Data Qualifier Summary

Lab Reporting Batch ID: 12D106

Laboratory: EMXT

EDD Filename: 12D106R

eQAPP Name: CDM_SSFL_120730_EMAX

Reason Code Legend

Reason Code	*Description*
Q	Matrix Spike Lower Estimation
Q	Matrix Spike Upper Estimation
Z	Reporting Limit Trace Value

* denotes a non-reportable result

Project Name and Number: 1203-004-010-AL - SSFL AREA IV COLLOCATED SAMPLING

Enclosure I

Level III ADR Outliers
(including Manual Review Outliers)

Quality Control
Outlier Reports

12D106

Reporting Limit Outliers

Lab Reporting Batch ID: 12D106 **Laboratory: EMXT**

EDD Filename: 12D106R **eQAPP Name: CDM_SSFL_120730_EMAX**

Method: 300.0
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-004-NBZ-SS-0.0-0.5	FLUORIDE	J	0.650	1.23	PQL	MG/KG	J (all detects)

Method: 6020
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-004-NBZ-SS-0.0-0.5	ANTIMONY	J	0.174	0.241	PQL	MG/KG	J (all detects)
SL-145-NBZ-SS-0.0-0.5	BORON	J	4.24	6.28	PQL	MG/KG	J (all detects)
	SELENIUM	J	0.365	0.503	PQL	MG/KG	
	SILVER	J	0.0947	0.126	PQL	MG/KG	
SL-148-NBZ-SS-0.0-0.5	BORON	J	3.35	6.08	PQL	MG/KG	J (all detects)
	SELENIUM	J	0.350	0.487	PQL	MG/KG	
	SILVER	J	0.0914	0.122	PQL	MG/KG	
	SODIUM	J	77.4	122	PQL	MG/KG	
SL-154-NBZ-SS-0.0-0.5	ANTIMONY	J	0.215	0.256	PQL	MG/KG	J (all detects)
	SODIUM	J	67.2	128	PQL	MG/KG	
SL-163-NBZ-SS-0.0-0.5	SELENIUM	J	0.319	0.468	PQL	MG/KG	J (all detects)
	SILVER	J	0.0936	0.117	PQL	MG/KG	
	SODIUM	J	96.2	117	PQL	MG/KG	
SL-176-NBZ-SS-0.0-0.5	ANTIMONY	J	0.229	0.233	PQL	MG/KG	J (all detects)
	SELENIUM	J	0.256	0.466	PQL	MG/KG	
	SODIUM	J	103	117	PQL	MG/KG	
	Zirconium	J	4.00	5.83	PQL	MG/KG	
SL-182-NBZ-SS-0.0-0.5	ANTIMONY	J	0.201	0.225	PQL	MG/KG	J (all detects)
	SELENIUM	J	0.231	0.451	PQL	MG/KG	

Method: 8015B EFH
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-004-NBZ-SS-0.0-0.5	EFH(C8-C11)	J	0.69	1.2	PQL	MG/KG	J (all detects)

Method: 8081A
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-004-NBZ-SS-0.0-0.5	4,4'-DDE	J	0.37	0.42	PQL	UG/KG	J (all detects)
	4,4'-DDT	J	0.36	0.42	PQL	UG/KG	
SL-168-NBZ-SS-0.0-0.5	4,4'-DDT	J	0.21	0.38	PQL	UG/KG	J (all detects)
SL-182-NBZ-SS-0.0-0.5	4,4'-DDE	J	0.31	0.40	PQL	UG/KG	J (all detects)

Project Name and Number: 1203-004-010-AL - SSFL AREA IV COLLOCATED SAMPLING

Reporting Limit Outliers

Lab Reporting Batch ID: 12D106 **Laboratory: EMXT**

EDD Filename: 12D106R **eQAPP Name: CDM_SSFL_120730_EMAX**

Method: **8270C SIM**

Matrix: **SO**

SampleID	*Analyte*	*Lab Qual*	*Result*	*Reporting Limit*	*RL Type*	*Units*	*Flag*
SL-004-NBZ-SS-0.0-0.5	BENZO(B)FLUORANTHENE	J	1.1	2.1	PQL	UG/KG	J (all detects)
	BIS(2-ETHYLHEXYL)PHTHALATE	J	13	20	PQL	UG/KG	
SL-145-NBZ-SS-0.0-0.5	BENZO(A)ANTHRACENE	J	2.0	2.2	PQL	UG/KG	J (all detects)
	BENZO(A)PYRENE	J	1.6	2.2	PQL	UG/KG	
	BENZO(G,H,I)PERYLENE	J	1.7	2.2	PQL	UG/KG	
	FLUORANTHENE	J	2.0	2.2	PQL	UG/KG	
	INDENO(1,2,3-CD)PYRENE	J	1.2	2.2	PQL	UG/KG	
	PYRENE	J	2.0	2.2	PQL	UG/KG	
SL-148-NBZ-SS-0.0-0.5	BENZO(B)FLUORANTHENE	J	1.4	2.1	PQL	UG/KG	J (all detects)
	BENZO(G,H,I)PERYLENE	J	1.2	2.1	PQL	UG/KG	
	FLUORANTHENE	J	1.4	2.1	PQL	UG/KG	
	PHENANTHRENE	J	1.2	2.1	PQL	UG/KG	
	PYRENE	J	1.5	2.1	PQL	UG/KG	
SL-154-NBZ-SS-0.0-0.5	BENZO(B)FLUORANTHENE	J	2.1	2.3	PQL	UG/KG	J (all detects)
	BENZO(G,H,I)PERYLENE	J	1.4	2.3	PQL	UG/KG	
	CHRYSENE	J	1.4	2.3	PQL	UG/KG	
	FLUORANTHENE	J	2.2	2.3	PQL	UG/KG	
	PHENANTHRENE	J	1.2	2.3	PQL	UG/KG	
	PYRENE	J	1.9	2.3	PQL	UG/KG	
SL-168-NBZ-SS-0.0-0.5	BENZO(B)FLUORANTHENE	J	1.0	1.9	PQL	UG/KG	J (all detects)
	BIS(2-ETHYLHEXYL)PHTHALATE	J	16	19	PQL	UG/KG	
SL-176-NBZ-SS-0.0-0.5	BIS(2-ETHYLHEXYL)PHTHALATE	J	14	20	PQL	UG/KG	J (all detects)
SL-182-NBZ-SS-0.0-0.5	BIS(2-ETHYLHEXYL)PHTHALATE	J	18	19	PQL	UG/KG	J (all detects)

LDC #: 28255T4
SDG #: 12D106
Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

ADR

Date: 8/29/12
Page: 1 of 1
Reviewer: CR
2nd Reviewer: [illegible]

METHOD: Metals (EPA SW 846 Method ~~6010B~~/6020A/~~7000~~ 7471A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	—	Sampling dates: 4/11/12
II.	ICP/MS Tune	—	
III.	Calibration	—	
IV.	Blanks	A	
V.	ICP Interference Check Sample (ICS) Analysis	—	
VI.	Matrix Spike Analysis	N	MS/D (from 12D135)
VII.	Duplicate Sample Analysis	N	
VIII.	Laboratory Control Samples (LCS)	N	LCS/D
IX.	Internal Standard (ICP-MS)	N	
X.	Furnace Atomic Absorption QC	N	
XI.	ICP Serial Dilution	A	
XII.	Sample Result Verification	N	
XIII.	Overall Assessment of Data	N	
XIV.	Field Duplicates	—	
XV	Field Blanks	—	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: Sed

1	SL-004-NBZ-SS-0.0-0.5	11		21		31	
2	SL-145-NBZ-SS-0.0-0.5	12		22		32	
3	SL-148-NBZ-SS-0.0-0.5	13		23		33	
4	SL-154-NBZ-SS-0.0-0.5	14		24		34	
5	SL-163-NBZ-SS-0.0-0.5	15		25		35	
6	SL-168-NBZ-SS-0.0-0.5	16		26		36	
7	SL-176-NBZ-SS-0.0-0.5	17		27		37	
8	SL-182-NBZ-SS-0.0-0.5	18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

SAMPLE DELIVERY GROUP

12D122

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
12-Apr-2012	SL-144-NBZ-SS-0.0-0.5	D122-02	N	3550B	8081A	III
12-Apr-2012	SL-144-NBZ-SS-0.0-0.5	D122-02	N	3550B	8082	III
12-Apr-2012	SL-144-NBZ-SS-0.0-0.5	D122-02	N	3550B	8270C	III
12-Apr-2012	SL-144-NBZ-SS-0.0-0.5	D122-02	N	3550B	8270C SIM	III
12-Apr-2012	SL-144-NBZ-SS-0.0-0.5	D122-02	N	7471A	7471A	III
12-Apr-2012	SL-144-NBZ-SS-0.0-0.5	D122-02	N	GEN PREP	300.0	III
12-Apr-2012	SL-144-NBZ-SS-0.0-0.5	D122-02	N	GEN PREP	314.0	III
12-Apr-2012	SL-144-NBZ-SS-0.0-0.5	D122-02	N	GEN PREP	6850	III
12-Apr-2012	SL-144-NBZ-SS-0.0-0.5	D122-02	N	GEN PREP	7199	III
12-Apr-2012	SL-144-NBZ-SS-0.0-0.5	D122-02	N	GEN PREP	8151A	III
12-Apr-2012	SL-144-NBZ-SS-0.0-0.5	D122-02R	N	GEN PREP	7199	III
12-Apr-2012	SL-144-NBZ-SS-0.0-0.5	D122-02W	N	GEN PREP	6020	III
12-Apr-2012	SL-152-NBZ-SS-0.0-0.5	D122-03	N	3550B	8081A	III
12-Apr-2012	SL-152-NBZ-SS-0.0-0.5	D122-03	N	3550B	8082	III
12-Apr-2012	SL-152-NBZ-SS-0.0-0.5	D122-03	N	3550B	8270C	III
12-Apr-2012	SL-152-NBZ-SS-0.0-0.5	D122-03	N	3550B	8270C SIM	III
12-Apr-2012	SL-152-NBZ-SS-0.0-0.5	D122-03	N	7471A	7471A	III
12-Apr-2012	SL-152-NBZ-SS-0.0-0.5	D122-03	N	GEN PREP	300.0	III
12-Apr-2012	SL-152-NBZ-SS-0.0-0.5	D122-03	N	GEN PREP	314.0	III
12-Apr-2012	SL-152-NBZ-SS-0.0-0.5	D122-03	N	GEN PREP	6850	III
12-Apr-2012	SL-152-NBZ-SS-0.0-0.5	D122-03	N	GEN PREP	7199	III
12-Apr-2012	SL-152-NBZ-SS-0.0-0.5	D122-03	N	GEN PREP	8151A	III
12-Apr-2012	SL-152-NBZ-SS-0.0-0.5	D122-03R	N	GEN PREP	7199	III
12-Apr-2012	SL-152-NBZ-SS-0.0-0.5	D122-03W	N	GEN PREP	6020	III
12-Apr-2012	SL-011-NBZ-SS-0.0-0.5	D122-01	N	3550B	8015B EFH	III
12-Apr-2012	SL-011-NBZ-SS-0.0-0.5	D122-01	N	3550B	8081A	III

