon		FIELD QC TYPE:	REG	
TOP DEPTH:	OK		SAMPLE USAGE:	INV	↓
BOTTOM DEPTH:	↓	↓	EXCAVATED:		YES / NO / (NA)

PRIORITY	ORDER	CONTAINER	#	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
NA	WSP-8260B-VOA	40 ML SEPTUM AMBER GLASS	2	HCL	Y	NA
↓	WSP-LL-H-3	1 LITER POLY	1	NONE	↓	↓

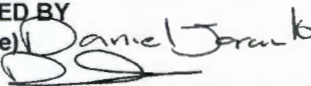
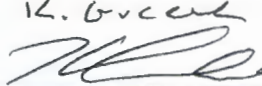
SAMPLE COMMENTS: Sampled 40 ft. from running diesel generator

LOCATION COMMENTS: Breezy while sampling

FIELD PARAMETERS:

Dissolved Oxygen	6.72	mg/L	Flow (in gpm)	11.11	GPM	Oxidation-Reduction Potential	202.1	mV
pH	7.73	SU	Specific Conductance	168.5	uS/cm	Temperature	21.1	deg C
Turbidity	1.08	NTU						

COLLECTED BY (PRINT): A. Vigil D. Jaramillo

RELINQUISHED BY (Printed Name) Daniel Jaramillo (Signature) 	Date/Time 4/6/17 12:45	RECEIVED BY (Printed Name) K. G. ... (Signature) 	Date/Time 4/6/17 12:45
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

Report Date: 03/27/2017

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 11162

EVENT NAME: Pajarito (TA-54) MY2017 Q3

SAMPLE ID: CAPA-17-130710

WORK ORDER:

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
Date Collected (MM/DD/YYYY):	4/6/17	OK	FIELD MATRIX:	WG	OK
TIME COLLECTED (HH:MM):	1126		MEDIA:	UA	
PRS ID:	OK		SAMPLE TECH CODE:	GSP	
LOCATION ID:	R-23i S3		FIELD PREP:	UF	
LOCATION TYPE:	Mon		FIELD QC TYPE:	REG	
TOP DEPTH:	OK		SAMPLE USAGE:	INV	
BOTTOM DEPTH:	↓	↓	EXCAVATED:		YES / NO / (NA)

PRIORITY	ORDER	CONTAINER	#	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
NA	WSP-8260B-VOA	40 ML SEPTUM AMBER GLASS	2	HCL	Y	NA
↓	WSP-LL-H-3	1 LITER POLY	1	NONE	↓	↓

SAMPLE COMMENTS: Sampled 40 ft. from running diesel generator

LOCATION COMMENTS: Breezy while sampling

FIELD PARAMETERS:

Dissolved Oxygen	6.71	mg/L	Flow (in gpm)	1.56	GPM	Oxidation-Reduction Potential	215.4	mV
pH	7.70	SU	Specific Conductance	197.8	uS/cm	Temperature	17.4	deg C
Turbidity	0.88	NTU						

COLLECTED BY (PRINT): A. Vigil, D. Jaramillo

RELINQUISHED BY (Printed Name) <i>Daniel Jaramillo</i> (Signature) <i>[Signature]</i>	Date/Time 12:45 4/6/17	RECEIVED BY (Printed Name) <i>K. Greene</i> (Signature) <i>[Signature]</i>	Date/Time 4/6/17 12:45
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 11162

EVENT NAME: Pajarito (TA-54) MY2017 Q3

SAMPLE ID: CAPA-17-130719

WORK ORDER:

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
Date Collected (MM/DD/YYYY):	04-07-2017	OK	FIELD MATRIX:	WG	OK
TIME COLLECTED (HH:MM):	11:45	1	MEDIA:	UA	
PRS ID:	NA		SAMPLE TECH CODE:	GSP	
LOCATION ID:	R-51 S1		FIELD PREP:	UF	
LOCATION TYPE:	NA		FIELD QC TYPE:	REG	
TOP DEPTH:			SAMPLE USAGE:	INV	
BOTTOM DEPTH:			EXCAVATED:		YES / NO / NA

PRIORITY	ORDER	CONTAINER	#	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
NA	WSP-8260B-VOA	40 ML SEPTUM AMBER GLASS	2	HCL	Y	NA
1	WSP-LL-H-3	1 LITER POLY	1	NONE	1	1

SAMPLE COMMENTS:

Sampled ~ 40' from running diesel generator. Gusty (~15 mph) wind during sampling.

LOCATION COMMENTS:

FIELD PARAMETERS:

Dissolved Oxygen	7.54	mg/L	Flow (in gpm)	3.70	GPM	Oxidation-Reduction Potential	211.6	mV
pH	7.92	SU	Specific Conductance	120.2	uS/cm	Temperature	20.4	deg C
Turbidity	0.58	NTU						

COLLECTED BY (PRINT): D. Jaramillo, A. Vigil

RELINQUISHED BY (Printed Name) ANDREW VIGIL (Signature) <i>Andrew Vigil</i>	Date/Time 04/17/2017 1415	RECEIVED BY (Printed Name) K. Greene (Signature) <i>K. Greene</i>	Date/Time 4/17/17 2:15
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

Report Date: 03/27/2017

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 11162

EVENT NAME: Pajarito (TA-54) MY2017 Q3

SAMPLE ID: CAPA-17-130720

WORK ORDER:

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
Date Collected (MM/DD/YYYY):	04-07-2017	OK	FIELD MATRIX:	WG	OK
TIME COLLECTED (HH:MM):	13:29		MEDIA:	UA	
PRS ID:	NA		SAMPLE TECH CODE:	GSP	
LOCATION ID:	R-51 S2		FIELD PREP:	UF	
LOCATION TYPE:	NA		FIELD QC TYPE:	REG	
TOP DEPTH:			SAMPLE USAGE:	INV	
BOTTOM DEPTH:			EXCAVATED:		YES / NO / NA

PRIORITY	ORDER	CONTAINER	#	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
NA	WSP-8260B-VOA	40 ML SEPTUM AMBER GLASS	2	HCL	Y	NA
L	WSP-LL-H-3	1 LITER POLY	1	NONE	NA 040717 Y	L

SAMPLE COMMENTS:

Sampled ~50' from running diesel generator

LOCATION COMMENTS:

None

FIELD PARAMETERS:

Dissolved Oxygen	6.22	mg/L	Flow (in gpm)	3.75	GPM	Oxidation-Reduction Potential	25.6	mV
pH	8.16	SU	Specific Conductance	122.9	uS/cm	Temperature	21.8	deg C
Turbidity	0.31	NTU						

COLLECTED BY (PRINT): A. Vigil, P. Jaramillo

RELINQUISHED BY (Printed Name) ANDREW UGIL (Signature) <i>Andrew Ugil</i>	Date/Time 04/17/2017 1415	RECEIVED BY (Printed Name) K. Greene (Signature) <i>K. Greene</i>	Date/Time 4/17/17 2:15
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

Report Date: 03/27/2017

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 11162

EVENT NAME: Pajarito (TA-54) MY2017 Q3

SAMPLE ID: CAPA-17-130726

WORK ORDER:

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
Date Collected (MM/DD/YYYY):	4/7/17	OK	FIELD MATRIX:	WG	OK
TIME COLLECTED (HH:MM):	1254		MEDIA:	UA	
PRS ID:	OK		SAMPLE TECH CODE:	GSP	
LOCATION ID:	R-54 S2		FIELD PREP:	UF	
LOCATION TYPE:	Mon		FIELD QC TYPE:	REG	
TOP DEPTH:	OK		SAMPLE USAGE:	INV	
BOTTOM DEPTH:	↓	↓	EXCAVATED:		YES / NO <u>NA</u>

PRIORITY	ORDER	CONTAINER	#	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
NA	WSP-8260B-VOA	40 ML SEPTUM AMBER GLASS	2	HCL	Y	NA
↓	WSP-LL-H-3	1 LITER POLY	1	NONE	↓	↓

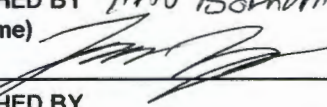
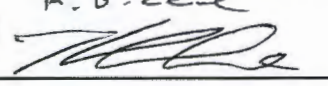
SAMPLE COMMENTS: Sampled 50 ft. from running diesel generator

LOCATION COMMENTS: Breezy while sampling

FIELD PARAMETERS:

Dissolved Oxygen	<u>6.30</u>	mg/L	Flow (in gpm)	<u>3.16</u>	GPM	Oxidation-Reduction Potential	<u>73.4</u>	mV
pH	<u>8.28</u>	SU	Specific Conductance	<u>125.4</u>	uS/cm	Temperature	<u>21.5</u>	deg C
Turbidity	<u>5.2</u>	NTU						

COLLECTED BY (PRINT): T. Bonham

RELINQUISHED BY (Printed Name) (Signature)	<u>T. Bonham</u> 	Date/Time <u>4/7/2017</u> <u>1350</u>	RECEIVED BY (Printed Name) (Signature)	<u>K. G. Reed</u> 	Date/Time <u>4/7/17</u> <u>1150</u>
RELINQUISHED BY (Printed Name) (Signature)		Date/Time	RECEIVED BY (Printed Name) (Signature)		Date/Time

Report Date: 03/27/2017

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 11162

EVENT NAME: Pajarito (TA-54) MY2017 Q3

SAMPLE ID: CAPA-17-130735

WORK ORDER:

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
Date Collected (MM/DD/YYYY):	4/6/17	OK	FIELD MATRIX:	WG	
TIME COLLECTED (HH:MM):	1126		MEDIA:	UA	
PRS ID:	OK		SAMPLE TECH CODE:	DC	
LOCATION ID:	R-23i S3		FIELD PREP:	UF	
LOCATION TYPE:	Mon		FIELD QC TYPE:	FTB	
TOP DEPTH:	OK		SAMPLE USAGE:	QC	
BOTTOM DEPTH:	↓	✓	EXCAVATED:		YES / NO / NA

PRIORITY	ORDER	CONTAINER	#	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
NA	WSP-8260B- VOA	40 ML SEPTUM AMBER GLASS	1WS 4/6/17 2	HCL	Y	NA

SAMPLE COMMENTS:

LOCATION COMMENTS:

FIELD PARAMETERS:

AS 4/6/17

Dissolved Oxygen	_____	mg/L	Flow (in gpm)	_____	GPM	Oxidation-Reduction Potential	_____	mV
pH	_____	SU	Specific Conductance	_____	uS/cm	Temperature	_____	deg C
Turbidity	_____	NTU						

COLLECTED BY (PRINT): A. Vigil, D. Jaramillo

RELINQUISHED BY (Printed Name) Daniel Jaramillo (Signature) <i>[Signature]</i>	Date/Time 4/6/17 1245	RECEIVED BY (Printed Name) K. Green (Signature) <i>[Signature]</i>	Date/Time 4/6/17 12:45
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

Report Date: 03/27/2017

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 11162

EVENT NAME: Pajarito (TA-54) MY2017 Q3

SAMPLE ID: CAPA-17-130738

WORK ORDER:

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
Date Collected (MM/DD/YYYY):	4/6/17	OK	FIELD MATRIX:	WG	OK
TIME COLLECTED (HH:MM):	1207		MEDIA:	UA	
PRS ID:	OK		SAMPLE TECH CODE:	DC	
LOCATION ID:	R-23		FIELD PREP:	UF	
LOCATION TYPE:	Mon		FIELD QC TYPE:	FTB	
TOP DEPTH:	OK		SAMPLE USAGE:	QC	
BOTTOM DEPTH:	↓	↓	EXCAVATED:		YES / NO / <u>NA</u>

PRIORITY	ORDER	CONTAINER	#	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
NA	WSP-8260B- VOA	40 ML SEPTUM AMBER GLASS	2008	HCL	Y	NA

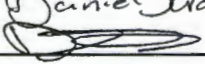

SAMPLE COMMENTS:

LOCATION COMMENTS:

FIELD PARAMETERS:

Dissolved Oxygen _____ mg/L Flow (in gpm) _____ GPM Oxidation-Reduction Potential _____ mV
pH _____ SU Specific Conductance _____ uS/cm Temperature _____ deg C
Turbidity _____ NTU

COLLECTED BY (PRINT): A. Vigil, D. Jaramila

RELINQUISHED BY (Printed Name) Daniel Jaramila (Signature) 	Date/Time 1245 4/6/17	RECEIVED BY (Printed Name) K. Guzman (Signature) 	Date/Time 4/6/17 12:45
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

Report Date: 03/27/2017

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 11162

EVENT NAME: Pajarito (TA-54) MY2017 Q3

SAMPLE ID: CAPA-17-130743

WORK ORDER:

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
Date Collected (MM/DD/YYYY):	04-07-2017	OK	FIELD MATRIX:	WG	OK
TIME COLLECTED (HH:MM):	11:45		MEDIA:	UA	
PRS ID:	NA		SAMPLE TECH CODE:	DC	
LOCATION ID:	R-51 S1		FIELD PREP:	UF	
LOCATION TYPE:	NA		FIELD QC TYPE:	FTB	
TOP DEPTH:	1		SAMPLE USAGE:	QC	
BOTTOM DEPTH:			EXCAVATED:		YES / NO / (NA)

PRIORITY	ORDER	CONTAINER	#	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
NA	WSP-8260B- VOA	40 ML SEPTUM AMBER GLASS	2 TA-54 4/1/17	HCL	Y	NA

SAMPLE COMMENTS:

LOCATION COMMENTS:

FIELD PARAMETERS:

Dissolved Oxygen _____ mg/L Flow (in gpm) _____ GPM Oxidation-Reduction Potential _____ mV
pH _____ SU Specific Conductance _____ uS/cm Temperature _____ deg C
Turbidity _____ NTU

COLLECTED BY (PRINT): A. Jaramillo, A. Vigil

RELINQUISHED BY (Printed Name) ANDREW VIGIL (Signature) Andrew Vigil	Date/Time 4/17/2017 1415	RECEIVED BY (Printed Name) K. Greene (Signature) [Signature]	Date/Time 4/17/17 2:15
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

Report Date: 03/27/2017

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 11162

EVENT NAME: Pajarito (TA-54) MY2017 Q3

SAMPLE ID: CAPA-17-130744

WORK ORDER:

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
Date Collected (MM/DD/YYYY):	04-07-2017	OK	FIELD MATRIX:	WG	OK
TIME COLLECTED (HH:MM):	13:29		MEDIA:	UA	
PRS ID:	NA		SAMPLE TECH CODE:	DC	
LOCATION ID:	R-51 S2		FIELD PREP:	UF	
LOCATION TYPE:	NA		FIELD QC TYPE:	FTB	
TOP DEPTH:			SAMPLE USAGE:	QC	
BOTTOM DEPTH:			EXCAVATED:		YES / NO / NA

PRIORITY	ORDER	CONTAINER	#	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
NA	WSP-8260B- VOA	40 ML SEPTUM AMBER GLASS	2 14/7/17 A.U.	HCL	Y	NA

SAMPLE COMMENTS:

LOCATION COMMENTS:

FIELD PARAMETERS:

Dissolved Oxygen _____ mg/L Flow (in gpm) _____ GPM Oxidation-Reduction Potential _____ mV
pH _____ SU Specific Conductance _____ uS/cm Temperature _____ deg C
Turbidity _____ NTU

COLLECTED BY (PRINT): A. Vigil, D. Jaramillo

RELINQUISHED BY (Printed Name) Andrew Vigil (Signature) [Signature]	Date/Time 04/7/2017 1415	RECEIVED BY (Printed Name) K. G. [Signature] (Signature) [Signature]	Date/Time 4/7/17 2115
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

Report Date: 03/27/2017

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 11162

EVENT NAME: Pajarito (TA-54) MY2017 Q3

SAMPLE ID: CAPA-17-130749

WORK ORDER:

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
Date Collected (MM/DD/YYYY):	4/7/17	OK	FIELD MATRIX:	WG	OK
TIME COLLECTED (HH:MM):	1254		MEDIA:	UA	
PRS ID:	OK		SAMPLE TECH CODE:	DL	
LOCATION ID:	R-54 S2		FIELD PREP:	UF	
LOCATION TYPE:	Mon		FIELD QC TYPE:	FTB	
TOP DEPTH:	OK		SAMPLE USAGE:	QC	
BOTTOM DEPTH:	↓	↓	EXCAVATED:		YES / NO (NA)

PRIORITY	ORDER	CONTAINER	#	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
NA	WSP-8260B- VOA	40 ML SEPTUM AMBER GLASS	7/11/17 4/11/17	HCL	Y	NA

SAMPLE COMMENTS:

LOCATION COMMENTS:

FIELD PARAMETERS:

Dissolved Oxygen _____ mg/L Flow (in gpm) _____ GPM Oxidation-Reduction Potential _____ mV
pH _____ SU Specific Conductance _____ uS/cm Temperature _____ deg C
Turbidity _____ NTU

COLLECTED BY (PRINT): T. Bonham

RELINQUISHED BY (Printed Name) <i>Tanner Bonham</i> (Signature) <i>[Signature]</i>	Date/Time 04/10/2017 1350	RECEIVED BY (Printed Name) <i>K. G. [Signature]</i> (Signature) <i>[Signature]</i>	Date/Time 4/7/17 1.50
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

Report Date: 03/27/2017

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 11162

EVENT NAME: Pajarito (TA-54) MY2017 Q3

SAMPLE ID: CAPA-17-130758

WORK ORDER:

~~130749~~

142

4/10/17

130758

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
Date Collected (MM/DD/YYYY):	4/7/17	OK	FIELD MATRIX:	WG	OK
TIME COLLECTED (HH:MM):	1254		MEDIA:	UA	
PRS ID:	OK		SAMPLE TECH CODE:	DL	
LOCATION ID:	R-54 S2		FIELD PREP:	UF	
LOCATION TYPE:	Mon		FIELD QC TYPE:	FB FB	142 4/10/17
TOP DEPTH:	OK		SAMPLE USAGE:	QC	
BOTTOM DEPTH:	↓	↓	EXCAVATED:		YES / NO / (NA)

PRIORITY	ORDER	CONTAINER	#	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
NA	WSP-8260B- VOA	40 ML SEPTUM AMBER GLASS	2	HCL	Y	NA

SAMPLE COMMENTS:

LOCATION COMMENTS:

FIELD PARAMETERS:

Dissolved Oxygen _____ mg/L Flow (in gpm) _____ GPM Oxidation-Reduction Potential _____ mV
pH _____ SU Specific Conductance _____ uS/cm Temperature _____ deg C
Turbidity _____ NTU

COLLECTED BY (PRINT): T. Bonham

RELINQUISHED BY (Printed Name) (Signature)	Date/Time 04/07/2017 1350	RECEIVED BY (Printed Name) (Signature)	Date/Time 4/7/17 1:50
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

Report Date: 03/27/2017

The order of this data package is as follows:

1. Chain-of-Custody/Lab Request
2. Copies of field COCs
3. Validation Report
4. Laboratory analysis

Comments:

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 11162

EVENT NAME: Pajarito (TA-54) MY2017 Q3

SAMPLE ID: CAPA-17-130761

WORK ORDER:

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
Date Collected (MM/DD/YYYY):	4/7/17	OK	FIELD MATRIX:	WG	OK
TIME COLLECTED (HH:MM):	1254		MEDIA:	UA	
PRS ID:	OK		SAMPLE TECH CODE:	GSP	
LOCATION ID:	R-54 S2		FIELD PREP:	UF	
LOCATION TYPE:	Mon		FIELD QC TYPE:	FD FD QC 4/10/17	
TOP DEPTH:	OK		SAMPLE USAGE:	QC	
BOTTOM DEPTH:	↓	↓	EXCAVATED:		YES / NO (NA)

PRIORITY	ORDER	CONTAINER	#	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
NA	WSP-8260B-VOA	40 ML SEPTUM AMBER GLASS	2	HCL	Y	NA
↓	WSP-LL-H-3	1 LITER POLY	1	NONE	↓	↓

SAMPLE COMMENTS:

LOCATION COMMENTS:

FIELD PARAMETERS:

Dissolved Oxygen _____ mg/L Flow (in gpm) _____ GPM Oxidation-Reduction Potential _____ mV
pH _____ SU Specific Conductance _____ uS/cm Temperature _____ deg C
Turbidity _____ NTU

COLLECTED BY (PRINT): T. Bonham

RELINQUISHED BY (Printed Name) (Signature)	Date/Time 04/07/2017 1350	RECEIVED BY (Printed Name) (Signature)	Date/Time 4/7/17 1:50
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

Report Date: 03/27/2017

DATA VALIDATION REPORT

Chain Of Custody No. 2017-1332

1. Distribution Of Samples In EDD.

SDG	Analytical Method	Regular Samples	Field Duplicates	Trip Blanks	Field Blanks	Equipment Blanks
420303	SW-846:8260B	2		2		
420303	SW-846:8260B	5		3		

SDG	Analytical Method	Analysis Lot ID	Prep Lot ID	Regular Samples	Field Duplicates	Trip Blanks	Field Blanks	Equipment Blanks	Method Blanks	Matrix Spikes	Matrix Spike Dups	Analytical Spikes	Post-Digestion Spikes	Lab Control Samples	Lab Control Sample Dups	Blank Spike	Blank Spike Dups	Lab Duplicates	Storage Blanks	Preparation Blanks	Reagent Blanks
420303	SW-846:8260B	1656366	1656366	7		5			2					4							

2. Distribution Of Analytes In EDD.

Analytical Method	Analytical Method Category	Field Sample ID	Lab Sample ID	Sample Purpose	Target Analytes	Surrogates	Spiked Compounds	TICS
SW-846:8260B	VOC	CAPA-17-130707	420303001	REG	80	3	0	0
SW-846:8260B	VOC	CAPA-17-130710	420303003	REG	80	3	0	0
SW-846:8260B	VOC	CAPA-17-130719	420303005	REG	80	3	0	0
SW-846:8260B	VOC	CAPA-17-130720	420303007	REG	80	3	0	0
SW-846:8260B	VOC	CAPA-17-130726	420303009	REG	80	3	0	0
SW-846:8260B	VOC	CAPA-17-130735	420303004	FTB	80	3	0	0
SW-846:8260B	VOC	CAPA-17-130738	420303002	FTB	80	3	0	0
SW-846:8260B	VOC	CAPA-17-130743	420303006	FTB	80	3	0	0
SW-846:8260B	VOC	CAPA-17-130744	420303008	FTB	80	3	0	0
SW-846:8260B	VOC	CAPA-17-130749	420303010	FTB	80	3	0	0
SW-846:8260B	VOC	CAPA-17-130758	420303012	REG	80	3	0	0
SW-846:8260B	VOC	CAPA-17-130761	420303011	REG	80	3	0	0
SW-846:8260B	VOC	LCS	1203768390	LCS	0	3	70	0
SW-846:8260B	VOC	LCS	1203768391	LCS	0	3	10	0
SW-846:8260B	VOC	LCS	1203769411	LCS	0	3	70	0
SW-846:8260B	VOC	LCS	1203769412	LCS	0	3	10	0
SW-846:8260B	VOC	MB	1203768389	MB	80	3	0	0
SW-846:8260B	VOC	MB	1203769410	MB	80	3	0	0

DATA VALIDATION REPORT

3. Are any analytes missing?

No.

4. Were any holding times exceeded?

No.

5. Any contaminants in blanks?

No.

6. Any surrogate recoveries outside the control limits?

No.

7. Any MS/MSD recoveries or RPDs outside the control limits?

No.

8. Any LCS/LCSD or BS/BSD recoveries or RPDs outside the control limits?

No.

9. Any Field Duplicate RPDs outside the desired limits?

No.

10. Any Lab Duplicate RPDs outside the desired limits?

No.

DATA VALIDATION REPORT

11. Any required reporting limits exceeded?

No.

12. Additional Validator's Comments.

13. Display Flagged Data.

None.

Reason Code

Description

J_LAB

The analytical laboratory qualified the detected result as estimated (J) because the result was less the PQL but greater than the MDL

U_LAB

The analytical laboratory qualified the analyte as not detected.

14. Usable Result Count.

Field Sample ID	Location ID	Sample Purpose	Analytical Method	No. Unuseable Records	Total Records
CAPA-17-130707	R-23	REG	SW-846:8260B	0	80
CAPA-17-130710	R-23i S3	REG	SW-846:8260B	0	80
CAPA-17-130719	R-51 S1	REG	SW-846:8260B	0	80
CAPA-17-130720	R-51 S2	REG	SW-846:8260B	0	80
CAPA-17-130726	R-54 S2	REG	SW-846:8260B	0	80
CAPA-17-130735	R-23i S3	FTB	SW-846:8260B	0	80
CAPA-17-130738	R-23	FTB	SW-846:8260B	0	80
CAPA-17-130743	R-51 S1	FTB	SW-846:8260B	0	80
CAPA-17-130744	R-51 S2	FTB	SW-846:8260B	0	80
CAPA-17-130749	R-54 S2	FTB	SW-846:8260B	0	80
CAPA-17-130758	R-54 S2	REG	SW-846:8260B	0	80
CAPA-17-130761	R-54 S2	REG	SW-846:8260B	0	80



May 04, 2017

gel.com

Mr. Keith Greene
Los Alamos National Laboratory
TA-03, SM271, Drop Pt. 02U, Rm111
Los Alamos, New Mexico 87545

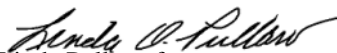
Re: LANL- WQH Water Samples
Work Order: 420303
SDG: 2017-1332

Dear Mr. Greene:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the following analytical results for the sample(s) we received on April 11, 2017, and analyzed for GC/MS Volatile. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4485.

Sincerely,


Linda Pullano for
Valerie Davis
Project Manager

Chain of Custody: 2017-1332
Enclosures



ARS International, LLC (ARS-LANS-MTOA6-25093-GEL)
LANL- WQH Water Samples
Work Order #: 420303
SDG: 2017-1332

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Case Narrative

**Case Narrative for
ARS International, LLC (ARS-LANS-MTOA6-25093-GEL)
LANL- WQH Water Samples
Workorder #: 420303
SDG # : 2017-1332**

May 04, 2017

Laboratory Identification:

GEL Laboratories LLC
2040 Savage Road
Charleston, South Carolina 29407
(843) 556-8171

Summary

Sample receipt The samples arrived at GEL Laboratories LLC, Charleston, South Carolina on April 11, 2017 for analysis. The samples were delivered with proper chain of custody documentation and signatures. The samples were screened according to GEL Standard Operating Procedure. All sample containers arrived without any visible signs of tampering or breakage. Containers were checked for pH, where appropriate, and matched the preservative as documented on the accompanying chain of custody. Shipping container temperature was within specification (0 - 6C). Shipping container temperatures were checked, documented, and within specifications. There are no additional comments concerning sample receipt.

Sample Identification The laboratory received the following samples:

<u>Laboratory ID</u>	<u>Client ID</u>
420303001	CAPA-17-130707
420303002	CAPA-17-130738
420303003	CAPA-17-130710
420303004	CAPA-17-130735
420303005	CAPA-17-130719
420303006	CAPA-17-130743
420303007	CAPA-17-130720
420303008	CAPA-17-130744
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420303011	CAPA-17-130761
420303012	CAPA-17-130758

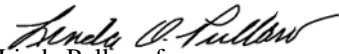
Case Narrative

Sample analyses were conducted using methodology as outlined in GEL Laboratories, LLC (GEL) Standard Operating Procedures. Any technical or administrative problems during analysis, data review, and reduction are contained in the analytical case narratives in the enclosed data package.

Data Package

The enclosed data package contains the following sections: Case Narrative, Chain of Custody, Cooler Receipt Checklist, Data Package Qualifier Definitions and data from the following fractions: GC/MS Volatile.

I certify that this data report is in compliance with the terms and conditions of the subcontract and task order, both technically and for completeness, for other than the conditions detailed in the attached case narrative.


Linda Pullano for
Valerie Davis
Project Manager

List of current GEL Certifications as of 04 May 2017

State	Certification
Alaska	UST-0110
Arkansas	88-0651
CLIA	42D0904046
California	2940
Colorado	SC00012
Connecticut	PH-0169
Delaware	SC00012
DoD ELAP/ ISO17025 A2LA	2567.01
Florida NELAP	E87156
Foreign Soils Permit	P330-15-00283, P330-15-00253
Georgia	SC00012
Georgia SDWA	967
Hawaii	SC00012
Idaho Chemistry	SC00012
Idaho Radiochemistry	SC00012
Illinois NELAP	200029
Indiana	C-SC-01
Kansas NELAP	E-10332
Kentucky SDWA	90129
Kentucky Wastewater	90129
Louisiana NELAP	03046 (AI33904)
Louisiana SDWA	LA170010
Maryland	270
Massachusetts	M-SC012
Michigan	9976
Mississippi	SC00012
Nebraska	NE-OS-26-13
Nevada	SC000122016-1
New Hampshire NELAP	205415
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
North Dakota	R-158
Oklahoma	9904
Pennsylvania NELAP	68-00485
S.Carolina Radchem	10120002
South Carolina Chemistry	10120001
Tennessee	TN 02934
Texas NELAP	T104704235-17-12
Utah NELAP	SC000122017-22
Vermont	VT87156
Virginia NELAP	460202
Washington	C780
West Virginia	997404

Chain of Custody and Supporting Documentation



Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Client: <u>ESHL</u>		SDG/AR/COC/Work Order: <u>420503</u>	
Received By: <u>ZKW</u>		Date Received: <u>4/11/17</u>	
Carrier and Tracking Number		Circle Applicable:	
		<input checked="" type="checkbox"/> FedEx Express <input type="checkbox"/> FedEx Ground <input type="checkbox"/> UPS <input type="checkbox"/> Field Services <input type="checkbox"/> Courier <input type="checkbox"/> Other <u>5908</u> <u>1781</u> <u>9319</u> <u>5908</u> <u>1781</u> <u>9320</u> <u>5908</u> <u>1781</u> <u>9308</u>	
Suspected Hazard Information	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.	
Shipped as a DOT Hazardous?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Hazard Class Shipped: _____ UN#: _____	
COC/Samples marked or classified as radioactive?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Maximum Net Counts Observed* (Observed Counts - Area Background Counts): <u>0</u> <u>CPM</u> mR/Hr Classified as: Rad 1 Rad 2 Rad 3	
Is package, COC, and/or Samples marked HAZ?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	If yes, select Hazards below, and contact the GEL Safety Group. PCB's Flammable Foreign Soil RCRA Asbestos Beryllium Other:	

Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1 Shipping containers received intact and sealed?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2 Chain of custody documents included with shipment?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3 Samples requiring cold preservation within (0 ≤ 6 deg. C)?*	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Preservation Method: Wet Ice <input checked="" type="checkbox"/> Ice Packs Dry ice None Other: *all temperatures are recorded in Celsius TEMP: <u>3°C</u>
4 Daily check performed and passed on IR temperature gun?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Temperature Device Serial #: <u>IR3-16</u> Secondary Temperature Device Serial # (If Applicable):
5 Sample containers intact and sealed?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
6 Samples requiring chemical preservation at proper pH?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Sample ID's and Containers Affected: If Preservation added, Lot#:
7 Do any samples require Volatile Analysis?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	If Yes, Are Encores or Soil Kits present? Yes ___ No <input checked="" type="checkbox"/> (If yes, take to VOA Freezer) Do VOA vials contain acid preservation? Yes <input checked="" type="checkbox"/> No ___ N/A ___ (If unknown, select No) VOA vials free of headspace? Yes ___ No <input checked="" type="checkbox"/> N/A ___ Sample ID's and containers affected: <u>-130561 rec'd w/headspace</u>
8 Samples received within holding time?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	ID's and tests affected:
9 Sample ID's on COC match ID's on bottles?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Sample ID's and containers affected:
10 Date & time on COC match date & time on bottles?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Sample ID's affected:
11 Number of containers received match number indicated on COC?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Sample ID's affected:
12 Are sample containers identifiable as GEL provided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
13 COC form is properly signed in relinquished/received sections?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Comments (Use Continuation Form if needed):

PM (or PMA) review: Initials

mea

Date

4/11/17

Page

1 of1

GL-CHL-SR-001 Rev 5

ORIGIN ID:SAFA (505) 665-9966
KEITH GREENE
LOS ALAMOS NATL LAB.
TA00 BLDG 1237 DPU 03

LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 10APR17
ACTWGT: 49.0 LB MAN
CAD: 0014176/CAFE2916

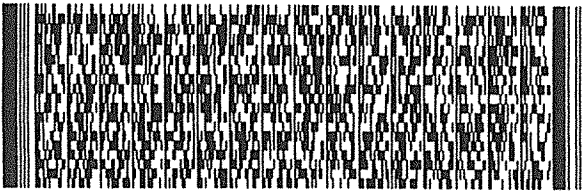
BILL SENDER

TO VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407

(843) 666-8171

REF: 21PD0AWE991158W100



FedEx
Express



J151315061301 10V

3 of 3
MPS# 5908 1781 9320
0263

Mstr# 5908 1781 9308

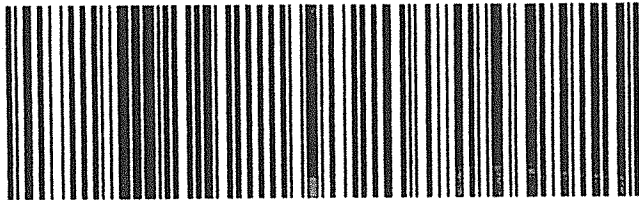
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X7 CHSA

TUE - 11 APR 10:30A
PRIORITY OVERNIGHT

29407

SC-US CHS



Part # 156148V-434 RIT2 06/15

ORIGIN ID:SAFA (505) 665-9966
KEITH GREENE
LOS ALAMOS NATL LAB.
TA00 BLDG 1237 DPU 03

LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 10APR17
ACTWGT: 53.0 LB MAN
CAD: 0014176/CAFE2916

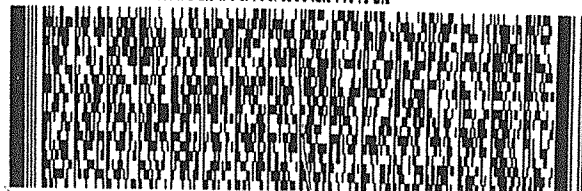
BILL SENDER

TO VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407

(843) 666-8171

REF: 21PD0AWE991158W100



FedEx
Express



J151315061301 10V

2 of 3
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0263

Mstr# 5908 1781 9308

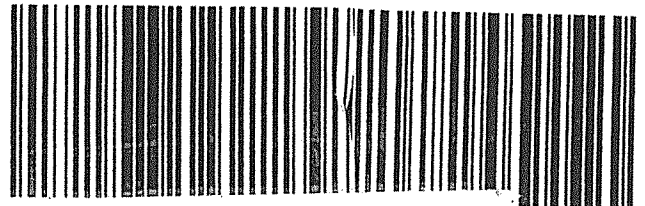
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TUE - 11 APR 10:30A
PRIORITY OVERNIGHT

29407

SC-US CHS



Part # 156148V-434 RIT2 06/15

SHIP DATE: 10APR17
ACTWGT: 16.0 LB MAN
CAD: 0014176/CAFE2916

BILL SENDER

ORIGIN ID:SAFA (505) 665-9966

KEITH GREENE
LOS ALAMOS NATL LAB.
TA00 BLDG 1237 DPU 03

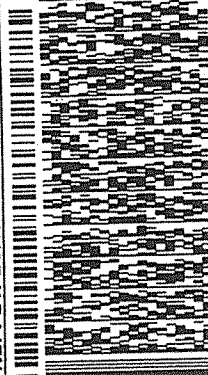
LOS ALAMOS, NM 87545
UNITED STATES US

VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407

(843) 666-8171

REF: 21PD0AWE991158W100



FedEx
Express



J151315061301 10V

TUE - 11 APR 10:30A
PRIORITY OVERNIGHT

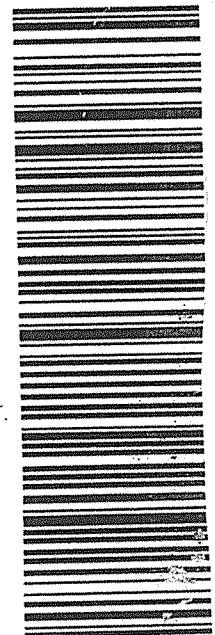
1 of 3

TRK# 5908 1781 9308
0201

MASTER

X7 CHSA

29407
SC-US CHS



Part # 156148V-434 RIT2 06/15

Data Review Qualifier Flag Definition Sheet

Data Review Qualifier Definitions

Qualifier	Explanation
-----------	-------------

*	A quality control analyte recovery is outside of specified acceptance criteria
**	Analyte is a surrogate compound
<	Result is less than value reported
>	Result is greater than value reported
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
A	The TIC is a suspected aldol-condensation product
B	Target analyte was detected in the associated blank
B	Metals-Either presence of analyte detected in the associated blank, or MDL/IDL < sample value < PQL
BD	Results are either below the MDC or tracer recovery is low
C	Analyte has been confirmed by GC/MS analysis
D	Results are reported from a diluted aliquot of the sample
d	5-day BOD-The 2:1 depletion requirement was not met for this sample
E	Organics-Concentration of the target analyte exceeds the instrument calibration range
E	Metals-%difference of sample and SD is >10%. Sample concentration must meet flagging criteria
H	Analytical holding time was exceeded
h	Preparation or preservation holding time was exceeded
J	Value is estimated
N	Metals-The Matrix spike sample recovery is not within specified control limits
N	Organics-Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
N/A	Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
ND	Analyte concentration is not detected above the reporting limit
UI	Gamma Spectroscopy-Uncertain identification
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y	QC Samples were not spiked with this compound
Z	Paint Filter Test-Particulates passed through the filter, however no free liquids were observed.