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
12-Apr-2012	SL-011-NBZ-SS-0.0-0.5	D122-01	N	3550B	8082	III
12-Apr-2012	SL-011-NBZ-SS-0.0-0.5	D122-01	N	3550B	8270C	III
12-Apr-2012	SL-011-NBZ-SS-0.0-0.5	D122-01	N	3550B	8270C SIM	III
12-Apr-2012	SL-011-NBZ-SS-0.0-0.5	D122-01	N	7471A	7471A	III
12-Apr-2012	SL-011-NBZ-SS-0.0-0.5	D122-01	N	GEN PREP	300.0	III
12-Apr-2012	SL-011-NBZ-SS-0.0-0.5	D122-01	N	GEN PREP	314.0	III
12-Apr-2012	SL-011-NBZ-SS-0.0-0.5	D122-01	N	GEN PREP	6850	III
12-Apr-2012	SL-011-NBZ-SS-0.0-0.5	D122-01	N	GEN PREP	7199	III
12-Apr-2012	SL-011-NBZ-SS-0.0-0.5	D122-01	N	GEN PREP	8151A	III
12-Apr-2012	SL-011-NBZ-SS-0.0-0.5	D122-01	N	GEN PREP	8330A	III
12-Apr-2012	SL-011-NBZ-SS-0.0-0.5	D122-01	N	GEN PREP	8332	III
12-Apr-2012	SL-011-NBZ-SS-0.0-0.5	D122-01	N	GEN PREP	9014	III
12-Apr-2012	SL-011-NBZ-SS-0.0-0.5MS	D122-01M	MS	3550B	8081A	III
12-Apr-2012	SL-011-NBZ-SS-0.0-0.5MS	D122-01M	MS	GEN PREP	300.0	III
12-Apr-2012	SL-011-NBZ-SS-0.0-0.5MS	D122-01M	MS	GEN PREP	314.0	III
12-Apr-2012	SL-011-NBZ-SS-0.0-0.5	D122-01R	N	GEN PREP	7199	III
12-Apr-2012	SL-011-NBZ-SS-0.0-0.5MSD	D122-01S	MSD	3550B	8081A	III
12-Apr-2012	SL-011-NBZ-SS-0.0-0.5MSD	D122-01S	MSD	GEN PREP	300.0	III
12-Apr-2012	SL-011-NBZ-SS-0.0-0.5MSD	D122-01S	MSD	GEN PREP	314.0	III
12-Apr-2012	SL-011-NBZ-SS-0.0-0.5	D122-01W	N	GEN PREP	6020	III
12-Apr-2012	SL-172-NBZ-SS-0.0-0.5	D122-05	N	3550B	8081A	III
12-Apr-2012	SL-172-NBZ-SS-0.0-0.5	D122-05	N	3550B	8082	III
12-Apr-2012	SL-172-NBZ-SS-0.0-0.5	D122-05	N	3550B	8270C	III
12-Apr-2012	SL-172-NBZ-SS-0.0-0.5	D122-05	N	3550B	8270C SIM	III
12-Apr-2012	SL-172-NBZ-SS-0.0-0.5	D122-05	N	7471A	7471A	III
12-Apr-2012	SL-172-NBZ-SS-0.0-0.5	D122-05	N	GEN PREP	300.0	III

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
12-Apr-2012	SL-172-NBZ-SS-0.0-0.5	D122-05	N	GEN PREP	314.0	III
12-Apr-2012	SL-172-NBZ-SS-0.0-0.5	D122-05	N	GEN PREP	6850	III
12-Apr-2012	SL-172-NBZ-SS-0.0-0.5	D122-05	N	GEN PREP	7199	III
12-Apr-2012	SL-172-NBZ-SS-0.0-0.5	D122-05	N	GEN PREP	8151A	III
12-Apr-2012	SL-172-NBZ-SS-0.0-0.5	D122-05R	N	GEN PREP	7199	III
12-Apr-2012	SL-172-NBZ-SS-0.0-0.5	D122-05W	N	GEN PREP	6020	III
12-Apr-2012	EB-NBZ-SS-041212	D122-06	EB	3520C	8015B EFH	III
12-Apr-2012	EB-NBZ-SS-041212	D122-06	EB	3520C	8081A	III
12-Apr-2012	EB-NBZ-SS-041212	D122-06	EB	3520C	8082	III
12-Apr-2012	EB-NBZ-SS-041212	D122-06	EB	3520C	8270C	III
12-Apr-2012	EB-NBZ-SS-041212	D122-06	EB	7470A	7470A	III
12-Apr-2012	EB-NBZ-SS-041212	D122-06	EB	GEN PREP	300.0	III
12-Apr-2012	EB-NBZ-SS-041212	D122-06	EB	GEN PREP	314.0	III
12-Apr-2012	EB-NBZ-SS-041212	D122-06	EB	GEN PREP	6020	III
12-Apr-2012	EB-NBZ-SS-041212	D122-06	EB	GEN PREP	7199	III
12-Apr-2012	EB-NBZ-SS-041212	D122-06	EB	GEN PREP	8015B	III
12-Apr-2012	EB-NBZ-SS-041212	D122-06	EB	GEN PREP	8015M	III
12-Apr-2012	EB-NBZ-SS-041212	D122-06	EB	GEN PREP	8151A	III
12-Apr-2012	EB-NBZ-SS-041212	D122-06	EB	GEN PREP	8330A	III
12-Apr-2012	EB-NBZ-SS-041212	D122-06	EB	GEN PREP	8332	III
12-Apr-2012	EB-NBZ-SS-041212	D122-06	EB	GEN PREP	9014	III
12-Apr-2012	EB-NBZ-SS-041212	D122-06R	EB	GEN PREP	7199	III
12-Apr-2012	SL-158-NBZ-SS-0.0-0.5	D122-04	N	3550B	8081A	III
12-Apr-2012	SL-158-NBZ-SS-0.0-0.5	D122-04	N	3550B	8082	III
12-Apr-2012	SL-158-NBZ-SS-0.0-0.5	D122-04	N	3550B	8270C	III
12-Apr-2012	SL-158-NBZ-SS-0.0-0.5	D122-04	N	3550B	8270C SIM	III

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
12-Apr-2012	SL-158-NBZ-SS-0.0-0.5	D122-04	N	7471A	7471A	III
12-Apr-2012	SL-158-NBZ-SS-0.0-0.5	D122-04	N	GEN PREP	300.0	III
12-Apr-2012	SL-158-NBZ-SS-0.0-0.5	D122-04	N	GEN PREP	314.0	III
12-Apr-2012	SL-158-NBZ-SS-0.0-0.5	D122-04	N	GEN PREP	6850	III
12-Apr-2012	SL-158-NBZ-SS-0.0-0.5	D122-04	N	GEN PREP	7199	III
12-Apr-2012	SL-158-NBZ-SS-0.0-0.5	D122-04	N	GEN PREP	8151A	III
12-Apr-2012	SL-158-NBZ-SS-0.0-0.5	D122-04R	N	GEN PREP	7199	III
12-Apr-2012	SL-158-NBZ-SS-0.0-0.5	D122-04W	N	GEN PREP	6020	III

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Attachment II

Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: 12D122 **Laboratory: EMXT**

EDD Filename: Prep12D122R **eQAPP Name: CDM_SSFL_120730_EMAX**

Method Category: GENCHEM

Method: 300.0 **Matrix: SO**

Sample ID: SL-158-NBZ-SS-0.0-0.5 *Collected:* 4/12/2012 3:04:00 *Analysis Type:* RES *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
FLUORIDE	0.652	J	0.576	MDL	1.15	PQL	MG/KG	J	Z

Method Category: METALS

Method: 6020 **Matrix: AQ**

Sample ID: EB-NBZ-SS-041212 *Collected:* 4/12/2012 3:00:00 *Analysis Type:* RES/TOT *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CALCIUM	0.0608	J	0.0250	MDL	0.100	PQL	MG/L	J	Z
NICKEL	0.000205	J	0.000200	MDL	0.00100	PQL	MG/L	J	Z

Method Category: METALS

Method: 6020 **Matrix: SO**

Sample ID: SL-011-NBZ-SS-0.0-0.5 *Collected:* 4/12/2012 11:12:00 *Analysis Type:* RES/TOT *Dilution:* 0.962

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	0.140	J	0.109	MDL	0.219	PQL	MG/KG	J	Z
BARIUM	69.4		0.219	MDL	0.438	PQL	MG/KG	J	Q
Zirconium	5.47	U	2.74	MDL	5.47	PQL	MG/KG	UJ	Q

Sample ID: SL-144-NBZ-SS-0.0-0.5 *Collected:* 4/12/2012 9:22:00 *Analysis Type:* RES/TOT *Dilution:* 0.995

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BARIUM	106		0.229	MDL	0.459	PQL	MG/KG	J	Q
SODIUM	71.0	J	57.3	MDL	115	PQL	MG/KG	J	Z
Zirconium	5.73	U	2.87	MDL	5.73	PQL	MG/KG	UJ	Q

Sample ID: SL-152-NBZ-SS-0.0-0.5 *Collected:* 4/12/2012 9:55:00 *Analysis Type:* RES/TOT *Dilution:* 0.985

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BARIUM	68.6		0.234	MDL	0.468	PQL	MG/KG	J	Q

* denotes a non-reportable result

Project Name and Number: 1203-004-010-AL - SSFL AREA IV COLLOCATED SAMPLING

Data Qualifier Summary

Lab Reporting Batch ID: 12D122 **Laboratory: EMXT**

EDD Filename: Prep12D122R **eQAPP Name: CDM_SSFL_120730_EMAX**

Method Category: METALS

Method: 6020 **Matrix: SO**

Sample ID: SL-152-NBZ-SS-0.0-0.5 *Collected:* 4/12/2012 9:55:00 *Analysis Type:* RES/TOT *Dilution:* 0.985

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SELENIUM	0.240	J	0.234	MDL	0.468	PQL	MG/KG	J	Z
Zirconium	5.85	U	2.92	MDL	5.85	PQL	MG/KG	UJ	Q

Sample ID: SL-158-NBZ-SS-0.0-0.5 *Collected:* 4/12/2012 3:04:00 *Analysis Type:* RES/TOT *Dilution:* 0.990

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	0.176	J	0.114	MDL	0.228	PQL	MG/KG	J	Z
BARIUM	87.7		0.228	MDL	0.456	PQL	MG/KG	J	Q
SELENIUM	0.408	J	0.228	MDL	0.456	PQL	MG/KG	J	Z
SODIUM	69.9	J	57.0	MDL	114	PQL	MG/KG	J	Z
Zirconium	5.70	U	2.85	MDL	5.70	PQL	MG/KG	UJ	Q

Sample ID: SL-172-NBZ-SS-0.0-0.5 *Collected:* 4/12/2012 2:35:00 *Analysis Type:* RES/TOT *Dilution:* 0.990

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	0.140	J	0.111	MDL	0.222	PQL	MG/KG	J	Z
BARIUM	71.4		0.222	MDL	0.444	PQL	MG/KG	J	Q
Zirconium	5.55	U	2.77	MDL	5.55	PQL	MG/KG	UJ	Q

Method Category: SVOA

Method: 8015B EFH **Matrix: SO**

Sample ID: SL-011-NBZ-SS-0.0-0.5 *Collected:* 4/12/2012 11:12:00 *Analysis Type:* RES *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
EFH(C15-C20)	0.65	J	0.57	MDL	1.1	PQL	MG/KG	J	Z

* denotes a non-reportable result

Project Name and Number: 1203-004-010-AL - SSFL AREA IV COLLOCATED SAMPLING

Data Qualifier Summary

Lab Reporting Batch ID: 12D122 **Laboratory: EMXT**

EDD Filename: Prep12D122R **eQAPP Name: CDM_SSFL_120730_EMAX**

Method Category: SVOA

Method: 8081A **Matrix: SO**

Sample ID: SL-011-NBZ-SS-0.0-0.5 *Collected:* 4/12/2012 11:12:00 *Analysis Type:* RES-BASE/NEUTRAL *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
4,4'-DDE	0.34	J	0.19	MDL	0.39	PQL	UG/KG	J	Z
4,4'-DDT	0.36	J	0.19	MDL	0.39	PQL	UG/KG	J	Z

Sample ID: SL-158-NBZ-SS-0.0-0.5 *Collected:* 4/12/2012 3:04:00 *Analysis Type:* RES-BASE/NEUTRAL *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
4,4'-DDE	0.29	J	0.20	MDL	0.39	PQL	UG/KG	J	Z
4,4'-DDT	0.31	J	0.20	MDL	0.39	PQL	UG/KG	J	Z

Method Category: SVOA

Method: 8082 **Matrix: SO**

Sample ID: SL-152-NBZ-SS-0.0-0.5 *Collected:* 4/12/2012 9:55:00 *Analysis Type:* RES *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
Aroclor 5460	2.7	J	2.0	MDL	3.9	PQL	UG/KG	J	Z, S

Sample ID: SL-158-NBZ-SS-0.0-0.5 *Collected:* 4/12/2012 3:04:00 *Analysis Type:* RES *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
Aroclor 5460	3.8	J	2.0	MDL	3.8	PQL	UG/KG	J	S

Method Category: SVOA

Method: 8270C SIM **Matrix: SO**

Sample ID: SL-011-NBZ-SS-0.0-0.5 *Collected:* 4/12/2012 11:12:00 *Analysis Type:* RES-BASE/NEUTRAL *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BENZO(A)PYRENE	1.4	J	0.97	MDL	1.9	PQL	UG/KG	J	Z
BENZO(B)FLUORANTHENE	1.8	J	0.97	MDL	1.9	PQL	UG/KG	J	Z
BENZO(G,H,I)PERYLENE	1.3	J	0.97	MDL	1.9	PQL	UG/KG	J	Z
BENZO(K)FLUORANTHENE	1.4	J	0.97	MDL	1.9	PQL	UG/KG	J	Z

* denotes a non-reportable result

Project Name and Number: 1203-004-010-AL - SSFL AREA IV COLLOCATED SAMPLING

Data Qualifier Summary

Lab Reporting Batch ID: 12D122 **Laboratory: EMXT**

EDD Filename: Prep12D122R **eQAPP Name: CDM_SSFL_120730_EMAX**

Method Category: SVOA

Method: 8270C SIM **Matrix: SO**

Sample ID: SL-011-NBZ-SS-0.0-0.5 *Collected:* 4/12/2012 11:12:00 *Analysis Type:* RES-BASE/NEUTRAL *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BIS(2-ETHYLHEXYL)PHTHALATE	11	J	9.6	MDL	19	PQL	UG/KG	J	Z
CHRYSENE	0.98	J	0.97	MDL	1.9	PQL	UG/KG	J	Z
INDENO(1,2,3-CD)PYRENE	1.1	J	0.97	MDL	1.9	PQL	UG/KG	J	Z

Sample ID: SL-144-NBZ-SS-0.0-0.5 *Collected:* 4/12/2012 9:22:00 *Analysis Type:* RES-BASE/NEUTRAL *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1-METHYLNAPHTHALENE	1.8	J	0.98	MDL	2.0	PQL	UG/KG	J	Z
2-METHYLNAPHTHALENE	1.9	J	0.98	MDL	2.0	PQL	UG/KG	J	Z
ACENAPHTHENE	1.3	J	0.98	MDL	2.0	PQL	UG/KG	J	Z
ACENAPHTHYLENE	1.5	J	0.98	MDL	2.0	PQL	UG/KG	J	Z
BENZO(A)ANTHRACENE	1.2	J	0.98	MDL	2.0	PQL	UG/KG	J	Z
BENZO(B)FLUORANTHENE	1.2	J	0.98	MDL	2.0	PQL	UG/KG	J	Z
BIS(2-ETHYLHEXYL)PHTHALATE	16	J	9.7	MDL	19	PQL	UG/KG	J	Z
FLUORANTHENE	1.1	J	0.98	MDL	2.0	PQL	UG/KG	J	Z
FLUORENE	1.1	J	0.98	MDL	2.0	PQL	UG/KG	J	Z
PYRENE	1.2	J	0.98	MDL	2.0	PQL	UG/KG	J	Z

Sample ID: SL-152-NBZ-SS-0.0-0.5 *Collected:* 4/12/2012 9:55:00 *Analysis Type:* RES-BASE/NEUTRAL *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BENZO(B)FLUORANTHENE	1.7	J	1.0	MDL	2.0	PQL	UG/KG	J	Z
BENZO(G,H,I)PERYLENE	1.2	J	1.0	MDL	2.0	PQL	UG/KG	J	Z
Butylbenzylphthalate	10	J	10	MDL	20	PQL	UG/KG	J	Z
INDENO(1,2,3-CD)PYRENE	1.1	J	1.0	MDL	2.0	PQL	UG/KG	J	Z
PYRENE	1.1	J	1.0	MDL	2.0	PQL	UG/KG	J	Z

Sample ID: SL-158-NBZ-SS-0.0-0.5 *Collected:* 4/12/2012 3:04:00 *Analysis Type:* RES-BASE/NEUTRAL *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BENZO(A)ANTHRACENE	1.5	J	0.98	MDL	2.0	PQL	UG/KG	J	Z
BENZO(A)PYRENE	1.5	J	0.98	MDL	2.0	PQL	UG/KG	J	Z

* denotes a non-reportable result

Project Name and Number: 1203-004-010-AL - SSFL AREA IV COLLOCATED SAMPLING

Data Qualifier Summary

Lab Reporting Batch ID: 12D122 **Laboratory: EMXT**

EDD Filename: Prep12D122R **eQAPP Name: CDM_SSFL_120730_EMAX**

Method Category: SVOA

Method: 8270C SIM **Matrix: SO**

Sample ID: SL-158-NBZ-SS-0.0-0.5 *Collected:* 4/12/2012 3:04:00 *Analysis Type:* RES-BASE/NEUTRAL *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BENZO(G,H,I)PERYLENE	1.8	J	0.98	MDL	2.0	PQL	UG/KG	J	Z
FLUORANTHENE	1.7	J	0.98	MDL	2.0	PQL	UG/KG	J	Z
INDENO(1,2,3-CD)PYRENE	1.9	J	0.98	MDL	2.0	PQL	UG/KG	J	Z
PYRENE	1.8	J	0.98	MDL	2.0	PQL	UG/KG	J	Z

Sample ID: SL-172-NBZ-SS-0.0-0.5 *Collected:* 4/12/2012 2:35:00 *Analysis Type:* RES-BASE/NEUTRAL *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BENZO(A)ANTHRACENE	1.5	J	0.95	MDL	1.9	PQL	UG/KG	J	Z
BENZO(A)PYRENE	1.4	J	0.95	MDL	1.9	PQL	UG/KG	J	Z
CHRYSENE	1.3	J	0.95	MDL	1.9	PQL	UG/KG	J	Z
INDENO(1,2,3-CD)PYRENE	1.5	J	0.95	MDL	1.9	PQL	UG/KG	J	Z
PHENANTHRENE	1.1	J	0.95	MDL	1.9	PQL	UG/KG	J	Z

* denotes a non-reportable result

Project Name and Number: 1203-004-010-AL - SSFL AREA IV COLLOCATED SAMPLING

Data Qualifier Summary

Lab Reporting Batch ID: 12D122 **Laboratory: EMXT**

EDD Filename: Prep12D122R **eQAPP Name: CDM_SSFL_120730_EMAX**

Reason Code Legend

Reason Code	*Description*
Q	Matrix Spike Lower Estimation
Q	Matrix Spike Upper Estimation
S	Surrogate/Tracer Recovery Upper Estimation
Z	Reporting Limit Trace Value

* denotes a non-reportable result

Project Name and Number: 1203-004-010-AL - SSFL AREA IV COLLOCATED SAMPLING

Enclosure I

Level III ADR Outliers
(including Manual Review Outliers)

Quality Control
Outlier Reports

12D122

Surrogate Outlier Report

Lab Reporting Batch ID: 12D122 **Laboratory: EMXT**

EDD Filename: Prep12D122R **eQAPP Name: CDM_SSFL_120730_EMAX**

Method: **8082**
Matrix: **SO**

Sample ID (Analysis Type)	*Surrogate*	*Sample % Recovery*	*% Recovery Limits*	*Affected Compounds*	*Flag*
SL-152-NBZ-SS-0.0-0.5	DECACHLOROBIPHENYL	150	45.00-120.00	All Target Analytes	J (all detects)
SL-158-NBZ-SS-0.0-0.5	DECACHLOROBIPHENYL	128	45.00-120.00	All Target Analytes	J(all detects)

Reporting Limit Outliers

Lab Reporting Batch ID: 12D122 **Laboratory: EMXT**

EDD Filename: Prep12D122R **eQAPP Name: CDM_SSFL_120730_EMAX**

Method: 6020
Matrix: AQ

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
EB-NBZ-SS-041212	CALCIUM	J	0.0608	0.100	PQL	MG/L	J (all detects)
	NICKEL	J	0.000205	0.00100	PQL	MG/L	

Method: 300.0
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-158-NBZ-SS-0.0-0.5	FLUORIDE	J	0.652	1.15	PQL	MG/KG	J (all detects)

Method: 6020
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-011-NBZ-SS-0.0-0.5	ANTIMONY	J	0.140	0.219	PQL	MG/KG	J (all detects)
SL-144-NBZ-SS-0.0-0.5	SODIUM	J	71.0	115	PQL	MG/KG	J (all detects)
SL-152-NBZ-SS-0.0-0.5	SELENIUM	J	0.240	0.468	PQL	MG/KG	J (all detects)
SL-158-NBZ-SS-0.0-0.5	ANTIMONY	J	0.176	0.228	PQL	MG/KG	J (all detects)
	SELENIUM	J	0.408	0.456	PQL	MG/KG	
	SODIUM	J	69.9	114	PQL	MG/KG	
SL-172-NBZ-SS-0.0-0.5	ANTIMONY	J	0.140	0.222	PQL	MG/KG	J (all detects)

Method: 8015B EFH
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-011-NBZ-SS-0.0-0.5	EFH(C15-C20)	J	0.65	1.1	PQL	MG/KG	J (all detects)

Method: 8081A
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-011-NBZ-SS-0.0-0.5	4,4'-DDE	J	0.34	0.39	PQL	UG/KG	J (all detects)
	4,4'-DDT	J	0.36	0.39	PQL	UG/KG	
SL-158-NBZ-SS-0.0-0.5	4,4'-DDE	J	0.29	0.39	PQL	UG/KG	J (all detects)
	4,4'-DDT	J	0.31	0.39	PQL	UG/KG	

Reporting Limit Outliers

Lab Reporting Batch ID: 12D122 **Laboratory: EMXT**

EDD Filename: Prep12D122R **eQAPP Name: CDM_SSFL_120730_EMAX**

Method: 8082
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-152-NBZ-SS-0.0-0.5	Aroclor 5460	J	2.7	3.9	PQL	UG/KG	J (all detects)

Method: 8270C SIM
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-011-NBZ-SS-0.0-0.5	BENZO(A)PYRENE	J	1.4	1.9	PQL	UG/KG	
	BENZO(B)FLUORANTHENE	J	1.8	1.9	PQL	UG/KG	
	BENZO(G,H,I)PERYLENE	J	1.3	1.9	PQL	UG/KG	
	BENZO(K)FLUORANTHENE	J	1.4	1.9	PQL	UG/KG	J (all detects)
	BIS(2-ETHYLHEXYL)PHTHALATE	J	11	19	PQL	UG/KG	
	CHRYSENE	J	0.98	1.9	PQL	UG/KG	
	INDENO(1,2,3-CD)PYRENE	J	1.1	1.9	PQL	UG/KG	
SL-144-NBZ-SS-0.0-0.5	1-METHYLNAPHTHALENE	J	1.8	2.0	PQL	UG/KG	
	2-METHYLNAPHTHALENE	J	1.9	2.0	PQL	UG/KG	
	ACENAPHTHENE	J	1.3	2.0	PQL	UG/KG	
	ACENAPHTHYLENE	J	1.5	2.0	PQL	UG/KG	
	BENZO(A)ANTHRACENE	J	1.2	2.0	PQL	UG/KG	J (all detects)
	BENZO(B)FLUORANTHENE	J	1.2	2.0	PQL	UG/KG	
	BIS(2-ETHYLHEXYL)PHTHALATE	J	16	19	PQL	UG/KG	
	FLUORANTHENE	J	1.1	2.0	PQL	UG/KG	
	FLUORENE	J	1.1	2.0	PQL	UG/KG	
	PYRENE	J	1.2	2.0	PQL	UG/KG	
SL-152-NBZ-SS-0.0-0.5	BENZO(B)FLUORANTHENE	J	1.7	2.0	PQL	UG/KG	
	BENZO(G,H,I)PERYLENE	J	1.2	2.0	PQL	UG/KG	
	Butylbenzylphthalate	J	10	20	PQL	UG/KG	J (all detects)
	INDENO(1,2,3-CD)PYRENE	J	1.1	2.0	PQL	UG/KG	
	PYRENE	J	1.1	2.0	PQL	UG/KG	
SL-158-NBZ-SS-0.0-0.5	BENZO(A)ANTHRACENE	J	1.5	2.0	PQL	UG/KG	
	BENZO(A)PYRENE	J	1.5	2.0	PQL	UG/KG	
	BENZO(G,H,I)PERYLENE	J	1.8	2.0	PQL	UG/KG	J (all detects)
	FLUORANTHENE	J	1.7	2.0	PQL	UG/KG	
	INDENO(1,2,3-CD)PYRENE	J	1.9	2.0	PQL	UG/KG	
	PYRENE	J	1.8	2.0	PQL	UG/KG	
SL-172-NBZ-SS-0.0-0.5	BENZO(A)ANTHRACENE	J	1.5	1.9	PQL	UG/KG	
	BENZO(A)PYRENE	J	1.4	1.9	PQL	UG/KG	
	CHRYSENE	J	1.3	1.9	PQL	UG/KG	J (all detects)
	INDENO(1,2,3-CD)PYRENE	J	1.5	1.9	PQL	UG/KG	
	PHENANTHRENE	J	1.1	1.9	PQL	UG/KG	

LDC #: 29230A4
SDG #: 12D122
Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 2/22/13
Page: 1 of 1
Reviewer: CR
2nd Reviewer: A

METHOD: Metals (EPA SW 846 Method ~~6010B~~/6020~~A~~/~~7000~~) 7470A / 7471A

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/12/12
II.	ICP/MS Tune	—	
III.	Calibration	—	
IV.	Blanks	A	
V.	ICP Interference Check Sample (ICS) Analysis	—	
VI.	Matrix Spike Analysis	SW	MS/D (12D135)
VII.	Duplicate Sample Analysis	N	
VIII.	Laboratory Control Samples (LCS)	N	
IX.	Internal Standard (ICP-MS)	N	
X.	Furnace Atomic Absorption QC	N	
XI.	ICP Serial Dilution	A	
XII.	Sample Result Verification	N	
XIII.	Overall Assessment of Data	N	
XIV.	Field Duplicates	—	
XV	Field Blanks	SW	EB=6

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: soil/water

1	SL-011-NBZ-SS-0.0-0.5	11		21		31	
2	SL-144-BNZ-SS-0.0-0.5	12		22		32	
3	SL-152-NBZ-SS-0.0-0.5	13		23		33	
4	SL-158-NBZ-SS-0.0-0.5	14		24		34	
5	SL-172-NBZ-SS-0.0-0.5	15		25		35	
6	EB-NBZ-SS-041212 W	16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

LDC #: 29230A4

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer:
2nd Reviewer

METHOD: Trace Metals (EPA SW846 6010B/7000)

Blank units: mg/L **Associated sample units:** mg/Kg
Sampling date: 4/12/12 Soil factor applied 100x
Field blank type: (circle one) Field Blank / Rinsate / Other: Associated Samples: All Soil

Analyte	Blank ID	Sample Identification										
	6	Action Limit	No Qualifiers (>5x)									
Ca	0.0608	30.4										
Ni	0.00020	0.1										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

LDC #: 24030H4

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Page: 1 of 1
Reviewer: OR
2nd Reviewer: A

METHOD: Trace metals (EPA SW 846 Method 6010/6020/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a matrix spike analyzed for each matrix in this SDG?