P Organics-The concentrations between the primary and confirmation columns/detectors is >40% difference.
For HPLC, the difference is >70%.

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

Volatile Analysis

Case Narrative

**GC/MS Volatile
Technical Case Narrative
ARS International, LLC (ARSL)
SDG #: 2017-1332
Work Order #: 420303**

Method/Analysis Information

Procedure: Volatile Organic Compounds (VOC) by Gas Chromatograph/Mass Spectrometer

Analytical Method: SW-846:8260B

Analytical Batch Number: 1656366

Sample Analysis

The following client and quality control samples were analyzed to complete this SDG using the methods referenced in the Analysis Information section:

Sample ID	Client ID
420303001	CAPA-17-130707
420303002	CAPA-17-130738
420303003	CAPA-17-130710
420303004	CAPA-17-130735
420303005	CAPA-17-130719
420303006	CAPA-17-130743
420303007	CAPA-17-130720
420303008	CAPA-17-130744
420303009	CAPA-17-130726
420303010	CAPA-17-130749
420303011	CAPA-17-130761
420303012	CAPA-17-130758
1203768389	Method Blank (MB)
1203768390	Laboratory Control Sample (LCS)
1203768391	Laboratory Control Sample (LCS)
1203768392	420303001(CAPA-17-130707) Post Spike (PS)
1203768393	420303001(CAPA-17-130707) Post Spike (PS)
1203768394	420303001(CAPA-17-130707) Post Spike Duplicate (PSD)
1203768395	420303001(CAPA-17-130707) Post Spike Duplicate (PSD)
1203769410	Method Blank (MB)
1203769411	Laboratory Control Sample (LCS)
1203769412	Laboratory Control Sample (LCS)

NOTE: For volatile organic analyses the matrix spike designations may be indicated as "PS" or "PSD". The "PS" designation (post spike) indicates that the matrix was fortified prior to analysis but after applying any prep factors, such as a dilution. The laboratory considers the MS/MSD and PS/PSD designations interchangeable.

The data results reported met all SOP and method criteria, unless otherwise discussed below.

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as

Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-OA-E-038 REV# 25.

Calibration Information

A complete list of the initial calibration data files with the correct dates and times of analysis are shown in the Calibration History report located in the Standard Data section of the data package. The surrogate compounds were calibrated using a minimum five-point calibration curve. The surrogates were added by the auto sampler at a concentration of 50 ug/L or 20 ug/L for low level analyses. GEL Laboratories LLC will not have surrogate recoveries reported for Dibromofluoromethane. This is due to increased regulations for this analyte and an industry shortage.

Initial Calibration

All initial calibration requirements have been met for this sample delivery group (SDG).

Continuing Calibration Verification Requirements

All associated calibration verification standard(s) (CCV) met the acceptance criteria.

Quality Control (QC) Information

Blank (MB) Statement

Target analytes were detected in the blanks 1203768389 (MB) and 1203769410 (MB) below the reporting limit.

Surrogate Recoveries

Surrogate recoveries in all client and quality control samples were within the acceptance limits.

Laboratory Control Sample (LCS) Recovery

The LCS spike recoveries met the acceptance limits.

QC Sample Designation

Sample 420303001 (CAPA-17-130707) was designated for spike analysis.

Matrix Spike/Matrix Spike Duplicate Recovery Statement

The matrix spike (MS) and matrix spike duplicate (MSD) recoveries were within the required acceptance limits.

Relative Percent Difference (RPD) Statement

The RPDs between the matrix spike pair met the acceptance limits.

Internal Standard (ISTD) Acceptance

The internal standard responses in all client and quality control samples met the required acceptance criteria.

Technical Information

Holding Time Specifications

All samples in this SDG met the specified holding time. GEL assigns holding times based on the associated methodology, which assigns the date and time from sample collection or sample receipt. Those holding times expressed in hours are calculated in the ALPHALIMS system. Those holding times expressed as days expire at midnight on the day of expiration.

Sample Preservation and Integrity

All samples met the sample preservation and integrity requirements.

Sample Dilutions/Methanol Dilutions

The samples in this SDG did not require dilutions.

Sample Re-extraction/Re-analysis

Re-analyses were not required for samples in this SDG.

Miscellaneous Information

Data Exception (DER) Documentation

A Data exception reports (DERs) was not generated to document procedural anomalies that may deviate from referenced SOP or contractual documents.

Manual Integrations

Data files associated with the initial calibration, continuing calibration check, and samples did not require manual integrations.

TIC Comment

Tentatively identified compounds (TIC) may be requested for samples in this delivery group/work order. Please note that non-requested calibrated analytes detected in a client sample may be reported on the Form 1/Certificate of Analysis as TICs. TIC data, if requested, were included on the Sample Data Summary (Form 1) and included with the sample raw data.

Additional Comments

Additional comments were not required for this SDG.

Residual Chlorine

Residual Chlorine was not detected in any of the samples in this SDG.

Electronic Package Comment

The following package was generated using an electronic data processing program referred to as "virtual packaging". In an effort to increase quality and efficiency, the laboratory is developing systems to eventually generate all data packages electronically. The following change from "traditional" packages should be noted: Analyst/peer reviewer initials and dates are not present on the electronic data files. Presently, all initials and dates are present on the original raw data. These hard copies are temporarily stored in the laboratory. An electronic signature page inserted after the case narrative of each electronic package will indicate the reviewer name associated with the generation of the data and package. The data validator will always sign and date the case narrative. Data that are not generated electronically, such as hand written pages, will be scanned and inserted into the electronic package.

System Configuration

The Volatile-GC/MS analysis was performed on the following instrument configuration:

Instrument ID	Instrument	System Configuration	Column ID	Column Description	P & T Trap
VOA6.I	Agilent 6890N/5975 GC/MS w/ OI 4560/Archon Autosampler	HP6890N/HP5975	DB-624	J&W, 60m x 0.25mm x 1.4um	Trap 10

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Qualifier Definition Report for

ARSL004 ARS International, LLC (ARS-LANS-MTOA6-25093-GEL)

Client SDG: 2017-1332 GEL Work Order: 420303

The Qualifiers in this report are defined as follows:

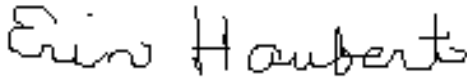
- * A quality control analyte recovery is outside of specified acceptance criteria
- ** Analyte is a surrogate compound
- B The target analyte was detected in the associated blank.
- J Value is estimated
- U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.
- DL Indicates that sample is diluted.
- RA Indicates that sample is re-analyzed without re-extraction.
- RE Indicates that sample is re-extracted.

Review/Validation

GEL requires all analytical data to be verified by a qualified data reviewer. In addition, all CLP-like deliverables receive a third level review of the fractional data package.

The following data validator verified the information presented in this data report:

Signature:



Name: Erin Haubert

Date: 05 MAY 2017

Title: Data Validator

Sample Data Summary

**Volatile
Certificate of Analysis
Sample Summary**

SDG Number: 2017-1332

Lab Sample ID: 420303001

Date Collected: 04/06/2017 12:07

Date Received: 04/11/2017 09:10

Matrix: W

Client: ARSL004

Project: ESHL00114

Method: SW-846:8260B

SOP Ref: GL-OA-E-038

Batch ID: 1656366

Inst: VOA6.I

Dilution: 1

Run Date: 04/14/2017 12:46

Analyst: JP1

Purge Vol: 5 mL

Prep Date: 04/14/2017 12:46

Data File: 041417V6\6C509.D

Column: DB-624

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
630-20-6	1,1,1,2-Tetrachloroethane	U	1.00	ug/L	0.300	1.00
71-55-6	1,1,1-Trichloroethane	U	1.00	ug/L	0.300	1.00
79-34-5	1,1,2,2-Tetrachloroethane	U	1.00	ug/L	0.300	1.00
79-00-5	1,1,2-Trichloroethane	U	1.00	ug/L	0.300	1.00
75-34-3	1,1-Dichloroethane	U	1.00	ug/L	0.300	1.00
75-35-4	1,1-Dichloroethylene	U	1.00	ug/L	0.300	1.00
563-58-6	1,1-Dichloropropene	U	1.00	ug/L	0.300	1.00
87-61-6	1,2,3-Trichlorobenzene	U	1.00	ug/L	0.300	1.00
96-18-4	1,2,3-Trichloropropane	U	1.00	ug/L	0.300	1.00
120-82-1	1,2,4-Trichlorobenzene	U	1.00	ug/L	0.300	1.00
95-63-6	1,2,4-Trimethylbenzene	U	1.00	ug/L	0.300	1.00
96-12-8	1,2-Dibromo-3-chloropropane	U	1.00	ug/L	0.500	1.00
106-93-4	1,2-Dibromoethane	U	1.00	ug/L	0.300	1.00
95-50-1	1,2-Dichlorobenzene	U	1.00	ug/L	0.300	1.00
107-06-2	1,2-Dichloroethane	U	1.00	ug/L	0.300	1.00
78-87-5	1,2-Dichloropropane	U	1.00	ug/L	0.300	1.00
108-67-8	1,3,5-Trimethylbenzene	U	1.00	ug/L	0.300	1.00
541-73-1	1,3-Dichlorobenzene	U	1.00	ug/L	0.300	1.00
142-28-9	1,3-Dichloropropane	U	1.00	ug/L	0.300	1.00
106-46-7	1,4-Dichlorobenzene	U	1.00	ug/L	0.300	1.00
594-20-7	2,2-Dichloropropane	U	1.00	ug/L	0.300	1.00
78-93-3	2-Butanone	U	5.00	ug/L	1.50	5.00
126-99-8	2-Chloro-1,3-butadiene	U	1.00	ug/L	0.300	1.00
95-49-8	2-Chlorotoluene	U	1.00	ug/L	0.300	1.00
591-78-6	2-Hexanone	U	5.00	ug/L	1.50	5.00
106-43-4	4-Chlorotoluene	U	1.00	ug/L	0.300	1.00
99-87-6	4-Isopropyltoluene	U	1.00	ug/L	0.300	1.00
108-10-1	4-Methyl-2-pentanone	U	5.00	ug/L	1.50	5.00
67-64-1	Acetone	U	10.0	ug/L	1.50	10.0
75-05-8	Acetonitrile	U	25.0	ug/L	8.00	25.0
107-02-8	Acrolein	U	5.00	ug/L	1.50	5.00
107-13-1	Acrylonitrile	U	5.00	ug/L	1.50	5.00
107-05-1	Allyl chloride	U	5.00	ug/L	1.50	5.00
71-43-2	Benzene	U	1.00	ug/L	0.300	1.00
108-86-1	Bromobenzene	U	1.00	ug/L	0.300	1.00
74-97-5	Bromochloromethane	U	1.00	ug/L	0.300	1.00
75-27-4	Bromodichloromethane	U	1.00	ug/L	0.300	1.00
75-25-2	Bromoform	U	1.00	ug/L	0.300	1.00

**Volatile
Certificate of Analysis
Sample Summary**

SDG Number: 2017-1332

Lab Sample ID: 420303001

Date Collected: 04/06/2017 12:07

Date Received: 04/11/2017 09:10

Matrix: W

Client: ARSL004

Project: ESHL00114

Method: SW-846:8260B

SOP Ref: GL-OA-E-038

Batch ID: 1656366

Inst: VOA6.I

Dilution: 1

Run Date: 04/14/2017 12:46

Analyst: JP1

Purge Vol: 5 mL

Prep Date: 04/14/2017 12:46

Data File: 041417V6\6C509.D

Column: DB-624

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
74-83-9	Bromomethane	U	1.00	ug/L	0.300	1.00
75-15-0	Carbon disulfide	U	5.00	ug/L	1.50	5.00
56-23-5	Carbon tetrachloride	U	1.00	ug/L	0.300	1.00
108-90-7	Chlorobenzene	U	1.00	ug/L	0.300	1.00
75-00-3	Chloroethane	U	1.00	ug/L	0.300	1.00
67-66-3	Chloroform	U	1.00	ug/L	0.300	1.00
74-87-3	Chloromethane	U	1.00	ug/L	0.300	1.00
124-48-1	Dibromochloromethane	U	1.00	ug/L	0.300	1.00
74-95-3	Dibromomethane	U	1.00	ug/L	0.300	1.00
75-71-8	Dichlorodifluoromethane	U	1.00	ug/L	0.300	1.00
60-29-7	Ethyl ether	U	1.00	ug/L	0.300	1.00
97-63-2	Ethyl methacrylate	U	5.00	ug/L	1.50	5.00
100-41-4	Ethylbenzene	U	1.00	ug/L	0.300	1.00
87-68-3	Hexachlorobutadiene	U	1.00	ug/L	0.300	1.00
74-88-4	Iodomethane	U	5.00	ug/L	1.50	5.00
78-83-1	Isobutyl alcohol	U	50.0	ug/L	15.0	50.0
98-82-8	Isopropylbenzene	U	1.00	ug/L	0.300	1.00
126-98-7	Methacrylonitrile	U	5.00	ug/L	1.50	5.00
80-62-6	Methyl methacrylate	U	5.00	ug/L	1.50	5.00
75-09-2	Methylene chloride	U	10.0	ug/L	1.00	10.0
91-20-3	Naphthalene	U	1.00	ug/L	0.300	1.00
107-12-0	Propionitrile	U	5.00	ug/L	1.50	5.00
100-42-5	Styrene	U	1.00	ug/L	0.300	1.00
127-18-4	Tetrachloroethylene	U	1.00	ug/L	0.300	1.00
108-88-3	Toluene	U	1.00	ug/L	0.300	1.00
79-01-6	Trichloroethylene	U	1.00	ug/L	0.300	1.00
75-69-4	Trichlorofluoromethane	U	1.00	ug/L	0.300	1.00
76-13-1	Trichlorotrifluoroethane	U	5.00	ug/L	2.00	5.00
108-05-4	Vinyl acetate	U	5.00	ug/L	1.50	5.00
75-01-4	Vinyl chloride	U	1.00	ug/L	0.300	1.00
156-59-2	cis-1,2-Dichloroethylene	U	1.00	ug/L	0.300	1.00
10061-01-5	cis-1,3-Dichloropropylene	U	1.00	ug/L	0.300	1.00
179601-23-1	m,p-Xylenes	U	2.00	ug/L	0.300	2.00
71-36-3	n-Butyl alcohol	U	50.0	ug/L	15.0	50.0
104-51-8	n-Butylbenzene	U	1.00	ug/L	0.300	1.00
103-65-1	n-Propylbenzene	U	1.00	ug/L	0.300	1.00
95-47-6	o-Xylene	U	1.00	ug/L	0.300	1.00
135-98-8	sec-Butylbenzene	U	1.00	ug/L	0.300	1.00

**Volatile
Certificate of Analysis
Sample Summary**

SDG Number: 2017-1332

Lab Sample ID: 420303001

Date Collected: 04/06/2017 12:07

Date Received: 04/11/2017 09:10

Matrix: W

Client: ARSL004

Project: ESHL00114

Client ID: CAPA-17-130707

Method: SW-846:8260B

SOP Ref: GL-OA-E-038

Batch ID: 1656366

Inst: VOA6.I

Dilution: 1

Run Date: 04/14/2017 12:46

Analyst: JP1

Purge Vol: 5 mL

Prep Date: 04/14/2017 12:46

Data File: 041417V6\6C509.D

Column: DB-624

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
1634-04-4	tert-Butyl methyl ether	U	1.00	ug/L	0.300	1.00
98-06-6	tert-Butylbenzene	U	1.00	ug/L	0.300	1.00
156-60-5	trans-1,2-Dichloroethylene	U	1.00	ug/L	0.300	1.00
10061-02-6	trans-1,3-Dichloropropylene	U	1.00	ug/L	0.300	1.00

Surrogate/Tracer recovery	Result	Nominal	Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	48.4	50.0	ug/L 97	(71%-134%)
Bromofluorobenzene	49.8	50.0	ug/L 100	(70%-131%)
Toluene-d8	49.2	50.0	ug/L 98	(74%-124%)

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	unknown	3.6	5.44	ug/L	0	J
	unknown siloxane	11.348	17.4	ug/L	0	J
	unknown siloxane	13.75	23.7	ug/L	0	J

Volatile
Certificate of Analysis
Sample Summary

SDG Number: 2017-1332

Lab Sample ID: 420303002

Date Collected: 04/06/2017 12:07

Date Received: 04/11/2017 09:10

Matrix: W

Client: ARSL004

Project: ESHL00114

Client ID: CAPA-17-130738

Method: SW-846:8260B

SOP Ref: GL-OA-E-038

Batch ID: 1656366

Inst: VOA6.I

Dilution: 1

Run Date: 04/14/2017 13:14

Analyst: JP1

Purge Vol: 5 mL

Prep Date: 04/14/2017 13:14

Data File: 041417V6\6C510.D

Column: DB-624

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
630-20-6	1,1,1,2-Tetrachloroethane	U	1.00	ug/L	0.300	1.00
71-55-6	1,1,1-Trichloroethane	U	1.00	ug/L	0.300	1.00
79-34-5	1,1,2,2-Tetrachloroethane	U	1.00	ug/L	0.300	1.00
79-00-5	1,1,2-Trichloroethane	U	1.00	ug/L	0.300	1.00
75-34-3	1,1-Dichloroethane	U	1.00	ug/L	0.300	1.00
75-35-4	1,1-Dichloroethylene	U	1.00	ug/L	0.300	1.00
563-58-6	1,1-Dichloropropene	U	1.00	ug/L	0.300	1.00
87-61-6	1,2,3-Trichlorobenzene	U	1.00	ug/L	0.300	1.00
96-18-4	1,2,3-Trichloropropane	U	1.00	ug/L	0.300	1.00
120-82-1	1,2,4-Trichlorobenzene	U	1.00	ug/L	0.300	1.00
95-63-6	1,2,4-Trimethylbenzene	U	1.00	ug/L	0.300	1.00
96-12-8	1,2-Dibromo-3-chloropropane	U	1.00	ug/L	0.500	1.00
106-93-4	1,2-Dibromoethane	U	1.00	ug/L	0.300	1.00
95-50-1	1,2-Dichlorobenzene	U	1.00	ug/L	0.300	1.00
107-06-2	1,2-Dichloroethane	U	1.00	ug/L	0.300	1.00
78-87-5	1,2-Dichloropropane	U	1.00	ug/L	0.300	1.00
108-67-8	1,3,5-Trimethylbenzene	U	1.00	ug/L	0.300	1.00
541-73-1	1,3-Dichlorobenzene	U	1.00	ug/L	0.300	1.00
142-28-9	1,3-Dichloropropane	U	1.00	ug/L	0.300	1.00
106-46-7	1,4-Dichlorobenzene	U	1.00	ug/L	0.300	1.00
594-20-7	2,2-Dichloropropane	U	1.00	ug/L	0.300	1.00
78-93-3	2-Butanone	U	5.00	ug/L	1.50	5.00
126-99-8	2-Chloro-1,3-butadiene	U	1.00	ug/L	0.300	1.00
95-49-8	2-Chlorotoluene	U	1.00	ug/L	0.300	1.00
591-78-6	2-Hexanone	U	5.00	ug/L	1.50	5.00
106-43-4	4-Chlorotoluene	U	1.00	ug/L	0.300	1.00
99-87-6	4-Isopropyltoluene	U	1.00	ug/L	0.300	1.00
108-10-1	4-Methyl-2-pentanone	U	5.00	ug/L	1.50	5.00
67-64-1	Acetone	U	10.0	ug/L	1.50	10.0
75-05-8	Acetonitrile	U	25.0	ug/L	8.00	25.0
107-02-8	Acrolein	U	5.00	ug/L	1.50	5.00
107-13-1	Acrylonitrile	U	5.00	ug/L	1.50	5.00
107-05-1	Allyl chloride	U	5.00	ug/L	1.50	5.00
71-43-2	Benzene	U	1.00	ug/L	0.300	1.00
108-86-1	Bromobenzene	U	1.00	ug/L	0.300	1.00
74-97-5	Bromochloromethane	U	1.00	ug/L	0.300	1.00
75-27-4	Bromodichloromethane	U	1.00	ug/L	0.300	1.00
75-25-2	Bromoform	U	1.00	ug/L	0.300	1.00

**Volatile
Certificate of Analysis
Sample Summary**

SDG Number: 2017-1332

Lab Sample ID: 420303002

Date Collected: 04/06/2017 12:07

Date Received: 04/11/2017 09:10

Matrix: W

Client ID: CAPA-17-130738

Batch ID: 1656366

Run Date: 04/14/2017 13:14

Prep Date: 04/14/2017 13:14

Data File: 041417V6\6C510.D

Client: ARSL004

Method: SW-846:8260B

Inst: VOA6.I

Analyst: JP1

Column: DB-624

Project: ESHL00114

SOP Ref: GL-OA-E-038

Dilution: 1

Purge Vol: 5 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
74-83-9	Bromomethane	U	1.00	ug/L	0.300	1.00
75-15-0	Carbon disulfide	U	5.00	ug/L	1.50	5.00
56-23-5	Carbon tetrachloride	U	1.00	ug/L	0.300	1.00
108-90-7	Chlorobenzene	U	1.00	ug/L	0.300	1.00
75-00-3	Chloroethane	U	1.00	ug/L	0.300	1.00
67-66-3	Chloroform	U	1.00	ug/L	0.300	1.00
74-87-3	Chloromethane	U	1.00	ug/L	0.300	1.00
124-48-1	Dibromochloromethane	U	1.00	ug/L	0.300	1.00
74-95-3	Dibromomethane	U	1.00	ug/L	0.300	1.00
75-71-8	Dichlorodifluoromethane	U	1.00	ug/L	0.300	1.00
60-29-7	Ethyl ether	U	1.00	ug/L	0.300	1.00
97-63-2	Ethyl methacrylate	U	5.00	ug/L	1.50	5.00
100-41-4	Ethylbenzene	U	1.00	ug/L	0.300	1.00
87-68-3	Hexachlorobutadiene	U	1.00	ug/L	0.300	1.00
74-88-4	Iodomethane	U	5.00	ug/L	1.50	5.00
78-83-1	Isobutyl alcohol	U	50.0	ug/L	15.0	50.0
98-82-8	Isopropylbenzene	U	1.00	ug/L	0.300	1.00
126-98-7	Methacrylonitrile	U	5.00	ug/L	1.50	5.00
80-62-6	Methyl methacrylate	U	5.00	ug/L	1.50	5.00
75-09-2	Methylene chloride	U	10.0	ug/L	1.00	10.0
91-20-3	Naphthalene	U	1.00	ug/L	0.300	1.00
107-12-0	Propionitrile	U	5.00	ug/L	1.50	5.00
100-42-5	Styrene	U	1.00	ug/L	0.300	1.00
127-18-4	Tetrachloroethylene	U	1.00	ug/L	0.300	1.00
108-88-3	Toluene	U	1.00	ug/L	0.300	1.00
79-01-6	Trichloroethylene	U	1.00	ug/L	0.300	1.00
75-69-4	Trichlorofluoromethane	U	1.00	ug/L	0.300	1.00
76-13-1	Trichlorotrifluoroethane	U	5.00	ug/L	2.00	5.00
108-05-4	Vinyl acetate	U	5.00	ug/L	1.50	5.00
75-01-4	Vinyl chloride	U	1.00	ug/L	0.300	1.00
156-59-2	cis-1,2-Dichloroethylene	U	1.00	ug/L	0.300	1.00
10061-01-5	cis-1,3-Dichloropropylene	U	1.00	ug/L	0.300	1.00
179601-23-1	m,p-Xylenes	U	2.00	ug/L	0.300	2.00
71-36-3	n-Butyl alcohol	U	50.0	ug/L	15.0	50.0
104-51-8	n-Butylbenzene	U	1.00	ug/L	0.300	1.00
103-65-1	n-Propylbenzene	U	1.00	ug/L	0.300	1.00
95-47-6	o-Xylene	U	1.00	ug/L	0.300	1.00
135-98-8	sec-Butylbenzene	U	1.00	ug/L	0.300	1.00

**Volatile
Certificate of Analysis
Sample Summary**

SDG Number: 2017-1332

Lab Sample ID: 420303002

Date Collected: 04/06/2017 12:07

Date Received: 04/11/2017 09:10

Matrix: W

Client: ARSL004

Project: ESHL00114

Method: SW-846:8260B

SOP Ref: GL-OA-E-038

Batch ID: 1656366

Inst: VOA6.I

Dilution: 1

Run Date: 04/14/2017 13:14

Analyst: JP1

Purge Vol: 5 mL

Prep Date: 04/14/2017 13:14

Data File: 041417V6\6C510.D

Column: DB-624

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
1634-04-4	tert-Butyl methyl ether	U	1.00	ug/L	0.300	1.00
98-06-6	tert-Butylbenzene	U	1.00	ug/L	0.300	1.00
156-60-5	trans-1,2-Dichloroethylene	U	1.00	ug/L	0.300	1.00
10061-02-6	trans-1,3-Dichloropropylene	U	1.00	ug/L	0.300	1.00

Surrogate/Tracer recovery	Result	Nominal	Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	48.1	50.0	ug/L 96	(71%-134%)
Bromofluorobenzene	50.2	50.0	ug/L 100	(70%-131%)
Toluene-d8	49.1	50.0	ug/L 98	(74%-124%)

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	unknown	3.592	5.06	ug/L	0	J
	unknown siloxane	11.348	24.5	ug/L	0	J
	unknown siloxane	13.75	34.2	ug/L	0	J
	unknown siloxane	15.67	7.42	ug/L	0	J

Volatile
Certificate of Analysis
Sample Summary

SDG Number: 2017-1332

Lab Sample ID: 420303003

Date Collected: 04/06/2017 11:26

Date Received: 04/11/2017 09:10

Matrix: W

Client: ARSL004

Project: ESHL00114

Client ID: CAPA-17-130710

Method: SW-846:8260B

SOP Ref: GL-OA-E-038

Batch ID: 1656366

Inst: VOA6.I

Dilution: 1

Run Date: 04/14/2017 13:43

Analyst: JP1

Purge Vol: 5 mL

Prep Date: 04/14/2017 13:43

Data File: 041417V6\6C511.D

Column: DB-624

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
630-20-6	1,1,1,2-Tetrachloroethane	U	1.00	ug/L	0.300	1.00
71-55-6	1,1,1-Trichloroethane	U	1.00	ug/L	0.300	1.00
79-34-5	1,1,2,2-Tetrachloroethane	U	1.00	ug/L	0.300	1.00
79-00-5	1,1,2-Trichloroethane	U	1.00	ug/L	0.300	1.00
75-34-3	1,1-Dichloroethane	U	1.00	ug/L	0.300	1.00
75-35-4	1,1-Dichloroethylene	U	1.00	ug/L	0.300	1.00
563-58-6	1,1-Dichloropropene	U	1.00	ug/L	0.300	1.00
87-61-6	1,2,3-Trichlorobenzene	U	1.00	ug/L	0.300	1.00
96-18-4	1,2,3-Trichloropropane	U	1.00	ug/L	0.300	1.00
120-82-1	1,2,4-Trichlorobenzene	U	1.00	ug/L	0.300	1.00
95-63-6	1,2,4-Trimethylbenzene	U	1.00	ug/L	0.300	1.00
96-12-8	1,2-Dibromo-3-chloropropane	U	1.00	ug/L	0.500	1.00
106-93-4	1,2-Dibromoethane	U	1.00	ug/L	0.300	1.00
95-50-1	1,2-Dichlorobenzene	U	1.00	ug/L	0.300	1.00
107-06-2	1,2-Dichloroethane	U	1.00	ug/L	0.300	1.00
78-87-5	1,2-Dichloropropane	U	1.00	ug/L	0.300	1.00
108-67-8	1,3,5-Trimethylbenzene	U	1.00	ug/L	0.300	1.00
541-73-1	1,3-Dichlorobenzene	U	1.00	ug/L	0.300	1.00
142-28-9	1,3-Dichloropropane	U	1.00	ug/L	0.300	1.00
106-46-7	1,4-Dichlorobenzene	U	1.00	ug/L	0.300	1.00
594-20-7	2,2-Dichloropropane	U	1.00	ug/L	0.300	1.00
78-93-3	2-Butanone	U	5.00	ug/L	1.50	5.00
126-99-8	2-Chloro-1,3-butadiene	U	1.00	ug/L	0.300	1.00
95-49-8	2-Chlorotoluene	U	1.00	ug/L	0.300	1.00
591-78-6	2-Hexanone	U	5.00	ug/L	1.50	5.00
106-43-4	4-Chlorotoluene	U	1.00	ug/L	0.300	1.00
99-87-6	4-Isopropyltoluene	U	1.00	ug/L	0.300	1.00
108-10-1	4-Methyl-2-pentanone	U	5.00	ug/L	1.50	5.00
67-64-1	Acetone	U	10.0	ug/L	1.50	10.0
75-05-8	Acetonitrile	U	25.0	ug/L	8.00	25.0
107-02-8	Acrolein	U	5.00	ug/L	1.50	5.00
107-13-1	Acrylonitrile	U	5.00	ug/L	1.50	5.00
107-05-1	Allyl chloride	U	5.00	ug/L	1.50	5.00
71-43-2	Benzene	U	1.00	ug/L	0.300	1.00
108-86-1	Bromobenzene	U	1.00	ug/L	0.300	1.00
74-97-5	Bromochloromethane	U	1.00	ug/L	0.300	1.00
75-27-4	Bromodichloromethane	U	1.00	ug/L	0.300	1.00
75-25-2	Bromoform	U	1.00	ug/L	0.300	1.00

**Volatile
Certificate of Analysis
Sample Summary**

SDG Number: 2017-1332

Lab Sample ID: 420303003

Date Collected: 04/06/2017 11:26

Date Received: 04/11/2017 09:10

Matrix: W

Client: ARSL004

Project: ESHL00114

Method: SW-846:8260B

SOP Ref: GL-OA-E-038

Batch ID: 1656366

Inst: VOA6.I

Dilution: 1

Run Date: 04/14/2017 13:43

Analyst: JP1

Purge Vol: 5 mL

Prep Date: 04/14/2017 13:43

Data File: 041417V6\6C511.D

Column: DB-624

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
74-83-9	Bromomethane	U	1.00	ug/L	0.300	1.00
75-15-0	Carbon disulfide	U	5.00	ug/L	1.50	5.00
56-23-5	Carbon tetrachloride	U	1.00	ug/L	0.300	1.00
108-90-7	Chlorobenzene	U	1.00	ug/L	0.300	1.00
75-00-3	Chloroethane	U	1.00	ug/L	0.300	1.00
67-66-3	Chloroform	U	1.00	ug/L	0.300	1.00
74-87-3	Chloromethane	U	1.00	ug/L	0.300	1.00
124-48-1	Dibromochloromethane	U	1.00	ug/L	0.300	1.00
74-95-3	Dibromomethane	U	1.00	ug/L	0.300	1.00
75-71-8	Dichlorodifluoromethane	U	1.00	ug/L	0.300	1.00
60-29-7	Ethyl ether	U	1.00	ug/L	0.300	1.00
97-63-2	Ethyl methacrylate	U	5.00	ug/L	1.50	5.00
100-41-4	Ethylbenzene	U	1.00	ug/L	0.300	1.00
87-68-3	Hexachlorobutadiene	U	1.00	ug/L	0.300	1.00
74-88-4	Iodomethane	U	5.00	ug/L	1.50	5.00
78-83-1	Isobutyl alcohol	U	50.0	ug/L	15.0	50.0
98-82-8	Isopropylbenzene	U	1.00	ug/L	0.300	1.00
126-98-7	Methacrylonitrile	U	5.00	ug/L	1.50	5.00
80-62-6	Methyl methacrylate	U	5.00	ug/L	1.50	5.00
75-09-2	Methylene chloride	U	10.0	ug/L	1.00	10.0
91-20-3	Naphthalene	U	1.00	ug/L	0.300	1.00
107-12-0	Propionitrile	U	5.00	ug/L	1.50	5.00
100-42-5	Styrene	U	1.00	ug/L	0.300	1.00
127-18-4	Tetrachloroethylene	U	1.00	ug/L	0.300	1.00
108-88-3	Toluene	U	1.00	ug/L	0.300	1.00
79-01-6	Trichloroethylene	U	1.00	ug/L	0.300	1.00
75-69-4	Trichlorofluoromethane	U	1.00	ug/L	0.300	1.00
76-13-1	Trichlorotrifluoroethane	U	5.00	ug/L	2.00	5.00
108-05-4	Vinyl acetate	U	5.00	ug/L	1.50	5.00
75-01-4	Vinyl chloride	U	1.00	ug/L	0.300	1.00
156-59-2	cis-1,2-Dichloroethylene	U	1.00	ug/L	0.300	1.00
10061-01-5	cis-1,3-Dichloropropylene	U	1.00	ug/L	0.300	1.00
179601-23-1	m,p-Xylenes	U	2.00	ug/L	0.300	2.00
71-36-3	n-Butyl alcohol	U	50.0	ug/L	15.0	50.0
104-51-8	n-Butylbenzene	U	1.00	ug/L	0.300	1.00
103-65-1	n-Propylbenzene	U	1.00	ug/L	0.300	1.00
95-47-6	o-Xylene	U	1.00	ug/L	0.300	1.00
135-98-8	sec-Butylbenzene	U	1.00	ug/L	0.300	1.00

**Volatile
Certificate of Analysis
Sample Summary**

SDG Number: 2017-1332

Lab Sample ID: 420303003

Date Collected: 04/06/2017 11:26

Date Received: 04/11/2017 09:10

Matrix: W

Client: ARSL004

Project: ESHL00114

Client ID: CAPA-17-130710

Method: SW-846:8260B

SOP Ref: GL-OA-E-038

Batch ID: 1656366

Inst: VOA6.I

Dilution: 1

Run Date: 04/14/2017 13:43

Analyst: JP1

Purge Vol: 5 mL

Prep Date: 04/14/2017 13:43

Data File: 041417V6\6C511.D

Column: DB-624

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
1634-04-4	tert-Butyl methyl ether	U	1.00	ug/L	0.300	1.00
98-06-6	tert-Butylbenzene	U	1.00	ug/L	0.300	1.00
156-60-5	trans-1,2-Dichloroethylene	U	1.00	ug/L	0.300	1.00
10061-02-6	trans-1,3-Dichloropropylene	U	1.00	ug/L	0.300	1.00

Surrogate/Tracer recovery	Result	Nominal	Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	46.6	50.0	ug/L 93	(71%-134%)
Bromofluorobenzene	49.1	50.0	ug/L 98	(70%-131%)
Toluene-d8	48.6	50.0	ug/L 97	(74%-124%)

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	unknown	3.688	6.24	ug/L	0	J