Y N N/A Were matrix spike percent recoveries (%R) within the control limits of 75-125? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.

Y N N/A Were all duplicate sample relative percent differences (RPD) ≤ 20% for water samples and ≤35% for soil samples?

LEVEL IV ONLY:

Y N N/A Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

#	MS/MSD ID	Matrix	Analyte	MS %Recovery	MSD %Recovery	RPD (Limits)	Associated Samples	Qualifications
	SL-183-NBZ-SS-0.0-0.5MS/MSD							
			Ba	126			All Soil	J det/A
			Zr	50	49			J/UJ/A

Comments:

SAMPLE DELIVERY GROUP

12D135

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
13-Apr-2012	SL-180-NBZ-SS-0.0-0.5	D135-01	N	3550B	8081A	III
13-Apr-2012	SL-180-NBZ-SS-0.0-0.5	D135-01	N	3550B	8082	III
13-Apr-2012	SL-180-NBZ-SS-0.0-0.5	D135-01	N	3550B	8270C	III
13-Apr-2012	SL-180-NBZ-SS-0.0-0.5	D135-01	N	3550B	8270C SIM	III
13-Apr-2012	SL-180-NBZ-SS-0.0-0.5	D135-01	N	7471A	7471A	III
13-Apr-2012	SL-180-NBZ-SS-0.0-0.5	D135-01	N	GEN PREP	300.0	III
13-Apr-2012	SL-180-NBZ-SS-0.0-0.5	D135-01	N	GEN PREP	314.0	III
13-Apr-2012	SL-180-NBZ-SS-0.0-0.5	D135-01	N	GEN PREP	6020	III
13-Apr-2012	SL-180-NBZ-SS-0.0-0.5	D135-01	N	GEN PREP	7199	III
13-Apr-2012	SL-180-NBZ-SS-0.0-0.5	D135-01	N	GEN PREP	8151A	III
13-Apr-2012	SL-180-NBZ-SS-0.0-0.5	D135-01R	N	GEN PREP	7199	III
13-Apr-2012	SL-183-NBZ-SS-0.0-0.5	D135-02	N	3550B	8081A	III
13-Apr-2012	SL-183-NBZ-SS-0.0-0.5	D135-02	N	3550B	8082	III
13-Apr-2012	SL-183-NBZ-SS-0.0-0.5	D135-02	N	3550B	8270C	III
13-Apr-2012	SL-183-NBZ-SS-0.0-0.5	D135-02	N	3550B	8270C SIM	III
13-Apr-2012	SL-183-NBZ-SS-0.0-0.5	D135-02	N	7471A	7471A	III
13-Apr-2012	SL-183-NBZ-SS-0.0-0.5	D135-02	N	GEN PREP	300.0	III
13-Apr-2012	SL-183-NBZ-SS-0.0-0.5	D135-02	N	GEN PREP	314.0	III
13-Apr-2012	SL-183-NBZ-SS-0.0-0.5	D135-02	N	GEN PREP	6020	III
13-Apr-2012	SL-183-NBZ-SS-0.0-0.5	D135-02	N	GEN PREP	7199	III
13-Apr-2012	SL-183-NBZ-SS-0.0-0.5	D135-02	N	GEN PREP	8151A	III
13-Apr-2012	SL-183-NBZ-SS-0.0-0.5MS	D135-02M	MS	GEN PREP	6020	III
13-Apr-2012	SL-183-NBZ-SS-0.0-0.5	D135-02R	N	GEN PREP	7199	III
13-Apr-2012	SL-183-NBZ-SS-0.0-0.5MSD	D135-02S	MSD	GEN PREP	6020	III

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Attachment II

Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: 12D135 **Laboratory:** EMXT

EDD Filename: 12D135R **eQAPP Name:** CDM_SSFL_120730_EMAX

Method Category: METALS **Method:** 6020 **Matrix:** SO

Sample ID: SL-180-NBZ-SS-0.0-0.5 *Collected:* 4/13/2012 9:45:00 *Analysis Type:* RES/TOT *Dilution:* 0.957

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	0.189	J	0.119	MDL	0.239	PQL	MG/KG	J	Z
BARIUM	59.5		0.239	MDL	0.477	PQL	MG/KG	J	Q
Zirconium	5.97	U	2.98	MDL	5.97	PQL	MG/KG	UJ	Q

Sample ID: SL-183-NBZ-SS-0.0-0.5 *Collected:* 4/13/2012 10:50:00 *Analysis Type:* RES/TOT *Dilution:* 0.952

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	0.183	J	0.114	MDL	0.228	PQL	MG/KG	J	Z
BARIUM	74.6		0.228	MDL	0.456	PQL	MG/KG	J	Q
Zirconium	5.70	U	2.85	MDL	5.70	PQL	MG/KG	UJ	Q

Method Category: SVOA **Method:** 8081A **Matrix:** SO

Sample ID: SL-183-NBZ-SS-0.0-0.5 *Collected:* 4/13/2012 10:50:00 *Analysis Type:* RES-BASE/NEUTRAL *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
4,4'-DDE	0.32	J	0.20	MDL	0.41	PQL	UG/KG	J	Z
ALPHA-BHC	0.16	J	0.10	MDL	0.20	PQL	UG/KG	J	Z

Method Category: SVOA **Method:** 8270C SIM **Matrix:** SO

Sample ID: SL-180-NBZ-SS-0.0-0.5 *Collected:* 4/13/2012 9:45:00 *Analysis Type:* RES-BASE/NEUTRAL *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BIS(2-ETHYLHEXYL)PHTHALATE	16	J	10	MDL	21	PQL	UG/KG	J	Z

Sample ID: SL-183-NBZ-SS-0.0-0.5 *Collected:* 4/13/2012 10:50:00 *Analysis Type:* RES-BASE/NEUTRAL *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
FLUORANTHENE	1.5	J	1.0	MDL	2.0	PQL	UG/KG	J	Z

* denotes a non-reportable result

Project Name and Number: 1203-004-010-AL - SSFL AREA IV COLLOCATED SAMPLING

Data Qualifier Summary

Lab Reporting Batch ID: 12D135 **Laboratory: EMXT**

EDD Filename: 12D135R **eQAPP Name: CDM_SSFL_120730_EMAX**

Method Category: **SVOA**

Method: **8270C SIM** ***Matrix:*** **SO**

Sample ID: SL-183-NBZ-SS-0.0-0.5 ***Collected:*** 4/13/2012 10:50:00 ***Analysis Type:*** RES-BASE/NEUTRAL ***Dilution:*** 1

Analyte	*Lab Result*	*Lab Qual*	*DL*	*DL Type*	*RL*	*RL Type*	*Units*	*Data Review Qual*	*Reason Code*
PHENANTHRENE	1.2	J	1.0	MDL	2.0	PQL	UG/KG	J	Z
PYRENE	1.3	J	1.0	MDL	2.0	PQL	UG/KG	J	Z

* denotes a non-reportable result

Project Name and Number: 1203-004-010-AL - SSFL AREA IV COLLOCATED SAMPLING

Data Qualifier Summary

Lab Reporting Batch ID: 12D135

Laboratory: EMXT

EDD Filename: 12D135R

eQAPP Name: CDM_SSFL_120730_EMAX

Reason Code Legend

Reason Code	*Description*
Q	Matrix Spike Lower Estimation
Q	Matrix Spike Upper Estimation
Z	Reporting Limit Trace Value

* denotes a non-reportable result

Project Name and Number: 1203-004-010-AL - SSFL AREA IV COLLOCATED SAMPLING

Enclosure I

Level III ADR Outliers
(including Manual Review Outliers)

Quality Control Outlier Reports

12D135

Matrix Spike/Matrix Spike Duplicate Outlier Report

Lab Reporting Batch ID: 12D135

Laboratory: EMXT

EDD Filename: 12D135R

eQAPP Name: CDM_SSFL_120730_EMAX

Method: 6020
Matrix: SO

QC Sample ID (Associated Samples)	Compound	MS %R	MSD %R	%R Limits	RPD (Limits)	Affected Compounds	Flag
SL-183-NBZ-SS-0.0-0.5MS (TOT) (SL-180-NBZ-SS-0.0-0.5 SL -183-NBZ-SS-0.0-0.5)	BARIUM IRON	126 143	- -	75.00-125.00 75.00-125.00	- -	BARIUM IRON	J (all detects) Fe, No Qual, >4x
SL-183-NBZ-SS-0.0-0.5MS (TOT) SL-183-NBZ-SS-0.0-0.5MSD (TOT) (SL-180-NBZ-SS-0.0-0.5 SL -183-NBZ-SS-0.0-0.5)	MANGANESE TITANIUM Zirconium	- 391 50	35 39 49	75.00-125.00 75.00-125.00 75.00-125.00	- - -	MANGANESE TITANIUM Zirconium	J(all detects) UJ(all non-detects) Mn, Ti, No Qual, >4x

Project Name and Number: 1203-004-010-AL - SSFL AREA IV COLLOCATED SAMPLING

Reporting Limit Outliers

Lab Reporting Batch ID: 12D135 **Laboratory: EMXT**

EDD Filename: 12D135R **eQAPP Name: CDM_SSFL_120730_EMAX**

Method: 6020
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-180-NBZ-SS-0.0-0.5	ANTIMONY	J	0.189	0.239	PQL	MG/KG	J (all detects)
SL-183-NBZ-SS-0.0-0.5	ANTIMONY	J	0.183	0.228	PQL	MG/KG	J (all detects)

Method: 8081A
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-183-NBZ-SS-0.0-0.5	4,4'-DDE	J	0.32	0.41	PQL	UG/KG	J (all detects)
	ALPHA-BHC	J	0.16	0.20	PQL	UG/KG	

Method: 8270C SIM
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-180-NBZ-SS-0.0-0.5	BIS(2-ETHYLHEXYL)PHTHALATE	J	16	21	PQL	UG/KG	J (all detects)
SL-183-NBZ-SS-0.0-0.5	FLUORANTHENE	J	1.5	2.0	PQL	UG/KG	J (all detects)
	PHENANTHRENE	J	1.2	2.0	PQL	UG/KG	
	PYRENE	J	1.3	2.0	PQL	UG/KG	

LDC #: 28255U4
SDG #: 12D135
Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 8-29-12
Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: Metals (EPA SW 846 Method 6010B/6020A/7000)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	—	Sampling dates: 4/13/12
II.	ICP/MS Tune	—	
III.	Calibration	—	
IV.	Blanks	A	
V.	ICP Interference Check Sample (ICS) Analysis	—	
VI.	Matrix Spike Analysis	N	MS/D (Fe, Mn, Ti >4X)
VII.	Duplicate Sample Analysis	N	
VIII.	Laboratory Control Samples (LCS)	N	LCS/D
IX.	Internal Standard (ICP-MS)	N	
X.	Furnace Atomic Absorption QC	N	
XI.	ICP Serial Dilution	A	
XII.	Sample Result Verification	N	
XIII.	Overall Assessment of Data	N	
XIV.	Field Duplicates	—	
XV	Field Blanks	—	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

1	SL-180-NBZ-SS-0.0-0.5	11		21		31	
2	SL-183-NBZ-SS-0.0-0.5	12		22		32	
3	SL-183-NBZ-SS-0.0-0.5MS	13		23		33	
4	SL-183-NBZ-SS-0.0-0.5MSD	14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

SAMPLE DELIVERY GROUP

12D146

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
16-Apr-2012	SL-013-NBZ-SS-0.0-0.5	D146-01	N	3550B	8015B EFH	III
16-Apr-2012	SL-013-NBZ-SS-0.0-0.5	D146-01	N	3550B	8081A	III
16-Apr-2012	SL-013-NBZ-SS-0.0-0.5	D146-01	N	3550B	8082	III
16-Apr-2012	SL-013-NBZ-SS-0.0-0.5	D146-01	N	3550B	8270C	III
16-Apr-2012	SL-013-NBZ-SS-0.0-0.5	D146-01	N	3550B	8270C SIM	III
16-Apr-2012	SL-013-NBZ-SS-0.0-0.5	D146-01	N	7471A	7471A	III
16-Apr-2012	SL-013-NBZ-SS-0.0-0.5	D146-01	N	GEN PREP	300.0	III
16-Apr-2012	SL-013-NBZ-SS-0.0-0.5	D146-01	N	GEN PREP	314.0	III
16-Apr-2012	SL-013-NBZ-SS-0.0-0.5	D146-01	N	GEN PREP	6020	III
16-Apr-2012	SL-013-NBZ-SS-0.0-0.5	D146-01	N	GEN PREP	7199	III
16-Apr-2012	SL-013-NBZ-SS-0.0-0.5	D146-01	N	GEN PREP	8151A	III
16-Apr-2012	SL-013-NBZ-SS-0.0-0.5	D146-01	N	GEN PREP	8330A	III
16-Apr-2012	SL-013-NBZ-SS-0.0-0.5	D146-01	N	GEN PREP	8332	III
16-Apr-2012	SL-013-NBZ-SS-0.0-0.5	D146-01	N	GEN PREP	9014	III
16-Apr-2012	SL-013-NBZ-SS-0.0-0.5	D146-01R	N	GEN PREP	7199	III
16-Apr-2012	SL-159-NBZ-SS-0.0-0.5	D146-02	N	3550B	8081A	III
16-Apr-2012	SL-159-NBZ-SS-0.0-0.5	D146-02	N	3550B	8082	III
16-Apr-2012	SL-159-NBZ-SS-0.0-0.5	D146-02	N	3550B	8270C	III
16-Apr-2012	SL-159-NBZ-SS-0.0-0.5	D146-02	N	3550B	8270C SIM	III
16-Apr-2012	SL-159-NBZ-SS-0.0-0.5	D146-02	N	7471A	7471A	III
16-Apr-2012	SL-159-NBZ-SS-0.0-0.5	D146-02	N	GEN PREP	300.0	III
16-Apr-2012	SL-159-NBZ-SS-0.0-0.5	D146-02	N	GEN PREP	314.0	III
16-Apr-2012	SL-159-NBZ-SS-0.0-0.5	D146-02	N	GEN PREP	6020	III
16-Apr-2012	SL-159-NBZ-SS-0.0-0.5	D146-02	N	GEN PREP	7199	III
16-Apr-2012	SL-159-NBZ-SS-0.0-0.5	D146-02	N	GEN PREP	8151A	III
16-Apr-2012	SL-159-NBZ-SS-0.0-0.5	D146-02R	N	GEN PREP	7199	III

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
16-Apr-2012	SL-164-NBZ-SS-0.0-0.5	D146-04	N	3550B	8081A	III
16-Apr-2012	SL-164-NBZ-SS-0.0-0.5	D146-04	N	3550B	8082	III
16-Apr-2012	SL-164-NBZ-SS-0.0-0.5	D146-04	N	3550B	8270C	III
16-Apr-2012	SL-164-NBZ-SS-0.0-0.5	D146-04	N	3550B	8270C SIM	III
16-Apr-2012	SL-164-NBZ-SS-0.0-0.5	D146-04	N	7471A	7471A	III
16-Apr-2012	SL-164-NBZ-SS-0.0-0.5	D146-04	N	GEN PREP	300.0	III
16-Apr-2012	SL-164-NBZ-SS-0.0-0.5	D146-04	N	GEN PREP	314.0	III
16-Apr-2012	SL-164-NBZ-SS-0.0-0.5	D146-04	N	GEN PREP	6020	III
16-Apr-2012	SL-164-NBZ-SS-0.0-0.5	D146-04	N	GEN PREP	7199	III
16-Apr-2012	SL-164-NBZ-SS-0.0-0.5	D146-04	N	GEN PREP	8151A	III
16-Apr-2012	SL-164-NBZ-SS-0.0-0.5	D146-04R	N	GEN PREP	7199	III
16-Apr-2012	SL-160-NBZ-SS-0.0-0.5	D146-03	N	3550B	8081A	III
16-Apr-2012	SL-160-NBZ-SS-0.0-0.5	D146-03	N	3550B	8082	III
16-Apr-2012	SL-160-NBZ-SS-0.0-0.5	D146-03	N	3550B	8270C	III
16-Apr-2012	SL-160-NBZ-SS-0.0-0.5	D146-03	N	3550B	8270C SIM	III
16-Apr-2012	SL-160-NBZ-SS-0.0-0.5	D146-03	N	7471A	7471A	III
16-Apr-2012	SL-160-NBZ-SS-0.0-0.5	D146-03	N	GEN PREP	300.0	III
16-Apr-2012	SL-160-NBZ-SS-0.0-0.5	D146-03	N	GEN PREP	314.0	III
16-Apr-2012	SL-160-NBZ-SS-0.0-0.5	D146-03	N	GEN PREP	6020	III
16-Apr-2012	SL-160-NBZ-SS-0.0-0.5	D146-03	N	GEN PREP	7199	III
16-Apr-2012	SL-160-NBZ-SS-0.0-0.5	D146-03	N	GEN PREP	8151A	III
16-Apr-2012	SL-160-NBZ-SS-0.0-0.5	D146-03R	N	GEN PREP	7199	III
16-Apr-2012	SL-173-NBZ-SS-0.0-0.5	D146-05	N	3550B	8081A	III
16-Apr-2012	SL-173-NBZ-SS-0.0-0.5	D146-05	N	3550B	8082	III
16-Apr-2012	SL-173-NBZ-SS-0.0-0.5	D146-05	N	7471A	7471A	III
16-Apr-2012	SL-173-NBZ-SS-0.0-0.5	D146-05	N	GEN PREP	300.0	III

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
16-Apr-2012	SL-173-NBZ-SS-0.0-0.5	D146-05	N	GEN PREP	314.0	III
16-Apr-2012	SL-173-NBZ-SS-0.0-0.5	D146-05	N	GEN PREP	6020	III
16-Apr-2012	SL-173-NBZ-SS-0.0-0.5	D146-05	N	GEN PREP	7199	III
16-Apr-2012	SL-173-NBZ-SS-0.0-0.5	D146-05	N	GEN PREP	8151A	III
16-Apr-2012	SL-173-NBZ-SS-0.0-0.5MS	D146-05G	MS	GEN PREP	7199	III
16-Apr-2012	SL-173-NBZ-SS-0.0-0.5MS	D146-05G1	MS	GEN PREP	7199	III
16-Apr-2012	SL-173-NBZ-SS-0.0-0.5MSD	D146-05H	MSD	GEN PREP	7199	III
16-Apr-2012	SL-173-NBZ-SS-0.0-0.5MSD	D146-05H1	MSD	GEN PREP	7199	III
16-Apr-2012	SL-173-NBZ-SS-0.0-0.5MS	D146-05M	MS	3550B	8081A	III
16-Apr-2012	SL-173-NBZ-SS-0.0-0.5MS	D146-05M	MS	3550B	8082	III
16-Apr-2012	SL-173-NBZ-SS-0.0-0.5MS	D146-05M	MS	3550B	8270C	III
16-Apr-2012	SL-173-NBZ-SS-0.0-0.5MS	D146-05M	MS	3550B	8270C SIM	III
16-Apr-2012	SL-173-NBZ-SS-0.0-0.5MS	D146-05M	MS	7471A	7471A	III
16-Apr-2012	SL-173-NBZ-SS-0.0-0.5MS	D146-05M	MS	GEN PREP	300.0	III
16-Apr-2012	SL-173-NBZ-SS-0.0-0.5MS	D146-05M	MS	GEN PREP	314.0	III
16-Apr-2012	SL-173-NBZ-SS-0.0-0.5MS	D146-05M	MS	GEN PREP	6020	III
16-Apr-2012	SL-173-NBZ-SS-0.0-0.5MS	D146-05M	MS	GEN PREP	7199	III
16-Apr-2012	SL-173-NBZ-SS-0.0-0.5MS	D146-05M	MS	GEN PREP	8151A	III
16-Apr-2012	SL-173-NBZ-SS-0.0-0.5MS	D146-05M1	MS	GEN PREP	7199	III
16-Apr-2012	SL-173-NBZ-SS-0.0-0.5	D146-05R	N	GEN PREP	7199	III
16-Apr-2012	SL-173-NBZ-SS-0.0-0.5MSD	D146-05S	MSD	3550B	8081A	III
16-Apr-2012	SL-173-NBZ-SS-0.0-0.5MSD	D146-05S	MSD	3550B	8082	III
16-Apr-2012	SL-173-NBZ-SS-0.0-0.5MSD	D146-05S	MSD	3550B	8270C	III
16-Apr-2012	SL-173-NBZ-SS-0.0-0.5MSD	D146-05S	MSD	3550B	8270C SIM	III
16-Apr-2012	SL-173-NBZ-SS-0.0-0.5MSD	D146-05S	MSD	7471A	7471A	III
16-Apr-2012	SL-173-NBZ-SS-0.0-0.5MSD	D146-05S	MSD	GEN PREP	300.0	III

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
16-Apr-2012	SL-173-NBZ-SS-0.0-0.5MSD	D146-05S	MSD	GEN PREP	314.0	III
16-Apr-2012	SL-173-NBZ-SS-0.0-0.5MSD	D146-05S	MSD	GEN PREP	6020	III
16-Apr-2012	SL-173-NBZ-SS-0.0-0.5MSD	D146-05S	MSD	GEN PREP	7199	III
16-Apr-2012	SL-173-NBZ-SS-0.0-0.5MSD	D146-05S	MSD	GEN PREP	8151A	III
16-Apr-2012	SL-173-NBZ-SS-0.0-0.5MSD	D146-05S1	MSD	GEN PREP	7199	III
16-Apr-2012	SL-173-NBZ-SS-0.0-0.5	D146-05W	N	3550B	8270C	III
16-Apr-2012	SL-173-NBZ-SS-0.0-0.5	D146-05W	N	3550B	8270C SIM	III
16-Apr-2012	DUP-08-NBZ-QC-041612	D146-06	FD	3550B	8081A	III
16-Apr-2012	DUP-08-NBZ-QC-041612	D146-06	FD	3550B	8082	III
16-Apr-2012	DUP-08-NBZ-QC-041612	D146-06	FD	3550B	8270C	III
16-Apr-2012	DUP-08-NBZ-QC-041612	D146-06	FD	3550B	8270C SIM	III
16-Apr-2012	DUP-08-NBZ-QC-041612	D146-06	FD	7471A	7471A	III
16-Apr-2012	DUP-08-NBZ-QC-041612	D146-06	FD	GEN PREP	300.0	III
16-Apr-2012	DUP-08-NBZ-QC-041612	D146-06	FD	GEN PREP	314.0	III
16-Apr-2012	DUP-08-NBZ-QC-041612	D146-06	FD	GEN PREP	6020	III
16-Apr-2012	DUP-08-NBZ-QC-041612	D146-06	FD	GEN PREP	7199	III
16-Apr-2012	DUP-08-NBZ-QC-041612	D146-06	FD	GEN PREP	8151A	III
16-Apr-2012	DUP-08-NBZ-QC-041612	D146-06R	FD	GEN PREP	7199	III

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Attachment II

Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: 12D146 Laboratory: EMXT

EDD Filename: Prep12D146R eQAPP Name: CDM_SSFL_120730_EMAX

Method Category: GENCHEM
Method: 300.0 **Matrix:** SO

Sample ID: SL-013-NBZ-SS-0.0-0.5 *Collected:* 4/16/2012 10:07:00 *Analysis Type:* RES *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
FLUORIDE	0.829	J	0.740	MDL	1.48	PQL	MG/KG	J	Z

Method Category: METALS
Method: 6020 **Matrix:** SO

Sample ID: DUP-08-NBZ-QC-041612 *Collected:* 4/16/2012 3:23:00 *Analysis Type:* RES/TOT *Dilution:* 0.985