**Volatile
Certificate of Analysis
Sample Summary**

SDG Number: 2017-1332

Lab Sample ID: 420303004

Date Collected: 04/06/2017 11:26

Date Received: 04/11/2017 09:10

Matrix: W

Client: ARSL004

Project: ESHL00114

Client ID: CAPA-17-130735

Method: SW-846:8260B

SOP Ref: GL-OA-E-038

Batch ID: 1656366

Inst: VOA6.I

Dilution: 1

Run Date: 04/14/2017 14:12

Analyst: JP1

Purge Vol: 5 mL

Prep Date: 04/14/2017 14:12

Data File: 041417V6\6C512.D

Column: DB-624

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
630-20-6	1,1,1,2-Tetrachloroethane	U	1.00	ug/L	0.300	1.00
71-55-6	1,1,1-Trichloroethane	U	1.00	ug/L	0.300	1.00
79-34-5	1,1,2,2-Tetrachloroethane	U	1.00	ug/L	0.300	1.00
79-00-5	1,1,2-Trichloroethane	U	1.00	ug/L	0.300	1.00
75-34-3	1,1-Dichloroethane	U	1.00	ug/L	0.300	1.00
75-35-4	1,1-Dichloroethylene	U	1.00	ug/L	0.300	1.00
563-58-6	1,1-Dichloropropene	U	1.00	ug/L	0.300	1.00
87-61-6	1,2,3-Trichlorobenzene	U	1.00	ug/L	0.300	1.00
96-18-4	1,2,3-Trichloropropane	U	1.00	ug/L	0.300	1.00
120-82-1	1,2,4-Trichlorobenzene	U	1.00	ug/L	0.300	1.00
95-63-6	1,2,4-Trimethylbenzene	U	1.00	ug/L	0.300	1.00
96-12-8	1,2-Dibromo-3-chloropropane	U	1.00	ug/L	0.500	1.00
106-93-4	1,2-Dibromoethane	U	1.00	ug/L	0.300	1.00
95-50-1	1,2-Dichlorobenzene	U	1.00	ug/L	0.300	1.00
107-06-2	1,2-Dichloroethane	U	1.00	ug/L	0.300	1.00
78-87-5	1,2-Dichloropropane	U	1.00	ug/L	0.300	1.00
108-67-8	1,3,5-Trimethylbenzene	U	1.00	ug/L	0.300	1.00
541-73-1	1,3-Dichlorobenzene	U	1.00	ug/L	0.300	1.00
142-28-9	1,3-Dichloropropane	U	1.00	ug/L	0.300	1.00
106-46-7	1,4-Dichlorobenzene	U	1.00	ug/L	0.300	1.00
594-20-7	2,2-Dichloropropane	U	1.00	ug/L	0.300	1.00
78-93-3	2-Butanone	U	5.00	ug/L	1.50	5.00
126-99-8	2-Chloro-1,3-butadiene	U	1.00	ug/L	0.300	1.00
95-49-8	2-Chlorotoluene	U	1.00	ug/L	0.300	1.00
591-78-6	2-Hexanone	U	5.00	ug/L	1.50	5.00
106-43-4	4-Chlorotoluene	U	1.00	ug/L	0.300	1.00
99-87-6	4-Isopropyltoluene	U	1.00	ug/L	0.300	1.00
108-10-1	4-Methyl-2-pentanone	U	5.00	ug/L	1.50	5.00
67-64-1	Acetone	U	10.0	ug/L	1.50	10.0
75-05-8	Acetonitrile	U	25.0	ug/L	8.00	25.0
107-02-8	Acrolein	U	5.00	ug/L	1.50	5.00
107-13-1	Acrylonitrile	U	5.00	ug/L	1.50	5.00
107-05-1	Allyl chloride	U	5.00	ug/L	1.50	5.00
71-43-2	Benzene	U	1.00	ug/L	0.300	1.00
108-86-1	Bromobenzene	U	1.00	ug/L	0.300	1.00
74-97-5	Bromochloromethane	U	1.00	ug/L	0.300	1.00
75-27-4	Bromodichloromethane	U	1.00	ug/L	0.300	1.00
75-25-2	Bromoform	U	1.00	ug/L	0.300	1.00

Volatile
Certificate of Analysis
Sample Summary

SDG Number: 2017-1332

Lab Sample ID: 420303004

Date Collected: 04/06/2017 11:26

Date Received: 04/11/2017 09:10

Matrix: W

Client ID: CAPA-17-130735

Batch ID: 1656366

Run Date: 04/14/2017 14:12

Prep Date: 04/14/2017 14:12

Data File: 041417V6\6C512.D

Client: ARSL004

Method: SW-846:8260B

Inst: VOA6.I

Analyst: JP1

Column: DB-624

Project: ESHL00114

SOP Ref: GL-OA-E-038

Dilution: 1

Purge Vol: 5 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
74-83-9	Bromomethane	U	1.00	ug/L	0.300	1.00
75-15-0	Carbon disulfide	U	5.00	ug/L	1.50	5.00
56-23-5	Carbon tetrachloride	U	1.00	ug/L	0.300	1.00
108-90-7	Chlorobenzene	U	1.00	ug/L	0.300	1.00
75-00-3	Chloroethane	U	1.00	ug/L	0.300	1.00
67-66-3	Chloroform	U	1.00	ug/L	0.300	1.00
74-87-3	Chloromethane	U	1.00	ug/L	0.300	1.00
124-48-1	Dibromochloromethane	U	1.00	ug/L	0.300	1.00
74-95-3	Dibromomethane	U	1.00	ug/L	0.300	1.00
75-71-8	Dichlorodifluoromethane	U	1.00	ug/L	0.300	1.00
60-29-7	Ethyl ether	U	1.00	ug/L	0.300	1.00
97-63-2	Ethyl methacrylate	U	5.00	ug/L	1.50	5.00
100-41-4	Ethylbenzene	U	1.00	ug/L	0.300	1.00
87-68-3	Hexachlorobutadiene	U	1.00	ug/L	0.300	1.00
74-88-4	Iodomethane	U	5.00	ug/L	1.50	5.00
78-83-1	Isobutyl alcohol	U	50.0	ug/L	15.0	50.0
98-82-8	Isopropylbenzene	U	1.00	ug/L	0.300	1.00
126-98-7	Methacrylonitrile	U	5.00	ug/L	1.50	5.00
80-62-6	Methyl methacrylate	U	5.00	ug/L	1.50	5.00
75-09-2	Methylene chloride	U	10.0	ug/L	1.00	10.0
91-20-3	Naphthalene	U	1.00	ug/L	0.300	1.00
107-12-0	Propionitrile	U	5.00	ug/L	1.50	5.00
100-42-5	Styrene	U	1.00	ug/L	0.300	1.00
127-18-4	Tetrachloroethylene	U	1.00	ug/L	0.300	1.00
108-88-3	Toluene	U	1.00	ug/L	0.300	1.00
79-01-6	Trichloroethylene	U	1.00	ug/L	0.300	1.00
75-69-4	Trichlorofluoromethane	U	1.00	ug/L	0.300	1.00
76-13-1	Trichlorotrifluoroethane	U	5.00	ug/L	2.00	5.00
108-05-4	Vinyl acetate	U	5.00	ug/L	1.50	5.00
75-01-4	Vinyl chloride	U	1.00	ug/L	0.300	1.00
156-59-2	cis-1,2-Dichloroethylene	U	1.00	ug/L	0.300	1.00
10061-01-5	cis-1,3-Dichloropropylene	U	1.00	ug/L	0.300	1.00
179601-23-1	m,p-Xylenes	U	2.00	ug/L	0.300	2.00
71-36-3	n-Butyl alcohol	U	50.0	ug/L	15.0	50.0
104-51-8	n-Butylbenzene	U	1.00	ug/L	0.300	1.00
103-65-1	n-Propylbenzene	U	1.00	ug/L	0.300	1.00
95-47-6	o-Xylene	U	1.00	ug/L	0.300	1.00
135-98-8	sec-Butylbenzene	U	1.00	ug/L	0.300	1.00

**Volatile
Certificate of Analysis
Sample Summary**

SDG Number: 2017-1332

Lab Sample ID: 420303004

Date Collected: 04/06/2017 11:26

Date Received: 04/11/2017 09:10

Matrix: W

Client: ARSL004

Project: ESHL00114

Client ID: CAPA-17-130735

Method: SW-846:8260B

SOP Ref: GL-OA-E-038

Batch ID: 1656366

Inst: VOA6.I

Dilution: 1

Run Date: 04/14/2017 14:12

Analyst: JP1

Purge Vol: 5 mL

Prep Date: 04/14/2017 14:12

Data File: 041417V6\6C512.D

Column: DB-624

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
1634-04-4	tert-Butyl methyl ether	U	1.00	ug/L	0.300	1.00
98-06-6	tert-Butylbenzene	U	1.00	ug/L	0.300	1.00
156-60-5	trans-1,2-Dichloroethylene	U	1.00	ug/L	0.300	1.00
10061-02-6	trans-1,3-Dichloropropylene	U	1.00	ug/L	0.300	1.00

Surrogate/Tracer recovery	Result	Nominal	Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	42.4	50.0	85	(71%-134%)
Bromofluorobenzene	43.4	50.0	87	(70%-131%)
Toluene-d8	42.3	50.0	85	(74%-124%)

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	unknown siloxane	11.348	33.8	ug/L	0	J
	unknown siloxane	13.75	51.1	ug/L	0	J
	unknown siloxane	15.677	8.65	ug/L	0	J

**Volatile
Certificate of Analysis
Sample Summary**

SDG Number: 2017-1332

Lab Sample ID: 420303005

Date Collected: 04/07/2017 11:45

Date Received: 04/11/2017 09:10

Matrix: W

Client ID: CAPA-17-130719

Batch ID: 1656366

Run Date: 04/14/2017 14:41

Prep Date: 04/14/2017 14:41

Data File: 041417V6\6C513.D

Client: ARSL004

Method: SW-846:8260B

Inst: VOA6.I

Analyst: JP1

Project: ESHL00114

SOP Ref: GL-OA-E-038

Dilution: 1

Purge Vol: 5 mL

Column: DB-624

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
630-20-6	1,1,1,2-Tetrachloroethane	U	1.00	ug/L	0.300	1.00
71-55-6	1,1,1-Trichloroethane	U	1.00	ug/L	0.300	1.00
79-34-5	1,1,2,2-Tetrachloroethane	U	1.00	ug/L	0.300	1.00
79-00-5	1,1,2-Trichloroethane	U	1.00	ug/L	0.300	1.00
75-34-3	1,1-Dichloroethane	U	1.00	ug/L	0.300	1.00
75-35-4	1,1-Dichloroethylene	U	1.00	ug/L	0.300	1.00
563-58-6	1,1-Dichloropropene	U	1.00	ug/L	0.300	1.00
87-61-6	1,2,3-Trichlorobenzene	U	1.00	ug/L	0.300	1.00
96-18-4	1,2,3-Trichloropropane	U	1.00	ug/L	0.300	1.00
120-82-1	1,2,4-Trichlorobenzene	U	1.00	ug/L	0.300	1.00
95-63-6	1,2,4-Trimethylbenzene	U	1.00	ug/L	0.300	1.00
96-12-8	1,2-Dibromo-3-chloropropane	U	1.00	ug/L	0.500	1.00
106-93-4	1,2-Dibromoethane	U	1.00	ug/L	0.300	1.00
95-50-1	1,2-Dichlorobenzene	U	1.00	ug/L	0.300	1.00
107-06-2	1,2-Dichloroethane	U	1.00	ug/L	0.300	1.00
78-87-5	1,2-Dichloropropane	U	1.00	ug/L	0.300	1.00
108-67-8	1,3,5-Trimethylbenzene	U	1.00	ug/L	0.300	1.00
541-73-1	1,3-Dichlorobenzene	U	1.00	ug/L	0.300	1.00
142-28-9	1,3-Dichloropropane	U	1.00	ug/L	0.300	1.00
106-46-7	1,4-Dichlorobenzene	U	1.00	ug/L	0.300	1.00
594-20-7	2,2-Dichloropropane	U	1.00	ug/L	0.300	1.00
78-93-3	2-Butanone	U	5.00	ug/L	1.50	5.00
126-99-8	2-Chloro-1,3-butadiene	U	1.00	ug/L	0.300	1.00
95-49-8	2-Chlorotoluene	U	1.00	ug/L	0.300	1.00
591-78-6	2-Hexanone	U	5.00	ug/L	1.50	5.00
106-43-4	4-Chlorotoluene	U	1.00	ug/L	0.300	1.00
99-87-6	4-Isopropyltoluene	U	1.00	ug/L	0.300	1.00
108-10-1	4-Methyl-2-pentanone	U	5.00	ug/L	1.50	5.00
67-64-1	Acetone	U	10.0	ug/L	1.50	10.0
75-05-8	Acetonitrile	U	25.0	ug/L	8.00	25.0
107-02-8	Acrolein	U	5.00	ug/L	1.50	5.00
107-13-1	Acrylonitrile	U	5.00	ug/L	1.50	5.00
107-05-1	Allyl chloride	U	5.00	ug/L	1.50	5.00
71-43-2	Benzene	U	1.00	ug/L	0.300	1.00
108-86-1	Bromobenzene	U	1.00	ug/L	0.300	1.00
74-97-5	Bromochloromethane	U	1.00	ug/L	0.300	1.00
75-27-4	Bromodichloromethane	U	1.00	ug/L	0.300	1.00
75-25-2	Bromoform	U	1.00	ug/L	0.300	1.00

Volatile
Certificate of Analysis
Sample Summary

SDG Number: 2017-1332

Lab Sample ID: 420303005

Date Collected: 04/07/2017 11:45

Date Received: 04/11/2017 09:10

Matrix: W

Client ID: CAPA-17-130719

Batch ID: 1656366

Run Date: 04/14/2017 14:41

Prep Date: 04/14/2017 14:41

Data File: 041417V6\6C513.D

Client: ARSL004

Method: SW-846:8260B

Inst: VOA6.I

Analyst: JP1

Project: ESHL00114

SOP Ref: GL-OA-E-038

Dilution: 1

Purge Vol: 5 mL

Column: DB-624

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
74-83-9	Bromomethane	U	1.00	ug/L	0.300	1.00
75-15-0	Carbon disulfide	U	5.00	ug/L	1.50	5.00
56-23-5	Carbon tetrachloride	U	1.00	ug/L	0.300	1.00
108-90-7	Chlorobenzene	U	1.00	ug/L	0.300	1.00
75-00-3	Chloroethane	U	1.00	ug/L	0.300	1.00
67-66-3	Chloroform	U	1.00	ug/L	0.300	1.00
74-87-3	Chloromethane	U	1.00	ug/L	0.300	1.00
124-48-1	Dibromochloromethane	U	1.00	ug/L	0.300	1.00
74-95-3	Dibromomethane	U	1.00	ug/L	0.300	1.00
75-71-8	Dichlorodifluoromethane	U	1.00	ug/L	0.300	1.00
60-29-7	Ethyl ether	U	1.00	ug/L	0.300	1.00
97-63-2	Ethyl methacrylate	U	5.00	ug/L	1.50	5.00
100-41-4	Ethylbenzene	U	1.00	ug/L	0.300	1.00
87-68-3	Hexachlorobutadiene	U	1.00	ug/L	0.300	1.00
74-88-4	Iodomethane	U	5.00	ug/L	1.50	5.00
78-83-1	Isobutyl alcohol	U	50.0	ug/L	15.0	50.0
98-82-8	Isopropylbenzene	U	1.00	ug/L	0.300	1.00
126-98-7	Methacrylonitrile	U	5.00	ug/L	1.50	5.00
80-62-6	Methyl methacrylate	U	5.00	ug/L	1.50	5.00
75-09-2	Methylene chloride	U	10.0	ug/L	1.00	10.0
91-20-3	Naphthalene	U	1.00	ug/L	0.300	1.00
107-12-0	Propionitrile	U	5.00	ug/L	1.50	5.00
100-42-5	Styrene	U	1.00	ug/L	0.300	1.00
127-18-4	Tetrachloroethylene	U	1.00	ug/L	0.300	1.00
108-88-3	Toluene	U	1.00	ug/L	0.300	1.00
79-01-6	Trichloroethylene	U	1.00	ug/L	0.300	1.00
75-69-4	Trichlorofluoromethane	U	1.00	ug/L	0.300	1.00
76-13-1	Trichlorotrifluoroethane	U	5.00	ug/L	2.00	5.00
108-05-4	Vinyl acetate	U	5.00	ug/L	1.50	5.00
75-01-4	Vinyl chloride	U	1.00	ug/L	0.300	1.00
156-59-2	cis-1,2-Dichloroethylene	U	1.00	ug/L	0.300	1.00
10061-01-5	cis-1,3-Dichloropropylene	U	1.00	ug/L	0.300	1.00
179601-23-1	m,p-Xylenes	U	2.00	ug/L	0.300	2.00
71-36-3	n-Butyl alcohol	U	50.0	ug/L	15.0	50.0
104-51-8	n-Butylbenzene	U	1.00	ug/L	0.300	1.00
103-65-1	n-Propylbenzene	U	1.00	ug/L	0.300	1.00
95-47-6	o-Xylene	U	1.00	ug/L	0.300	1.00
135-98-8	sec-Butylbenzene	U	1.00	ug/L	0.300	1.00

**Volatile
Certificate of Analysis
Sample Summary**

SDG Number: 2017-1332

Lab Sample ID: 420303005

Date Collected: 04/07/2017 11:45

Date Received: 04/11/2017 09:10

Matrix: W

Client: ARSL004

Project: ESHL00114

Client ID: CAPA-17-130719

Method: SW-846:8260B

SOP Ref: GL-OA-E-038

Batch ID: 1656366

Inst: VOA6.I

Dilution: 1

Run Date: 04/14/2017 14:41

Analyst: JP1

Purge Vol: 5 mL

Prep Date: 04/14/2017 14:41

Data File: 041417V6\6C513.D

Column: DB-624

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
1634-04-4	tert-Butyl methyl ether	U	1.00	ug/L	0.300	1.00
98-06-6	tert-Butylbenzene	U	1.00	ug/L	0.300	1.00
156-60-5	trans-1,2-Dichloroethylene	U	1.00	ug/L	0.300	1.00
10061-02-6	trans-1,3-Dichloropropylene	U	1.00	ug/L	0.300	1.00

Surrogate/Tracer recovery	Result	Nominal	Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	45.1	50.0	ug/L 90	(71%-134%)
Bromofluorobenzene	47.0	50.0	ug/L 94	(70%-131%)
Toluene-d8	45.8	50.0	ug/L 92	(74%-124%)

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	unknown	3.6	5.7	ug/L	0	J
	unknown siloxane	11.348	11.4	ug/L	0	J
	unknown siloxane	13.75	22.5	ug/L	0	J

**Volatile
Certificate of Analysis
Sample Summary**

SDG Number: 2017-1332

Lab Sample ID: 420303006

Date Collected: 04/07/2017 11:45

Date Received: 04/11/2017 09:10

Matrix: W

Client: ARSL004

Project: ESHL00114

Client ID: CAPA-17-130743

Method: SW-846:8260B

SOP Ref: GL-OA-E-038

Batch ID: 1656366

Inst: VOA6.I

Dilution: 1

Run Date: 04/14/2017 15:10

Analyst: JP1

Purge Vol: 5 mL

Prep Date: 04/14/2017 15:10

Data File: 041417V6\6C514.D

Column: DB-624

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
630-20-6	1,1,1,2-Tetrachloroethane	U	1.00	ug/L	0.300	1.00
71-55-6	1,1,1-Trichloroethane	U	1.00	ug/L	0.300	1.00
79-34-5	1,1,2,2-Tetrachloroethane	U	1.00	ug/L	0.300	1.00
79-00-5	1,1,2-Trichloroethane	U	1.00	ug/L	0.300	1.00
75-34-3	1,1-Dichloroethane	U	1.00	ug/L	0.300	1.00
75-35-4	1,1-Dichloroethylene	U	1.00	ug/L	0.300	1.00
563-58-6	1,1-Dichloropropene	U	1.00	ug/L	0.300	1.00
87-61-6	1,2,3-Trichlorobenzene	U	1.00	ug/L	0.300	1.00
96-18-4	1,2,3-Trichloropropane	U	1.00	ug/L	0.300	1.00
120-82-1	1,2,4-Trichlorobenzene	U	1.00	ug/L	0.300	1.00
95-63-6	1,2,4-Trimethylbenzene	U	1.00	ug/L	0.300	1.00
96-12-8	1,2-Dibromo-3-chloropropane	U	1.00	ug/L	0.500	1.00
106-93-4	1,2-Dibromoethane	U	1.00	ug/L	0.300	1.00
95-50-1	1,2-Dichlorobenzene	U	1.00	ug/L	0.300	1.00
107-06-2	1,2-Dichloroethane	U	1.00	ug/L	0.300	1.00
78-87-5	1,2-Dichloropropane	U	1.00	ug/L	0.300	1.00
108-67-8	1,3,5-Trimethylbenzene	U	1.00	ug/L	0.300	1.00
541-73-1	1,3-Dichlorobenzene	U	1.00	ug/L	0.300	1.00
142-28-9	1,3-Dichloropropane	U	1.00	ug/L	0.300	1.00
106-46-7	1,4-Dichlorobenzene	U	1.00	ug/L	0.300	1.00
594-20-7	2,2-Dichloropropane	U	1.00	ug/L	0.300	1.00
78-93-3	2-Butanone	U	5.00	ug/L	1.50	5.00
126-99-8	2-Chloro-1,3-butadiene	U	1.00	ug/L	0.300	1.00
95-49-8	2-Chlorotoluene	U	1.00	ug/L	0.300	1.00
591-78-6	2-Hexanone	U	5.00	ug/L	1.50	5.00
106-43-4	4-Chlorotoluene	U	1.00	ug/L	0.300	1.00
99-87-6	4-Isopropyltoluene	U	1.00	ug/L	0.300	1.00
108-10-1	4-Methyl-2-pentanone	U	5.00	ug/L	1.50	5.00
67-64-1	Acetone	U	10.0	ug/L	1.50	10.0
75-05-8	Acetonitrile	U	25.0	ug/L	8.00	25.0
107-02-8	Acrolein	U	5.00	ug/L	1.50	5.00
107-13-1	Acrylonitrile	U	5.00	ug/L	1.50	5.00
107-05-1	Allyl chloride	U	5.00	ug/L	1.50	5.00
71-43-2	Benzene	U	1.00	ug/L	0.300	1.00
108-86-1	Bromobenzene	U	1.00	ug/L	0.300	1.00
74-97-5	Bromochloromethane	U	1.00	ug/L	0.300	1.00
75-27-4	Bromodichloromethane	U	1.00	ug/L	0.300	1.00
75-25-2	Bromoform	U	1.00	ug/L	0.300	1.00

**Volatile
Certificate of Analysis
Sample Summary**

SDG Number: 2017-1332

Lab Sample ID: 420303006

Date Collected: 04/07/2017 11:45

Date Received: 04/11/2017 09:10

Matrix: W

Client: ARSL004

Project: ESHL00114

Method: SW-846:8260B

SOP Ref: GL-OA-E-038

Batch ID: 1656366

Inst: VOA6.I

Dilution: 1

Run Date: 04/14/2017 15:10

Analyst: JP1

Purge Vol: 5 mL

Prep Date: 04/14/2017 15:10

Data File: 041417V6\6C514.D

Column: DB-624

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
74-83-9	Bromomethane	U	1.00	ug/L	0.300	1.00
75-15-0	Carbon disulfide	U	5.00	ug/L	1.50	5.00
56-23-5	Carbon tetrachloride	U	1.00	ug/L	0.300	1.00
108-90-7	Chlorobenzene	U	1.00	ug/L	0.300	1.00
75-00-3	Chloroethane	U	1.00	ug/L	0.300	1.00
67-66-3	Chloroform	U	1.00	ug/L	0.300	1.00
74-87-3	Chloromethane	U	1.00	ug/L	0.300	1.00
124-48-1	Dibromochloromethane	U	1.00	ug/L	0.300	1.00
74-95-3	Dibromomethane	U	1.00	ug/L	0.300	1.00
75-71-8	Dichlorodifluoromethane	U	1.00	ug/L	0.300	1.00
60-29-7	Ethyl ether	U	1.00	ug/L	0.300	1.00
97-63-2	Ethyl methacrylate	U	5.00	ug/L	1.50	5.00
100-41-4	Ethylbenzene	U	1.00	ug/L	0.300	1.00
87-68-3	Hexachlorobutadiene	U	1.00	ug/L	0.300	1.00
74-88-4	Iodomethane	U	5.00	ug/L	1.50	5.00
78-83-1	Isobutyl alcohol	U	50.0	ug/L	15.0	50.0
98-82-8	Isopropylbenzene	U	1.00	ug/L	0.300	1.00
126-98-7	Methacrylonitrile	U	5.00	ug/L	1.50	5.00
80-62-6	Methyl methacrylate	U	5.00	ug/L	1.50	5.00
75-09-2	Methylene chloride	U	10.0	ug/L	1.00	10.0
91-20-3	Naphthalene	U	1.00	ug/L	0.300	1.00
107-12-0	Propionitrile	U	5.00	ug/L	1.50	5.00
100-42-5	Styrene	U	1.00	ug/L	0.300	1.00
127-18-4	Tetrachloroethylene	U	1.00	ug/L	0.300	1.00
108-88-3	Toluene	U	1.00	ug/L	0.300	1.00
79-01-6	Trichloroethylene	U	1.00	ug/L	0.300	1.00
75-69-4	Trichlorofluoromethane	U	1.00	ug/L	0.300	1.00
76-13-1	Trichlorotrifluoroethane	U	5.00	ug/L	2.00	5.00
108-05-4	Vinyl acetate	U	5.00	ug/L	1.50	5.00
75-01-4	Vinyl chloride	U	1.00	ug/L	0.300	1.00
156-59-2	cis-1,2-Dichloroethylene	U	1.00	ug/L	0.300	1.00
10061-01-5	cis-1,3-Dichloropropylene	U	1.00	ug/L	0.300	1.00
179601-23-1	m,p-Xylenes	U	2.00	ug/L	0.300	2.00
71-36-3	n-Butyl alcohol	U	50.0	ug/L	15.0	50.0
104-51-8	n-Butylbenzene	U	1.00	ug/L	0.300	1.00
103-65-1	n-Propylbenzene	U	1.00	ug/L	0.300	1.00
95-47-6	o-Xylene	U	1.00	ug/L	0.300	1.00
135-98-8	sec-Butylbenzene	U	1.00	ug/L	0.300	1.00

**Volatile
Certificate of Analysis
Sample Summary**

SDG Number: 2017-1332

Lab Sample ID: 420303006

Date Collected: 04/07/2017 11:45

Date Received: 04/11/2017 09:10

Matrix: W

Client: ARSL004

Project: ESHL00114

Method: SW-846:8260B

SOP Ref: GL-OA-E-038

Batch ID: 1656366

Inst: VOA6.I

Dilution: 1

Run Date: 04/14/2017 15:10

Analyst: JP1

Purge Vol: 5 mL

Prep Date: 04/14/2017 15:10

Data File: 041417V6\6C514.D

Column: DB-624

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
1634-04-4	tert-Butyl methyl ether	U	1.00	ug/L	0.300	1.00
98-06-6	tert-Butylbenzene	U	1.00	ug/L	0.300	1.00
156-60-5	trans-1,2-Dichloroethylene	U	1.00	ug/L	0.300	1.00
10061-02-6	trans-1,3-Dichloropropylene	U	1.00	ug/L	0.300	1.00

Surrogate/Tracer recovery	Result	Nominal	Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	47.6	50.0	ug/L 95	(71%-134%)
Bromofluorobenzene	50.5	50.0	ug/L 101	(70%-131%)
Toluene-d8	49.6	50.0	ug/L 99	(74%-124%)

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	unknown siloxane	11.348	29	ug/L	0	J
	unknown siloxane	13.75	47.9	ug/L	0	J
	unknown siloxane	15.677	12.2	ug/L	0	J

**Volatile
Certificate of Analysis
Sample Summary**

SDG Number: 2017-1332

Lab Sample ID: 420303007

Date Collected: 04/07/2017 13:29

Date Received: 04/11/2017 09:10

Matrix: W

Client ID: CAPA-17-130720

Batch ID: 1656366

Run Date: 04/14/2017 15:38

Prep Date: 04/14/2017 15:38

Data File: 041417V6\6C515.D

Client: ARSL004

Method: SW-846:8260B

Inst: VOA6.I

Analyst: JP1

Column: DB-624

Project: ESHL00114

SOP Ref: GL-OA-E-038

Dilution: 1

Purge Vol: 5 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
630-20-6	1,1,1,2-Tetrachloroethane	U	1.00	ug/L	0.300	1.00
71-55-6	1,1,1-Trichloroethane	U	1.00	ug/L	0.300	1.00
79-34-5	1,1,2,2-Tetrachloroethane	U	1.00	ug/L	0.300	1.00
79-00-5	1,1,2-Trichloroethane	U	1.00	ug/L	0.300	1.00
75-34-3	1,1-Dichloroethane	U	1.00	ug/L	0.300	1.00
75-35-4	1,1-Dichloroethylene	U	1.00	ug/L	0.300	1.00
563-58-6	1,1-Dichloropropene	U	1.00	ug/L	0.300	1.00
87-61-6	1,2,3-Trichlorobenzene	U	1.00	ug/L	0.300	1.00
96-18-4	1,2,3-Trichloropropane	U	1.00	ug/L	0.300	1.00
120-82-1	1,2,4-Trichlorobenzene	U	1.00	ug/L	0.300	1.00
95-63-6	1,2,4-Trimethylbenzene	U	1.00	ug/L	0.300	1.00
96-12-8	1,2-Dibromo-3-chloropropane	U	1.00	ug/L	0.500	1.00
106-93-4	1,2-Dibromoethane	U	1.00	ug/L	0.300	1.00
95-50-1	1,2-Dichlorobenzene	U	1.00	ug/L	0.300	1.00
107-06-2	1,2-Dichloroethane	U	1.00	ug/L	0.300	1.00
78-87-5	1,2-Dichloropropane	U	1.00	ug/L	0.300	1.00
108-67-8	1,3,5-Trimethylbenzene	U	1.00	ug/L	0.300	1.00
541-73-1	1,3-Dichlorobenzene	U	1.00	ug/L	0.300	1.00
142-28-9	1,3-Dichloropropane	U	1.00	ug/L	0.300	1.00
106-46-7	1,4-Dichlorobenzene	U	1.00	ug/L	0.300	1.00
594-20-7	2,2-Dichloropropane	U	1.00	ug/L	0.300	1.00
78-93-3	2-Butanone	U	5.00	ug/L	1.50	5.00
126-99-8	2-Chloro-1,3-butadiene	U	1.00	ug/L	0.300	1.00
95-49-8	2-Chlorotoluene	U	1.00	ug/L	0.300	1.00
591-78-6	2-Hexanone	U	5.00	ug/L	1.50	5.00
106-43-4	4-Chlorotoluene	U	1.00	ug/L	0.300	1.00
99-87-6	4-Isopropyltoluene	U	1.00	ug/L	0.300	1.00
108-10-1	4-Methyl-2-pentanone	U	5.00	ug/L	1.50	5.00
67-64-1	Acetone	U	10.0	ug/L	1.50	10.0
75-05-8	Acetonitrile	U	25.0	ug/L	8.00	25.0
107-02-8	Acrolein	U	5.00	ug/L	1.50	5.00
107-13-1	Acrylonitrile	U	5.00	ug/L	1.50	5.00
107-05-1	Allyl chloride	U	5.00	ug/L	1.50	5.00
71-43-2	Benzene	U	1.00	ug/L	0.300	1.00
108-86-1	Bromobenzene	U	1.00	ug/L	0.300	1.00
74-97-5	Bromochloromethane	U	1.00	ug/L	0.300	1.00
75-27-4	Bromodichloromethane	U	1.00	ug/L	0.300	1.00
75-25-2	Bromoform	U	1.00	ug/L	0.300	1.00

**Volatile
Certificate of Analysis
Sample Summary**

SDG Number: 2017-1332

Lab Sample ID: 420303007

Date Collected: 04/07/2017 13:29

Date Received: 04/11/2017 09:10

Matrix: W

Client: ARSL004

Project: ESHL00114

Method: SW-846:8260B

SOP Ref: GL-OA-E-038

Batch ID: 1656366

Inst: VOA6.I

Dilution: 1

Run Date: 04/14/2017 15:38

Analyst: JP1

Purge Vol: 5 mL

Prep Date: 04/14/2017 15:38

Data File: 041417V6\6C515.D

Column: DB-624

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
74-83-9	Bromomethane	U	1.00	ug/L	0.300	1.00
75-15-0	Carbon disulfide	U	5.00	ug/L	1.50	5.00
56-23-5	Carbon tetrachloride	U	1.00	ug/L	0.300	1.00
108-90-7	Chlorobenzene	U	1.00	ug/L	0.300	1.00
75-00-3	Chloroethane	U	1.00	ug/L	0.300	1.00
67-66-3	Chloroform	U	1.00	ug/L	0.300	1.00
74-87-3	Chloromethane	U	1.00	ug/L	0.300	1.00
124-48-1	Dibromochloromethane	U	1.00	ug/L	0.300	1.00
74-95-3	Dibromomethane	U	1.00	ug/L	0.300	1.00
75-71-8	Dichlorodifluoromethane	U	1.00	ug/L	0.300	1.00
60-29-7	Ethyl ether	U	1.00	ug/L	0.300	1.00
97-63-2	Ethyl methacrylate	U	5.00	ug/L	1.50	5.00
100-41-4	Ethylbenzene	U	1.00	ug/L	0.300	1.00
87-68-3	Hexachlorobutadiene	U	1.00	ug/L	0.300	1.00
74-88-4	Iodomethane	U	5.00	ug/L	1.50	5.00
78-83-1	Isobutyl alcohol	U	50.0	ug/L	15.0	50.0
98-82-8	Isopropylbenzene	U	1.00	ug/L	0.300	1.00
126-98-7	Methacrylonitrile	U	5.00	ug/L	1.50	5.00
80-62-6	Methyl methacrylate	U	5.00	ug/L	1.50	5.00
75-09-2	Methylene chloride	U	10.0	ug/L	1.00	10.0
91-20-3	Naphthalene	U	1.00	ug/L	0.300	1.00
107-12-0	Propionitrile	U	5.00	ug/L	1.50	5.00
100-42-5	Styrene	U	1.00	ug/L	0.300	1.00
127-18-4	Tetrachloroethylene	U	1.00	ug/L	0.300	1.00
108-88-3	Toluene	U	1.00	ug/L	0.300	1.00
79-01-6	Trichloroethylene	U	1.00	ug/L	0.300	1.00
75-69-4	Trichlorofluoromethane	U	1.00	ug/L	0.300	1.00
76-13-1	Trichlorotrifluoroethane	U	5.00	ug/L	2.00	5.00
108-05-4	Vinyl acetate	U	5.00	ug/L	1.50	5.00
75-01-4	Vinyl chloride	U	1.00	ug/L	0.300	1.00
156-59-2	cis-1,2-Dichloroethylene	U	1.00	ug/L	0.300	1.00
10061-01-5	cis-1,3-Dichloropropylene	U	1.00	ug/L	0.300	1.00
179601-23-1	m,p-Xylenes	U	2.00	ug/L	0.300	2.00
71-36-3	n-Butyl alcohol	U	50.0	ug/L	15.0	50.0
104-51-8	n-Butylbenzene	U	1.00	ug/L	0.300	1.00
103-65-1	n-Propylbenzene	U	1.00	ug/L	0.300	1.00
95-47-6	o-Xylene	U	1.00	ug/L	0.300	1.00
135-98-8	sec-Butylbenzene	U	1.00	ug/L	0.300	1.00

**Volatile
Certificate of Analysis
Sample Summary**

SDG Number: 2017-1332

Lab Sample ID: 420303007

Date Collected: 04/07/2017 13:29

Date Received: 04/11/2017 09:10

Matrix: W

Client: ARSL004

Project: ESHL00114

Client ID: CAPA-17-130720

Method: SW-846:8260B

SOP Ref: GL-OA-E-038

Batch ID: 1656366

Inst: VOA6.I

Dilution: 1

Run Date: 04/14/2017 15:38

Analyst: JP1

Purge Vol: 5 mL

Prep Date: 04/14/2017 15:38

Data File: 041417V6\6C515.D

Column: DB-624

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
1634-04-4	tert-Butyl methyl ether	U	1.00	ug/L	0.300	1.00
98-06-6	tert-Butylbenzene	U	1.00	ug/L	0.300	1.00
156-60-5	trans-1,2-Dichloroethylene	U	1.00	ug/L	0.300	1.00
10061-02-6	trans-1,3-Dichloropropylene	U	1.00	ug/L	0.300	1.00

Surrogate/Tracer recovery	Result	Nominal	Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	48.9	50.0	ug/L 98	(71%-134%)
Bromofluorobenzene	51.1	50.0	ug/L 102	(70%-131%)
Toluene-d8	49.1	50.0	ug/L 98	(74%-124%)

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	unknown	3.688	7.2	ug/L	0	J
	unknown siloxane	11.348	43.1	ug/L	0	J
	unknown siloxane	13.75	91.1	ug/L	0	J
	unknown siloxane	15.671	18.1	ug/L	0	J

Volatile
Certificate of Analysis
Sample Summary

SDG Number: 2017-1332

Lab Sample ID: 420303008

Date Collected: 04/07/2017 13:29

Date Received: 04/11/2017 09:10

Matrix: W

Client: ARSL004

Project: ESHL00114

Client ID: CAPA-17-130744

Method: SW-846:8260B

SOP Ref: GL-OA-E-038

Batch ID: 1656366

Inst: VOA6.I

Dilution: 1

Run Date: 04/14/2017 16:07

Analyst: JP1

Purge Vol: 5 mL

Prep Date: 04/14/2017 16:07

Data File: 041417V6\6C516.D

Column: DB-624

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
630-20-6	1,1,1,2-Tetrachloroethane	U	1.00	ug/L	0.300	1.00
71-55-6	1,1,1-Trichloroethane	U	1.00	ug/L	0.300	1.00
79-34-5	1,1,2,2-Tetrachloroethane	U	1.00	ug/L	0.300	1.00
79-00-5	1,1,2-Trichloroethane	U	1.00	ug/L	0.300	1.00
75-34-3	1,1-Dichloroethane	U	1.00	ug/L	0.300	1.00
75-35-4	1,1-Dichloroethylene	U	1.00	ug/L	0.300	1.00
563-58-6	1,1-Dichloropropene	U	1.00	ug/L	0.300	1.00
87-61-6	1,2,3-Trichlorobenzene	U	1.00	ug/L	0.300	1.00
96-18-4	1,2,3-Trichloropropane	U	1.00	ug/L	0.300	1.00
120-82-1	1,2,4-Trichlorobenzene	U	1.00	ug/L	0.300	1.00
95-63-6	1,2,4-Trimethylbenzene	U	1.00	ug/L	0.300	1.00
96-12-8	1,2-Dibromo-3-chloropropane	U	1.00	ug/L	0.500	1.00
106-93-4	1,2-Dibromoethane	U	1.00	ug/L	0.300	1.00
95-50-1	1,2-Dichlorobenzene	U	1.00	ug/L	0.300	1.00
107-06-2	1,2-Dichloroethane	U	1.00	ug/L	0.300	1.00
78-87-5	1,2-Dichloropropane	U	1.00	ug/L	0.300	1.00
108-67-8	1,3,5-Trimethylbenzene	U	1.00	ug/L	0.300	1.00
541-73-1	1,3-Dichlorobenzene	U	1.00	ug/L	0.300	1.00
142-28-9	1,3-Dichloropropane	U	1.00	ug/L	0.300	1.00
106-46-7	1,4-Dichlorobenzene	U	1.00	ug/L	0.300	1.00
594-20-7	2,2-Dichloropropane	U	1.00	ug/L	0.300	1.00
78-93-3	2-Butanone	U	5.00	ug/L	1.50	5.00
126-99-8	2-Chloro-1,3-butadiene	U	1.00	ug/L	0.300	1.00
95-49-8	2-Chlorotoluene	U	1.00	ug/L	0.300	1.00
591-78-6	2-Hexanone	U	5.00	ug/L	1.50	5.00
106-43-4	4-Chlorotoluene	U	1.00	ug/L	0.300	1.00
99-87-6	4-Isopropyltoluene	U	1.00	ug/L	0.300	1.00
108-10-1	4-Methyl-2-pentanone	U	5.00	ug/L	1.50	5.00
67-64-1	Acetone	U	10.0	ug/L	1.50	10.0
75-05-8	Acetonitrile	U	25.0	ug/L	8.00	25.0
107-02-8	Acrolein	U	5.00	ug/L	1.50	5.00
107-13-1	Acrylonitrile	U	5.00	ug/L	1.50	5.00
107-05-1	Allyl chloride	U	5.00	ug/L	1.50	5.00
71-43-2	Benzene	U	1.00	ug/L	0.300	1.00
108-86-1	Bromobenzene	U	1.00	ug/L	0.300	1.00
74-97-5	Bromochloromethane	U	1.00	ug/L	0.300	1.00
75-27-4	Bromodichloromethane	U	1.00	ug/L	0.300	1.00
75-25-2	Bromoform	U	1.00	ug/L	0.300	1.00

**Volatile
Certificate of Analysis
Sample Summary**

SDG Number: 2017-1332

Lab Sample ID: 420303008

Date Collected: 04/07/2017 13:29

Date Received: 04/11/2017 09:10

Matrix: W

Client ID: CAPA-17-130744

Batch ID: 1656366

Run Date: 04/14/2017 16:07

Prep Date: 04/14/2017 16:07

Data File: 041417V6\6C516.D

Client: ARSL004

Method: SW-846:8260B

Inst: VOA6.I

Analyst: JP1

Project: ESHL00114

SOP Ref: GL-OA-E-038

Dilution: 1

Purge Vol: 5 mL

Column: DB-624

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
74-83-9	Bromomethane	U	1.00	ug/L	0.300	1.00
75-15-0	Carbon disulfide	U	5.00	ug/L	1.50	5.00
56-23-5	Carbon tetrachloride	U	1.00	ug/L	0.300	1.00
108-90-7	Chlorobenzene	U	1.00	ug/L	0.300	1.00
75-00-3	Chloroethane	U	1.00	ug/L	0.300	1.00
67-66-3	Chloroform	U	1.00	ug/L	0.300	1.00
74-87-3	Chloromethane	U	1.00	ug/L	0.300	1.00
124-48-1	Dibromochloromethane	U	1.00	ug/L	0.300	1.00
74-95-3	Dibromomethane	U	1.00	ug/L	0.300	1.00
75-71-8	Dichlorodifluoromethane	U	1.00	ug/L	0.300	1.00
60-29-7	Ethyl ether	U	1.00	ug/L	0.300	1.00
97-63-2	Ethyl methacrylate	U	5.00	ug/L	1.50	5.00
100-41-4	Ethylbenzene	U	1.00	ug/L	0.300	1.00
87-68-3	Hexachlorobutadiene	U	1.00	ug/L	0.300	1.00
74-88-4	Iodomethane	U	5.00	ug/L	1.50	5.00
78-83-1	Isobutyl alcohol	U	50.0	ug/L	15.0	50.0
98-82-8	Isopropylbenzene	U	1.00	ug/L	0.300	1.00
126-98-7	Methacrylonitrile	U	5.00	ug/L	1.50	5.00
80-62-6	Methyl methacrylate	U	5.00	ug/L	1.50	5.00
75-09-2	Methylene chloride	U	10.0	ug/L	1.00	10.0
91-20-3	Naphthalene	U	1.00	ug/L	0.300	1.00
107-12-0	Propionitrile	U	5.00	ug/L	1.50	5.00
100-42-5	Styrene	U	1.00	ug/L	0.300	1.00
127-18-4	Tetrachloroethylene	U	1.00	ug/L	0.300	1.00
108-88-3	Toluene	U	1.00	ug/L	0.300	1.00
79-01-6	Trichloroethylene	U	1.00	ug/L	0.300	1.00
75-69-4	Trichlorofluoromethane	U	1.00	ug/L	0.300	1.00
76-13-1	Trichlorotrifluoroethane	U	5.00	ug/L	2.00	5.00
108-05-4	Vinyl acetate	U	5.00	ug/L	1.50	5.00
75-01-4	Vinyl chloride	U	1.00	ug/L	0.300	1.00
156-59-2	cis-1,2-Dichloroethylene	U	1.00	ug/L	0.300	1.00
10061-01-5	cis-1,3-Dichloropropylene	U	1.00	ug/L	0.300	1.00
179601-23-1	m,p-Xylenes	U	2.00	ug/L	0.300	2.00
71-36-3	n-Butyl alcohol	U	50.0	ug/L	15.0	50.0
104-51-8	n-Butylbenzene	U	1.00	ug/L	0.300	1.00
103-65-1	n-Propylbenzene	U	1.00	ug/L	0.300	1.00
95-47-6	o-Xylene	U	1.00	ug/L	0.300	1.00
135-98-8	sec-Butylbenzene	U	1.00	ug/L	0.300	1.00

**Volatile
Certificate of Analysis
Sample Summary**

SDG Number: 2017-1332

Lab Sample ID: 420303008

Date Collected: 04/07/2017 13:29

Date Received: 04/11/2017 09:10

Matrix: W

Client: ARSL004

Project: ESHL00114

Method: SW-846:8260B

SOP Ref: GL-OA-E-038

Batch ID: 1656366

Inst: VOA6.I

Dilution: 1

Run Date: 04/14/2017 16:07

Analyst: JP1

Purge Vol: 5 mL

Prep Date: 04/14/2017 16:07

Data File: 041417V6\6C516.D

Column: DB-624

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
1634-04-4	tert-Butyl methyl ether	U	1.00	ug/L	0.300	1.00
98-06-6	tert-Butylbenzene	U	1.00	ug/L	0.300	1.00
156-60-5	trans-1,2-Dichloroethylene	U	1.00	ug/L	0.300	1.00
10061-02-6	trans-1,3-Dichloropropylene	U	1.00	ug/L	0.300	1.00

Surrogate/Tracer recovery	Result	Nominal	Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	48.8	50.0	ug/L 98	(71%-134%)
Bromofluorobenzene	50.4	50.0	ug/L 101	(70%-131%)
Toluene-d8	49.1	50.0	ug/L 98	(74%-124%)

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	unknown siloxane	11.348	21.8	ug/L	0	J
	unknown siloxane	13.75	57.9	ug/L	0	J
	unknown siloxane	15.671	8.29	ug/L	0	J
	unknown siloxane	15.677	5.35	ug/L	0	J

**Volatile
Certificate of Analysis
Sample Summary**

SDG Number: 2017-1332

Lab Sample ID: 420303009

Date Collected: 04/07/2017 12:54

Date Received: 04/11/2017 09:10

Matrix: W

Client ID: CAPA-17-130726

Batch ID: 1656366

Run Date: 04/14/2017 16:35

Prep Date: 04/14/2017 16:35

Data File: 041417V6\6C517.D

Client: ARSL004

Method: SW-846:8260B

Inst: VOA6.I

Analyst: JP1

Project: ESHL00114

SOP Ref: GL-OA-E-038

Dilution: 1

Purge Vol: 5 mL

Column: DB-624

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
630-20-6	1,1,1,2-Tetrachloroethane	U	1.00	ug/L	0.300	1.00
71-55-6	1,1,1-Trichloroethane	U	1.00	ug/L	0.300	1.00
79-34-5	1,1,2,2-Tetrachloroethane	U	1.00	ug/L	0.300	1.00
79-00-5	1,1,2-Trichloroethane	U	1.00	ug/L	0.300	1.00
75-34-3	1,1-Dichloroethane	U	1.00	ug/L	0.300	1.00
75-35-4	1,1-Dichloroethylene	U	1.00	ug/L	0.300	1.00
563-58-6	1,1-Dichloropropene	U	1.00	ug/L	0.300	1.00
87-61-6	1,2,3-Trichlorobenzene	U	1.00	ug/L	0.300	1.00
96-18-4	1,2,3-Trichloropropane	U	1.00	ug/L	0.300	1.00
120-82-1	1,2,4-Trichlorobenzene	U	1.00	ug/L	0.300	1.00
95-63-6	1,2,4-Trimethylbenzene	U	1.00	ug/L	0.300	1.00
96-12-8	1,2-Dibromo-3-chloropropane	U	1.00	ug/L	0.500	1.00
106-93-4	1,2-Dibromoethane	U	1.00	ug/L	0.300	1.00
95-50-1	1,2-Dichlorobenzene	U	1.00	ug/L	0.300	1.00
107-06-2	1,2-Dichloroethane	U	1.00	ug/L	0.300	1.00
78-87-5	1,2-Dichloropropane	U	1.00	ug/L	0.300	1.00
108-67-8	1,3,5-Trimethylbenzene	U	1.00	ug/L	0.300	1.00
541-73-1	1,3-Dichlorobenzene	U	1.00	ug/L	0.300	1.00
142-28-9	1,3-Dichloropropane	U	1.00	ug/L	0.300	1.00
106-46-7	1,4-Dichlorobenzene	U	1.00	ug/L	0.300	1.00
594-20-7	2,2-Dichloropropane	U	1.00	ug/L	0.300	1.00
78-93-3	2-Butanone	U	5.00	ug/L	1.50	5.00
126-99-8	2-Chloro-1,3-butadiene	U	1.00	ug/L	0.300	1.00
95-49-8	2-Chlorotoluene	U	1.00	ug/L	0.300	1.00
591-78-6	2-Hexanone	U	5.00	ug/L	1.50	5.00
106-43-4	4-Chlorotoluene	U	1.00	ug/L	0.300	1.00
99-87-6	4-Isopropyltoluene	U	1.00	ug/L	0.300	1.00
108-10-1	4-Methyl-2-pentanone	U	5.00	ug/L	1.50	5.00
67-64-1	Acetone	U	10.0	ug/L	1.50	10.0
75-05-8	Acetonitrile	U	25.0	ug/L	8.00	25.0
107-02-8	Acrolein	U	5.00	ug/L	1.50	5.00
107-13-1	Acrylonitrile	U	5.00	ug/L	1.50	5.00
107-05-1	Allyl chloride	U	5.00	ug/L	1.50	5.00
71-43-2	Benzene	U	1.00	ug/L	0.300	1.00
108-86-1	Bromobenzene	U	1.00	ug/L	0.300	1.00
74-97-5	Bromochloromethane	U	1.00	ug/L	0.300	1.00
75-27-4	Bromodichloromethane	U	1.00	ug/L	0.300	1.00
75-25-2	Bromoform	U	1.00	ug/L	0.300	1.00

**Volatile
Certificate of Analysis
Sample Summary**

SDG Number: 2017-1332

Lab Sample ID: 420303009

Date Collected: 04/07/2017 12:54

Date Received: 04/11/2017 09:10

Matrix: W

Client ID: CAPA-17-130726

Batch ID: 1656366

Run Date: 04/14/2017 16:35

Prep Date: 04/14/2017 16:35

Data File: 041417V6\6C517.D

Client: ARSL004

Method: SW-846:8260B

Inst: VOA6.I

Analyst: JP1

Project: ESHL00114

SOP Ref: GL-OA-E-038

Dilution: 1

Purge Vol: 5 mL

Column: DB-624

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
74-83-9	Bromomethane	U	1.00	ug/L	0.300	1.00
75-15-0	Carbon disulfide	U	5.00	ug/L	1.50	5.00
56-23-5	Carbon tetrachloride	U	1.00	ug/L	0.300	1.00
108-90-7	Chlorobenzene	U	1.00	ug/L	0.300	1.00
75-00-3	Chloroethane	U	1.00	ug/L	0.300	1.00
67-66-3	Chloroform	U	1.00	ug/L	0.300	1.00
74-87-3	Chloromethane	U	1.00	ug/L	0.300	1.00
124-48-1	Dibromochloromethane	U	1.00	ug/L	0.300	1.00
74-95-3	Dibromomethane	U	1.00	ug/L	0.300	1.00
75-71-8	Dichlorodifluoromethane	U	1.00	ug/L	0.300	1.00
60-29-7	Ethyl ether	U	1.00	ug/L	0.300	1.00
97-63-2	Ethyl methacrylate	U	5.00	ug/L	1.50	5.00
100-41-4	Ethylbenzene	U	1.00	ug/L	0.300	1.00
87-68-3	Hexachlorobutadiene	U	1.00	ug/L	0.300	1.00
74-88-4	Iodomethane	U	5.00	ug/L	1.50	5.00
78-83-1	Isobutyl alcohol	U	50.0	ug/L	15.0	50.0
98-82-8	Isopropylbenzene	U	1.00	ug/L	0.300	1.00
126-98-7	Methacrylonitrile	U	5.00	ug/L	1.50	5.00
80-62-6	Methyl methacrylate	U	5.00	ug/L	1.50	5.00
75-09-2	Methylene chloride	U	10.0	ug/L	1.00	10.0
91-20-3	Naphthalene	U	1.00	ug/L	0.300	1.00
107-12-0	Propionitrile	U	5.00	ug/L	1.50	5.00
100-42-5	Styrene	U	1.00	ug/L	0.300	1.00
127-18-4	Tetrachloroethylene	U	1.00	ug/L	0.300	1.00
108-88-3	Toluene	U	1.00	ug/L	0.300	1.00
79-01-6	Trichloroethylene	U	1.00	ug/L	0.300	1.00
75-69-4	Trichlorofluoromethane	U	1.00	ug/L	0.300	1.00
76-13-1	Trichlorotrifluoroethane	U	5.00	ug/L	2.00	5.00
108-05-4	Vinyl acetate	U	5.00	ug/L	1.50	5.00
75-01-4	Vinyl chloride	U	1.00	ug/L	0.300	1.00
156-59-2	cis-1,2-Dichloroethylene	U	1.00	ug/L	0.300	1.00
10061-01-5	cis-1,3-Dichloropropylene	U	1.00	ug/L	0.300	1.00
179601-23-1	m,p-Xylenes	U	2.00	ug/L	0.300	2.00
71-36-3	n-Butyl alcohol	U	50.0	ug/L	15.0	50.0
104-51-8	n-Butylbenzene	U	1.00	ug/L	0.300	1.00
103-65-1	n-Propylbenzene	U	1.00	ug/L	0.300	1.00
95-47-6	o-Xylene	U	1.00	ug/L	0.300	1.00
135-98-8	sec-Butylbenzene	U	1.00	ug/L	0.300	1.00

**Volatile
Certificate of Analysis
Sample Summary**

SDG Number: 2017-1332

Lab Sample ID: 420303009

Date Collected: 04/07/2017 12:54

Date Received: 04/11/2017 09:10

Matrix: W

Client: ARSL004

Project: ESHL00114

Client ID: CAPA-17-130726

Method: SW-846:8260B

SOP Ref: GL-OA-E-038

Batch ID: 1656366

Inst: VOA6.I

Dilution: 1

Run Date: 04/14/2017 16:35

Analyst: JP1

Purge Vol: 5 mL

Prep Date: 04/14/2017 16:35

Data File: 041417V6\6C517.D

Column: DB-624

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
1634-04-4	tert-Butyl methyl ether	U	1.00	ug/L	0.300	1.00
98-06-6	tert-Butylbenzene	U	1.00	ug/L	0.300	1.00
156-60-5	trans-1,2-Dichloroethylene	U	1.00	ug/L	0.300	1.00
10061-02-6	trans-1,3-Dichloropropylene	U	1.00	ug/L	0.300	1.00

Surrogate/Tracer recovery	Result	Nominal	Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	49.1	50.0	ug/L 98	(71%-134%)
Bromofluorobenzene	50.8	50.0	ug/L 102	(70%-131%)
Toluene-d8	50.0	50.0	ug/L 100	(74%-124%)

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	unknown	3.592	6.26	ug/L	0	J
	unknown siloxane	11.348	25	ug/L	0	J
	unknown siloxane	13.75	56.2	ug/L	0	J
	unknown	15.67	13.3	ug/L	0	J

**Volatile
Certificate of Analysis
Sample Summary**

SDG Number: 2017-1332

Lab Sample ID: 420303010

Date Collected: 04/07/2017 12:54

Date Received: 04/11/2017 09:10

Matrix: W

Client: ARSL004

Project: ESHL00114

Method: SW-846:8260B

SOP Ref: GL-OA-E-038

Batch ID: 1656366

Inst: VOA6.I

Dilution: 1

Run Date: 04/14/2017 17:04

Analyst: JP1

Purge Vol: 5 mL

Prep Date: 04/14/2017 17:04

Data File: 041417V6\6C518.D

Column: DB-624

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
630-20-6	1,1,1,2-Tetrachloroethane	U	1.00	ug/L	0.300	1.00
71-55-6	1,1,1-Trichloroethane	U	1.00	ug/L	0.300	1.00
79-34-5	1,1,2,2-Tetrachloroethane	U	1.00	ug/L	0.300	1.00
79-00-5	1,1,2-Trichloroethane	U	1.00	ug/L	0.300	1.00
75-34-3	1,1-Dichloroethane	U	1.00	ug/L	0.300	1.00
75-35-4	1,1-Dichloroethylene	U	1.00	ug/L	0.300	1.00
563-58-6	1,1-Dichloropropene	U	1.00	ug/L	0.300	1.00
87-61-6	1,2,3-Trichlorobenzene	U	1.00	ug/L	0.300	1.00
96-18-4	1,2,3-Trichloropropane	U	1.00	ug/L	0.300	1.00
120-82-1	1,2,4-Trichlorobenzene	U	1.00	ug/L	0.300	1.00
95-63-6	1,2,4-Trimethylbenzene	U	1.00	ug/L	0.300	1.00
96-12-8	1,2-Dibromo-3-chloropropane	U	1.00	ug/L	0.500	1.00
106-93-4	1,2-Dibromoethane	U	1.00	ug/L	0.300	1.00
95-50-1	1,2-Dichlorobenzene	U	1.00	ug/L	0.300	1.00
107-06-2	1,2-Dichloroethane	U	1.00	ug/L	0.300	1.00
78-87-5	1,2-Dichloropropane	U	1.00	ug/L	0.300	1.00
108-67-8	1,3,5-Trimethylbenzene	U	1.00	ug/L	0.300	1.00
541-73-1	1,3-Dichlorobenzene	U	1.00	ug/L	0.300	1.00
142-28-9	1,3-Dichloropropane	U	1.00	ug/L	0.300	1.00
106-46-7	1,4-Dichlorobenzene	U	1.00	ug/L	0.300	1.00
594-20-7	2,2-Dichloropropane	U	1.00	ug/L	0.300	1.00
78-93-3	2-Butanone	U	5.00	ug/L	1.50	5.00
126-99-8	2-Chloro-1,3-butadiene	U	1.00	ug/L	0.300	1.00
95-49-8	2-Chlorotoluene	U	1.00	ug/L	0.300	1.00
591-78-6	2-Hexanone	U	5.00	ug/L	1.50	5.00
106-43-4	4-Chlorotoluene	U	1.00	ug/L	0.300	1.00
99-87-6	4-Isopropyltoluene	U	1.00	ug/L	0.300	1.00
108-10-1	4-Methyl-2-pentanone	U	5.00	ug/L	1.50	5.00
67-64-1	Acetone	U	10.0	ug/L	1.50	10.0
75-05-8	Acetonitrile	U	25.0	ug/L	8.00	25.0
107-02-8	Acrolein	U	5.00	ug/L	1.50	5.00
107-13-1	Acrylonitrile	U	5.00	ug/L	1.50	5.00
107-05-1	Allyl chloride	U	5.00	ug/L	1.50	5.00
71-43-2	Benzene	U	1.00	ug/L	0.300	1.00
108-86-1	Bromobenzene	U	1.00	ug/L	0.300	1.00
74-97-5	Bromochloromethane	U	1.00	ug/L	0.300	1.00
75-27-4	Bromodichloromethane	U	1.00	ug/L	0.300	1.00
75-25-2	Bromoform	U	1.00	ug/L	0.300	1.00

**Volatile
Certificate of Analysis
Sample Summary**

SDG Number: 2017-1332

Lab Sample ID: 420303010

Date Collected: 04/07/2017 12:54

Date Received: 04/11/2017 09:10

Matrix: W

Client ID: CAPA-17-130749

Batch ID: 1656366

Run Date: 04/14/2017 17:04

Prep Date: 04/14/2017 17:04

Data File: 041417V6\6C518.D

Client: ARSL004

Method: SW-846:8260B

Inst: VOA6.I

Analyst: JP1

Project: ESHL00114

SOP Ref: GL-OA-E-038

Dilution: 1

Purge Vol: 5 mL

Column: DB-624

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
74-83-9	Bromomethane	U	1.00	ug/L	0.300	1.00
75-15-0	Carbon disulfide	U	5.00	ug/L	1.50	5.00
56-23-5	Carbon tetrachloride	U	1.00	ug/L	0.300	1.00
108-90-7	Chlorobenzene	U	1.00	ug/L	0.300	1.00
75-00-3	Chloroethane	U	1.00	ug/L	0.300	1.00
67-66-3	Chloroform	U	1.00	ug/L	0.300	1.00
74-87-3	Chloromethane	U	1.00	ug/L	0.300	1.00
124-48-1	Dibromochloromethane	U	1.00	ug/L	0.300	1.00
74-95-3	Dibromomethane	U	1.00	ug/L	0.300	1.00
75-71-8	Dichlorodifluoromethane	U	1.00	ug/L	0.300	1.00
60-29-7	Ethyl ether	U	1.00	ug/L	0.300	1.00
97-63-2	Ethyl methacrylate	U	5.00	ug/L	1.50	5.00
100-41-4	Ethylbenzene	U	1.00	ug/L	0.300	1.00
87-68-3	Hexachlorobutadiene	U	1.00	ug/L	0.300	1.00
74-88-4	Iodomethane	U	5.00	ug/L	1.50	5.00
78-83-1	Isobutyl alcohol	U	50.0	ug/L	15.0	50.0
98-82-8	Isopropylbenzene	U	1.00	ug/L	0.300	1.00
126-98-7	Methacrylonitrile	U	5.00	ug/L	1.50	5.00
80-62-6	Methyl methacrylate	U	5.00	ug/L	1.50	5.00
75-09-2	Methylene chloride	U	10.0	ug/L	1.00	10.0
91-20-3	Naphthalene	U	1.00	ug/L	0.300	1.00
107-12-0	Propionitrile	U	5.00	ug/L	1.50	5.00
100-42-5	Styrene	U	1.00	ug/L	0.300	1.00
127-18-4	Tetrachloroethylene	U	1.00	ug/L	0.300	1.00
108-88-3	Toluene	U	1.00	ug/L	0.300	1.00
79-01-6	Trichloroethylene	U	1.00	ug/L	0.300	1.00
75-69-4	Trichlorofluoromethane	U	1.00	ug/L	0.300	1.00
76-13-1	Trichlorotrifluoroethane	U	5.00	ug/L	2.00	5.00
108-05-4	Vinyl acetate	U	5.00	ug/L	1.50	5.00
75-01-4	Vinyl chloride	U	1.00	ug/L	0.300	1.00
156-59-2	cis-1,2-Dichloroethylene	U	1.00	ug/L	0.300	1.00
10061-01-5	cis-1,3-Dichloropropylene	U	1.00	ug/L	0.300	1.00
179601-23-1	m,p-Xylenes	U	2.00	ug/L	0.300	2.00
71-36-3	n-Butyl alcohol	U	50.0	ug/L	15.0	50.0
104-51-8	n-Butylbenzene	U	1.00	ug/L	0.300	1.00
103-65-1	n-Propylbenzene	U	1.00	ug/L	0.300	1.00
95-47-6	o-Xylene	U	1.00	ug/L	0.300	1.00
135-98-8	sec-Butylbenzene	U	1.00	ug/L	0.300	1.00

**Volatile
Certificate of Analysis
Sample Summary**

SDG Number: 2017-1332

Lab Sample ID: 420303010

Date Collected: 04/07/2017 12:54

Date Received: 04/11/2017 09:10

Matrix: W

Client: ARSL004

Project: ESHL00114

Client ID: CAPA-17-130749

Method: SW-846:8260B

SOP Ref: GL-OA-E-038

Batch ID: 1656366

Inst: VOA6.I

Dilution: 1

Run Date: 04/14/2017 17:04

Analyst: JP1

Purge Vol: 5 mL

Prep Date: 04/14/2017 17:04

Data File: 041417V6\6C518.D

Column: DB-624

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
1634-04-4	tert-Butyl methyl ether	U	1.00	ug/L	0.300	1.00
98-06-6	tert-Butylbenzene	U	1.00	ug/L	0.300	1.00
156-60-5	trans-1,2-Dichloroethylene	U	1.00	ug/L	0.300	1.00
10061-02-6	trans-1,3-Dichloropropylene	U	1.00	ug/L	0.300	1.00

Surrogate/Tracer recovery	Result	Nominal	Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	49.9	50.0	ug/L 100	(71%-134%)
Bromofluorobenzene	50.4	50.0	ug/L 101	(70%-131%)
Toluene-d8	49.7	50.0	ug/L 99	(74%-124%)

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	unknown siloxane	13.75	12.3	ug/L	0	J

**Volatile
Certificate of Analysis
Sample Summary**

SDG Number: 2017-1332

Lab Sample ID: 420303011

Date Collected: 04/07/2017 12:54

Date Received: 04/11/2017 09:10

Matrix: W

Client: ARSL004

Project: ESHL00114

Client ID: CAPA-17-130761

Method: SW-846:8260B

SOP Ref: GL-OA-E-038

Batch ID: 1656366

Inst: VOA6.I

Dilution: 1

Run Date: 04/17/2017 14:37

Analyst: JP1

Purge Vol: 5 mL

Prep Date: 04/17/2017 14:37

Data File: 041717V6\6D110.D

Column: DB-624

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
630-20-6	1,1,1,2-Tetrachloroethane	U	1.00	ug/L	0.300	1.00
71-55-6	1,1,1-Trichloroethane	U	1.00	ug/L	0.300	1.00
79-34-5	1,1,2,2-Tetrachloroethane	U	1.00	ug/L	0.300	1.00
79-00-5	1,1,2-Trichloroethane	U	1.00	ug/L	0.300	1.00
75-34-3	1,1-Dichloroethane	U	1.00	ug/L	0.300	1.00
75-35-4	1,1-Dichloroethylene	U	1.00	ug/L	0.300	1.00
563-58-6	1,1-Dichloropropene	U	1.00	ug/L	0.300	1.00
87-61-6	1,2,3-Trichlorobenzene	U	1.00	ug/L	0.300	1.00
96-18-4	1,2,3-Trichloropropane	U	1.00	ug/L	0.300	1.00
120-82-1	1,2,4-Trichlorobenzene	U	1.00	ug/L	0.300	1.00
95-63-6	1,2,4-Trimethylbenzene	U	1.00	ug/L	0.300	1.00
96-12-8	1,2-Dibromo-3-chloropropane	U	1.00	ug/L	0.500	1.00
106-93-4	1,2-Dibromoethane	U	1.00	ug/L	0.300	1.00
95-50-1	1,2-Dichlorobenzene	U	1.00	ug/L	0.300	1.00
107-06-2	1,2-Dichloroethane	U	1.00	ug/L	0.300	1.00
78-87-5	1,2-Dichloropropane	U	1.00	ug/L	0.300	1.00
108-67-8	1,3,5-Trimethylbenzene	U	1.00	ug/L	0.300	1.00
541-73-1	1,3-Dichlorobenzene	U	1.00	ug/L	0.300	1.00
142-28-9	1,3-Dichloropropane	U	1.00	ug/L	0.300	1.00
106-46-7	1,4-Dichlorobenzene	U	1.00	ug/L	0.300	1.00
594-20-7	2,2-Dichloropropane	U	1.00	ug/L	0.300	1.00
78-93-3	2-Butanone	U	5.00	ug/L	1.50	5.00
126-99-8	2-Chloro-1,3-butadiene	U	1.00	ug/L	0.300	1.00
95-49-8	2-Chlorotoluene	U	1.00	ug/L	0.300	1.00
591-78-6	2-Hexanone	U	5.00	ug/L	1.50	5.00
106-43-4	4-Chlorotoluene	U	1.00	ug/L	0.300	1.00
99-87-6	4-Isopropyltoluene	U	1.00	ug/L	0.300	1.00
108-10-1	4-Methyl-2-pentanone	U	5.00	ug/L	1.50	5.00
67-64-1	Acetone	U	10.0	ug/L	1.50	10.0
75-05-8	Acetonitrile	U	25.0	ug/L	8.00	25.0
107-02-8	Acrolein	U	5.00	ug/L	1.50	5.00
107-13-1	Acrylonitrile	U	5.00	ug/L	1.50	5.00
107-05-1	Allyl chloride	U	5.00	ug/L	1.50	5.00
71-43-2	Benzene	U	1.00	ug/L	0.300	1.00
108-86-1	Bromobenzene	U	1.00	ug/L	0.300	1.00
74-97-5	Bromochloromethane	U	1.00	ug/L	0.300	1.00
75-27-4	Bromodichloromethane	U	1.00	ug/L	0.300	1.00
75-25-2	Bromoform	U	1.00	ug/L	0.300	1.00

**Volatile
Certificate of Analysis
Sample Summary**

SDG Number: 2017-1332

Lab Sample ID: 420303011

Date Collected: 04/07/2017 12:54

Date Received: 04/11/2017 09:10

Matrix: W

Client: ARSL004

Project: ESHL00114

Method: SW-846:8260B

SOP Ref: GL-OA-E-038

Batch ID: 1656366

Inst: VOA6.I

Dilution: 1

Run Date: 04/17/2017 14:37

Analyst: JP1

Purge Vol: 5 mL

Prep Date: 04/17/2017 14:37

Data File: 041717V6\6D110.D

Column: DB-624

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
74-83-9	Bromomethane	U	1.00	ug/L	0.300	1.00
75-15-0	Carbon disulfide	U	5.00	ug/L	1.50	5.00
56-23-5	Carbon tetrachloride	U	1.00	ug/L	0.300	1.00
108-90-7	Chlorobenzene	U	1.00	ug/L	0.300	1.00
75-00-3	Chloroethane	U	1.00	ug/L	0.300	1.00
67-66-3	Chloroform	U	1.00	ug/L	0.300	1.00
74-87-3	Chloromethane	U	1.00	ug/L	0.300	1.00
124-48-1	Dibromochloromethane	U	1.00	ug/L	0.300	1.00
74-95-3	Dibromomethane	U	1.00	ug/L	0.300	1.00
75-71-8	Dichlorodifluoromethane	U	1.00	ug/L	0.300	1.00
60-29-7	Ethyl ether	U	1.00	ug/L	0.300	1.00
97-63-2	Ethyl methacrylate	U	5.00	ug/L	1.50	5.00
100-41-4	Ethylbenzene	U	1.00	ug/L	0.300	1.00
87-68-3	Hexachlorobutadiene	U	1.00	ug/L	0.300	1.00
74-88-4	Iodomethane	U	5.00	ug/L	1.50	5.00
78-83-1	Isobutyl alcohol	U	50.0	ug/L	15.0	50.0
98-82-8	Isopropylbenzene	U	1.00	ug/L	0.300	1.00
126-98-7	Methacrylonitrile	U	5.00	ug/L	1.50	5.00
80-62-6	Methyl methacrylate	U	5.00	ug/L	1.50	5.00
75-09-2	Methylene chloride	U	10.0	ug/L	1.00	10.0
91-20-3	Naphthalene	U	1.00	ug/L	0.300	1.00
107-12-0	Propionitrile	U	5.00	ug/L	1.50	5.00
100-42-5	Styrene	U	1.00	ug/L	0.300	1.00
127-18-4	Tetrachloroethylene	U	1.00	ug/L	0.300	1.00
108-88-3	Toluene	U	1.00	ug/L	0.300	1.00
79-01-6	Trichloroethylene	U	1.00	ug/L	0.300	1.00
75-69-4	Trichlorofluoromethane	U	1.00	ug/L	0.300	1.00
76-13-1	Trichlorotrifluoroethane	U	5.00	ug/L	2.00	5.00
108-05-4	Vinyl acetate	U	5.00	ug/L	1.50	5.00
75-01-4	Vinyl chloride	U	1.00	ug/L	0.300	1.00
156-59-2	cis-1,2-Dichloroethylene	U	1.00	ug/L	0.300	1.00
10061-01-5	cis-1,3-Dichloropropylene	U	1.00	ug/L	0.300	1.00
179601-23-1	m,p-Xylenes	U	2.00	ug/L	0.300	2.00
71-36-3	n-Butyl alcohol	U	50.0	ug/L	15.0	50.0
104-51-8	n-Butylbenzene	U	1.00	ug/L	0.300	1.00
103-65-1	n-Propylbenzene	U	1.00	ug/L	0.300	1.00
95-47-6	o-Xylene	U	1.00	ug/L	0.300	1.00
135-98-8	sec-Butylbenzene	U	1.00	ug/L	0.300	1.00

**Volatile
Certificate of Analysis
Sample Summary**

SDG Number: 2017-1332

Lab Sample ID: 420303011

Date Collected: 04/07/2017 12:54

Date Received: 04/11/2017 09:10

Matrix: W

Client: ARSL004

Project: ESHL00114

Method: SW-846:8260B

SOP Ref: GL-OA-E-038

Batch ID: 1656366

Inst: VOA6.I

Dilution: 1

Run Date: 04/17/2017 14:37

Analyst: JP1

Purge Vol: 5 mL

Prep Date: 04/17/2017 14:37

Data File: 041717V6\6D110.D

Column: DB-624

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
1634-04-4	tert-Butyl methyl ether	U	1.00	ug/L	0.300	1.00
98-06-6	tert-Butylbenzene	U	1.00	ug/L	0.300	1.00
156-60-5	trans-1,2-Dichloroethylene	U	1.00	ug/L	0.300	1.00
10061-02-6	trans-1,3-Dichloropropylene	U	1.00	ug/L	0.300	1.00