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ALUMINUM	10700		14.1	MDL	28.2	PQL	MG/KG	J	Q
ANTIMONY	0.160	J	0.117	MDL	0.235	PQL	MG/KG	J	Z, Q
BARIUM	74.0		0.235	MDL	0.470	PQL	MG/KG	J	Q
PHOSPHORUS	364		7.04	MDL	14.1	PQL	MG/KG	J	Q
POTASSIUM	3440		35.2	MDL	70.4	PQL	MG/KG	J	Q
SELENIUM	0.284	J	0.235	MDL	0.470	PQL	MG/KG	J	Z
SODIUM	62.9	J	58.7	MDL	117	PQL	MG/KG	J	Z
Zirconium	5.87	U	2.94	MDL	5.87	PQL	MG/KG	UJ	Q

Sample ID: SL-013-NBZ-SS-0.0-0.5 *Collected:* 4/16/2012 10:07:00 *Analysis Type:* RES/TOT *Dilution:* 0.995

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ALUMINUM	9530		17.7	MDL	35.3	PQL	MG/KG	J	Q
ANTIMONY	0.224	J	0.147	MDL	0.294	PQL	MG/KG	J	Z, Q
BARIUM	80.4		0.294	MDL	0.589	PQL	MG/KG	J	Q
BORON	3.78	J	3.68	MDL	7.36	PQL	MG/KG	J	Z
PHOSPHORUS	375		8.83	MDL	17.7	PQL	MG/KG	J	Q
POTASSIUM	2820		44.2	MDL	88.3	PQL	MG/KG	J	Q
SODIUM	98.0	J	73.6	MDL	147	PQL	MG/KG	J	Z
Zirconium	7.36	U	3.68	MDL	7.36	PQL	MG/KG	UJ	Q

Sample ID: SL-159-NBZ-SS-0.0-0.5 *Collected:* 4/16/2012 11:01:00 *Analysis Type:* RES/TOT *Dilution:* 0.995

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ALUMINUM	11100		13.6	MDL	27.3	PQL	MG/KG	J	Q
ANTIMONY	0.134	J	0.114	MDL	0.227	PQL	MG/KG	J	Z, Q
BARIUM	77.4		0.227	MDL	0.455	PQL	MG/KG	J	Q

* denotes a non-reportable result

Project Name and Number: 1203-004-010-AL - SSFL AREA IV COLLOCATED SAMPLING

Data Qualifier Summary

Lab Reporting Batch ID: 12D146 **Laboratory:** EMXT

EDD Filename: Prep12D146R **eQAPP Name:** CDM_SSFL_120730_EMAX

Method Category: METALS

Method: 6020 **Matrix:** SO

Sample ID: SL-159-NBZ-SS-0.0-0.5 ***Collected:*** 4/16/2012 11:01:00 ***Analysis Type:*** RES/TOT ***Dilution:*** 0.995

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
PHOSPHORUS	284		6.82	MDL	13.6	PQL	MG/KG	J	Q
POTASSIUM	3150		34.1	MDL	68.2	PQL	MG/KG	J	Q
SODIUM	63.4	J	56.9	MDL	114	PQL	MG/KG	J	Z
Zirconium	5.69	U	2.84	MDL	5.69	PQL	MG/KG	UJ	Q

Sample ID: SL-160-NBZ-SS-0.0-0.5 ***Collected:*** 4/16/2012 2:40:00 ***Analysis Type:*** RES/TOT ***Dilution:*** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ALUMINUM	9850		13.4	MDL	26.8	PQL	MG/KG	J	Q
ANTIMONY	0.123	J	0.112	MDL	0.223	PQL	MG/KG	J	Z, Q
BARIUM	51.9		0.223	MDL	0.446	PQL	MG/KG	J	Q
PHOSPHORUS	326		6.70	MDL	13.4	PQL	MG/KG	J	Q
POTASSIUM	2460		33.5	MDL	67.0	PQL	MG/KG	J	Q
SODIUM	57.0	J	55.8	MDL	112	PQL	MG/KG	J	Z
Zirconium	5.58	U	2.79	MDL	5.58	PQL	MG/KG	UJ	Q

Sample ID: SL-164-NBZ-SS-0.0-0.5 ***Collected:*** 4/16/2012 11:35:00 ***Analysis Type:*** RES/TOT ***Dilution:*** 0.990

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ALUMINUM	11100		14.2	MDL	28.4	PQL	MG/KG	J	Q
ANTIMONY	0.127	J	0.118	MDL	0.237	PQL	MG/KG	J	Z, Q
BARIUM	81.3		0.237	MDL	0.473	PQL	MG/KG	J	Q
PHOSPHORUS	374		7.10	MDL	14.2	PQL	MG/KG	J	Q
POTASSIUM	3430		35.5	MDL	71.0	PQL	MG/KG	J	Q
SODIUM	67.4	J	59.1	MDL	118	PQL	MG/KG	J	Z
Zirconium	5.91	U	2.96	MDL	5.91	PQL	MG/KG	UJ	Q

Sample ID: SL-173-NBZ-SS-0.0-0.5 ***Collected:*** 4/16/2012 3:18:00 ***Analysis Type:*** RES/TOT ***Dilution:*** 0.980

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ALUMINUM	11500		14.2	MDL	28.5	PQL	MG/KG	J	Q
ANTIMONY	0.206	J	0.119	MDL	0.237	PQL	MG/KG	J	Z, Q
BARIUM	82.0		0.237	MDL	0.475	PQL	MG/KG	J	Q
PHOSPHORUS	397		7.12	MDL	14.2	PQL	MG/KG	J	Q
POTASSIUM	3670		35.6	MDL	71.2	PQL	MG/KG	J	Q

* denotes a non-reportable result

Project Name and Number: 1203-004-010-AL - SSFL AREA IV COLLOCATED SAMPLING

Data Qualifier Summary

Lab Reporting Batch ID: 12D146 Laboratory: EMXT

EDD Filename: Prep12D146R eQAPP Name: CDM_SSFL_120730_EMAX

Method Category: METALS **Method:** 6020 **Matrix:** SO

Sample ID: SL-173-NBZ-SS-0.0-0.5 *Collected:* 4/16/2012 3:18:00 *Analysis Type:* RES/TOT *Dilution:* 0.980

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SELENIUM	0.330	J	0.237	MDL	0.475	PQL	MG/KG	J	Z
SODIUM	72.2	J	59.3	MDL	119	PQL	MG/KG	J	Z
Zirconium	5.93	U	2.97	MDL	5.93	PQL	MG/KG	UJ	Q

Method Category: SVOA **Method:** 8015B EFH **Matrix:** SO

Sample ID: SL-013-NBZ-SS-0.0-0.5 *Collected:* 4/16/2012 10:07:00 *Analysis Type:* RES *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
EFH(C12-C14)	0.95	J	0.74	MDL	1.5	PQL	MG/KG	J	Z
EFH(C8-C11)	0.90	J	0.74	MDL	1.5	PQL	MG/KG	J	Z

Method Category: SVOA **Method:** 8081A **Matrix:** SO

Sample ID: DUP-08-NBZ-QC-041612 *Collected:* 4/16/2012 3:23:00 *Analysis Type:* RES-BASE/NEUTRAL *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
4,4'-DDT	0.55		0.20	MDL	0.41	PQL	UG/KG	J	FD

Sample ID: SL-160-NBZ-SS-0.0-0.5 *Collected:* 4/16/2012 2:40:00 *Analysis Type:* RES-BASE/NEUTRAL *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
4,4'-DDT	0.35	J	0.19	MDL	0.38	PQL	UG/KG	J	Z

Sample ID: SL-173-NBZ-SS-0.0-0.5 *Collected:* 4/16/2012 3:18:00 *Analysis Type:* RES-BASE/NEUTRAL *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
4,4'-DDT	1.1		0.21	MDL	0.41	PQL	UG/KG	J	FD

* denotes a non-reportable result

Project Name and Number: 1203-004-010-AL - SSFL AREA IV COLLOCATED SAMPLING

Data Qualifier Summary

Lab Reporting Batch ID: 12D146 Laboratory: EMXT

EDD Filename: Prep12D146R eQAPP Name: CDM_SSFL_120730_EMAX

Method Category: SVOA **Method:** 8082 **Matrix:** SO

Sample ID: SL-159-NBZ-SS-0.0-0.5 *Collected:* 4/16/2012 11:01:00 *Analysis Type:* RES *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
Aroclor 5460	3.1	J	1.9	MDL	3.8	PQL	UG/KG	J	Z

Method Category: SVOA **Method:** 8270C **Matrix:** SO

Sample ID: DUP-08-NBZ-QC-041612 *Collected:* 4/16/2012 3:23:00 *Analysis Type:* RES-BASE/NEUTRAL *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
2-CHLORONAPHTHALENE	200	U	100	MDL	200	PQL	UG/KG	UJ	L
ANILINE	400	U	200	MDL	400	PQL	UG/KG	UJ	E
HEXACHLOROCYCLOPENTADIENE	200	U	100	MDL	200	PQL	UG/KG	UJ	E

Sample ID: SL-013-NBZ-SS-0.0-0.5 *Collected:* 4/16/2012 10:07:00 *Analysis Type:* RES-BASE/NEUTRAL *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
2-CHLORONAPHTHALENE	250	U	120	MDL	250	PQL	UG/KG	UJ	L
ANILINE	490	U	250	MDL	490	PQL	UG/KG	UJ	E
HEXACHLOROCYCLOPENTADIENE	250	U	120	MDL	250	PQL	UG/KG	UJ	E

Sample ID: SL-159-NBZ-SS-0.0-0.5 *Collected:* 4/16/2012 11:01:00 *Analysis Type:* RES-BASE/NEUTRAL *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
2-CHLORONAPHTHALENE	190	U	96	MDL	190	PQL	UG/KG	UJ	L
ANILINE	380	U	190	MDL	380	PQL	UG/KG	UJ	E
HEXACHLOROCYCLOPENTADIENE	190	U	96	MDL	190	PQL	UG/KG	UJ	E

Sample ID: SL-160-NBZ-SS-0.0-0.5 *Collected:* 4/16/2012 2:40:00 *Analysis Type:* RES-BASE/NEUTRAL *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
2-CHLORONAPHTHALENE	190	U	94	MDL	190	PQL	UG/KG	UJ	L
ANILINE	370	U	190	MDL	370	PQL	UG/KG	UJ	E
HEXACHLOROCYCLOPENTADIENE	190	U	94	MDL	190	PQL	UG/KG	UJ	E

* denotes a non-reportable result

Project Name and Number: 1203-004-010-AL - SSFL AREA IV COLLOCATED SAMPLING

Data Qualifier Summary

Lab Reporting Batch ID: 12D146 **Laboratory:** EMXT

EDD Filename: Prep12D146R **eQAPP Name:** CDM_SSFL_120730_EMAX

Method Category: SVOA

Method: 8270C **Matrix:** SO

Sample ID: SL-164-NBZ-SS-0.0-0.5 ***Collected:*** 4/16/2012 11:35:00 ***Analysis Type:*** RES-BASE/NEUTRAL ***Dilution:*** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
2-CHLORONAPHTHALENE	200	U	100	MDL	200	PQL	UG/KG	UJ	L
ANILINE	400	U	200	MDL	400	PQL	UG/KG	UJ	E
HEXACHLOROCYCLOPENTADIENE	200	U	100	MDL	200	PQL	UG/KG	UJ	E

Sample ID: SL-173-NBZ-SS-0.0-0.5 ***Collected:*** 4/16/2012 3:18:00 ***Analysis Type:*** RES-BASE/NEUTRAL ***Dilution:*** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
2-CHLORONAPHTHALENE	200	U	100	MDL	200	PQL	UG/KG	UJ	L
ANILINE	400	U	200	MDL	400	PQL	UG/KG	UJ	E
BENZIDINE	1000	U	510	MDL	1000	PQL	UG/KG	R	Q
HEXACHLOROCYCLOPENTADIENE	200	U	100	MDL	200	PQL	UG/KG	R	Q

Method Category: SVOA

Method: 8270C SIM **Matrix:** SO

Sample ID: DUP-08-NBZ-QC-041612 ***Collected:*** 4/16/2012 3:23:00 ***Analysis Type:*** RES-BASE/NEUTRAL ***Dilution:*** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BENZO(A)ANTHRACENE	1.5	J	1.0	MDL	2.0	PQL	UG/KG	J	Z
BENZO(A)PYRENE	2.0	U	1.0	MDL	2.0	PQL	UG/KG	UJ	FD
BENZO(B)FLUORANTHENE	1.4	J	1.0	MDL	2.0	PQL	UG/KG	J	Z, FD
BENZO(G,H,I)PERYLENE	2.0	U	1.0	MDL	2.0	PQL	UG/KG	UJ	FD
BIS(2-ETHYLHEXYL)PHTHALATE	11	J	10	MDL	20	PQL	UG/KG	J	Z
CHRYSENE	2.0	U	1.0	MDL	2.0	PQL	UG/KG	UJ	FD
DIBENZO(A,H)ANTHRACENE	2.0	U	1.0	MDL	2.0	PQL	UG/KG	UJ	FD
FLUORANTHENE	2.0	U	1.0	MDL	2.0	PQL	UG/KG	UJ	FD
INDENO(1,2,3-CD)PYRENE	2.0	U	1.0	MDL	2.0	PQL	UG/KG	UJ	FD
PHENANTHRENE	2.0	U	1.0	MDL	2.0	PQL	UG/KG	UJ	FD
PYRENE	2.0	U	1.0	MDL	2.0	PQL	UG/KG	UJ	FD