Surrogate/Tracer recovery	Result	Nominal	Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	48.9	50.0	ug/L 98	(71%-134%)
Bromofluorobenzene	51.1	50.0	ug/L 102	(70%-131%)
Toluene-d8	49.9	50.0	ug/L 100	(74%-124%)

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	unknown	3.696	6.11	ug/L	0	J
	unknown siloxane	11.348	26.9	ug/L	0	J
	unknown siloxane	13.75	31.1	ug/L	0	J

**Volatile
Certificate of Analysis
Sample Summary**

SDG Number: 2017-1332

Lab Sample ID: 420303012

Date Collected: 04/07/2017 12:54

Date Received: 04/11/2017 09:10

Matrix: W

Client: ARSL004

Project: ESHL00114

Method: SW-846:8260B

SOP Ref: GL-OA-E-038

Batch ID: 1656366

Inst: VOA6.I

Dilution: 1

Run Date: 04/17/2017 15:06

Analyst: JP1

Purge Vol: 5 mL

Prep Date: 04/17/2017 15:06

Data File: 041717V6\6D111.D

Column: DB-624

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
630-20-6	1,1,1,2-Tetrachloroethane	U	1.00	ug/L	0.300	1.00
71-55-6	1,1,1-Trichloroethane	U	1.00	ug/L	0.300	1.00
79-34-5	1,1,2,2-Tetrachloroethane	U	1.00	ug/L	0.300	1.00
79-00-5	1,1,2-Trichloroethane	U	1.00	ug/L	0.300	1.00
75-34-3	1,1-Dichloroethane	U	1.00	ug/L	0.300	1.00
75-35-4	1,1-Dichloroethylene	U	1.00	ug/L	0.300	1.00
563-58-6	1,1-Dichloropropene	U	1.00	ug/L	0.300	1.00
87-61-6	1,2,3-Trichlorobenzene	U	1.00	ug/L	0.300	1.00
96-18-4	1,2,3-Trichloropropane	U	1.00	ug/L	0.300	1.00
120-82-1	1,2,4-Trichlorobenzene	U	1.00	ug/L	0.300	1.00
95-63-6	1,2,4-Trimethylbenzene	U	1.00	ug/L	0.300	1.00
96-12-8	1,2-Dibromo-3-chloropropane	U	1.00	ug/L	0.500	1.00
106-93-4	1,2-Dibromoethane	U	1.00	ug/L	0.300	1.00
95-50-1	1,2-Dichlorobenzene	U	1.00	ug/L	0.300	1.00
107-06-2	1,2-Dichloroethane	U	1.00	ug/L	0.300	1.00
78-87-5	1,2-Dichloropropane	U	1.00	ug/L	0.300	1.00
108-67-8	1,3,5-Trimethylbenzene	U	1.00	ug/L	0.300	1.00
541-73-1	1,3-Dichlorobenzene	U	1.00	ug/L	0.300	1.00
142-28-9	1,3-Dichloropropane	U	1.00	ug/L	0.300	1.00
106-46-7	1,4-Dichlorobenzene	U	1.00	ug/L	0.300	1.00
594-20-7	2,2-Dichloropropane	U	1.00	ug/L	0.300	1.00
78-93-3	2-Butanone	U	5.00	ug/L	1.50	5.00
126-99-8	2-Chloro-1,3-butadiene	U	1.00	ug/L	0.300	1.00
95-49-8	2-Chlorotoluene	U	1.00	ug/L	0.300	1.00
591-78-6	2-Hexanone	U	5.00	ug/L	1.50	5.00
106-43-4	4-Chlorotoluene	U	1.00	ug/L	0.300	1.00
99-87-6	4-Isopropyltoluene	U	1.00	ug/L	0.300	1.00
108-10-1	4-Methyl-2-pentanone	U	5.00	ug/L	1.50	5.00
67-64-1	Acetone	J	2.67	ug/L	1.50	10.0
75-05-8	Acetonitrile	U	25.0	ug/L	8.00	25.0
107-02-8	Acrolein	U	5.00	ug/L	1.50	5.00
107-13-1	Acrylonitrile	U	5.00	ug/L	1.50	5.00
107-05-1	Allyl chloride	U	5.00	ug/L	1.50	5.00
71-43-2	Benzene	U	1.00	ug/L	0.300	1.00
108-86-1	Bromobenzene	U	1.00	ug/L	0.300	1.00
74-97-5	Bromochloromethane	U	1.00	ug/L	0.300	1.00
75-27-4	Bromodichloromethane	U	1.00	ug/L	0.300	1.00
75-25-2	Bromoform	U	1.00	ug/L	0.300	1.00

**Volatile
Certificate of Analysis
Sample Summary**

SDG Number: 2017-1332

Lab Sample ID: 420303012

Date Collected: 04/07/2017 12:54

Date Received: 04/11/2017 09:10

Matrix: W

Client: ARSL004

Project: ESHL00114

Method: SW-846:8260B

SOP Ref: GL-OA-E-038

Batch ID: 1656366

Inst: VOA6.I

Dilution: 1

Run Date: 04/17/2017 15:06

Analyst: JP1

Purge Vol: 5 mL

Prep Date: 04/17/2017 15:06

Data File: 041717V6\6D111.D

Column: DB-624

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
74-83-9	Bromomethane	U	1.00	ug/L	0.300	1.00
75-15-0	Carbon disulfide	U	5.00	ug/L	1.50	5.00
56-23-5	Carbon tetrachloride	U	1.00	ug/L	0.300	1.00
108-90-7	Chlorobenzene	U	1.00	ug/L	0.300	1.00
75-00-3	Chloroethane	U	1.00	ug/L	0.300	1.00
67-66-3	Chloroform	U	1.00	ug/L	0.300	1.00
74-87-3	Chloromethane	U	1.00	ug/L	0.300	1.00
124-48-1	Dibromochloromethane	U	1.00	ug/L	0.300	1.00
74-95-3	Dibromomethane	U	1.00	ug/L	0.300	1.00
75-71-8	Dichlorodifluoromethane	U	1.00	ug/L	0.300	1.00
60-29-7	Ethyl ether	U	1.00	ug/L	0.300	1.00
97-63-2	Ethyl methacrylate	U	5.00	ug/L	1.50	5.00
100-41-4	Ethylbenzene	U	1.00	ug/L	0.300	1.00
87-68-3	Hexachlorobutadiene	U	1.00	ug/L	0.300	1.00
74-88-4	Iodomethane	U	5.00	ug/L	1.50	5.00
78-83-1	Isobutyl alcohol	U	50.0	ug/L	15.0	50.0
98-82-8	Isopropylbenzene	U	1.00	ug/L	0.300	1.00
126-98-7	Methacrylonitrile	U	5.00	ug/L	1.50	5.00
80-62-6	Methyl methacrylate	U	5.00	ug/L	1.50	5.00
75-09-2	Methylene chloride	U	10.0	ug/L	1.00	10.0
91-20-3	Naphthalene	U	1.00	ug/L	0.300	1.00
107-12-0	Propionitrile	U	5.00	ug/L	1.50	5.00
100-42-5	Styrene	U	1.00	ug/L	0.300	1.00
127-18-4	Tetrachloroethylene	U	1.00	ug/L	0.300	1.00
108-88-3	Toluene	U	1.00	ug/L	0.300	1.00
79-01-6	Trichloroethylene	U	1.00	ug/L	0.300	1.00
75-69-4	Trichlorofluoromethane	U	1.00	ug/L	0.300	1.00
76-13-1	Trichlorotrifluoroethane	U	5.00	ug/L	2.00	5.00
108-05-4	Vinyl acetate	U	5.00	ug/L	1.50	5.00
75-01-4	Vinyl chloride	U	1.00	ug/L	0.300	1.00
156-59-2	cis-1,2-Dichloroethylene	U	1.00	ug/L	0.300	1.00
10061-01-5	cis-1,3-Dichloropropylene	U	1.00	ug/L	0.300	1.00
179601-23-1	m,p-Xylenes	U	2.00	ug/L	0.300	2.00
71-36-3	n-Butyl alcohol	U	50.0	ug/L	15.0	50.0
104-51-8	n-Butylbenzene	U	1.00	ug/L	0.300	1.00
103-65-1	n-Propylbenzene	U	1.00	ug/L	0.300	1.00
95-47-6	o-Xylene	U	1.00	ug/L	0.300	1.00
135-98-8	sec-Butylbenzene	U	1.00	ug/L	0.300	1.00

**Volatile
Certificate of Analysis
Sample Summary**

SDG Number: 2017-1332

Lab Sample ID: 420303012

Date Collected: 04/07/2017 12:54

Date Received: 04/11/2017 09:10

Matrix: W

Client: ARSL004

Project: ESHL00114

Client ID: CAPA-17-130758

Method: SW-846:8260B

SOP Ref: GL-OA-E-038

Batch ID: 1656366

Inst: VOA6.I

Dilution: 1

Run Date: 04/17/2017 15:06

Analyst: JP1

Purge Vol: 5 mL

Prep Date: 04/17/2017 15:06

Data File: 041717V6\6D111.D

Column: DB-624

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
1634-04-4	tert-Butyl methyl ether	U	1.00	ug/L	0.300	1.00
98-06-6	tert-Butylbenzene	U	1.00	ug/L	0.300	1.00
156-60-5	trans-1,2-Dichloroethylene	U	1.00	ug/L	0.300	1.00
10061-02-6	trans-1,3-Dichloropropylene	U	1.00	ug/L	0.300	1.00

Surrogate/Tracer recovery	Result	Nominal	Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	47.8	50.0	ug/L 96	(71%-134%)
Bromofluorobenzene	48.5	50.0	ug/L 97	(70%-131%)
Toluene-d8	47.7	50.0	ug/L 95	(74%-124%)

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	unknown siloxane	11.348	19.3	ug/L	0	J
	unknown siloxane	13.75	24.1	ug/L	0	J

Quality Control Summary

Volatile
Surrogate Recovery Report

Page 1 of 1

SDG Number: 2017-1332**Matrix Type: LIQUID**

Sample ID	Client ID	DCED4 %REC	TOL %REC	BFB %REC
1203768390	LCS for batch 1656366	95	99	99
1203768391	LCS for batch 1656366	97	99	101
1203768389	MB for batch 1656366	90	91	92
420303001	CAPA-17-130707	97	98	100
420303002	CAPA-17-130738	96	98	100
420303003	CAPA-17-130710	93	97	98
420303004	CAPA-17-130735	85	85	87
420303005	CAPA-17-130719	90	92	94
420303006	CAPA-17-130743	95	99	101
420303007	CAPA-17-130720	98	98	102
420303008	CAPA-17-130744	98	98	101
420303009	CAPA-17-130726	98	100	102
420303010	CAPA-17-130749	100	99	101
1203768392	CAPA-17-130707PS	95	96	96
1203768394	CAPA-17-130707PSD	98	99	99
1203768393	CAPA-17-130707PS	92	96	99
1203768395	CAPA-17-130707PSD	94	98	101
1203769411	LCS for batch 1656366	97	99	98
1203769412	LCS for batch 1656366	94	97	99
1203769410	MB for batch 1656366	98	100	102
420303011	CAPA-17-130761	98	100	102
420303012	CAPA-17-130758	96	95	97

Surrogate**Acceptance Limits**

DCED4 = 1,2-Dichloroethane-d4

(71%-134%)

TOL = Toluene-d8

(74%-124%)

BFB = Bromofluorobenzene

(70%-131%)

* Recovery outside Acceptance Limits

Column to be used to flag recovery values

D Sample Diluted

Volatile
Quality Control Summary
Spike Recovery Report

Page 1 of 4

SDG Number: 2017-1332

Sample Type: Laboratory Control Sample

Client ID: LCS for batch 1656366

Matrix: WATER

Lab Sample ID 1203768390

Instrument: VOA6.I

Analysis Date: 04/14/2017 09:54

Dilution: 1

Analyst: JP1

Purge Vol: 5 mL

Batch ID: 1656366

CAS No	Parmname	Amount Added ug/L	Sample Conc. ug/L	Spike Conc. ug/L	Recovery %	Acceptance Limits
179601-23-1	LCS m,p-Xylenes	100	0.0	98.7	99	71-127
75-05-8	LCS Acetonitrile	1250	0.0	1040	84	61-125
67-64-1	LCS Acetone	250	0.0	196	78	48-157
74-88-4	LCS Iodomethane	250	0.0	268	107	72-128
75-15-0	LCS Carbon disulfide	250	0.0	249	100	69-138
108-05-4	LCS Vinyl acetate	250	0.0	213	85	67-125
78-93-3	LCS 2-Butanone	250	0.0	200	80	55-138
108-10-1	LCS 4-Methyl-2-pentanone	250	0.0	201	80	66-124
591-78-6	LCS 2-Hexanone	250	0.0	194	78	56-140
75-71-8	LCS Dichlorodifluoromethane	50.0	0.0	48.3	97	40-160
74-87-3	LCS Chloromethane	50.0	0.0	44.7	89	58-135
75-01-4	LCS Vinyl chloride	50.0	0.0	48.6	97	65-137
74-83-9	LCS Bromomethane	50.0	0.0	52.0	104	63-137
75-00-3	LCS Chloroethane	50.0	0.0	47.9	96	69-129
75-69-4	LCS Trichlorofluoromethane	50.0	0.0	49.9	100	69-138
60-29-7	LCS Ethyl ether	50.0	0.0	43.3	87	72-125
75-35-4	LCS 1,1-Dichloroethylene	50.0	0.0	42.8	86	66-126
75-09-2	LCS Methylene chloride	50.0	0.0	49.4	99	68-119
1634-04-4	LCS tert-Butyl methyl ether	50.0	0.0	47.6	95	76-128
156-60-5	LCS trans-1,2-Dichloroethylene	50.0	0.0	47.1	94	71-124
75-34-3	LCS 1,1-Dichloroethane	50.0	0.0	47.4	95	73-123
156-59-2	LCS cis-1,2-Dichloroethylene	50.0	0.0	46.9	94	75-123

Volatile
Quality Control Summary
Spike Recovery Report

Page 2 of 4

SDG Number: 2017-1332

Sample Type: Laboratory Control Sample

Client ID: LCS for batch 1656366

Matrix: WATER

Lab Sample ID 1203768390

Instrument: VOA6.I

Analysis Date: 04/14/2017 09:54

Dilution: 1

Analyst: JPI

Purge Vol: 5 mL

Batch ID: 1656366

CAS No	Parmname	Amount Added ug/L	Sample Conc. ug/L	Spike Conc. ug/L	Recovery %	Acceptance Limits
594-20-7	LCS 2,2-Dichloropropane	50.0	0.0	46.9	94	72-138
74-97-5	LCS Bromochloromethane	50.0	0.0	53.9	108	76-125
67-66-3	LCS Chloroform	50.0	0.0	49.7	99	76-123
71-55-6	LCS 1,1,1-Trichloroethane	50.0	0.0	48.1	96	74-136
563-58-6	LCS 1,1-Dichloropropene	50.0	0.0	48.7	97	72-129
56-23-5	LCS Carbon tetrachloride	50.0	0.0	51.4	103	72-140
107-06-2	LCS 1,2-Dichloroethane	50.0	0.0	46.9	94	74-122
71-43-2	LCS Benzene	50.0	0.0	49.5	99	72-121
79-01-6	LCS Trichloroethylene	50.0	0.0	52.4	105	74-125
78-87-5	LCS 1,2-Dichloropropane	50.0	0.0	49.1	98	73-121
74-95-3	LCS Dibromomethane	50.0	0.0	50.7	101	78-123
75-27-4	LCS Bromodichloromethane	50.0	0.0	50.1	100	77-131
10061-01-5	LCS cis-1,3-Dichloropropylene	50.0	0.0	50.1	100	78-131
108-88-3	LCS Toluene	50.0	0.0	46.5	93	71-121
10061-02-6	LCS trans-1,3-Dichloropropylene	50.0	0.0	45.9	92	78-131
79-00-5	LCS 1,1,2-Trichloroethane	50.0	0.0	45.8	92	74-118
142-28-9	LCS 1,3-Dichloropropane	50.0	0.0	46.4	93	74-118
127-18-4	LCS Tetrachloroethylene	50.0	0.0	52.4	105	69-129
124-48-1	LCS Dibromochloromethane	50.0	0.0	49.5	99	76-137
106-93-4	LCS 1,2-Dibromoethane	50.0	0.0	48.5	97	78-122
108-90-7	LCS Chlorobenzene	50.0	0.0	48.9	98	74-120
100-41-4	LCS Ethylbenzene	50.0	0.0	47.8	96	73-125

Volatile
Quality Control Summary
Spike Recovery Report

SDG Number: 2017-1332

Sample Type: Laboratory Control Sample

Client ID: LCS for batch 1656366

Matrix: WATER

Lab Sample ID 1203768390

Instrument: VOA6.I

Analysis Date: 04/14/2017 09:54

Dilution: 1

Analyst: JPI

Purge Vol: 5 mL

Batch ID: 1656366

CAS No	Parmname	Amount Added ug/L	Sample Conc. ug/L	Spike Conc. ug/L	Recovery %	Acceptance Limits
95-47-6	LCS o-Xylene	50.0	0.0	46.9	94	74-126
100-42-5	LCS Styrene	50.0	0.0	49.3	99	72-130
75-25-2	LCS Bromoform	50.0	0.0	48.5	97	72-136
98-82-8	LCS Isopropylbenzene	50.0	0.0	46.5	93	70-130
79-34-5	LCS 1,1,2,2-Tetrachloroethane	50.0	0.0	42.9	86	70-126
96-18-4	LCS 1,2,3-Trichloropropane	50.0	0.0	45.7	91	74-122
108-86-1	LCS Bromobenzene	50.0	0.0	49.6	99	74-120
103-65-1	LCS n-Propylbenzene	50.0	0.0	44.9	90	67-128
108-67-8	LCS 1,3,5-Trimethylbenzene	50.0	0.0	47.1	94	70-129
95-49-8	LCS 2-Chlorotoluene	50.0	0.0	49.8	100	71-124
106-43-4	LCS 4-Chlorotoluene	50.0	0.0	45.2	90	69-125
98-06-6	LCS tert-Butylbenzene	50.0	0.0	49.3	99	72-130
95-63-6	LCS 1,2,4-Trimethylbenzene	50.0	0.0	46.7	93	70-126
135-98-8	LCS sec-Butylbenzene	50.0	0.0	47.5	95	70-131
99-87-6	LCS 4-Isopropyltoluene	50.0	0.0	47.9	96	71-131
541-73-1	LCS 1,3-Dichlorobenzene	50.0	0.0	49.2	98	72-121
106-46-7	LCS 1,4-Dichlorobenzene	50.0	0.0	48.8	98	71-120
104-51-8	LCS n-Butylbenzene	50.0	0.0	46.1	92	68-134
96-12-8	LCS 1,2-Dibromo-3-chloropropane	50.0	0.0	41.0	82	68-141
87-68-3	LCS Hexachlorobutadiene	50.0	0.0	50.7	101	72-136
91-20-3	LCS Naphthalene	50.0	0.0	46.3	93	72-132
87-61-6	LCS 1,2,3-Trichlorobenzene	50.0	0.0	50.0	100	70-130

Volatile
Quality Control Summary
Spike Recovery Report

Page 4 of 4

SDG Number: 2017-1332

Sample Type: Laboratory Control Sample

Client ID: LCS for batch 1656366

Matrix: WATER

Lab Sample ID 1203768390

Instrument: VOA6.I

Analysis Date: 04/14/2017 09:54

Dilution: 1

Analyst: JP1

Purge Vol: 5 mL

Batch ID: 1656366

CAS No	Parmname	Amount Added ug/L	Sample Conc. ug/L	Spike Conc. ug/L	Recovery %	Acceptance Limits
120-82-1	LCS 1,2,4-Trichlorobenzene	50.0	0.0	49.5	99	71-129
630-20-6	LCS 1,1,1,2-Tetrachloroethane	50.0	0.0	50.2	100	79-127
95-50-1	LCS 1,2-Dichlorobenzene	50.0	0.0	48.7	97	74-120
71-36-3	LCS n-Butyl alcohol	5000	0.0	4730	95	63-138

Volatile
Quality Control Summary
Spike Recovery Report

Page 1 of 1

SDG Number: 2017-1332

Sample Type: Laboratory Control Sample

Client ID: LCS for batch 1656366

Matrix: WATER

Lab Sample ID 1203768391

Instrument: VOA6.I

Analysis Date: 04/14/2017 10:51

Dilution: 1

Analyst: JP1

Purge Vol: 5 mL

Batch ID: 1656366

CAS No	Parmname	Amount Added ug/L	Sample Conc. ug/L	Spike Conc. ug/L	Recovery %	Acceptance Limits
107-02-8	LCS Acrolein	250	0.0	280	112	60-140
76-13-1	LCS Trichlorotrifluoroethane	250	0.0	307	123	61-148
107-05-1	LCS Allyl chloride	250	0.0	245	98	59-125
107-13-1	LCS Acrylonitrile	250	0.0	257	103	65-122
107-12-0	LCS Propionitrile	250	0.0	256	102	64-124
126-98-7	LCS Methacrylonitrile	250	0.0	246	98	64-126
80-62-6	LCS Methyl methacrylate	250	0.0	268	107	69-127
97-63-2	LCS Ethyl methacrylate	250	0.0	245	98	66-130
78-83-1	LCS Isobutyl alcohol	2500	0.0	2700	108	65-135
126-99-8	LCS 2-Chloro-1,3-butadiene	50.0	0.0	49.0	98	66-147

Volatile
Quality Control Summary
Spike Recovery Report

Page 1 of 8

SDG Number: 2017-1332

Sample Type: Post Spike

Client ID: CAPA-17-130707PS

Matrix: W

Lab Sample ID 1203768392

Instrument: VOA6.I

Analysis Date: 04/14/2017 18:30

Dilution: 1

Analyst: JP1

Purge Vol: 5 mL

Batch ID: 1656366

CAS No	Parmname	Amount Added ug/L	Sample Conc. ug/L	Spike Conc. ug/L	Recovery %	Acceptance Limits
179601-23-1	PS m,p-Xylenes	100	0.00 U	103	103	59-132
75-05-8	PS Acetonitrile	1250	0.00 U	1280	102	56-131
67-64-1	PS Acetone	250	0.00 U	216	87	25-155
74-88-4	PS Iodomethane	250	0.00 U	291	117	66-133
75-15-0	PS Carbon disulfide	250	0.00 U	270	108	61-141
108-05-4	PS Vinyl acetate	250	0.00 U	214	86	48-133
78-93-3	PS 2-Butanone	250	0.00 U	219	88	25-143
108-10-1	PS 4-Methyl-2-pentanone	250	0.00 U	236	94	61-127
591-78-6	PS 2-Hexanone	250	0.00 U	202	81	33-138
75-71-8	PS Dichlorodifluoromethane	50.0	0.00 U	51.9	104	33-164
74-87-3	PS Chloromethane	50.0	0.00 U	46.5	93	53-139
75-01-4	PS Vinyl chloride	50.0	0.00 U	51.0	102	58-140
74-83-9	PS Bromomethane	50.0	0.00 U	57.4	115	59-146
75-00-3	PS Chloroethane	50.0	0.00 U	50.6	101	65-129
75-69-4	PS Trichlorofluoromethane	50.0	0.00 U	51.8	104	65-141
60-29-7	PS Ethyl ether	50.0	0.00 U	46.1	92	69-127
75-35-4	PS 1,1-Dichloroethylene	50.0	0.00 U	45.5	91	59-130
75-09-2	PS Methylene chloride	50.0	0.00 U	53.9	108	62-123
1634-04-4	PS tert-Butyl methyl ether	50.0	0.00 U	52.1	104	69-132
156-60-5	PS trans-1,2-Dichloroethylene	50.0	0.00 U	50.2	100	65-127
75-34-3	PS 1,1-Dichloroethane	50.0	0.00 U	50.7	101	67-127
156-59-2	PS cis-1,2-Dichloroethylene	50.0	0.00 U	50.0	100	69-127

Volatile
Quality Control Summary
Spike Recovery Report

Page 2 of 8

SDG Number: 2017-1332

Sample Type: Post Spike

Client ID: CAPA-17-130707PS

Matrix: W

Lab Sample ID 1203768392

Instrument: VOA6.I

Analysis Date: 04/14/2017 18:30

Dilution: 1

Analyst: JP1

Purge Vol: 5 mL

Batch ID: 1656366

CAS No	Parmname	Amount Added ug/L	Sample Conc. ug/L	Spike Conc. ug/L	Recovery %	Acceptance Limits
594-20-7	PS 2,2-Dichloropropane	50.0	0.00 U	47.2	94	66-137
74-97-5	PS Bromochloromethane	50.0	0.00 U	58.2	116	71-130
67-66-3	PS Chloroform	50.0	0.00 U	53.0	106	71-129
71-55-6	PS 1,1,1-Trichloroethane	50.0	0.00 U	50.0	100	69-139
563-58-6	PS 1,1-Dichloropropene	50.0	0.00 U	50.3	101	67-130
56-23-5	PS Carbon tetrachloride	50.0	0.00 U	53.7	107	66-143
107-06-2	PS 1,2-Dichloroethane	50.0	0.00 U	51.3	103	69-130
71-43-2	PS Benzene	50.0	0.00 U	53.1	106	66-125
79-01-6	PS Trichloroethylene	50.0	0.00 U	54.9	110	65-131
78-87-5	PS 1,2-Dichloropropane	50.0	0.00 U	52.9	106	67-127
74-95-3	PS Dibromomethane	50.0	0.00 U	55.9	112	72-129
75-27-4	PS Bromodichloromethane	50.0	0.00 U	53.5	107	70-138
10061-01-5	PS cis-1,3-Dichloropropylene	50.0	0.00 U	52.0	104	70-134
108-88-3	PS Toluene	50.0	0.00 U	48.9	98	60-126
10061-02-6	PS trans-1,3-Dichloropropylene	50.0	0.00 U	49.1	98	69-135
79-00-5	PS 1,1,2-Trichloroethane	50.0	0.00 U	50.5	101	66-125
142-28-9	PS 1,3-Dichloropropane	50.0	0.00 U	51.2	102	67-124
127-18-4	PS Tetrachloroethylene	50.0	0.00 U	53.8	108	60-130
124-48-1	PS Dibromochloromethane	50.0	0.00 U	53.6	107	68-143
106-93-4	PS 1,2-Dibromoethane	50.0	0.00 U	53.7	107	71-127
108-90-7	PS Chlorobenzene	50.0	0.00 U	51.3	103	64-124
100-41-4	PS Ethylbenzene	50.0	0.00 U	49.8	100	61-130

Volatile
Quality Control Summary
Spike Recovery Report

Page 3 of 8

SDG Number: 2017-1332

Sample Type: Post Spike

Client ID: CAPA-17-130707PS

Matrix: W

Lab Sample ID 1203768392

Instrument: VOA6.I

Analysis Date: 04/14/2017 18:30

Dilution: 1

Analyst: JP1

Purge Vol: 5 mL

Batch ID: 1656366

CAS No	Parmname	Amount Added ug/L	Sample Conc. ug/L	Spike Conc. ug/L	Recovery %	Acceptance Limits
95-47-6	PS o-Xylene	50.0	0.00 U	49.4	99	62-131
100-42-5	PS Styrene	50.0	0.00 U	51.3	103	59-135
75-25-2	PS Bromoform	50.0	0.00 U	53.1	106	64-138
98-82-8	PS Isopropylbenzene	50.0	0.00 U	47.5	95	55-133
79-34-5	PS 1,1,2,2-Tetrachloroethane	50.0	0.00 U	48.9	98	62-129
96-18-4	PS 1,2,3-Trichloropropane	50.0	0.00 U	51.9	104	70-124
108-86-1	PS Bromobenzene	50.0	0.00 U	51.9	104	62-124
103-65-1	PS n-Propylbenzene	50.0	0.00 U	45.7	91	50-133
108-67-8	PS 1,3,5-Trimethylbenzene	50.0	0.00 U	48.1	96	53-135
95-49-8	PS 2-Chlorotoluene	50.0	0.00 U	51.3	103	56-128
106-43-4	PS 4-Chlorotoluene	50.0	0.00 U	46.2	92	53-130
98-06-6	PS tert-Butylbenzene	50.0	0.00 U	50.6	101	55-135
95-63-6	PS 1,2,4-Trimethylbenzene	50.0	0.00 U	47.7	95	53-132
135-98-8	PS sec-Butylbenzene	50.0	0.00 U	48.3	97	50-138
99-87-6	PS 4-Isopropyltoluene	50.0	0.00 U	49.2	98	49-138
541-73-1	PS 1,3-Dichlorobenzene	50.0	0.00 U	49.9	100	56-126
106-46-7	PS 1,4-Dichlorobenzene	50.0	0.00 U	49.4	99	55-125
104-51-8	PS n-Butylbenzene	50.0	0.00 U	45.4	91	43-142
96-12-8	PS 1,2-Dibromo-3-chloropropane	50.0	0.00 U	48.8	98	62-141
87-68-3	PS Hexachlorobutadiene	50.0	0.00 U	50.2	100	40-147
91-20-3	PS Naphthalene	50.0	0.00 U	50.9	102	62-134
87-61-6	PS 1,2,3-Trichlorobenzene	50.0	0.00 U	51.1	102	52-135

Volatile
Quality Control Summary
Spike Recovery Report

Page 4 of 8

SDG Number: 2017-1332

Sample Type: Post Spike

Client ID: CAPA-17-130707PS

Matrix: W

Lab Sample ID 1203768392

Instrument: VOA6.I

Analysis Date: 04/14/2017 18:30

Dilution: 1

Analyst: JP1

Purge Vol: 5 mL

Batch ID: 1656366

CAS No	Parmname	Amount Added ug/L	Sample Conc. ug/L	Spike Conc. ug/L	Recovery %	Acceptance Limits
120-82-1	PS 1,2,4-Trichlorobenzene	50.0	0.00 U	48.6	97	50-133
630-20-6	PS 1,1,1,2-Tetrachloroethane	50.0	0.00 U	53.5	107	71-133
95-50-1	PS 1,2-Dichlorobenzene	50.0	0.00 U	50.4	101	60-125
71-36-3	PS n-Butyl alcohol	5000	0.00 U	5990	120	60-140

Volatile
Quality Control Summary
Spike Recovery Report

Page 5 of 8

SDG Number: 2017-1332

Sample Type: Post Spike Duplicate

Client ID: CAPA-17-130707PSD

Matrix: W

Lab Sample ID 1203768394

Instrument: VOA6.I

Analysis Date: 04/14/2017 18:58

Dilution: 1

Analyst: JP1

Purge Vol: 5 mL

Batch ID: 1656366

CAS No	Parmname	Amount Added ug/L	Sample Conc. ug/L	Spike Conc. ug/L	Recovery %	Acceptance Limits	RPD %	Acceptance Limits
179601-23-1	PSD m,p-Xylenes	100	0.00 U	101	101	59-132	2	0-20
75-05-8	PSD Acetonitrile	1250	0.00 U	1330	107	56-131	4	0-20
67-64-1	PSD Acetone	250	0.00 U	227	91	25-155	5	0-20
74-88-4	PSD Iodomethane	250	0.00 U	290	116	66-133	0	0-20
75-15-0	PSD Carbon disulfide	250	0.00 U	262	105	61-141	3	0-20
108-05-4	PSD Vinyl acetate	250	0.00 U	213	85	48-133	0	0-20
78-93-3	PSD 2-Butanone	250	0.00 U	235	94	25-143	7	0-20
108-10-1	PSD 4-Methyl-2-pentanone	250	0.00 U	255	102	61-127	8	0-20
591-78-6	PSD 2-Hexanone	250	0.00 U	217	87	33-138	7	0-20
75-71-8	PSD Dichlorodifluoromethane	50.0	0.00 U	47.8	96	33-164	8	0-20
74-87-3	PSD Chloromethane	50.0	0.00 U	43.9	88	53-139	6	0-20
75-01-4	PSD Vinyl chloride	50.0	0.00 U	47.7	95	58-140	7	0-20
74-83-9	PSD Bromomethane	50.0	0.00 U	54.4	109	59-146	5	0-20
75-00-3	PSD Chloroethane	50.0	0.00 U	47.9	96	65-129	6	0-20
75-69-4	PSD Trichlorofluoromethane	50.0	0.00 U	48.0	96	65-141	8	0-20
60-29-7	PSD Ethyl ether	50.0	0.00 U	46.1	92	69-127	0	0-20
75-35-4	PSD 1,1-Dichloroethylene	50.0	0.00 U	44.0	88	59-130	4	0-20
75-09-2	PSD Methylene chloride	50.0	0.00 U	54.8	110	62-123	2	0-20
1634-04-4	PSD tert-Butyl methyl ether	50.0	0.00 U	54.6	109	69-132	5	0-20
156-60-5	PSD trans-1,2-Dichloroethylene	50.0	0.00 U	49.1	98	65-127	2	0-20
75-34-3	PSD 1,1-Dichloroethane	50.0	0.00 U	50.5	101	67-127	0	0-20
156-59-2	PSD cis-1,2-Dichloroethylene	50.0	0.00 U	49.6	99	69-127	1	0-20

Volatile
Quality Control Summary
Spike Recovery Report

Page 6 of 8

SDG Number: 2017-1332

Sample Type: Post Spike Duplicate

Client ID: CAPA-17-130707PSD

Matrix: W

Lab Sample ID 1203768394

Instrument: VOA6.I

Analysis Date: 04/14/2017 18:58

Dilution: 1

Analyst: JP1

Purge Vol: 5 mL

Batch ID: 1656366

CAS No	Parmname	Amount Added ug/L	Sample Conc. ug/L	Spike Conc. ug/L	Recovery %	Acceptance Limits	RPD %	Acceptance Limits
594-20-7	PSD 2,2-Dichloropropane	50.0	0.00 U	46.7	93	66-137	1	0-20
74-97-5	PSD Bromochloromethane	50.0	0.00 U	59.8	120	71-130	3	0-20
67-66-3	PSD Chloroform	50.0	0.00 U	53.1	106	71-129	0	0-20
71-55-6	PSD 1,1,1-Trichloroethane	50.0	0.00 U	48.5	97	69-139	3	0-20
563-58-6	PSD 1,1-Dichloropropene	50.0	0.00 U	49.0	98	67-130	3	0-20
56-23-5	PSD Carbon tetrachloride	50.0	0.00 U	52.0	104	66-143	3	0-20
107-06-2	PSD 1,2-Dichloroethane	50.0	0.00 U	52.1	104	69-130	2	0-20
71-43-2	PSD Benzene	50.0	0.00 U	52.5	105	66-125	1	0-20
79-01-6	PSD Trichloroethylene	50.0	0.00 U	53.9	108	65-131	2	0-20
78-87-5	PSD 1,2-Dichloropropane	50.0	0.00 U	52.6	105	67-127	1	0-20
74-95-3	PSD Dibromomethane	50.0	0.00 U	57.3	115	72-129	2	0-20
75-27-4	PSD Bromodichloromethane	50.0	0.00 U	54.4	109	70-138	2	0-20
10061-01-5	PSD cis-1,3-Dichloropropylene	50.0	0.00 U	52.7	105	70-134	1	0-20
108-88-3	PSD Toluene	50.0	0.00 U	48.4	97	60-126	1	0-20
10061-02-6	PSD trans-1,3-Dichloropropylene	50.0	0.00 U	50.1	100	69-135	2	0-20
79-00-5	PSD 1,1,2-Trichloroethane	50.0	0.00 U	51.9	104	66-125	3	0-20
142-28-9	PSD 1,3-Dichloropropane	50.0	0.00 U	52.3	105	67-124	2	0-20
127-18-4	PSD Tetrachloroethylene	50.0	0.00 U	52.1	104	60-130	3	0-20
124-48-1	PSD Dibromochloromethane	50.0	0.00 U	55.4	111	68-143	3	0-20
106-93-4	PSD 1,2-Dibromoethane	50.0	0.00 U	55.7	111	71-127	4	0-20
108-90-7	PSD Chlorobenzene	50.0	0.00 U	51.3	103	64-124	0	0-20
100-41-4	PSD Ethylbenzene	50.0	0.00 U	48.9	98	61-130	2	0-20

Volatile
Quality Control Summary
Spike Recovery Report

Page 7 of 8

SDG Number: 2017-1332

Sample Type: Post Spike Duplicate

Client ID: CAPA-17-130707PSD

Matrix: W

Lab Sample ID 1203768394

Instrument: VOA6.I

Analysis Date: 04/14/2017 18:58

Dilution: 1

Analyst: JP1

Purge Vol: 5 mL

Batch ID: 1656366

CAS No	Parmname	Amount Added ug/L	Sample Conc. ug/L	Spike Conc. ug/L	Recovery %	Acceptance Limits	RPD %	Acceptance Limits
95-47-6	PSD o-Xylene	50.0	0.00 U	48.9	98	62-131	1	0-20
100-42-5	PSD Styrene	50.0	0.00 U	51.2	102	59-135	0	0-20
75-25-2	PSD Bromoform	50.0	0.00 U	56.1	112	64-138	5	0-20
98-82-8	PSD Isopropylbenzene	50.0	0.00 U	46.7	93	55-133	2	0-20
79-34-5	PSD 1,1,2,2-Tetrachloroethane	50.0	0.00 U	51.7	103	62-129	5	0-20
96-18-4	PSD 1,2,3-Trichloropropane	50.0	0.00 U	54.9	110	70-124	6	0-20
108-86-1	PSD Bromobenzene	50.0	0.00 U	52.1	104	62-124	0	0-20
103-65-1	PSD n-Propylbenzene	50.0	0.00 U	44.3	89	50-133	3	0-20
108-67-8	PSD 1,3,5-Trimethylbenzene	50.0	0.00 U	47.1	94	53-135	2	0-20
95-49-8	PSD 2-Chlorotoluene	50.0	0.00 U	50.8	102	56-128	1	0-20
106-43-4	PSD 4-Chlorotoluene	50.0	0.00 U	45.5	91	53-130	1	0-20
98-06-6	PSD tert-Butylbenzene	50.0	0.00 U	49.7	99	55-135	2	0-20
95-63-6	PSD 1,2,4-Trimethylbenzene	50.0	0.00 U	47.0	94	53-132	2	0-20
135-98-8	PSD sec-Butylbenzene	50.0	0.00 U	46.9	94	50-138	3	0-20
99-87-6	PSD 4-Isopropyltoluene	50.0	0.00 U	47.9	96	49-138	3	0-20
541-73-1	PSD 1,3-Dichlorobenzene	50.0	0.00 U	49.8	100	56-126	0	0-20
106-46-7	PSD 1,4-Dichlorobenzene	50.0	0.00 U	49.6	99	55-125	1	0-20
104-51-8	PSD n-Butylbenzene	50.0	0.00 U	43.6	87	43-142	4	0-20
96-12-8	PSD 1,2-Dibromo-3-chloropropane	50.0	0.00 U	52.4	105	62-141	7	0-20
87-68-3	PSD Hexachlorobutadiene	50.0	0.00 U	48.7	97	40-147	3	0-20
91-20-3	PSD Naphthalene	50.0	0.00 U	53.6	107	62-134	5	0-20
87-61-6	PSD 1,2,3-Trichlorobenzene	50.0	0.00 U	51.8	104	52-135	1	0-20

Volatile
Quality Control Summary
Spike Recovery Report

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SDG Number: 2017-1332

Sample Type: Post Spike Duplicate

Client ID: CAPA-17-130707PSD

Matrix: W

Lab Sample ID 1203768394

Instrument: VOA6.I

Analysis Date: 04/14/2017 18:58

Dilution: 1

Analyst: JP1

Purge Vol: 5 mL

Batch ID: 1656366

CAS No	Parmname	Amount Added ug/L	Sample Conc. ug/L	Spike Conc. ug/L	Recovery %	Acceptance Limits	RPD %	Acceptance Limits
120-82-1	PSD 1,2,4-Trichlorobenzene	50.0	0.00 U	48.4	97	50-133	1	0-20
630-20-6	PSD 1,1,1,2-Tetrachloroethane	50.0	0.00 U	54.6	109	71-133	2	0-20
95-50-1	PSD 1,2-Dichlorobenzene	50.0	0.00 U	51.0	102	60-125	1	0-20
71-36-3	PSD n-Butyl alcohol	5000	0.00 U	6580	132	60-140	9	0-20

Volatile
Quality Control Summary
Spike Recovery Report

Page 1 of 2

SDG Number: 2017-1332

Sample Type: Post Spike

Client ID: CAPA-17-130707PS

Matrix: W

Lab Sample ID 1203768393

Instrument: VOA6.I

Analysis Date: 04/14/2017 20:25

Dilution: 1

Analyst: JP1

Purge Vol: 5 mL

Batch ID: 1656366

CAS No	Parmname	Amount Added ug/L	Sample Conc. ug/L	Spike Conc. ug/L	Recovery %	Acceptance Limits
107-02-8	PS Acrolein	250	0.00 U	245	98	49-141
76-13-1	PS Trichlorotrifluoroethane	250	0.00 U	253	101	57-149
107-05-1	PS Allyl chloride	250	0.00 U	222	89	54-128
107-13-1	PS Acrylonitrile	250	0.00 U	247	99	59-129
107-12-0	PS Propionitrile	250	0.00 U	244	98	58-131
126-98-7	PS Methacrylonitrile	250	0.00 U	235	94	59-134
80-62-6	PS Methyl methacrylate	250	0.00 U	258	103	62-135
97-63-2	PS Ethyl methacrylate	250	0.00 U	231	93	60-136
78-83-1	PS Isobutyl alcohol	2500	0.00 U	2500	100	60-143
126-99-8	PS 2-Chloro-1,3-butadiene	50.0	0.00 U	41.4	83	63-146

Volatile
Quality Control Summary
Spike Recovery Report

Page 2 of 2

SDG Number: 2017-1332

Sample Type: Post Spike Duplicate

Client ID: CAPA-17-130707PSD

Matrix: W

Lab Sample ID 1203768395

Instrument: VOA6.I

Analysis Date: 04/14/2017 20:53

Dilution: 1

Analyst: JP1

Purge Vol: 5 mL

Batch ID: 1656366

CAS No	Parmname	Amount Added ug/L	Sample Conc. ug/L	Spike Conc. ug/L	Recovery %	Acceptance Limits	RPD %	Acceptance Limits
107-02-8	PSD Acrolein	250	0.00 U	239	96	49-141	2	0-20
76-13-1	PSD Trichlorotrifluoroethane	250	0.00 U	274	110	57-149	8	0-20
107-05-1	PSD Allyl chloride	250	0.00 U	228	91	54-128	3	0-20
107-13-1	PSD Acrylonitrile	250	0.00 U	255	102	59-129	3	0-20
107-12-0	PSD Propionitrile	250	0.00 U	252	101	58-131	3	0-20
126-98-7	PSD Methacrylonitrile	250	0.00 U	240	96	59-134	2	0-20
80-62-6	PSD Methyl methacrylate	250	0.00 U	268	107	62-135	4	0-20
97-63-2	PSD Ethyl methacrylate	250	0.00 U	237	95	60-136	2	0-20
78-83-1	PSD Isobutyl alcohol	2500	0.00 U	2610	104	60-143	4	0-20
126-99-8	PSD 2-Chloro-1,3-butadiene	50.0	0.00 U	42.9	86	63-146	4	0-20

Volatile
Quality Control Summary
Spike Recovery Report

Page 1 of 4

SDG Number: 2017-1332

Sample Type: Laboratory Control Sample

Client ID: LCS for batch 1656366

Matrix: WATER

Lab Sample ID 1203769411

Instrument: VOA6.I

Analysis Date: 04/17/2017 11:16

Dilution: 1

Analyst: JP1

Purge Vol: 5 mL

Batch ID: 1656366

CAS No	Parmname	Amount Added ug/L	Sample Conc. ug/L	Spike Conc. ug/L	Recovery %	Acceptance Limits
179601-23-1	LCS m,p-Xylenes	100	0.0	103	103	71-127
75-05-8	LCS Acetonitrile	1250	0.0	1100	88	61-125
67-64-1	LCS Acetone	250	0.0	219	88	48-157
74-88-4	LCS Iodomethane	250	0.0	282	113	72-128
75-15-0	LCS Carbon disulfide	250	0.0	267	107	69-138
108-05-4	LCS Vinyl acetate	250	0.0	228	91	67-125
78-93-3	LCS 2-Butanone	250	0.0	222	89	55-138
108-10-1	LCS 4-Methyl-2-pentanone	250	0.0	215	86	66-124
591-78-6	LCS 2-Hexanone	250	0.0	219	88	56-140
75-71-8	LCS Dichlorodifluoromethane	50.0	0.0	51.4	103	40-160
74-87-3	LCS Chloromethane	50.0	0.0	49.7	99	58-135
75-01-4	LCS Vinyl chloride	50.0	0.0	54.1	108	65-137
74-83-9	LCS Bromomethane	50.0	0.0	55.3	111	63-137
75-00-3	LCS Chloroethane	50.0	0.0	53.8	108	69-129
75-69-4	LCS Trichlorofluoromethane	50.0	0.0	57.3	115	69-138
60-29-7	LCS Ethyl ether	50.0	0.0	45.7	91	72-125
75-35-4	LCS 1,1-Dichloroethylene	50.0	0.0	46.3	93	66-126
75-09-2	LCS Methylene chloride	50.0	0.0	49.8	100	68-119
1634-04-4	LCS tert-Butyl methyl ether	50.0	0.0	50.2	100	76-128
156-60-5	LCS trans-1,2-Dichloroethylene	50.0	0.0	49.5	99	71-124
75-34-3	LCS 1,1-Dichloroethane	50.0	0.0	49.1	98	73-123
156-59-2	LCS cis-1,2-Dichloroethylene	50.0	0.0	48.8	98	75-123

Volatile
Quality Control Summary
Spike Recovery Report

Page 2 of 4

SDG Number: 2017-1332

Sample Type: Laboratory Control Sample

Client ID: LCS for batch 1656366

Matrix: WATER

Lab Sample ID 1203769411

Instrument: VOA6.I

Analysis Date: 04/17/2017 11:16

Dilution: 1

Analyst: JP1

Purge Vol: 5 mL

Batch ID: 1656366

CAS No	Parmname	Amount Added ug/L	Sample Conc. ug/L	Spike Conc. ug/L	Recovery %	Acceptance Limits
594-20-7	LCS 2,2-Dichloropropane	50.0	0.0	52.1	104	72-138
74-97-5	LCS Bromochloromethane	50.0	0.0	55.6	111	76-125
67-66-3	LCS Chloroform	50.0	0.0	51.2	102	76-123
71-55-6	LCS 1,1,1-Trichloroethane	50.0	0.0	52.2	104	74-136
563-58-6	LCS 1,1-Dichloropropene	50.0	0.0	52.5	105	72-129
56-23-5	LCS Carbon tetrachloride	50.0	0.0	57.2	114	72-140
107-06-2	LCS 1,2-Dichloroethane	50.0	0.0	47.6	95	74-122
71-43-2	LCS Benzene	50.0	0.0	51.8	104	72-121
79-01-6	LCS Trichloroethylene	50.0	0.0	55.9	112	74-125
78-87-5	LCS 1,2-Dichloropropane	50.0	0.0	50.1	100	73-121
74-95-3	LCS Dibromomethane	50.0	0.0	52.4	105	78-123
75-27-4	LCS Bromodichloromethane	50.0	0.0	52.0	104	77-131
10061-01-5	LCS cis-1,3-Dichloropropylene	50.0	0.0	51.6	103	78-131
108-88-3	LCS Toluene	50.0	0.0	48.4	97	71-121
10061-02-6	LCS trans-1,3-Dichloropropylene	50.0	0.0	47.0	94	78-131
79-00-5	LCS 1,1,2-Trichloroethane	50.0	0.0	46.2	92	74-118
142-28-9	LCS 1,3-Dichloropropane	50.0	0.0	46.6	93	74-118
127-18-4	LCS Tetrachloroethylene	50.0	0.0	56.3	113	69-129
124-48-1	LCS Dibromochloromethane	50.0	0.0	51.4	103	76-137
106-93-4	LCS 1,2-Dibromoethane	50.0	0.0	49.6	99	78-122
108-90-7	LCS Chlorobenzene	50.0	0.0	49.9	100	74-120
100-41-4	LCS Ethylbenzene	50.0	0.0	49.8	100	73-125

Volatile
Quality Control Summary
Spike Recovery Report

Page 3 of 4

SDG Number: 2017-1332

Sample Type: Laboratory Control Sample

Client ID: LCS for batch 1656366

Matrix: WATER

Lab Sample ID 1203769411

Instrument: VOA6.I

Analysis Date: 04/17/2017 11:16

Dilution: 1

Analyst: JP1

Purge Vol: 5 mL

Batch ID: 1656366

CAS No	Parmname	Amount Added ug/L	Sample Conc. ug/L	Spike Conc. ug/L	Recovery %	Acceptance Limits
95-47-6	LCS o-Xylene	50.0	0.0	48.3	97	74-126
100-42-5	LCS Styrene	50.0	0.0	50.0	100	72-130
75-25-2	LCS Bromoform	50.0	0.0	50.5	101	72-136
98-82-8	LCS Isopropylbenzene	50.0	0.0	48.6	97	70-130
79-34-5	LCS 1,1,2,2-Tetrachloroethane	50.0	0.0	43.9	88	70-126
96-18-4	LCS 1,2,3-Trichloropropane	50.0	0.0	46.8	94	74-122
108-86-1	LCS Bromobenzene	50.0	0.0	49.3	99	74-120
103-65-1	LCS n-Propylbenzene	50.0	0.0	46.4	93	67-128
108-67-8	LCS 1,3,5-Trimethylbenzene	50.0	0.0	48.6	97	70-129
95-49-8	LCS 2-Chlorotoluene	50.0	0.0	50.5	101	71-124
106-43-4	LCS 4-Chlorotoluene	50.0	0.0	46.0	92	69-125
98-06-6	LCS tert-Butylbenzene	50.0	0.0	51.8	104	72-130
95-63-6	LCS 1,2,4-Trimethylbenzene	50.0	0.0	48.2	96	70-126
135-98-8	LCS sec-Butylbenzene	50.0	0.0	49.6	99	70-131
99-87-6	LCS 4-Isopropyltoluene	50.0	0.0	50.1	100	71-131
541-73-1	LCS 1,3-Dichlorobenzene	50.0	0.0	50.2	100	72-121
106-46-7	LCS 1,4-Dichlorobenzene	50.0	0.0	49.5	99	71-120
104-51-8	LCS n-Butylbenzene	50.0	0.0	48.2	96	68-134
96-12-8	LCS 1,2-Dibromo-3-chloropropane	50.0	0.0	45.5	91	68-141
87-68-3	LCS Hexachlorobutadiene	50.0	0.0	52.5	105	72-136
91-20-3	LCS Naphthalene	50.0	0.0	47.8	96	72-132
87-61-6	LCS 1,2,3-Trichlorobenzene	50.0	0.0	51.5	103	70-130

Volatile
Quality Control Summary
Spike Recovery Report

Page 4 of 4

SDG Number: 2017-1332

Sample Type: Laboratory Control Sample

Client ID: LCS for batch 1656366

Matrix: WATER

Lab Sample ID 1203769411

Instrument: VOA6.I

Analysis Date: 04/17/2017 11:16

Dilution: 1

Analyst: JP1

Purge Vol: 5 mL

Batch ID: 1656366

CAS No	Parmname	Amount Added ug/L	Sample Conc. ug/L	Spike Conc. ug/L	Recovery %	Acceptance Limits
120-82-1	LCS 1,2,4-Trichlorobenzene	50.0	0.0	52.0	104	71-129
630-20-6	LCS 1,1,1,2-Tetrachloroethane	50.0	0.0	52.6	105	79-127
95-50-1	LCS 1,2-Dichlorobenzene	50.0	0.0	49.6	99	74-120
71-36-3	LCS n-Butyl alcohol	5000	0.0	5290	106	63-138

Volatile
Quality Control Summary
Spike Recovery Report

Page 1 of 1

SDG Number: 2017-1332

Sample Type: Laboratory Control Sample

Client ID: LCS for batch 1656366

Matrix: WATER

Lab Sample ID 1203769412

Instrument: VOA6.I

Analysis Date: 04/17/2017 12:13

Dilution: 1

Analyst: JP1

Purge Vol: 5 mL

Batch ID: 1656366

CAS No	Parmname	Amount Added ug/L	Sample Conc. ug/L	Spike Conc. ug/L	Recovery %	Acceptance Limits
107-02-8	LCS Acrolein	250	0.0	250	100	60-140
76-13-1	LCS Trichlorotrifluoroethane	250	0.0	272	109	61-148
107-05-1	LCS Allyl chloride	250	0.0	224	90	59-125
107-13-1	LCS Acrylonitrile	250	0.0	227	91	65-122
107-12-0	LCS Propionitrile	250	0.0	223	89	64-124
126-98-7	LCS Methacrylonitrile	250	0.0	219	88	64-126
80-62-6	LCS Methyl methacrylate	250	0.0	241	96	69-127
97-63-2	LCS Ethyl methacrylate	250	0.0	218	87	66-130
78-83-1	LCS Isobutyl alcohol	2500	0.0	2270	91	65-135
126-99-8	LCS 2-Chloro-1,3-butadiene	50.0	0.0	44.5	89	66-147

Method Blank Summary

Page 1 of 1

SDG Number:	2017-1332	Client:	ARSL004	Matrix:	WATER
Client ID:	MB for batch 1656366	Instrument ID:	VOA6.I	Data File:	041417V6\6C506BA.D
Lab Sample ID:	1203768389	Prep Date:	04/14/2017 11:19	Analyzed:	04/14/17 11:19
Column:	DB-624				

This method blank applies to the following samples and quality control samples:

Client Sample ID	Lab Sample ID	File ID	Date Analyzed	Time Analyzed
01 LCS for batch 1656366	1203768390	041417V6\6C503LA.D	04/14/17	0954
02 LCS for batch 1656366	1203768391	041417V6\6C505LA.D	04/14/17	1051
03 CAPA-17-130707	420303001	041417V6\6C509.D	04/14/17	1246
04 CAPA-17-130738	420303002	041417V6\6C510.D	04/14/17	1314
05 CAPA-17-130710	420303003	041417V6\6C511.D	04/14/17	1343
06 CAPA-17-130735	420303004	041417V6\6C512.D	04/14/17	1412
07 CAPA-17-130719	420303005	041417V6\6C513.D	04/14/17	1441
08 CAPA-17-130743	420303006	041417V6\6C514.D	04/14/17	1510
09 CAPA-17-130720	420303007	041417V6\6C515.D	04/14/17	1538
10 CAPA-17-130744	420303008	041417V6\6C516.D	04/14/17	1607
11 CAPA-17-130726	420303009	041417V6\6C517.D	04/14/17	1635
12 CAPA-17-130749	420303010	041417V6\6C518.D	04/14/17	1704
13 CAPA-17-130707PS	1203768392	041417V6\6C521.D	04/14/17	1830
14 CAPA-17-130707PSD	1203768394	041417V6\6C522.D	04/14/17	1858
15 CAPA-17-130707PS	1203768393	041417V6\6C525.D	04/14/17	2025
16 CAPA-17-130707PSD	1203768395	041417V6\6C526.D	04/14/17	2053

Method Blank Summary

Page 1 of 1

SDG Number:	2017-1332	Client:	ARSL004	Matrix:	WATER
Client ID:	MB for batch 1656366	Instrument ID:	VOA6.I	Data File:	041717V6\6D106BA.D
Lab Sample ID:	1203769410	Prep Date:	04/17/2017 12:42	Analyzed:	04/17/17 12:42
Column:	DB-624				

This method blank applies to the following samples and quality control samples:

Client Sample ID	Lab Sample ID	File ID	Date Analyzed	Time Analyzed
18 LCS for batch 1656366	1203769411	041717V6\6D103LA.D	04/17/17	1116
19 LCS for batch 1656366	1203769412	041717V6\6D105LA.D	04/17/17	1213
20 CAPA-17-130761	420303011	041717V6\6D110.D	04/17/17	1437
21 CAPA-17-130758	420303012	041717V6\6D111.D	04/17/17	1506

Quality Control Data

Volatile
Certificate of Analysis
Sample Summary

SDG Number: 2017-1332

Lab Sample ID: 1203768389

Client Sample: QC for batch 1656366

Client ID: MB for batch 1656366

Batch ID: 1656366

Run Date: 04/14/2017 11:19

Prep Date: 04/14/2017 11:19

Data File: 041417V6\6C506BA.D

Client: ARSL004

Method: SW-846:8260B

Inst: VOA6.I

Analyst: JP1

Column: DB-624

Matrix: WATER

Project: QC

SOP Ref: GL-OA-E-038

Dilution: 1

Purge Vol: 5 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
630-20-6	1,1,1,2-Tetrachloroethane	U	1.00	ug/L	0.300	1.00
71-55-6	1,1,1-Trichloroethane	U	1.00	ug/L	0.300	1.00
79-34-5	1,1,2,2-Tetrachloroethane	U	1.00	ug/L	0.300	1.00
79-00-5	1,1,2-Trichloroethane	U	1.00	ug/L	0.300	1.00
75-34-3	1,1-Dichloroethane	U	1.00	ug/L	0.300	1.00
75-35-4	1,1-Dichloroethylene	U	1.00	ug/L	0.300	1.00
563-58-6	1,1-Dichloropropene	U	1.00	ug/L	0.300	1.00
87-61-6	1,2,3-Trichlorobenzene	J	0.310	ug/L	0.300	1.00
96-18-4	1,2,3-Trichloropropane	U	1.00	ug/L	0.300	1.00
120-82-1	1,2,4-Trichlorobenzene	U	1.00	ug/L	0.300	1.00
95-63-6	1,2,4-Trimethylbenzene	U	1.00	ug/L	0.300	1.00
96-12-8	1,2-Dibromo-3-chloropropane	U	1.00	ug/L	0.500	1.00
106-93-4	1,2-Dibromoethane	U	1.00	ug/L	0.300	1.00
95-50-1	1,2-Dichlorobenzene	U	1.00	ug/L	0.300	1.00
107-06-2	1,2-Dichloroethane	U	1.00	ug/L	0.300	1.00
78-87-5	1,2-Dichloropropane	U	1.00	ug/L	0.300	1.00
108-67-8	1,3,5-Trimethylbenzene	U	1.00	ug/L	0.300	1.00
541-73-1	1,3-Dichlorobenzene	U	1.00	ug/L	0.300	1.00
142-28-9	1,3-Dichloropropane	U	1.00	ug/L	0.300	1.00
106-46-7	1,4-Dichlorobenzene	U	1.00	ug/L	0.300	1.00
594-20-7	2,2-Dichloropropane	U	1.00	ug/L	0.300	1.00
78-93-3	2-Butanone	U	5.00	ug/L	1.50	5.00
126-99-8	2-Chloro-1,3-butadiene	U	1.00	ug/L	0.300	1.00
95-49-8	2-Chlorotoluene	U	1.00	ug/L	0.300	1.00
591-78-6	2-Hexanone	U	5.00	ug/L	1.50	5.00
106-43-4	4-Chlorotoluene	U	1.00	ug/L	0.300	1.00
99-87-6	4-Isopropyltoluene	U	1.00	ug/L	0.300	1.00
108-10-1	4-Methyl-2-pentanone	U	5.00	ug/L	1.50	5.00
67-64-1	Acetone	U	10.0	ug/L	1.50	10.0
75-05-8	Acetonitrile	U	25.0	ug/L	8.00	25.0
107-02-8	Acrolein	U	5.00	ug/L	1.50	5.00
107-13-1	Acrylonitrile	U	5.00	ug/L	1.50	5.00
107-05-1	Allyl chloride	U	5.00	ug/L	1.50	5.00
71-43-2	Benzene	U	1.00	ug/L	0.300	1.00
108-86-1	Bromobenzene	U	1.00	ug/L	0.300	1.00
74-97-5	Bromochloromethane	U	1.00	ug/L	0.300	1.00
75-27-4	Bromodichloromethane	U	1.00	ug/L	0.300	1.00
75-25-2	Bromoform	U	1.00	ug/L	0.300	1.00

**Volatile
Certificate of Analysis
Sample Summary**

SDG Number: 2017-1332

Lab Sample ID: 1203768389

Client Sample: QC for batch 1656366

Client ID: MB for batch 1656366

Batch ID: 1656366

Run Date: 04/14/2017 11:19

Prep Date: 04/14/2017 11:19

Data File: 041417V6\6C506BA.D

Client: ARSL004

Method: SW-846:8260B

Inst: VOA6.I

Analyst: JP1

Column: DB-624

Matrix: WATER

Project: QC

SOP Ref: GL-OA-E-038

Dilution: 1

Purge Vol: 5 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
74-83-9	Bromomethane	U	1.00	ug/L	0.300	1.00
75-15-0	Carbon disulfide	U	5.00	ug/L	1.50	5.00
56-23-5	Carbon tetrachloride	U	1.00	ug/L	0.300	1.00
108-90-7	Chlorobenzene	U	1.00	ug/L	0.300	1.00
75-00-3	Chloroethane	U	1.00	ug/L	0.300	1.00
67-66-3	Chloroform	U	1.00	ug/L	0.300	1.00
74-87-3	Chloromethane	U	1.00	ug/L	0.300	1.00
124-48-1	Dibromochloromethane	U	1.00	ug/L	0.300	1.00
74-95-3	Dibromomethane	U	1.00	ug/L	0.300	1.00
75-71-8	Dichlorodifluoromethane	U	1.00	ug/L	0.300	1.00
60-29-7	Ethyl ether	U	1.00	ug/L	0.300	1.00
97-63-2	Ethyl methacrylate	U	5.00	ug/L	1.50	5.00
100-41-4	Ethylbenzene	U	1.00	ug/L	0.300	1.00
87-68-3	Hexachlorobutadiene	J	0.390	ug/L	0.300	1.00
74-88-4	Iodomethane	U	5.00	ug/L	1.50	5.00
78-83-1	Isobutyl alcohol	U	50.0	ug/L	15.0	50.0
98-82-8	Isopropylbenzene	U	1.00	ug/L	0.300	1.00
126-98-7	Methacrylonitrile	U	5.00	ug/L	1.50	5.00
80-62-6	Methyl methacrylate	U	5.00	ug/L	1.50	5.00
75-09-2	Methylene chloride	U	10.0	ug/L	1.00	10.0
91-20-3	Naphthalene	U	1.00	ug/L	0.300	1.00
107-12-0	Propionitrile	U	5.00	ug/L	1.50	5.00
100-42-5	Styrene	U	1.00	ug/L	0.300	1.00
127-18-4	Tetrachloroethylene	U	1.00	ug/L	0.300	1.00
108-88-3	Toluene	U	1.00	ug/L	0.300	1.00
79-01-6	Trichloroethylene	U	1.00	ug/L	0.300	1.00
75-69-4	Trichlorofluoromethane	U	1.00	ug/L	0.300	1.00
76-13-1	Trichlorotrifluoroethane	U	5.00	ug/L	2.00	5.00
108-05-4	Vinyl acetate	U	5.00	ug/L	1.50	5.00
75-01-4	Vinyl chloride	U	1.00	ug/L	0.300	1.00
156-59-2	cis-1,2-Dichloroethylene	U	1.00	ug/L	0.300	1.00
10061-01-5	cis-1,3-Dichloropropylene	U	1.00	ug/L	0.300	1.00
179601-23-1	m,p-Xylenes	U	2.00	ug/L	0.300	2.00
71-36-3	n-Butyl alcohol	U	50.0	ug/L	15.0	50.0
104-51-8	n-Butylbenzene	U	1.00	ug/L	0.300	1.00
103-65-1	n-Propylbenzene	U	1.00	ug/L	0.300	1.00
95-47-6	o-Xylene	U	1.00	ug/L	0.300	1.00
135-98-8	sec-Butylbenzene	U	1.00	ug/L	0.300	1.00

**Volatile
Certificate of Analysis
Sample Summary**

SDG Number: 2017-1332	Matrix: WATER	
Lab Sample ID: 1203768389		
Client Sample: QC for batch 1656366	Client: ARSL004	Project: QC
Client ID: MB for batch 1656366	Method: SW-846:8260B	SOP Ref: GL-OA-E-038
Batch ID: 1656366	Inst: VOA6.I	Dilution: 1
Run Date: 04/14/2017 11:19	Analyst: JP1	Purge Vol: 5 mL
Prep Date: 04/14/2017 11:19		
Data File: 041417V6\6C506BA.D	Column: DB-624	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
1634-04-4	tert-Butyl methyl ether	U	1.00	ug/L	0.300	1.00
98-06-6	tert-Butylbenzene	U	1.00	ug/L	0.300	1.00
156-60-5	trans-1,2-Dichloroethylene	U	1.00	ug/L	0.300	1.00
10061-02-6	trans-1,3-Dichloropropylene	U	1.00	ug/L	0.300	1.00

Surrogate/Tracer recovery	Result	Nominal	Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	44.9	50.0	ug/L 90	(71%-134%)
Bromofluorobenzene	46.2	50.0	ug/L 92	(70%-131%)
Toluene-d8	45.5	50.0	ug/L 91	(74%-124%)

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
No Tentatively Identified Compounds Found				ug/L		

Volatile
Certificate of Analysis
Sample Summary

SDG Number: 2017-1332

Lab Sample ID: 1203768390

Client Sample: QC for batch 1656366

Client ID: LCS for batch 1656366

Batch ID: 1656366

Run Date: 04/14/2017 09:54

Prep Date: 04/14/2017 09:54

Data File: 041417V6\6C503LA.D

Client: ARSL004

Method: SW-846:8260B

Inst: VOA6.I

Analyst: JP1

Column: DB-624

Matrix: WATER

Project: QC

SOP Ref: GL-OA-E-038

Dilution: 1

Purge Vol: 5 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
630-20-6	1,1,1,2-Tetrachloroethane		50.2	ug/L	0.300	1.00
71-55-6	1,1,1-Trichloroethane		48.1	ug/L	0.300	1.00
79-34-5	1,1,2,2-Tetrachloroethane		42.9	ug/L	0.300	1.00
79-00-5	1,1,2-Trichloroethane		45.8	ug/L	0.300	1.00
75-34-3	1,1-Dichloroethane		47.4	ug/L	0.300	1.00
75-35-4	1,1-Dichloroethylene		42.8	ug/L	0.300	1.00
563-58-6	1,1-Dichloropropene		48.7	ug/L	0.300	1.00
87-61-6	1,2,3-Trichlorobenzene	B	50.0	ug/L	0.300	1.00
96-18-4	1,2,3-Trichloropropane		45.7	ug/L	0.300	1.00
120-82-1	1,2,4-Trichlorobenzene		49.5	ug/L	0.300	1.00
95-63-6	1,2,4-Trimethylbenzene		46.7	ug/L	0.300	1.00
96-12-8	1,2-Dibromo-3-chloropropane		41.0	ug/L	0.500	1.00
106-93-4	1,2-Dibromoethane		48.5	ug/L	0.300	1.00
95-50-1	1,2-Dichlorobenzene		48.7	ug/L	0.300	1.00
107-06-2	1,2-Dichloroethane		46.9	ug/L	0.300	1.00
78-87-5	1,2-Dichloropropane		49.1	ug/L	0.300	1.00
108-67-8	1,3,5-Trimethylbenzene		47.1	ug/L	0.300	1.00
541-73-1	1,3-Dichlorobenzene		49.2	ug/L	0.300	1.00
142-28-9	1,3-Dichloropropane		46.4	ug/L	0.300	1.00
106-46-7	1,4-Dichlorobenzene		48.8	ug/L	0.300	1.00
594-20-7	2,2-Dichloropropane		46.9	ug/L	0.300	1.00
78-93-3	2-Butanone		200	ug/L	1.50	5.00
126-99-8	2-Chloro-1,3-butadiene	U	1.00	ug/L	0.300	1.00
95-49-8	2-Chlorotoluene		49.8	ug/L	0.300	1.00
591-78-6	2-Hexanone		194	ug/L	1.50	5.00
106-43-4	4-Chlorotoluene		45.2	ug/L	0.300	1.00
99-87-6	4-Isopropyltoluene		47.9	ug/L	0.300	1.00
108-10-1	4-Methyl-2-pentanone		201	ug/L	1.50	5.00
67-64-1	Acetone		196	ug/L	1.50	10.0
75-05-8	Acetonitrile		1040	ug/L	8.00	25.0
107-02-8	Acrolein	U	5.00	ug/L	1.50	5.00
107-13-1	Acrylonitrile	U	5.00	ug/L	1.50	5.00
107-05-1	Allyl chloride	U	5.00	ug/L	1.50	5.00
71-43-2	Benzene		49.5	ug/L	0.300	1.00
108-86-1	Bromobenzene		49.6	ug/L	0.300	1.00
74-97-5	Bromochloromethane		53.9	ug/L	0.300	1.00
75-27-4	Bromodichloromethane		50.1	ug/L	0.300	1.00
75-25-2	Bromoform		48.5	ug/L	0.300	1.00

Volatile
Certificate of Analysis
Sample Summary

SDG Number: 2017-1332

Lab Sample ID: 1203768390

Client Sample: QC for batch 1656366

Client ID: LCS for batch 1656366

Batch ID: 1656366

Run Date: 04/14/2017 09:54

Prep Date: 04/14/2017 09:54

Data File: 041417V6\6C503LA.D

Client: ARSL004

Method: SW-846:8260B

Inst: VOA6.I

Analyst: JP1

Column: DB-624

Matrix: WATER

Project: QC

SOP Ref: GL-OA-E-038

Dilution: 1

Purge Vol: 5 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
74-83-9	Bromomethane		52.0	ug/L	0.300	1.00
75-15-0	Carbon disulfide		249	ug/L	1.50	5.00
56-23-5	Carbon tetrachloride		51.4	ug/L	0.300	1.00
108-90-7	Chlorobenzene		48.9	ug/L	0.300	1.00
75-00-3	Chloroethane		47.9	ug/L	0.300	1.00
67-66-3	Chloroform		49.7	ug/L	0.300	1.00
74-87-3	Chloromethane		44.7	ug/L	0.300	1.00
124-48-1	Dibromochloromethane		49.5	ug/L	0.300	1.00
74-95-3	Dibromomethane		50.7	ug/L	0.300	1.00
75-71-8	Dichlorodifluoromethane		48.3	ug/L	0.300	1.00
60-29-7	Ethyl ether		43.3	ug/L	0.300	1.00
97-63-2	Ethyl methacrylate	U	5.00	ug/L	1.50	5.00
100-41-4	Ethylbenzene		47.8	ug/L	0.300	1.00
87-68-3	Hexachlorobutadiene	B	50.7	ug/L	0.300	1.00
74-88-4	Iodomethane		268	ug/L	1.50	5.00
78-83-1	Isobutyl alcohol	U	50.0	ug/L	15.0	50.0
98-82-8	Isopropylbenzene		46.5	ug/L	0.300	1.00
126-98-7	Methacrylonitrile	U	5.00	ug/L	1.50	5.00
80-62-6	Methyl methacrylate	U	5.00	ug/L	1.50	5.00
75-09-2	Methylene chloride		49.4	ug/L	1.00	10.0
91-20-3	Naphthalene		46.3	ug/L	0.300	1.00
107-12-0	Propionitrile	U	5.00	ug/L	1.50	5.00
100-42-5	Styrene		49.3	ug/L	0.300	1.00
127-18-4	Tetrachloroethylene		52.4	ug/L	0.300	1.00
108-88-3	Toluene		46.5	ug/L	0.300	1.00
79-01-6	Trichloroethylene		52.4	ug/L	0.300	1.00
75-69-4	Trichlorofluoromethane		49.9	ug/L	0.300	1.00
76-13-1	Trichlorotrifluoroethane	U	5.00	ug/L	2.00	5.00
108-05-4	Vinyl acetate		213	ug/L	1.50	5.00
75-01-4	Vinyl chloride		48.6	ug/L	0.300	1.00
156-59-2	cis-1,2-Dichloroethylene		46.9	ug/L	0.300	1.00
10061-01-5	cis-1,3-Dichloropropylene		50.1	ug/L	0.300	1.00
179601-23-1	m,p-Xylenes		98.7	ug/L	0.300	2.00
71-36-3	n-Butyl alcohol		4730	ug/L	15.0	50.0
104-51-8	n-Butylbenzene		46.1	ug/L	0.300	1.00
103-65-1	n-Propylbenzene		44.9	ug/L	0.300	1.00
95-47-6	o-Xylene		46.9	ug/L	0.300	1.00
135-98-8	sec-Butylbenzene		47.5	ug/L	0.300	1.00