Sample ID: SL-013-NBZ-SS-0.0-0.5 ***Collected:*** 4/16/2012 10:07:00 ***Analysis Type:*** RES-BASE/NEUTRAL ***Dilution:*** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
2-METHYLNAPHTHALENE	1.3	J	1.3	MDL	2.5	PQL	UG/KG	J	Z
ACENAPHTHYLENE	1.3	J	1.3	MDL	2.5	PQL	UG/KG	J	Z

* denotes a non-reportable result

Project Name and Number: 1203-004-010-AL - SSFL AREA IV COLLOCATED SAMPLING

Data Qualifier Summary

Lab Reporting Batch ID: 12D146 **Laboratory:** EMXT

EDD Filename: Prep12D146R **eQAPP Name:** CDM_SSFL_120730_EMAX

Method Category: SVOA

Method: 8270C SIM **Matrix:** SO

Sample ID: SL-013-NBZ-SS-0.0-0.5 ***Collected:*** 4/16/2012 10:07:00 ***Analysis Type:*** RES-BASE/NEUTRAL ***Dilution:*** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
NAPHTHALENE	1.6	J	1.3	MDL	2.5	PQL	UG/KG	J	Z

Sample ID: SL-159-NBZ-SS-0.0-0.5 ***Collected:*** 4/16/2012 11:01:00 ***Analysis Type:*** RES-BASE/NEUTRAL ***Dilution:*** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1-METHYLNAPHTHALENE	1.5	J	0.97	MDL	1.9	PQL	UG/KG	J	Z
2-METHYLNAPHTHALENE	1.6	J	0.97	MDL	1.9	PQL	UG/KG	J	Z
ACENAPHTHENE	1.0	J	0.97	MDL	1.9	PQL	UG/KG	J	Z
ACENAPHTHYLENE	1.2	J	0.97	MDL	1.9	PQL	UG/KG	J	Z
BENZO(A)PYRENE	1.6	J	0.97	MDL	1.9	PQL	UG/KG	J	Z
CHRYSENE	1.2	J	0.97	MDL	1.9	PQL	UG/KG	J	Z
FLUORENE	1.1	J	0.97	MDL	1.9	PQL	UG/KG	J	Z

Sample ID: SL-160-NBZ-SS-0.0-0.5 ***Collected:*** 4/16/2012 2:40:00 ***Analysis Type:*** RES-BASE/NEUTRAL ***Dilution:*** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BENZO(A)ANTHRACENE	1.4	J	0.95	MDL	1.9	PQL	UG/KG	J	Z
BIS(2-ETHYLHEXYL)PHTHALATE	13	J	9.4	MDL	19	PQL	UG/KG	J	Z
Butylbenzylphthalate	9.4	J	9.4	MDL	19	PQL	UG/KG	J	Z

Sample ID: SL-164-NBZ-SS-0.0-0.5 ***Collected:*** 4/16/2012 11:35:00 ***Analysis Type:*** RES-BASE/NEUTRAL ***Dilution:*** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BENZO(A)ANTHRACENE	1.3	J	1.0	MDL	2.0	PQL	UG/KG	J	Z
BIS(2-ETHYLHEXYL)PHTHALATE	10	J	10	MDL	20	PQL	UG/KG	J	Z
PYRENE	1.7	J	1.0	MDL	2.0	PQL	UG/KG	J	Z

Sample ID: SL-173-NBZ-SS-0.0-0.5 ***Collected:*** 4/16/2012 3:18:00 ***Analysis Type:*** RES-BASE/NEUTRAL ***Dilution:*** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BENZO(A)PYRENE	3.0		1.0	MDL	2.1	PQL	UG/KG	J	FD
BENZO(B)FLUORANTHENE	4.5		1.0	MDL	2.1	PQL	UG/KG	J	FD
BENZO(G,H,I)PERYLENE	3.4		1.0	MDL	2.1	PQL	UG/KG	J	FD
BIS(2-ETHYLHEXYL)PHTHALATE	13	J	10	MDL	20	PQL	UG/KG	J	Z
CHRYSENE	2.7		1.0	MDL	2.1	PQL	UG/KG	J	FD

* denotes a non-reportable result

Project Name and Number: 1203-004-010-AL - SSFL AREA IV COLLOCATED SAMPLING

Data Qualifier Summary

Lab Reporting Batch ID: 12D146 Laboratory: EMXT

EDD Filename: Prep12D146R eQAPP Name: CDM_SSFL_120730_EMAX

Method Category: SVOA

Method: 8270C SIM *Matrix:* SO

Sample ID: SL-173-NBZ-SS-0.0-0.5 *Collected:* 4/16/2012 3:18:00 *Analysis Type:* RES-BASE/NEUTRAL *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
DIBENZO(A,H)ANTHRACENE	2.2		1.0	MDL	2.1	PQL	UG/KG	J	FD
FLUORANTHENE	4.1		1.0	MDL	2.1	PQL	UG/KG	J	FD
INDENO(1,2,3-CD)PYRENE	4.0		1.0	MDL	2.1	PQL	UG/KG	J	FD
PHENANTHRENE	1.7	J	1.0	MDL	2.1	PQL	UG/KG	J	Z, FD
PYRENE	3.6		1.0	MDL	2.1	PQL	UG/KG	J	FD

* denotes a non-reportable result

Project Name and Number: 1203-004-010-AL - SSFL AREA IV COLLOCATED SAMPLING

Data Qualifier Summary

Lab Reporting Batch ID: 12D146 **Laboratory: EMXT**

EDD Filename: Prep12D146R **eQAPP Name: CDM_SSFL_120730_EMAX**

Reason Code Legend

Reason Code	*Description*
E	Laboratory Control Precision
FD	Field Duplicate Precision
L	Laboratory Control Precision
L	Laboratory Control Spike Lower Estimation
Q	Matrix Spike Lower Estimation
Q	Matrix Spike Lower Rejection
Q	Matrix Spike Upper Estimation
S	Surrogate/Tracer Recovery Lower Estimation
S	Surrogate/Tracer Recovery Upper Estimation
Z	Reporting Limit Trace Value

* denotes a non-reportable result

Project Name and Number: 1203-004-010-AL - SSFL AREA IV COLLOCATED SAMPLING

Enclosure I

Level III ADR Outliers
(including Manual Review Outliers)

Quality Control
Outlier Reports

12D146

Matrix Spike/Matrix Spike Duplicate Outlier Report

Lab Reporting Batch ID: 12D146 | Laboratory: EMXT

EDD Filename: 12D146R | eQAPP Name: CDM_SSFL_120730_EMAX

Method: 6020
Matrix: SO

QC Sample ID (Associated Samples)	Compound	MS %R	MSD %R	%R Limits	RPD (Limits)	Affected Compounds	Flag
SL-173-NBZ-SS-0.0-0.5MSD (TOT) (DUP-08-NBZ-QC-041612 SL -013-NBZ-SS-0.0-0.5 SL -159-NBZ-SS-0.0-0.5 SL -160-NBZ-SS-0.0-0.5 SL -164-NBZ-SS-0.0-0.5 SL -173-NBZ-SS-0.0-0.5)	ALUMINUM BARIUM PHOSPHORUS POTASSIUM	- - - -	152 172 146 134	75.00-125.00 75.00-125.00 75.00-125.00 75.00-125.00	- - - -	ALUMINUM BARIUM PHOSPHORUS POTASSIUM	J (all detects)
SL-173-NBZ-SS-0.0-0.5MS (TOT) **SL-173-NBZ-SS-0.0-0.5MSD (TOT)** (DUP-08-NBZ-QC-041612 SL -013-NBZ-SS-0.0-0.5 SL -159-NBZ-SS-0.0-0.5 SL -160-NBZ-SS-0.0-0.5 SL -164-NBZ-SS-0.0-0.5 SL -173-NBZ-SS-0.0-0.5)	TITANIUM	26	422	75.00-125.00	-	TITANIUM	No Qual, >4x
SL-173-NBZ-SS-0.0-0.5MS (TOT) **SL-173-NBZ-SS-0.0-0.5MSD (TOT)** (DUP-08-NBZ-QC-041612 SL -013-NBZ-SS-0.0-0.5 SL -159-NBZ-SS-0.0-0.5 SL -160-NBZ-SS-0.0-0.5 SL -164-NBZ-SS-0.0-0.5 SL -173-NBZ-SS-0.0-0.5)	ANTIMONY IRON Zirconium	73 71 53	72 181 58	75.00-125.00 75.00-125.00 75.00-125.00	- - -	ANTIMONY IRON Zirconium	J(all detects) UJ(all non-detects) Fe, No Qual, >4x

Method: 8270C
Matrix: SO

QC Sample ID (Associated Samples)	Compound	MS %R	MSD %R	%R Limits	RPD (Limits)	Affected Compounds	Flag
SL-173-NBZ-SS-0.0-0.5MS **SL-173-NBZ-SS-0.0-0.5MSD** (SL-173-NBZ-SS-0.0-0.5)	BENZIDINE HEXACHLOROCYCLOPENTADI	0 0	0 0	10.00-150.00 10.00-130.00	- -	BENZIDINE HEXACHLOROCYCLOPENTAD	J(all detects) R(all non-detects)

Method: 8270C SIM
Matrix: SO

QC Sample ID (Associated Samples)	Compound	MS %R	MSD %R	%R Limits	RPD (Limits)	Affected Compounds	Flag
SL-173-NBZ-SS-0.0-0.5MSD (SL-173-NBZ-SS-0.0-0.5)	Di-n-octylphthalate	-	153	10.00-150.00	-	Di-n-octylphthalate	J(all detects)

Project Name and Number: 1203-004-010-AL - SSFL AREA IV COLLOCATED SAMPLING

Lab Control Spike/Lab Control Spike Duplicate Outlier Report

Lab Reporting Batch ID: 12D146 **Laboratory: EMXT**

EDD Filename: 12D146R **eQAPP Name: CDM_SSFL_120730_EMAX**

***Method:* 8270C**
***Matrix:* SO**

QC Sample ID (Associated Samples)	*Compound*	*LCS %R*	*LCSD %R*	*%R Limits*	*RPD (Limits)*	*Affected Compounds*	*Flag*
SVD047SC (DUP-08-NBZ-QC-041612 SL-013-NBZ-SS-0.0-0.5 SL-159-NBZ-SS-0.0-0.5 SL-160-NBZ-SS-0.0-0.5 SL-164-NBZ-SS-0.0-0.5 SL-173-NBZ-SS-0.0-0.5)	2-CHLORONAPHTHALENE ANILINE HEXACHLOROCYCLOPENTADI	- - -	47 - -	50.00-130.00 20.00-150.00 10.00-130.00	- 56 (50.00) 56 (50.00)	2-CHLORONAPHTHALENE ANILINE HEXACHLOROCYCLOPENTAD	J (all detects) UJ (all non-detects)

Project Name and Number: 1203-004-010-AL - SSFL AREA IV COLLOCATED SAMPLING

Field Duplicate RPD Report

Lab Reporting Batch ID: 12D146 | Laboratory: EMXT

EDD Filename: 12D146R | eQAPP Name: CDM_SSFL_120730_EMAX

Method: 6020
Matrix: SO

Analyte	Concentration (MG/KG)		Sample RPD	eQAPP RPD	Flag
	SL-173-NBZ-SS-0.0-0.5 (TOT)	DUP-08-NBZ-QC-041612 (TOT)			
ALUMINUM	11500	10700	7	50.00	No Qualifiers Applied
ANTIMONY	0.206	0.160	25	50.00	
ARSENIC	3.90	3.43	13	50.00	
BARIUM	82.0	74.0	10	50.00	
BERYLLIUM	0.473	0.394	18	50.00	
CADMIUM	0.226	0.206	9	50.00	
CALCIUM	3280	2800	16	50.00	
CHROMIUM	11.6	10.6	9	50.00	
COBALT	4.87	4.38	11	50.00	
COPPER	6.69	5.98	11	50.00	
IRON	19600	18400	6	50.00	
LEAD	13.8	12.1	13	50.00	
LITHIUM	28.9	26.5	9	50.00	
MAGNESIUM	4110	3810	8	50.00	
MANGANESE	292	268	9	50.00	
MOLYBDENUM	0.476	0.424	12	50.00	
NICKEL	7.65	6.90	10	50.00	
PHOSPHORUS	397	364	9	50.00	
POTASSIUM	3670	3440	6	50.00	
SELENIUM	0.330	0.284	15	50.00	
SODIUM	72.2	62.9	14	50.00	
STRONTIUM	20.3	17.6	14	50.00	
THALLIUM	0.247	0.228	8	50.00	
TITANIUM	900	834	8	50.00	
VANADIUM	26.8	24.3	10	50.00	
ZINC	60.6	56.9	6	50.00	