**Volatile
Certificate of Analysis
Sample Summary**

Page 3 of 3

SDG Number:	2017-1332	Matrix:	WATER
Lab Sample ID:	1203768390		
Client Sample:	QC for batch 1656366	Client:	ARSL004
Client ID:	LCS for batch 1656366	Method:	SW-846:8260B
Batch ID:	1656366	Inst:	VOA6.I
Run Date:	04/14/2017 09:54	Analyst:	JP1
Prep Date:	04/14/2017 09:54		
Data File:	041417V6\6C503LA.D	Column:	DB-624

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
1634-04-4	tert-Butyl methyl ether		47.6	ug/L	0.300	1.00
98-06-6	tert-Butylbenzene		49.3	ug/L	0.300	1.00
156-60-5	trans-1,2-Dichloroethylene		47.1	ug/L	0.300	1.00
10061-02-6	trans-1,3-Dichloropropylene		45.9	ug/L	0.300	1.00

Surrogate/Tracer recovery	Result	Nominal	Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	47.5	50.0	95	(71%-134%)
Bromofluorobenzene	49.6	50.0	99	(70%-131%)
Toluene-d8	49.6	50.0	99	(74%-124%)

Volatile
Certificate of Analysis
Sample Summary

SDG Number: 2017-1332

Lab Sample ID: 1203768391

Client Sample: QC for batch 1656366

Client ID: LCS for batch 1656366

Batch ID: 1656366

Run Date: 04/14/2017 10:51

Prep Date: 04/14/2017 10:51

Data File: 041417V6\6C505LA.D

Client: ARSL004

Method: SW-846:8260B

Inst: VOA6.I

Analyst: JP1

Column: DB-624

Matrix: WATER

Project: QC

SOP Ref: GL-OA-E-038

Dilution: 1

Purge Vol: 5 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
630-20-6	1,1,1,2-Tetrachloroethane	U	1.00	ug/L	0.300	1.00
71-55-6	1,1,1-Trichloroethane	U	1.00	ug/L	0.300	1.00
79-34-5	1,1,2,2-Tetrachloroethane	U	1.00	ug/L	0.300	1.00
79-00-5	1,1,2-Trichloroethane	U	1.00	ug/L	0.300	1.00
75-34-3	1,1-Dichloroethane	U	1.00	ug/L	0.300	1.00
75-35-4	1,1-Dichloroethylene	U	1.00	ug/L	0.300	1.00
563-58-6	1,1-Dichloropropene	U	1.00	ug/L	0.300	1.00
87-61-6	1,2,3-Trichlorobenzene	U	1.00	ug/L	0.300	1.00
96-18-4	1,2,3-Trichloropropane	U	1.00	ug/L	0.300	1.00
120-82-1	1,2,4-Trichlorobenzene	U	1.00	ug/L	0.300	1.00
95-63-6	1,2,4-Trimethylbenzene	U	1.00	ug/L	0.300	1.00
96-12-8	1,2-Dibromo-3-chloropropane	U	1.00	ug/L	0.500	1.00
106-93-4	1,2-Dibromoethane	U	1.00	ug/L	0.300	1.00
95-50-1	1,2-Dichlorobenzene	U	1.00	ug/L	0.300	1.00
107-06-2	1,2-Dichloroethane	U	1.00	ug/L	0.300	1.00
78-87-5	1,2-Dichloropropane	U	1.00	ug/L	0.300	1.00
108-67-8	1,3,5-Trimethylbenzene	U	1.00	ug/L	0.300	1.00
541-73-1	1,3-Dichlorobenzene	U	1.00	ug/L	0.300	1.00
142-28-9	1,3-Dichloropropane	U	1.00	ug/L	0.300	1.00
106-46-7	1,4-Dichlorobenzene	U	1.00	ug/L	0.300	1.00
594-20-7	2,2-Dichloropropane	U	1.00	ug/L	0.300	1.00
78-93-3	2-Butanone	U	5.00	ug/L	1.50	5.00
126-99-8	2-Chloro-1,3-butadiene		49.0	ug/L	0.300	1.00
95-49-8	2-Chlorotoluene	U	1.00	ug/L	0.300	1.00
591-78-6	2-Hexanone	U	5.00	ug/L	1.50	5.00
106-43-4	4-Chlorotoluene	U	1.00	ug/L	0.300	1.00
99-87-6	4-Isopropyltoluene	U	1.00	ug/L	0.300	1.00
108-10-1	4-Methyl-2-pentanone	U	5.00	ug/L	1.50	5.00
67-64-1	Acetone	U	10.0	ug/L	1.50	10.0
75-05-8	Acetonitrile	U	25.0	ug/L	8.00	25.0
107-02-8	Acrolein		280	ug/L	1.50	5.00
107-13-1	Acrylonitrile		257	ug/L	1.50	5.00
107-05-1	Allyl chloride		245	ug/L	1.50	5.00
71-43-2	Benzene	U	1.00	ug/L	0.300	1.00
108-86-1	Bromobenzene	U	1.00	ug/L	0.300	1.00
74-97-5	Bromochloromethane	U	1.00	ug/L	0.300	1.00
75-27-4	Bromodichloromethane	U	1.00	ug/L	0.300	1.00
75-25-2	Bromoform	U	1.00	ug/L	0.300	1.00

**Volatile
Certificate of Analysis
Sample Summary**

SDG Number: 2017-1332

Lab Sample ID: 1203768391

Client Sample: QC for batch 1656366

Client ID: LCS for batch 1656366

Batch ID: 1656366

Run Date: 04/14/2017 10:51

Prep Date: 04/14/2017 10:51

Data File: 041417V6\6C505LA.D

Client: ARSL004

Method: SW-846:8260B

Inst: VOA6.I

Analyst: JP1

Column: DB-624

Matrix: WATER

Project: QC

SOP Ref: GL-OA-E-038

Dilution: 1

Purge Vol: 5 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
74-83-9	Bromomethane	U	1.00	ug/L	0.300	1.00
75-15-0	Carbon disulfide	U	5.00	ug/L	1.50	5.00
56-23-5	Carbon tetrachloride	U	1.00	ug/L	0.300	1.00
108-90-7	Chlorobenzene	U	1.00	ug/L	0.300	1.00
75-00-3	Chloroethane	U	1.00	ug/L	0.300	1.00
67-66-3	Chloroform	U	1.00	ug/L	0.300	1.00
74-87-3	Chloromethane	U	1.00	ug/L	0.300	1.00
124-48-1	Dibromochloromethane	U	1.00	ug/L	0.300	1.00
74-95-3	Dibromomethane	U	1.00	ug/L	0.300	1.00
75-71-8	Dichlorodifluoromethane	U	1.00	ug/L	0.300	1.00
60-29-7	Ethyl ether	U	1.00	ug/L	0.300	1.00
97-63-2	Ethyl methacrylate		245	ug/L	1.50	5.00
100-41-4	Ethylbenzene	U	1.00	ug/L	0.300	1.00
87-68-3	Hexachlorobutadiene	U	1.00	ug/L	0.300	1.00
74-88-4	Iodomethane	U	5.00	ug/L	1.50	5.00
78-83-1	Isobutyl alcohol		2700	ug/L	15.0	50.0
98-82-8	Isopropylbenzene	U	1.00	ug/L	0.300	1.00
126-98-7	Methacrylonitrile		246	ug/L	1.50	5.00
80-62-6	Methyl methacrylate		268	ug/L	1.50	5.00
75-09-2	Methylene chloride	U	10.0	ug/L	1.00	10.0
91-20-3	Naphthalene	U	1.00	ug/L	0.300	1.00
107-12-0	Propionitrile		256	ug/L	1.50	5.00
100-42-5	Styrene	U	1.00	ug/L	0.300	1.00
127-18-4	Tetrachloroethylene	U	1.00	ug/L	0.300	1.00
108-88-3	Toluene	U	1.00	ug/L	0.300	1.00
79-01-6	Trichloroethylene	U	1.00	ug/L	0.300	1.00
75-69-4	Trichlorofluoromethane	U	1.00	ug/L	0.300	1.00
76-13-1	Trichlorotrifluoroethane		307	ug/L	2.00	5.00
108-05-4	Vinyl acetate	U	5.00	ug/L	1.50	5.00
75-01-4	Vinyl chloride	U	1.00	ug/L	0.300	1.00
156-59-2	cis-1,2-Dichloroethylene	U	1.00	ug/L	0.300	1.00
10061-01-5	cis-1,3-Dichloropropylene	U	1.00	ug/L	0.300	1.00
179601-23-1	m,p-Xylenes	U	2.00	ug/L	0.300	2.00
71-36-3	n-Butyl alcohol	U	50.0	ug/L	15.0	50.0
104-51-8	n-Butylbenzene	U	1.00	ug/L	0.300	1.00
103-65-1	n-Propylbenzene	U	1.00	ug/L	0.300	1.00
95-47-6	o-Xylene	U	1.00	ug/L	0.300	1.00
135-98-8	sec-Butylbenzene	U	1.00	ug/L	0.300	1.00

**Volatile
Certificate of Analysis
Sample Summary**

Page 3 of 3

SDG Number:	2017-1332	Matrix:	WATER
Lab Sample ID:	1203768391		
Client Sample:	QC for batch 1656366	Client:	ARSL004
Client ID:	LCS for batch 1656366	Method:	SW-846:8260B
Batch ID:	1656366	Inst:	VOA6.I
Run Date:	04/14/2017 10:51	Analyst:	JP1
Prep Date:	04/14/2017 10:51		
Data File:	041417V6\6C505LA.D	Column:	DB-624

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
1634-04-4	tert-Butyl methyl ether	U	1.00	ug/L	0.300	1.00
98-06-6	tert-Butylbenzene	U	1.00	ug/L	0.300	1.00
156-60-5	trans-1,2-Dichloroethylene	U	1.00	ug/L	0.300	1.00
10061-02-6	trans-1,3-Dichloropropylene	U	1.00	ug/L	0.300	1.00

Surrogate/Tracer recovery	Result	Nominal	Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	48.4	50.0	97	(71%-134%)
Bromofluorobenzene	50.4	50.0	101	(70%-131%)
Toluene-d8	49.6	50.0	99	(74%-124%)

Volatile
Certificate of Analysis
Sample Summary

SDG Number: 2017-1332	Date Collected: 04/06/2017 12:07	Matrix: W
Lab Sample ID: 1203768392	Date Received: 04/11/2017 09:10	
Client Sample: QC for batch 1656366	Client: ARSL004	Project: QC
Client ID: CAPA-17-130707PS	Method: SW-846:8260B	SOP Ref: GL-OA-E-038
Batch ID: 1656366	Inst: VOA6.I	Dilution: 1
Run Date: 04/14/2017 18:30	Analyst: JP1	Purge Vol: 5 mL
Prep Date: 04/14/2017 18:30		
Data File: 041417V6\6C521.D	Column: DB-624	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
630-20-6	1,1,1,2-Tetrachloroethane		53.5	ug/L	0.300	1.00
71-55-6	1,1,1-Trichloroethane		50.0	ug/L	0.300	1.00
79-34-5	1,1,2,2-Tetrachloroethane		48.9	ug/L	0.300	1.00
79-00-5	1,1,2-Trichloroethane		50.5	ug/L	0.300	1.00
75-34-3	1,1-Dichloroethane		50.7	ug/L	0.300	1.00
75-35-4	1,1-Dichloroethylene		45.5	ug/L	0.300	1.00
563-58-6	1,1-Dichloropropene		50.3	ug/L	0.300	1.00
87-61-6	1,2,3-Trichlorobenzene	B	51.1	ug/L	0.300	1.00
96-18-4	1,2,3-Trichloropropane		51.9	ug/L	0.300	1.00
120-82-1	1,2,4-Trichlorobenzene		48.6	ug/L	0.300	1.00
95-63-6	1,2,4-Trimethylbenzene		47.7	ug/L	0.300	1.00
96-12-8	1,2-Dibromo-3-chloropropane		48.8	ug/L	0.500	1.00
106-93-4	1,2-Dibromoethane		53.7	ug/L	0.300	1.00
95-50-1	1,2-Dichlorobenzene		50.4	ug/L	0.300	1.00
107-06-2	1,2-Dichloroethane		51.3	ug/L	0.300	1.00
78-87-5	1,2-Dichloropropane		52.9	ug/L	0.300	1.00
108-67-8	1,3,5-Trimethylbenzene		48.1	ug/L	0.300	1.00
541-73-1	1,3-Dichlorobenzene		49.9	ug/L	0.300	1.00
142-28-9	1,3-Dichloropropane		51.2	ug/L	0.300	1.00
106-46-7	1,4-Dichlorobenzene		49.4	ug/L	0.300	1.00
594-20-7	2,2-Dichloropropane		47.2	ug/L	0.300	1.00
78-93-3	2-Butanone		219	ug/L	1.50	5.00
126-99-8	2-Chloro-1,3-butadiene	U	1.00	ug/L	0.300	1.00
95-49-8	2-Chlorotoluene		51.3	ug/L	0.300	1.00
591-78-6	2-Hexanone		202	ug/L	1.50	5.00
106-43-4	4-Chlorotoluene		46.2	ug/L	0.300	1.00
99-87-6	4-Isopropyltoluene		49.2	ug/L	0.300	1.00
108-10-1	4-Methyl-2-pentanone		236	ug/L	1.50	5.00
67-64-1	Acetone		216	ug/L	1.50	10.0
75-05-8	Acetonitrile		1280	ug/L	8.00	25.0
107-02-8	Acrolein	U	5.00	ug/L	1.50	5.00
107-13-1	Acrylonitrile	U	5.00	ug/L	1.50	5.00
107-05-1	Allyl chloride	U	5.00	ug/L	1.50	5.00
71-43-2	Benzene		53.1	ug/L	0.300	1.00
108-86-1	Bromobenzene		51.9	ug/L	0.300	1.00
74-97-5	Bromochloromethane		58.2	ug/L	0.300	1.00
75-27-4	Bromodichloromethane		53.5	ug/L	0.300	1.00
75-25-2	Bromoform		53.1	ug/L	0.300	1.00

**Volatile
Certificate of Analysis
Sample Summary**

SDG Number:	2017-1332	Date Collected:	04/06/2017 12:07	Matrix:	W
Lab Sample ID:	1203768392	Date Received:	04/11/2017 09:10		
Client Sample:	QC for batch 1656366	Client:	ARSL004	Project:	QC
Client ID:	CAPA-17-130707PS	Method:	SW-846:8260B	SOP Ref:	GL-OA-E-038
Batch ID:	1656366	Inst:	VOA6.I	Dilution:	1
Run Date:	04/14/2017 18:30	Analyst:	JP1	Purge Vol:	5 mL
Prep Date:	04/14/2017 18:30				
Data File:	041417V6\6C521.D	Column:	DB-624		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
74-83-9	Bromomethane		57.4	ug/L	0.300	1.00
75-15-0	Carbon disulfide		270	ug/L	1.50	5.00
56-23-5	Carbon tetrachloride		53.7	ug/L	0.300	1.00
108-90-7	Chlorobenzene		51.3	ug/L	0.300	1.00
75-00-3	Chloroethane		50.6	ug/L	0.300	1.00
67-66-3	Chloroform		53.0	ug/L	0.300	1.00
74-87-3	Chloromethane		46.5	ug/L	0.300	1.00
124-48-1	Dibromochloromethane		53.6	ug/L	0.300	1.00
74-95-3	Dibromomethane		55.9	ug/L	0.300	1.00
75-71-8	Dichlorodifluoromethane		51.9	ug/L	0.300	1.00
60-29-7	Ethyl ether		46.1	ug/L	0.300	1.00
97-63-2	Ethyl methacrylate	U	5.00	ug/L	1.50	5.00
100-41-4	Ethylbenzene		49.8	ug/L	0.300	1.00
87-68-3	Hexachlorobutadiene	B	50.2	ug/L	0.300	1.00
74-88-4	Iodomethane		291	ug/L	1.50	5.00
78-83-1	Isobutyl alcohol	U	50.0	ug/L	15.0	50.0
98-82-8	Isopropylbenzene		47.5	ug/L	0.300	1.00
126-98-7	Methacrylonitrile	U	5.00	ug/L	1.50	5.00
80-62-6	Methyl methacrylate	U	5.00	ug/L	1.50	5.00
75-09-2	Methylene chloride		53.9	ug/L	1.00	10.0
91-20-3	Naphthalene		50.9	ug/L	0.300	1.00
107-12-0	Propionitrile	U	5.00	ug/L	1.50	5.00
100-42-5	Styrene		51.3	ug/L	0.300	1.00
127-18-4	Tetrachloroethylene		53.8	ug/L	0.300	1.00
108-88-3	Toluene		48.9	ug/L	0.300	1.00
79-01-6	Trichloroethylene		54.9	ug/L	0.300	1.00
75-69-4	Trichlorofluoromethane		51.8	ug/L	0.300	1.00
76-13-1	Trichlorotrifluoroethane	U	5.00	ug/L	2.00	5.00
108-05-4	Vinyl acetate		214	ug/L	1.50	5.00
75-01-4	Vinyl chloride		51.0	ug/L	0.300	1.00
156-59-2	cis-1,2-Dichloroethylene		50.0	ug/L	0.300	1.00
10061-01-5	cis-1,3-Dichloropropylene		52.0	ug/L	0.300	1.00
179601-23-1	m,p-Xylenes		103	ug/L	0.300	2.00
71-36-3	n-Butyl alcohol		5990	ug/L	15.0	50.0
104-51-8	n-Butylbenzene		45.4	ug/L	0.300	1.00
103-65-1	n-Propylbenzene		45.7	ug/L	0.300	1.00
95-47-6	o-Xylene		49.4	ug/L	0.300	1.00
135-98-8	sec-Butylbenzene		48.3	ug/L	0.300	1.00

**Volatile
Certificate of Analysis
Sample Summary**

SDG Number:	2017-1332	Date Collected:	04/06/2017 12:07	Matrix:	W
Lab Sample ID:	1203768392	Date Received:	04/11/2017 09:10		
Client Sample:	QC for batch 1656366	Client:	ARSL004	Project:	QC
Client ID:	CAPA-17-130707PS	Method:	SW-846:8260B	SOP Ref:	GL-OA-E-038
Batch ID:	1656366	Inst:	VOA6.I	Dilution:	1
Run Date:	04/14/2017 18:30	Analyst:	JP1	Purge Vol:	5 mL
Prep Date:	04/14/2017 18:30				
Data File:	041417V6\6C521.D	Column:	DB-624		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
1634-04-4	tert-Butyl methyl ether		52.1	ug/L	0.300	1.00
98-06-6	tert-Butylbenzene		50.6	ug/L	0.300	1.00
156-60-5	trans-1,2-Dichloroethylene		50.2	ug/L	0.300	1.00
10061-02-6	trans-1,3-Dichloropropylene		49.1	ug/L	0.300	1.00

Surrogate/Tracer recovery	Result	Nominal	Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	47.6	50.0	95	(71%-134%)
Bromofluorobenzene	47.8	50.0	96	(70%-131%)
Toluene-d8	48.1	50.0	96	(74%-124%)

**Volatile
Certificate of Analysis
Sample Summary**

SDG Number:	2017-1332	Date Collected:	04/06/2017 12:07	Matrix:	W
Lab Sample ID:	1203768393	Date Received:	04/11/2017 09:10		
Client Sample:	QC for batch 1656366	Client:	ARSL004	Project:	QC
Client ID:	CAPA-17-130707PS	Method:	SW-846:8260B	SOP Ref:	GL-OA-E-038
Batch ID:	1656366	Inst:	VOA6.I	Dilution:	1
Run Date:	04/14/2017 20:25	Analyst:	JP1	Purge Vol:	5 mL
Prep Date:	04/14/2017 20:25				
Data File:	041417V6\6C525.D	Column:	DB-624		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
630-20-6	1,1,1,2-Tetrachloroethane	U	1.00	ug/L	0.300	1.00
71-55-6	1,1,1-Trichloroethane	U	1.00	ug/L	0.300	1.00
79-34-5	1,1,2,2-Tetrachloroethane	U	1.00	ug/L	0.300	1.00
79-00-5	1,1,2-Trichloroethane	U	1.00	ug/L	0.300	1.00
75-34-3	1,1-Dichloroethane	U	1.00	ug/L	0.300	1.00
75-35-4	1,1-Dichloroethylene	U	1.00	ug/L	0.300	1.00
563-58-6	1,1-Dichloropropene	U	1.00	ug/L	0.300	1.00
87-61-6	1,2,3-Trichlorobenzene	U	1.00	ug/L	0.300	1.00
96-18-4	1,2,3-Trichloropropane	U	1.00	ug/L	0.300	1.00
120-82-1	1,2,4-Trichlorobenzene	U	1.00	ug/L	0.300	1.00
95-63-6	1,2,4-Trimethylbenzene	U	1.00	ug/L	0.300	1.00
96-12-8	1,2-Dibromo-3-chloropropane	U	1.00	ug/L	0.500	1.00
106-93-4	1,2-Dibromoethane	U	1.00	ug/L	0.300	1.00
95-50-1	1,2-Dichlorobenzene	U	1.00	ug/L	0.300	1.00
107-06-2	1,2-Dichloroethane	U	1.00	ug/L	0.300	1.00
78-87-5	1,2-Dichloropropane	U	1.00	ug/L	0.300	1.00
108-67-8	1,3,5-Trimethylbenzene	U	1.00	ug/L	0.300	1.00
541-73-1	1,3-Dichlorobenzene	U	1.00	ug/L	0.300	1.00
142-28-9	1,3-Dichloropropane	U	1.00	ug/L	0.300	1.00
106-46-7	1,4-Dichlorobenzene	U	1.00	ug/L	0.300	1.00
594-20-7	2,2-Dichloropropane	U	1.00	ug/L	0.300	1.00
78-93-3	2-Butanone	U	5.00	ug/L	1.50	5.00
126-99-8	2-Chloro-1,3-butadiene		41.4	ug/L	0.300	1.00
95-49-8	2-Chlorotoluene	U	1.00	ug/L	0.300	1.00
591-78-6	2-Hexanone	U	5.00	ug/L	1.50	5.00
106-43-4	4-Chlorotoluene	U	1.00	ug/L	0.300	1.00
99-87-6	4-Isopropyltoluene	U	1.00	ug/L	0.300	1.00
108-10-1	4-Methyl-2-pentanone	U	5.00	ug/L	1.50	5.00
67-64-1	Acetone	U	10.0	ug/L	1.50	10.0
75-05-8	Acetonitrile	U	25.0	ug/L	8.00	25.0
107-02-8	Acrolein		245	ug/L	1.50	5.00
107-13-1	Acrylonitrile		247	ug/L	1.50	5.00
107-05-1	Allyl chloride		222	ug/L	1.50	5.00
71-43-2	Benzene	U	1.00	ug/L	0.300	1.00
108-86-1	Bromobenzene	U	1.00	ug/L	0.300	1.00
74-97-5	Bromochloromethane	U	1.00	ug/L	0.300	1.00
75-27-4	Bromodichloromethane	U	1.00	ug/L	0.300	1.00
75-25-2	Bromoform	U	1.00	ug/L	0.300	1.00

**Volatile
Certificate of Analysis
Sample Summary**

SDG Number:	2017-1332	Date Collected:	04/06/2017 12:07	Matrix:	W
Lab Sample ID:	1203768393	Date Received:	04/11/2017 09:10		
Client Sample:	QC for batch 1656366	Client:	ARSL004	Project:	QC
Client ID:	CAPA-17-130707PS	Method:	SW-846:8260B	SOP Ref:	GL-OA-E-038
Batch ID:	1656366	Inst:	VOA6.I	Dilution:	1
Run Date:	04/14/2017 20:25	Analyst:	JP1	Purge Vol:	5 mL
Prep Date:	04/14/2017 20:25				
Data File:	041417V6\6C525.D	Column:	DB-624		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
74-83-9	Bromomethane	U	1.00	ug/L	0.300	1.00
75-15-0	Carbon disulfide	U	5.00	ug/L	1.50	5.00
56-23-5	Carbon tetrachloride	U	1.00	ug/L	0.300	1.00
108-90-7	Chlorobenzene	U	1.00	ug/L	0.300	1.00
75-00-3	Chloroethane	U	1.00	ug/L	0.300	1.00
67-66-3	Chloroform	U	1.00	ug/L	0.300	1.00
74-87-3	Chloromethane	U	1.00	ug/L	0.300	1.00
124-48-1	Dibromochloromethane	U	1.00	ug/L	0.300	1.00
74-95-3	Dibromomethane	U	1.00	ug/L	0.300	1.00
75-71-8	Dichlorodifluoromethane	U	1.00	ug/L	0.300	1.00
60-29-7	Ethyl ether	U	1.00	ug/L	0.300	1.00
97-63-2	Ethyl methacrylate		231	ug/L	1.50	5.00
100-41-4	Ethylbenzene	U	1.00	ug/L	0.300	1.00
87-68-3	Hexachlorobutadiene	U	1.00	ug/L	0.300	1.00
74-88-4	Iodomethane	U	5.00	ug/L	1.50	5.00
78-83-1	Isobutyl alcohol		2500	ug/L	15.0	50.0
98-82-8	Isopropylbenzene	U	1.00	ug/L	0.300	1.00
126-98-7	Methacrylonitrile		235	ug/L	1.50	5.00
80-62-6	Methyl methacrylate		258	ug/L	1.50	5.00
75-09-2	Methylene chloride	U	10.0	ug/L	1.00	10.0
91-20-3	Naphthalene	U	1.00	ug/L	0.300	1.00
107-12-0	Propionitrile		244	ug/L	1.50	5.00
100-42-5	Styrene	U	1.00	ug/L	0.300	1.00
127-18-4	Tetrachloroethylene	U	1.00	ug/L	0.300	1.00
108-88-3	Toluene	U	1.00	ug/L	0.300	1.00
79-01-6	Trichloroethylene	U	1.00	ug/L	0.300	1.00
75-69-4	Trichlorofluoromethane	U	1.00	ug/L	0.300	1.00
76-13-1	Trichlorotrifluoroethane		253	ug/L	2.00	5.00
108-05-4	Vinyl acetate	U	5.00	ug/L	1.50	5.00
75-01-4	Vinyl chloride	U	1.00	ug/L	0.300	1.00
156-59-2	cis-1,2-Dichloroethylene	U	1.00	ug/L	0.300	1.00
10061-01-5	cis-1,3-Dichloropropylene	U	1.00	ug/L	0.300	1.00
179601-23-1	m,p-Xylenes	U	2.00	ug/L	0.300	2.00
71-36-3	n-Butyl alcohol	U	50.0	ug/L	15.0	50.0
104-51-8	n-Butylbenzene	U	1.00	ug/L	0.300	1.00
103-65-1	n-Propylbenzene	U	1.00	ug/L	0.300	1.00
95-47-6	o-Xylene	U	1.00	ug/L	0.300	1.00
135-98-8	sec-Butylbenzene	U	1.00	ug/L	0.300	1.00

**Volatile
Certificate of Analysis
Sample Summary**

SDG Number:	2017-1332	Date Collected:	04/06/2017 12:07	Matrix:	W
Lab Sample ID:	1203768393	Date Received:	04/11/2017 09:10		
Client Sample:	QC for batch 1656366	Client:	ARSL004	Project:	QC
Client ID:	CAPA-17-130707PS	Method:	SW-846:8260B	SOP Ref:	GL-OA-E-038
Batch ID:	1656366	Inst:	VOA6.I	Dilution:	1
Run Date:	04/14/2017 20:25	Analyst:	JP1	Purge Vol:	5 mL
Prep Date:	04/14/2017 20:25				
Data File:	041417V6\6C525.D	Column:	DB-624		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
1634-04-4	tert-Butyl methyl ether	U	1.00	ug/L	0.300	1.00
98-06-6	tert-Butylbenzene	U	1.00	ug/L	0.300	1.00
156-60-5	trans-1,2-Dichloroethylene	U	1.00	ug/L	0.300	1.00
10061-02-6	trans-1,3-Dichloropropylene	U	1.00	ug/L	0.300	1.00

Surrogate/Tracer recovery	Result	Nominal	Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	46.2	50.0	92	(71%-134%)
Bromofluorobenzene	49.3	50.0	99	(70%-131%)
Toluene-d8	48.1	50.0	96	(74%-124%)

Volatile
Certificate of Analysis
Sample Summary

SDG Number: 2017-1332	Date Collected: 04/06/2017 12:07	Matrix: W
Lab Sample ID: 1203768394	Date Received: 04/11/2017 09:10	
Client Sample: QC for batch 1656366	Client: ARSL004	Project: QC
Client ID: CAPA-17-130707PSD	Method: SW-846:8260B	SOP Ref: GL-OA-E-038
Batch ID: 1656366	Inst: VOA6.I	Dilution: 1
Run Date: 04/14/2017 18:58	Analyst: JP1	Purge Vol: 5 mL
Prep Date: 04/14/2017 18:58		
Data File: 041417V6\6C522.D	Column: DB-624	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
630-20-6	1,1,1,2-Tetrachloroethane		54.6	ug/L	0.300	1.00
71-55-6	1,1,1-Trichloroethane		48.5	ug/L	0.300	1.00
79-34-5	1,1,2,2-Tetrachloroethane		51.7	ug/L	0.300	1.00
79-00-5	1,1,2-Trichloroethane		51.9	ug/L	0.300	1.00
75-34-3	1,1-Dichloroethane		50.5	ug/L	0.300	1.00
75-35-4	1,1-Dichloroethylene		44.0	ug/L	0.300	1.00
563-58-6	1,1-Dichloropropene		49.0	ug/L	0.300	1.00
87-61-6	1,2,3-Trichlorobenzene	B	51.8	ug/L	0.300	1.00
96-18-4	1,2,3-Trichloropropane		54.9	ug/L	0.300	1.00
120-82-1	1,2,4-Trichlorobenzene		48.4	ug/L	0.300	1.00
95-63-6	1,2,4-Trimethylbenzene		47.0	ug/L	0.300	1.00
96-12-8	1,2-Dibromo-3-chloropropane		52.4	ug/L	0.500	1.00
106-93-4	1,2-Dibromoethane		55.7	ug/L	0.300	1.00
95-50-1	1,2-Dichlorobenzene		51.0	ug/L	0.300	1.00
107-06-2	1,2-Dichloroethane		52.1	ug/L	0.300	1.00
78-87-5	1,2-Dichloropropane		52.6	ug/L	0.300	1.00
108-67-8	1,3,5-Trimethylbenzene		47.1	ug/L	0.300	1.00
541-73-1	1,3-Dichlorobenzene		49.8	ug/L	0.300	1.00
142-28-9	1,3-Dichloropropane		52.3	ug/L	0.300	1.00
106-46-7	1,4-Dichlorobenzene		49.6	ug/L	0.300	1.00
594-20-7	2,2-Dichloropropane		46.7	ug/L	0.300	1.00
78-93-3	2-Butanone		235	ug/L	1.50	5.00
126-99-8	2-Chloro-1,3-butadiene	U	1.00	ug/L	0.300	1.00
95-49-8	2-Chlorotoluene		50.8	ug/L	0.300	1.00
591-78-6	2-Hexanone		217	ug/L	1.50	5.00
106-43-4	4-Chlorotoluene		45.5	ug/L	0.300	1.00
99-87-6	4-Isopropyltoluene		47.9	ug/L	0.300	1.00
108-10-1	4-Methyl-2-pentanone		255	ug/L	1.50	5.00
67-64-1	Acetone		227	ug/L	1.50	10.0
75-05-8	Acetonitrile		1330	ug/L	8.00	25.0
107-02-8	Acrolein	U	5.00	ug/L	1.50	5.00
107-13-1	Acrylonitrile	U	5.00	ug/L	1.50	5.00
107-05-1	Allyl chloride	U	5.00	ug/L	1.50	5.00
71-43-2	Benzene		52.5	ug/L	0.300	1.00
108-86-1	Bromobenzene		52.1	ug/L	0.300	1.00
74-97-5	Bromochloromethane		59.8	ug/L	0.300	1.00
75-27-4	Bromodichloromethane		54.4	ug/L	0.300	1.00
75-25-2	Bromoform		56.1	ug/L	0.300	1.00

**Volatile
Certificate of Analysis
Sample Summary**

SDG Number:	2017-1332	Date Collected:	04/06/2017 12:07	Matrix:	W
Lab Sample ID:	1203768394	Date Received:	04/11/2017 09:10		
Client Sample:	QC for batch 1656366	Client:	ARSL004	Project:	QC
Client ID:	CAPA-17-130707PSD	Method:	SW-846:8260B	SOP Ref:	GL-OA-E-038
Batch ID:	1656366	Inst:	VOA6.I	Dilution:	1
Run Date:	04/14/2017 18:58	Analyst:	JP1	Purge Vol:	5 mL
Prep Date:	04/14/2017 18:58				
Data File:	041417V6\6C522.D	Column:	DB-624		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
74-83-9	Bromomethane		54.4	ug/L	0.300	1.00
75-15-0	Carbon disulfide		262	ug/L	1.50	5.00
56-23-5	Carbon tetrachloride		52.0	ug/L	0.300	1.00
108-90-7	Chlorobenzene		51.3	ug/L	0.300	1.00
75-00-3	Chloroethane		47.9	ug/L	0.300	1.00
67-66-3	Chloroform		53.1	ug/L	0.300	1.00
74-87-3	Chloromethane		43.9	ug/L	0.300	1.00
124-48-1	Dibromochloromethane		55.4	ug/L	0.300	1.00
74-95-3	Dibromomethane		57.3	ug/L	0.300	1.00
75-71-8	Dichlorodifluoromethane		47.8	ug/L	0.300	1.00
60-29-7	Ethyl ether		46.1	ug/L	0.300	1.00
97-63-2	Ethyl methacrylate	U	5.00	ug/L	1.50	5.00
100-41-4	Ethylbenzene		48.9	ug/L	0.300	1.00
87-68-3	Hexachlorobutadiene	B	48.7	ug/L	0.300	1.00
74-88-4	Iodomethane		290	ug/L	1.50	5.00
78-83-1	Isobutyl alcohol	U	50.0	ug/L	15.0	50.0
98-82-8	Isopropylbenzene		46.7	ug/L	0.300	1.00
126-98-7	Methacrylonitrile	U	5.00	ug/L	1.50	5.00
80-62-6	Methyl methacrylate	U	5.00	ug/L	1.50	5.00
75-09-2	Methylene chloride		54.8	ug/L	1.00	10.0
91-20-3	Naphthalene		53.6	ug/L	0.300	1.00
107-12-0	Propionitrile	U	5.00	ug/L	1.50	5.00
100-42-5	Styrene		51.2	ug/L	0.300	1.00
127-18-4	Tetrachloroethylene		52.1	ug/L	0.300	1.00
108-88-3	Toluene		48.4	ug/L	0.300	1.00
79-01-6	Trichloroethylene		53.9	ug/L	0.300	1.00
75-69-4	Trichlorofluoromethane		48.0	ug/L	0.300	1.00
76-13-1	Trichlorotrifluoroethane	U	5.00	ug/L	2.00	5.00
108-05-4	Vinyl acetate		213	ug/L	1.50	5.00
75-01-4	Vinyl chloride		47.7	ug/L	0.300	1.00
156-59-2	cis-1,2-Dichloroethylene		49.6	ug/L	0.300	1.00
10061-01-5	cis-1,3-Dichloropropylene		52.7	ug/L	0.300	1.00
179601-23-1	m,p-Xylenes		101	ug/L	0.300	2.00
71-36-3	n-Butyl alcohol		6580	ug/L	15.0	50.0
104-51-8	n-Butylbenzene		43.6	ug/L	0.300	1.00
103-65-1	n-Propylbenzene		44.3	ug/L	0.300	1.00
95-47-6	o-Xylene		48.9	ug/L	0.300	1.00
135-98-8	sec-Butylbenzene		46.9	ug/L	0.300	1.00

**Volatile
Certificate of Analysis
Sample Summary**

SDG Number:	2017-1332	Date Collected:	04/06/2017 12:07	Matrix:	W
Lab Sample ID:	1203768394	Date Received:	04/11/2017 09:10		
Client Sample:	QC for batch 1656366	Client:	ARSL004	Project:	QC
Client ID:	CAPA-17-130707PSD	Method:	SW-846:8260B	SOP Ref:	GL-OA-E-038
Batch ID:	1656366	Inst:	VOA6.I	Dilution:	1
Run Date:	04/14/2017 18:58	Analyst:	JP1	Purge Vol:	5 mL
Prep Date:	04/14/2017 18:58				
Data File:	041417V6\6C522.D	Column:	DB-624		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
1634-04-4	tert-Butyl methyl ether		54.6	ug/L	0.300	1.00
98-06-6	tert-Butylbenzene		49.7	ug/L	0.300	1.00
156-60-5	trans-1,2-Dichloroethylene		49.1	ug/L	0.300	1.00
10061-02-6	trans-1,3-Dichloropropylene		50.1	ug/L	0.300	1.00

Surrogate/Tracer recovery	Result	Nominal	Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	49.2	50.0	98	(71%-134%)
Bromofluorobenzene	49.3	50.0	99	(70%-131%)
Toluene-d8	49.5	50.0	99	(74%-124%)

**Volatile
Certificate of Analysis
Sample Summary**

SDG Number:	2017-1332	Date Collected:	04/06/2017 12:07	Matrix:	W
Lab Sample ID:	1203768395	Date Received:	04/11/2017 09:10		
Client Sample:	QC for batch 1656366	Client:	ARSL004	Project:	QC
Client ID:	CAPA-17-130707PSD	Method:	SW-846:8260B	SOP Ref:	GL-OA-E-038
Batch ID:	1656366	Inst:	VOA6.I	Dilution:	1
Run Date:	04/14/2017 20:53	Analyst:	JP1	Purge Vol:	5 mL
Prep Date:	04/14/2017 20:53				
Data File:	041417V6\6C526.D	Column:	DB-624		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
630-20-6	1,1,1,2-Tetrachloroethane	U	1.00	ug/L	0.300	1.00
71-55-6	1,1,1-Trichloroethane	U	1.00	ug/L	0.300	1.00
79-34-5	1,1,2,2-Tetrachloroethane	U	1.00	ug/L	0.300	1.00
79-00-5	1,1,2-Trichloroethane	U	1.00	ug/L	0.300	1.00
75-34-3	1,1-Dichloroethane	U	1.00	ug/L	0.300	1.00
75-35-4	1,1-Dichloroethylene	U	1.00	ug/L	0.300	1.00
563-58-6	1,1-Dichloropropene	U	1.00	ug/L	0.300	1.00
87-61-6	1,2,3-Trichlorobenzene	U	1.00	ug/L	0.300	1.00
96-18-4	1,2,3-Trichloropropane	U	1.00	ug/L	0.300	1.00
120-82-1	1,2,4-Trichlorobenzene	U	1.00	ug/L	0.300	1.00
95-63-6	1,2,4-Trimethylbenzene	U	1.00	ug/L	0.300	1.00
96-12-8	1,2-Dibromo-3-chloropropane	U	1.00	ug/L	0.500	1.00
106-93-4	1,2-Dibromoethane	U	1.00	ug/L	0.300	1.00
95-50-1	1,2-Dichlorobenzene	U	1.00	ug/L	0.300	1.00
107-06-2	1,2-Dichloroethane	U	1.00	ug/L	0.300	1.00
78-87-5	1,2-Dichloropropane	U	1.00	ug/L	0.300	1.00
108-67-8	1,3,5-Trimethylbenzene	U	1.00	ug/L	0.300	1.00
541-73-1	1,3-Dichlorobenzene	U	1.00	ug/L	0.300	1.00
142-28-9	1,3-Dichloropropane	U	1.00	ug/L	0.300	1.00
106-46-7	1,4-Dichlorobenzene	U	1.00	ug/L	0.300	1.00
594-20-7	2,2-Dichloropropane	U	1.00	ug/L	0.300	1.00
78-93-3	2-Butanone	U	5.00	ug/L	1.50	5.00
126-99-8	2-Chloro-1,3-butadiene		42.9	ug/L	0.300	1.00
95-49-8	2-Chlorotoluene	U	1.00	ug/L	0.300	1.00
591-78-6	2-Hexanone	U	5.00	ug/L	1.50	5.00
106-43-4	4-Chlorotoluene	U	1.00	ug/L	0.300	1.00
99-87-6	4-Isopropyltoluene	U	1.00	ug/L	0.300	1.00
108-10-1	4-Methyl-2-pentanone	U	5.00	ug/L	1.50	5.00
67-64-1	Acetone	U	10.0	ug/L	1.50	10.0
75-05-8	Acetonitrile	U	25.0	ug/L	8.00	25.0
107-02-8	Acrolein		239	ug/L	1.50	5.00
107-13-1	Acrylonitrile		255	ug/L	1.50	5.00
107-05-1	Allyl chloride		228	ug/L	1.50	5.00
71-43-2	Benzene	U	1.00	ug/L	0.300	1.00
108-86-1	Bromobenzene	U	1.00	ug/L	0.300	1.00
74-97-5	Bromochloromethane	U	1.00	ug/L	0.300	1.00
75-27-4	Bromodichloromethane	U	1.00	ug/L	0.300	1.00
75-25-2	Bromoform	U	1.00	ug/L	0.300	1.00

**Volatile
Certificate of Analysis
Sample Summary**

SDG Number:	2017-1332	Date Collected:	04/06/2017 12:07	Matrix:	W
Lab Sample ID:	1203768395	Date Received:	04/11/2017 09:10		
Client Sample:	QC for batch 1656366	Client:	ARSL004	Project:	QC
Client ID:	CAPA-17-130707PSD	Method:	SW-846:8260B	SOP Ref:	GL-OA-E-038
Batch ID:	1656366	Inst:	VOA6.I	Dilution:	1
Run Date:	04/14/2017 20:53	Analyst:	JP1	Purge Vol:	5 mL
Prep Date:	04/14/2017 20:53				
Data File:	041417V6\6C526.D	Column:	DB-624		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
74-83-9	Bromomethane	U	1.00	ug/L	0.300	1.00
75-15-0	Carbon disulfide	U	5.00	ug/L	1.50	5.00
56-23-5	Carbon tetrachloride	U	1.00	ug/L	0.300	1.00
108-90-7	Chlorobenzene	U	1.00	ug/L	0.300	1.00
75-00-3	Chloroethane	U	1.00	ug/L	0.300	1.00
67-66-3	Chloroform	U	1.00	ug/L	0.300	1.00
74-87-3	Chloromethane	U	1.00	ug/L	0.300	1.00
124-48-1	Dibromochloromethane	U	1.00	ug/L	0.300	1.00
74-95-3	Dibromomethane	U	1.00	ug/L	0.300	1.00
75-71-8	Dichlorodifluoromethane	U	1.00	ug/L	0.300	1.00
60-29-7	Ethyl ether	U	1.00	ug/L	0.300	1.00
97-63-2	Ethyl methacrylate		237	ug/L	1.50	5.00
100-41-4	Ethylbenzene	U	1.00	ug/L	0.300	1.00
87-68-3	Hexachlorobutadiene	U	1.00	ug/L	0.300	1.00
74-88-4	Iodomethane	U	5.00	ug/L	1.50	5.00
78-83-1	Isobutyl alcohol		2610	ug/L	15.0	50.0
98-82-8	Isopropylbenzene	U	1.00	ug/L	0.300	1.00
126-98-7	Methacrylonitrile		240	ug/L	1.50	5.00
80-62-6	Methyl methacrylate		268	ug/L	1.50	5.00
75-09-2	Methylene chloride	U	10.0	ug/L	1.00	10.0
91-20-3	Naphthalene	U	1.00	ug/L	0.300	1.00
107-12-0	Propionitrile		252	ug/L	1.50	5.00
100-42-5	Styrene	U	1.00	ug/L	0.300	1.00
127-18-4	Tetrachloroethylene	U	1.00	ug/L	0.300	1.00
108-88-3	Toluene	U	1.00	ug/L	0.300	1.00
79-01-6	Trichloroethylene	U	1.00	ug/L	0.300	1.00
75-69-4	Trichlorofluoromethane	U	1.00	ug/L	0.300	1.00
76-13-1	Trichlorotrifluoroethane		274	ug/L	2.00	5.00
108-05-4	Vinyl acetate	U	5.00	ug/L	1.50	5.00
75-01-4	Vinyl chloride	U	1.00	ug/L	0.300	1.00
156-59-2	cis-1,2-Dichloroethylene	U	1.00	ug/L	0.300	1.00
10061-01-5	cis-1,3-Dichloropropylene	U	1.00	ug/L	0.300	1.00
179601-23-1	m,p-Xylenes	U	2.00	ug/L	0.300	2.00
71-36-3	n-Butyl alcohol	U	50.0	ug/L	15.0	50.0
104-51-8	n-Butylbenzene	U	1.00	ug/L	0.300	1.00
103-65-1	n-Propylbenzene	U	1.00	ug/L	0.300	1.00
95-47-6	o-Xylene	U	1.00	ug/L	0.300	1.00
135-98-8	sec-Butylbenzene	U	1.00	ug/L	0.300	1.00

**Volatile
Certificate of Analysis
Sample Summary**

SDG Number: 2017-1332	Date Collected: 04/06/2017 12:07	Matrix: W
Lab Sample ID: 1203768395	Date Received: 04/11/2017 09:10	
Client Sample: QC for batch 1656366	Client: ARSL004	Project: QC
Client ID: CAPA-17-130707PSD	Method: SW-846:8260B	SOP Ref: GL-OA-E-038
Batch ID: 1656366	Inst: VOA6.I	Dilution: 1
Run Date: 04/14/2017 20:53	Analyst: JP1	Purge Vol: 5 mL
Prep Date: 04/14/2017 20:53		
Data File: 041417V6\6C526.D	Column: DB-624	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
1634-04-4	tert-Butyl methyl ether	U	1.00	ug/L	0.300	1.00
98-06-6	tert-Butylbenzene	U	1.00	ug/L	0.300	1.00
156-60-5	trans-1,2-Dichloroethylene	U	1.00	ug/L	0.300	1.00
10061-02-6	trans-1,3-Dichloropropylene	U	1.00	ug/L	0.300	1.00

Surrogate/Tracer recovery	Result	Nominal	Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	46.8	50.0	94	(71%-134%)
Bromofluorobenzene	50.6	50.0	101	(70%-131%)
Toluene-d8	49.1	50.0	98	(74%-124%)

**Volatile
Certificate of Analysis
Sample Summary**

SDG Number: 2017-1332

Lab Sample ID: 1203769410

Client Sample: QC for batch 1656366

Client ID: MB for batch 1656366

Batch ID: 1656366

Run Date: 04/17/2017 12:42

Prep Date: 04/17/2017 12:42

Data File: 041717V6\6D106BA.D

Client: ARSL004

Method: SW-846:8260B

Inst: VOA6.I

Analyst: JP1

Column: DB-624

Matrix: WATER

Project: QC

SOP Ref: GL-OA-E-038

Dilution: 1

Purge Vol: 5 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
630-20-6	1,1,1,2-Tetrachloroethane	U	1.00	ug/L	0.300	1.00
71-55-6	1,1,1-Trichloroethane	U	1.00	ug/L	0.300	1.00
79-34-5	1,1,2,2-Tetrachloroethane	U	1.00	ug/L	0.300	1.00
79-00-5	1,1,2-Trichloroethane	U	1.00	ug/L	0.300	1.00
75-34-3	1,1-Dichloroethane	U	1.00	ug/L	0.300	1.00
75-35-4	1,1-Dichloroethylene	U	1.00	ug/L	0.300	1.00
563-58-6	1,1-Dichloropropene	U	1.00	ug/L	0.300	1.00
87-61-6	1,2,3-Trichlorobenzene	U	1.00	ug/L	0.300	1.00
96-18-4	1,2,3-Trichloropropane	U	1.00	ug/L	0.300	1.00
120-82-1	1,2,4-Trichlorobenzene	U	1.00	ug/L	0.300	1.00
95-63-6	1,2,4-Trimethylbenzene	U	1.00	ug/L	0.300	1.00
96-12-8	1,2-Dibromo-3-chloropropane	U	1.00	ug/L	0.500	1.00
106-93-4	1,2-Dibromoethane	U	1.00	ug/L	0.300	1.00
95-50-1	1,2-Dichlorobenzene	U	1.00	ug/L	0.300	1.00
107-06-2	1,2-Dichloroethane	U	1.00	ug/L	0.300	1.00
78-87-5	1,2-Dichloropropane	U	1.00	ug/L	0.300	1.00
108-67-8	1,3,5-Trimethylbenzene	U	1.00	ug/L	0.300	1.00
541-73-1	1,3-Dichlorobenzene	U	1.00	ug/L	0.300	1.00
142-28-9	1,3-Dichloropropane	U	1.00	ug/L	0.300	1.00
106-46-7	1,4-Dichlorobenzene	U	1.00	ug/L	0.300	1.00
594-20-7	2,2-Dichloropropane	U	1.00	ug/L	0.300	1.00
78-93-3	2-Butanone	U	5.00	ug/L	1.50	5.00
126-99-8	2-Chloro-1,3-butadiene	U	1.00	ug/L	0.300	1.00
95-49-8	2-Chlorotoluene	U	1.00	ug/L	0.300	1.00
591-78-6	2-Hexanone	U	5.00	ug/L	1.50	5.00
106-43-4	4-Chlorotoluene	U	1.00	ug/L	0.300	1.00
99-87-6	4-Isopropyltoluene	U	1.00	ug/L	0.300	1.00
108-10-1	4-Methyl-2-pentanone	U	5.00	ug/L	1.50	5.00
67-64-1	Acetone	U	10.0	ug/L	1.50	10.0
75-05-8	Acetonitrile	U	25.0	ug/L	8.00	25.0
107-02-8	Acrolein	U	5.00	ug/L	1.50	5.00
107-13-1	Acrylonitrile	U	5.00	ug/L	1.50	5.00
107-05-1	Allyl chloride	U	5.00	ug/L	1.50	5.00
71-43-2	Benzene	U	1.00	ug/L	0.300	1.00
108-86-1	Bromobenzene	U	1.00	ug/L	0.300	1.00
74-97-5	Bromochloromethane	U	1.00	ug/L	0.300	1.00
75-27-4	Bromodichloromethane	U	1.00	ug/L	0.300	1.00
75-25-2	Bromoform	U	1.00	ug/L	0.300	1.00

**Volatile
Certificate of Analysis
Sample Summary**

SDG Number: 2017-1332

Matrix: WATER

Lab Sample ID: 1203769410

Client Sample: QC for batch 1656366

Client: ARSL004

Project: QC

Client ID: MB for batch 1656366

Method: SW-846:8260B

SOP Ref: GL-OA-E-038

Batch ID: 1656366

Inst: VOA6.I

Dilution: 1

Run Date: 04/17/2017 12:42

Analyst: JP1

Purge Vol: 5 mL

Prep Date: 04/17/2017 12:42

Data File: 041717V6\6D106BA.D

Column: DB-624

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
74-83-9	Bromomethane	U	1.00	ug/L	0.300	1.00
75-15-0	Carbon disulfide	U	5.00	ug/L	1.50	5.00
56-23-5	Carbon tetrachloride	U	1.00	ug/L	0.300	1.00
108-90-7	Chlorobenzene	U	1.00	ug/L	0.300	1.00
75-00-3	Chloroethane	U	1.00	ug/L	0.300	1.00
67-66-3	Chloroform	U	1.00	ug/L	0.300	1.00
74-87-3	Chloromethane	U	1.00	ug/L	0.300	1.00
124-48-1	Dibromochloromethane	U	1.00	ug/L	0.300	1.00
74-95-3	Dibromomethane	U	1.00	ug/L	0.300	1.00
75-71-8	Dichlorodifluoromethane	U	1.00	ug/L	0.300	1.00
60-29-7	Ethyl ether	U	1.00	ug/L	0.300	1.00
97-63-2	Ethyl methacrylate	U	5.00	ug/L	1.50	5.00
100-41-4	Ethylbenzene	U	1.00	ug/L	0.300	1.00
87-68-3	Hexachlorobutadiene	J	0.330	ug/L	0.300	1.00
74-88-4	Iodomethane	U	5.00	ug/L	1.50	5.00
78-83-1	Isobutyl alcohol	U	50.0	ug/L	15.0	50.0
98-82-8	Isopropylbenzene	U	1.00	ug/L	0.300	1.00
126-98-7	Methacrylonitrile	U	5.00	ug/L	1.50	5.00
80-62-6	Methyl methacrylate	U	5.00	ug/L	1.50	5.00
75-09-2	Methylene chloride	U	10.0	ug/L	1.00	10.0
91-20-3	Naphthalene	U	1.00	ug/L	0.300	1.00
107-12-0	Propionitrile	U	5.00	ug/L	1.50	5.00
100-42-5	Styrene	U	1.00	ug/L	0.300	1.00
127-18-4	Tetrachloroethylene	U	1.00	ug/L	0.300	1.00
108-88-3	Toluene	U	1.00	ug/L	0.300	1.00
79-01-6	Trichloroethylene	U	1.00	ug/L	0.300	1.00
75-69-4	Trichlorofluoromethane	U	1.00	ug/L	0.300	1.00
76-13-1	Trichlorotrifluoroethane	U	5.00	ug/L	2.00	5.00
108-05-4	Vinyl acetate	U	5.00	ug/L	1.50	5.00
75-01-4	Vinyl chloride	U	1.00	ug/L	0.300	1.00
156-59-2	cis-1,2-Dichloroethylene	U	1.00	ug/L	0.300	1.00
10061-01-5	cis-1,3-Dichloropropylene	U	1.00	ug/L	0.300	1.00
179601-23-1	m,p-Xylenes	U	2.00	ug/L	0.300	2.00
71-36-3	n-Butyl alcohol	U	50.0	ug/L	15.0	50.0
104-51-8	n-Butylbenzene	U	1.00	ug/L	0.300	1.00
103-65-1	n-Propylbenzene	U	1.00	ug/L	0.300	1.00
95-47-6	o-Xylene	U	1.00	ug/L	0.300	1.00
135-98-8	sec-Butylbenzene	U	1.00	ug/L	0.300	1.00

**Volatile
Certificate of Analysis
Sample Summary**

SDG Number: 2017-1332	Matrix: WATER	
Lab Sample ID: 1203769410		
Client Sample: QC for batch 1656366	Client: ARSL004	Project: QC
Client ID: MB for batch 1656366	Method: SW-846:8260B	SOP Ref: GL-OA-E-038
Batch ID: 1656366	Inst: VOA6.I	Dilution: 1
Run Date: 04/17/2017 12:42	Analyst: JP1	Purge Vol: 5 mL
Prep Date: 04/17/2017 12:42		
Data File: 041717V6\6D106BA.D	Column: DB-624	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
1634-04-4	tert-Butyl methyl ether	U	1.00	ug/L	0.300	1.00
98-06-6	tert-Butylbenzene	U	1.00	ug/L	0.300	1.00
156-60-5	trans-1,2-Dichloroethylene	U	1.00	ug/L	0.300	1.00
10061-02-6	trans-1,3-Dichloropropylene	U	1.00	ug/L	0.300	1.00

Surrogate/Tracer recovery	Result	Nominal	Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	49.2	50.0	ug/L 98	(71%-134%)
Bromofluorobenzene	51.2	50.0	ug/L 102	(70%-131%)
Toluene-d8	50.1	50.0	ug/L 100	(74%-124%)

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
No Tentatively Identified Compounds Found				ug/L		

Volatile
Certificate of Analysis
Sample Summary

SDG Number: 2017-1332

Lab Sample ID: 1203769411

Client Sample: QC for batch 1656366

Client ID: LCS for batch 1656366

Batch ID: 1656366

Run Date: 04/17/2017 11:16

Prep Date: 04/17/2017 11:16

Data File: 041717V6\6D103LA.D

Client: ARSL004

Method: SW-846:8260B

Inst: VOA6.I

Analyst: JP1

Column: DB-624

Matrix: WATER

Project: QC

SOP Ref: GL-OA-E-038

Dilution: 1

Purge Vol: 5 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
630-20-6	1,1,1,2-Tetrachloroethane		52.6	ug/L	0.300	1.00
71-55-6	1,1,1-Trichloroethane		52.2	ug/L	0.300	1.00
79-34-5	1,1,2,2-Tetrachloroethane		43.9	ug/L	0.300	1.00
79-00-5	1,1,2-Trichloroethane		46.2	ug/L	0.300	1.00
75-34-3	1,1-Dichloroethane		49.1	ug/L	0.300	1.00
75-35-4	1,1-Dichloroethylene		46.3	ug/L	0.300	1.00
563-58-6	1,1-Dichloropropene		52.5	ug/L	0.300	1.00
87-61-6	1,2,3-Trichlorobenzene		51.5	ug/L	0.300	1.00
96-18-4	1,2,3-Trichloropropane		46.8	ug/L	0.300	1.00
120-82-1	1,2,4-Trichlorobenzene		52.0	ug/L	0.300	1.00
95-63-6	1,2,4-Trimethylbenzene		48.2	ug/L	0.300	1.00
96-12-8	1,2-Dibromo-3-chloropropane		45.5	ug/L	0.500	1.00
106-93-4	1,2-Dibromoethane		49.6	ug/L	0.300	1.00
95-50-1	1,2-Dichlorobenzene		49.6	ug/L	0.300	1.00
107-06-2	1,2-Dichloroethane		47.6	ug/L	0.300	1.00
78-87-5	1,2-Dichloropropane		50.1	ug/L	0.300	1.00
108-67-8	1,3,5-Trimethylbenzene		48.6	ug/L	0.300	1.00
541-73-1	1,3-Dichlorobenzene		50.2	ug/L	0.300	1.00
142-28-9	1,3-Dichloropropane		46.6	ug/L	0.300	1.00
106-46-7	1,4-Dichlorobenzene		49.5	ug/L	0.300	1.00
594-20-7	2,2-Dichloropropane		52.1	ug/L	0.300	1.00
78-93-3	2-Butanone		222	ug/L	1.50	5.00
126-99-8	2-Chloro-1,3-butadiene	U	1.00	ug/L	0.300	1.00
95-49-8	2-Chlorotoluene		50.5	ug/L	0.300	1.00
591-78-6	2-Hexanone		219	ug/L	1.50	5.00
106-43-4	4-Chlorotoluene		46.0	ug/L	0.300	1.00
99-87-6	4-Isopropyltoluene		50.1	ug/L	0.300	1.00
108-10-1	4-Methyl-2-pentanone		215	ug/L	1.50	5.00
67-64-1	Acetone		219	ug/L	1.50	10.0
75-05-8	Acetonitrile		1100	ug/L	8.00	25.0
107-02-8	Acrolein	U	5.00	ug/L	1.50	5.00
107-13-1	Acrylonitrile	U	5.00	ug/L	1.50	5.00
107-05-1	Allyl chloride	U	5.00	ug/L	1.50	5.00
71-43-2	Benzene		51.8	ug/L	0.300	1.00
108-86-1	Bromobenzene		49.3	ug/L	0.300	1.00
74-97-5	Bromochloromethane		55.6	ug/L	0.300	1.00
75-27-4	Bromodichloromethane		52.0	ug/L	0.300	1.00
75-25-2	Bromoform		50.5	ug/L	0.300	1.00

Volatile
Certificate of Analysis
Sample Summary

SDG Number: 2017-1332

Lab Sample ID: 1203769411

Client Sample: QC for batch 1656366

Client ID: LCS for batch 1656366

Batch ID: 1656366

Run Date: 04/17/2017 11:16

Prep Date: 04/17/2017 11:16

Data File: 041717V6\6D103LA.D

Client: ARSL004

Method: SW-846:8260B

Inst: VOA6.I

Analyst: JP1

Column: DB-624

Matrix: WATER

Project: QC

SOP Ref: GL-OA-E-038

Dilution: 1

Purge Vol: 5 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
74-83-9	Bromomethane		55.3	ug/L	0.300	1.00
75-15-0	Carbon disulfide		267	ug/L	1.50	5.00
56-23-5	Carbon tetrachloride		57.2	ug/L	0.300	1.00
108-90-7	Chlorobenzene		49.9	ug/L	0.300	1.00
75-00-3	Chloroethane		53.8	ug/L	0.300	1.00
67-66-3	Chloroform		51.2	ug/L	0.300	1.00
74-87-3	Chloromethane		49.7	ug/L	0.300	1.00
124-48-1	Dibromochloromethane		51.4	ug/L	0.300	1.00
74-95-3	Dibromomethane		52.4	ug/L	0.300	1.00
75-71-8	Dichlorodifluoromethane		51.4	ug/L	0.300	1.00
60-29-7	Ethyl ether		45.7	ug/L	0.300	1.00
97-63-2	Ethyl methacrylate	U	5.00	ug/L	1.50	5.00
100-41-4	Ethylbenzene		49.8	ug/L	0.300	1.00
87-68-3	Hexachlorobutadiene	B	52.5	ug/L	0.300	1.00
74-88-4	Iodomethane		282	ug/L	1.50	5.00
78-83-1	Isobutyl alcohol	U	50.0	ug/L	15.0	50.0
98-82-8	Isopropylbenzene		48.6	ug/L	0.300	1.00
126-98-7	Methacrylonitrile	U	5.00	ug/L	1.50	5.00
80-62-6	Methyl methacrylate	U	5.00	ug/L	1.50	5.00
75-09-2	Methylene chloride		49.8	ug/L	1.00	10.0
91-20-3	Naphthalene		47.8	ug/L	0.300	1.00
107-12-0	Propionitrile	U	5.00	ug/L	1.50	5.00
100-42-5	Styrene		50.0	ug/L	0.300	1.00
127-18-4	Tetrachloroethylene		56.3	ug/L	0.300	1.00
108-88-3	Toluene		48.4	ug/L	0.300	1.00
79-01-6	Trichloroethylene		55.9	ug/L	0.300	1.00
75-69-4	Trichlorofluoromethane		57.3	ug/L	0.300	1.00
76-13-1	Trichlorotrifluoroethane	U	5.00	ug/L	2.00	5.00
108-05-4	Vinyl acetate		228	ug/L	1.50	5.00
75-01-4	Vinyl chloride		54.1	ug/L	0.300	1.00
156-59-2	cis-1,2-Dichloroethylene		48.8	ug/L	0.300	1.00
10061-01-5	cis-1,3-Dichloropropylene		51.6	ug/L	0.300	1.00
179601-23-1	m,p-Xylenes		103	ug/L	0.300	2.00
71-36-3	n-Butyl alcohol		5290	ug/L	15.0	50.0
104-51-8	n-Butylbenzene		48.2	ug/L	0.300	1.00
103-65-1	n-Propylbenzene		46.4	ug/L	0.300	1.00
95-47-6	o-Xylene		48.3	ug/L	0.300	1.00
135-98-8	sec-Butylbenzene		49.6	ug/L	0.300	1.00

**Volatile
Certificate of Analysis
Sample Summary**

Page 3 of 3

SDG Number:	2017-1332	Matrix:	WATER
Lab Sample ID:	1203769411		
Client Sample:	QC for batch 1656366	Client:	ARSL004
Client ID:	LCS for batch 1656366	Method:	SW-846:8260B
Batch ID:	1656366	Inst:	VOA6.I
Run Date:	04/17/2017 11:16	Analyst:	JP1
Prep Date:	04/17/2017 11:16	Purge Vol:	5 mL
Data File:	041717V6\6D103LA.D	Column:	DB-624

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
1634-04-4	tert-Butyl methyl ether		50.2	ug/L	0.300	1.00
98-06-6	tert-Butylbenzene		51.8	ug/L	0.300	1.00
156-60-5	trans-1,2-Dichloroethylene		49.5	ug/L	0.300	1.00
10061-02-6	trans-1,3-Dichloropropylene		47.0	ug/L	0.300	1.00

Surrogate/Tracer recovery	Result	Nominal	Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	48.3	50.0	97	(71%-134%)
Bromofluorobenzene	49.2	50.0	98	(70%-131%)
Toluene-d8	49.6	50.0	99	(74%-124%)

Volatile
Certificate of Analysis
Sample Summary

SDG Number: 2017-1332

Matrix: WATER

Lab Sample ID: 1203769412

Client Sample: QC for batch 1656366

Client: ARSL004

Project: QC

Client ID: LCS for batch 1656366

Method: SW-846:8260B

SOP Ref: GL-OA-E-038

Batch ID: 1656366

Inst: VOA6.I

Dilution: 1

Run Date: 04/17/2017 12:13

Analyst: JP1

Purge Vol: 5 mL

Prep Date: 04/17/2017 12:13

Data File: 041717V6\6D105LA.D

Column: DB-624

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
630-20-6	1,1,1,2-Tetrachloroethane	U	1.00	ug/L	0.300	1.00
71-55-6	1,1,1-Trichloroethane	U	1.00	ug/L	0.300	1.00
79-34-5	1,1,2,2-Tetrachloroethane	U	1.00	ug/L	0.300	1.00
79-00-5	1,1,2-Trichloroethane	U	1.00	ug/L	0.300	1.00
75-34-3	1,1-Dichloroethane	U	1.00	ug/L	0.300	1.00
75-35-4	1,1-Dichloroethylene	U	1.00	ug/L	0.300	1.00
563-58-6	1,1-Dichloropropene	U	1.00	ug/L	0.300	1.00
87-61-6	1,2,3-Trichlorobenzene	U	1.00	ug/L	0.300	1.00
96-18-4	1,2,3-Trichloropropane	U	1.00	ug/L	0.300	1.00
120-82-1	1,2,4-Trichlorobenzene	U	1.00	ug/L	0.300	1.00
95-63-6	1,2,4-Trimethylbenzene	U	1.00	ug/L	0.300	1.00
96-12-8	1,2-Dibromo-3-chloropropane	U	1.00	ug/L	0.500	1.00
106-93-4	1,2-Dibromoethane	U	1.00	ug/L	0.300	1.00
95-50-1	1,2-Dichlorobenzene	U	1.00	ug/L	0.300	1.00
107-06-2	1,2-Dichloroethane	U	1.00	ug/L	0.300	1.00
78-87-5	1,2-Dichloropropane	U	1.00	ug/L	0.300	1.00
108-67-8	1,3,5-Trimethylbenzene	U	1.00	ug/L	0.300	1.00
541-73-1	1,3-Dichlorobenzene	U	1.00	ug/L	0.300	1.00
142-28-9	1,3-Dichloropropane	U	1.00	ug/L	0.300	1.00
106-46-7	1,4-Dichlorobenzene	U	1.00	ug/L	0.300	1.00
594-20-7	2,2-Dichloropropane	U	1.00	ug/L	0.300	1.00
78-93-3	2-Butanone	U	5.00	ug/L	1.50	5.00
126-99-8	2-Chloro-1,3-butadiene		44.5	ug/L	0.300	1.00
95-49-8	2-Chlorotoluene	U	1.00	ug/L	0.300	1.00
591-78-6	2-Hexanone	U	5.00	ug/L	1.50	5.00
106-43-4	4-Chlorotoluene	U	1.00	ug/L	0.300	1.00
99-87-6	4-Isopropyltoluene	U	1.00	ug/L	0.300	1.00
108-10-1	4-Methyl-2-pentanone	U	5.00	ug/L	1.50	5.00
67-64-1	Acetone	U	10.0	ug/L	1.50	10.0
75-05-8	Acetonitrile	U	25.0	ug/L	8.00	25.0
107-02-8	Acrolein		250	ug/L	1.50	5.00
107-13-1	Acrylonitrile		227	ug/L	1.50	5.00
107-05-1	Allyl chloride		224	ug/L	1.50	5.00
71-43-2	Benzene	U	1.00	ug/L	0.300	1.00
108-86-1	Bromobenzene	U	1.00	ug/L	0.300	1.00
74-97-5	Bromochloromethane	U	1.00	ug/L	0.300	1.00
75-27-4	Bromodichloromethane	U	1.00	ug/L	0.300	1.00
75-25-2	Bromoform	U	1.00	ug/L	0.300	1.00

Volatile
Certificate of Analysis
Sample Summary

SDG Number: 2017-1332		Matrix:	WATER
Lab Sample ID: 1203769412			
Client Sample: QC for batch 1656366	Client: ARSL004	Project:	QC
Client ID: LCS for batch 1656366	Method: SW-846:8260B	SOP Ref:	GL-OA-E-038
Batch ID: 1656366	Inst: VOA6.I	Dilution:	1
Run Date: 04/17/2017 12:13	Analyst: JP1	Purge Vol:	5 mL
Prep Date: 04/17/2017 12:13			
Data File: 041717V6\6D105LA.D	Column: DB-624		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
74-83-9	Bromomethane	U	1.00	ug/L	0.300	1.00
75-15-0	Carbon disulfide	U	5.00	ug/L	1.50	5.00
56-23-5	Carbon tetrachloride	U	1.00	ug/L	0.300	1.00
108-90-7	Chlorobenzene	U	1.00	ug/L	0.300	1.00
75-00-3	Chloroethane	U	1.00	ug/L	0.300	1.00
67-66-3	Chloroform	U	1.00	ug/L	0.300	1.00
74-87-3	Chloromethane	U	1.00	ug/L	0.300	1.00
124-48-1	Dibromochloromethane	U	1.00	ug/L	0.300	1.00
74-95-3	Dibromomethane	U	1.00	ug/L	0.300	1.00
75-71-8	Dichlorodifluoromethane	U	1.00	ug/L	0.300	1.00
60-29-7	Ethyl ether	U	1.00	ug/L	0.300	1.00
97-63-2	Ethyl methacrylate		218	ug/L	1.50	5.00
100-41-4	Ethylbenzene	U	1.00	ug/L	0.300	1.00
87-68-3	Hexachlorobutadiene	U	1.00	ug/L	0.300	1.00
74-88-4	Iodomethane	U	5.00	ug/L	1.50	5.00
78-83-1	Isobutyl alcohol		2270	ug/L	15.0	50.0
98-82-8	Isopropylbenzene	U	1.00	ug/L	0.300	1.00
126-98-7	Methacrylonitrile		219	ug/L	1.50	5.00
80-62-6	Methyl methacrylate		241	ug/L	1.50	5.00
75-09-2	Methylene chloride	U	10.0	ug/L	1.00	10.0
91-20-3	Naphthalene	U	1.00	ug/L	0.300	1.00
107-12-0	Propionitrile		223	ug/L	1.50	5.00
100-42-5	Styrene	U	1.00	ug/L	0.300	1.00
127-18-4	Tetrachloroethylene	U	1.00	ug/L	0.300	1.00
108-88-3	Toluene	U	1.00	ug/L	0.300	1.00
79-01-6	Trichloroethylene	U	1.00	ug/L	0.300	1.00
75-69-4	Trichlorofluoromethane	U	1.00	ug/L	0.300	1.00
76-13-1	Trichlorotrifluoroethane		272	ug/L	2.00	5.00
108-05-4	Vinyl acetate	U	5.00	ug/L	1.50	5.00
75-01-4	Vinyl chloride	U	1.00	ug/L	0.300	1.00
156-59-2	cis-1,2-Dichloroethylene	U	1.00	ug/L	0.300	1.00
10061-01-5	cis-1,3-Dichloropropylene	U	1.00	ug/L	0.300	1.00
179601-23-1	m,p-Xylenes	U	2.00	ug/L	0.300	2.00
71-36-3	n-Butyl alcohol	U	50.0	ug/L	15.0	50.0
104-51-8	n-Butylbenzene	U	1.00	ug/L	0.300	1.00
103-65-1	n-Propylbenzene	U	1.00	ug/L	0.300	1.00
95-47-6	o-Xylene	U	1.00	ug/L	0.300	1.00
135-98-8	sec-Butylbenzene	U	1.00	ug/L	0.300	1.00

**Volatile
Certificate of Analysis
Sample Summary**

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SDG Number:	2017-1332	Matrix:	WATER
Lab Sample ID:	1203769412		
Client Sample:	QC for batch 1656366	Client:	ARSL004
Client ID:	LCS for batch 1656366	Method:	SW-846:8260B
Batch ID:	1656366	Inst:	VOA6.I
Run Date:	04/17/2017 12:13	Analyst:	JP1
Prep Date:	04/17/2017 12:13	Purge Vol:	5 mL
Data File:	041717V6\6D105LA.D	Column:	DB-624

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
1634-04-4	tert-Butyl methyl ether	U	1.00	ug/L	0.300	1.00
98-06-6	tert-Butylbenzene	U	1.00	ug/L	0.300	1.00
156-60-5	trans-1,2-Dichloroethylene	U	1.00	ug/L	0.300	1.00
10061-02-6	trans-1,3-Dichloropropylene	U	1.00	ug/L	0.300	1.00

Surrogate/Tracer recovery	Result	Nominal	Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	46.8	50.0	94	(71%-134%)
Bromofluorobenzene	49.4	50.0	99	(70%-131%)
Toluene-d8	48.5	50.0	97	(74%-124%)