Method: 8081A
Matrix: SO

Analyte	Concentration (UG/KG)		Sample RPD	eQAPP RPD	Flag
	SL-173-NBZ-SS-0.0-0.5	DUP-08-NBZ-QC-041612			
4,4'-DDE	0.72	0.52	32	50.00	No Qualifiers Applied
4,4'-DDT	1.1	0.55	67	50.00	J(all detects)

Method: 8270C SIM
Matrix: SO

Analyte	Concentration (UG/KG)		Sample RPD	eQAPP RPD	Flag
	SL-173-NBZ-SS-0.0-0.5	DUP-08-NBZ-QC-041612			
BENZO(A)ANTHRACENE	2.3	1.5	42	50.00	No Qualifiers Applied
BIS(2-ETHYLHEXYL)PHTHALATE	13	11	17	50.00	
BENZO(A)PYRENE	3.0	2.0 U	200	50.00	J(all detects) UJ(all non-detects)
BENZO(B)FLUORANTHENE	4.5	1.4	105	50.00	
BENZO(G,H,I)PERYLENE	3.4	2.0 U	200	50.00	
CHRYSENE	2.7	2.0 U	200	50.00	
DIBENZO(A,H)ANTHRACENE	2.2	2.0 U	200	50.00	
FLUORANTHENE	4.1	2.0 U	200	50.00	
INDENO(1,2,3-CD)PYRENE	4.0	2.0 U	200	50.00	
PHENANTHRENE	1.7	2.0 U	200	50.00	
PYRENE	3.6	2.0 U	200	50.00	

Project Name and Number: 1203-004-010-AL - SSFL AREA IV COLLOCATED SAMPLING

Reporting Limit Outliers

Lab Reporting Batch ID: 12D146 **Laboratory: EMXT**

EDD Filename: 12D146R **eQAPP Name: CDM_SSFL_120730_EMAX**

Method: 300.0
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-013-NBZ-SS-0.0-0.5	FLUORIDE	J	0.829	1.48	PQL	MG/KG	J (all detects)

Method: 6020
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
DUP-08-NBZ-QC-041612	ANTIMONY	J	0.160	0.235	PQL	MG/KG	J (all detects)
	SELENIUM	J	0.284	0.470	PQL	MG/KG	
	SODIUM	J	62.9	117	PQL	MG/KG	
SL-013-NBZ-SS-0.0-0.5	ANTIMONY	J	0.224	0.294	PQL	MG/KG	J (all detects)
	BORON	J	3.78	7.36	PQL	MG/KG	
	SODIUM	J	98.0	147	PQL	MG/KG	
SL-159-NBZ-SS-0.0-0.5	ANTIMONY	J	0.134	0.227	PQL	MG/KG	J (all detects)
	SODIUM	J	63.4	114	PQL	MG/KG	
SL-160-NBZ-SS-0.0-0.5	ANTIMONY	J	0.123	0.223	PQL	MG/KG	J (all detects)
	SODIUM	J	57.0	112	PQL	MG/KG	
SL-164-NBZ-SS-0.0-0.5	ANTIMONY	J	0.127	0.237	PQL	MG/KG	J (all detects)
	SODIUM	J	67.4	118	PQL	MG/KG	
SL-173-NBZ-SS-0.0-0.5	ANTIMONY	J	0.206	0.237	PQL	MG/KG	J (all detects)
	SELENIUM	J	0.330	0.475	PQL	MG/KG	
	SODIUM	J	72.2	119	PQL	MG/KG	

Method: 8015B EFH
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-013-NBZ-SS-0.0-0.5	EFH(C12-C14)	J	0.95	1.5	PQL	MG/KG	J (all detects)
	EFH(C8-C11)	J	0.90	1.5	PQL	MG/KG	

Method: 8081A
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-160-NBZ-SS-0.0-0.5	4,4'-DDT	J	0.35	0.38	PQL	UG/KG	J (all detects)

Method: 8082
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-159-NBZ-SS-0.0-0.5	Aroclor 5460	J	3.1	3.8	PQL	UG/KG	J (all detects)

Project Name and Number: 1203-004-010-AL - SSFL AREA IV COLLOCATED SAMPLING

Reporting Limit Outliers

Lab Reporting Batch ID: 12D146 **Laboratory: EMXT**

EDD Filename: 12D146R **eQAPP Name: CDM_SSFL_120730_EMAX**

Method: 8270C SIM

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
DUP-08-NBZ-QC-041612	BENZO(A)ANTHRACENE	J	1.5	2.0	PQL	UG/KG	J (all detects)
	BENZO(B)FLUORANTHENE	J	1.4	2.0	PQL	UG/KG	
	BIS(2-ETHYLHEXYL)PHTHALATE	J	11	20	PQL	UG/KG	
SL-013-NBZ-SS-0.0-0.5	2-METHYLNAPHTHALENE	J	1.3	2.5	PQL	UG/KG	J (all detects)
	ACENAPHTHYLENE	J	1.3	2.5	PQL	UG/KG	
	NAPHTHALENE	J	1.6	2.5	PQL	UG/KG	
SL-159-NBZ-SS-0.0-0.5	1-METHYLNAPHTHALENE	J	1.5	1.9	PQL	UG/KG	J (all detects)
	2-METHYLNAPHTHALENE	J	1.6	1.9	PQL	UG/KG	
	ACENAPHTHENE	J	1.0	1.9	PQL	UG/KG	
	ACENAPHTHYLENE	J	1.2	1.9	PQL	UG/KG	
	BENZO(A)PYRENE	J	1.6	1.9	PQL	UG/KG	
	CHRYSENE	J	1.2	1.9	PQL	UG/KG	
	FLUORENE	J	1.1	1.9	PQL	UG/KG	
SL-160-NBZ-SS-0.0-0.5	BENZO(A)ANTHRACENE	J	1.4	1.9	PQL	UG/KG	J (all detects)
	BIS(2-ETHYLHEXYL)PHTHALATE	J	13	19	PQL	UG/KG	
	Butylbenzylphthalate	J	9.4	19	PQL	UG/KG	
SL-164-NBZ-SS-0.0-0.5	BENZO(A)ANTHRACENE	J	1.3	2.0	PQL	UG/KG	J (all detects)
	BIS(2-ETHYLHEXYL)PHTHALATE	J	10	20	PQL	UG/KG	
	PYRENE	J	1.7	2.0	PQL	UG/KG	
SL-173-NBZ-SS-0.0-0.5	BIS(2-ETHYLHEXYL)PHTHALATE	J	13	20	PQL	UG/KG	J (all detects)
	PHENANTHRENE	J	1.7	2.1	PQL	UG/KG	

LDC #: 28255V4
SDG #: 12D146
Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 8-29-12
Page: 1 of 1
Reviewer: AL
2nd Reviewer: AL

METHOD: Metals (EPA SW 846 Method ~~6010B~~/6020A/~~7000~~ 7471A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	—	Sampling dates: 4/16/12
II.	ICP/MS Tune	—	
III.	Calibration	—	
IV.	Blanks	A	
V.	ICP Interference Check Sample (ICS) Analysis	—	
VI.	Matrix Spike Analysis	N	MS/D (Fe, Ti > 4X)
VII.	Duplicate Sample Analysis	N	
VIII.	Laboratory Control Samples (LCS)	N	LCS/D
IX.	Internal Standard (ICP-MS)	N	
X.	Furnace Atomic Absorption QC	N	
XI.	ICP Serial Dilution	A	
XII.	Sample Result Verification	N	
XIII.	Overall Assessment of Data	N	
XIV.	Field Duplicates	—	
XV	Field Blanks	—	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: SOIL

1	SL-013-NBZ-SS-0.0-0.5	11		21		31	
2	SL-159-NBZ-SS-0.0-0.5	12		22		32	
3	SL-160-NBZ-SS-0.0-0.5	13		23		33	
4	SL-164-NBZ-SS-0.0-0.5	14		24		34	
5	SL-173-NBZ-SS-0.0-0.5	15		25		35	
6	DUP-08-NBZ-QC-041612	16		26		36	
7	SL-173-NBZ-SS-0.0-0.5MS	17		27		37	
8	SL-173-NBZ-SS-0.0-0.5MSD	18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

SAMPLE DELIVERY GROUP

12D154

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
17-Apr-2012	SL-162-NBZ-SS-0.0-0.5	D154-09	N	3550B	8081A	III
17-Apr-2012	SL-162-NBZ-SS-0.0-0.5	D154-09	N	3550B	8082	III
17-Apr-2012	SL-162-NBZ-SS-0.0-0.5	D154-09	N	3550B	8270C	III
17-Apr-2012	SL-162-NBZ-SS-0.0-0.5	D154-09	N	3550B	8270C SIM	III
17-Apr-2012	SL-162-NBZ-SS-0.0-0.5	D154-09	N	7471A	7471A	III
17-Apr-2012	SL-162-NBZ-SS-0.0-0.5	D154-09	N	GEN PREP	300.0	III
17-Apr-2012	SL-162-NBZ-SS-0.0-0.5	D154-09	N	GEN PREP	314.0	III
17-Apr-2012	SL-162-NBZ-SS-0.0-0.5	D154-09	N	GEN PREP	6020	III
17-Apr-2012	SL-162-NBZ-SS-0.0-0.5	D154-09	N	GEN PREP	7199	III
17-Apr-2012	SL-162-NBZ-SS-0.0-0.5	D154-09	N	GEN PREP	8151A	III
17-Apr-2012	SL-162-NBZ-SS-0.0-0.5	D154-09R	N	GEN PREP	7199	III
17-Apr-2012	SL-014-NBZ-SS-0.0-0.5	D154-03	N	3550B	8015B EFH	III
17-Apr-2012	SL-014-NBZ-SS-0.0-0.5	D154-03	N	3550B	8081A	III
17-Apr-2012	SL-014-NBZ-SS-0.0-0.5	D154-03	N	3550B	8082	III
17-Apr-2012	SL-014-NBZ-SS-0.0-0.5	D154-03	N	3550B	8270C	III
17-Apr-2012	SL-014-NBZ-SS-0.0-0.5	D154-03	N	3550B	8270C SIM	III
17-Apr-2012	SL-014-NBZ-SS-0.0-0.5	D154-03	N	7471A	7471A	III
17-Apr-2012	SL-014-NBZ-SS-0.0-0.5	D154-03	N	GEN PREP	300.0	III
17-Apr-2012	SL-014-NBZ-SS-0.0-0.5	D154-03	N	GEN PREP	314.0	III
17-Apr-2012	SL-014-NBZ-SS-0.0-0.5	D154-03	N	GEN PREP	6020	III
17-Apr-2012	SL-014-NBZ-SS-0.0-0.5	D154-03	N	GEN PREP	7199	III
17-Apr-2012	SL-014-NBZ-SS-0.0-0.5	D154-03	N	GEN PREP	8151A	III
17-Apr-2012	SL-014-NBZ-SS-0.0-0.5	D154-03	N	GEN PREP	8330A	III
17-Apr-2012	SL-014-NBZ-SS-0.0-0.5	D154-03	N	GEN PREP	8332	III
17-Apr-2012	SL-014-NBZ-SS-0.0-0.5	D154-03	N	GEN PREP	9014	III
17-Apr-2012	SL-014-NBZ-SS-0.0-0.5	D154-03R	N	GEN PREP	7199	III

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
17-Apr-2012	SL-166-NBZ-SS-0.0-0.5	D154-10	N	3550B	8081A	III
17-Apr-2012	SL-166-NBZ-SS-0.0-0.5	D154-10	N	3550B	8082	III
17-Apr-2012	SL-166-NBZ-SS-0.0-0.5	D154-10	N	3550B	8270C	III
17-Apr-2012	SL-166-NBZ-SS-0.0-0.5	D154-10	N	3550B	8270C SIM	III
17-Apr-2012	SL-166-NBZ-SS-0.0-0.5	D154-10	N	7471A	7471A	III
17-Apr-2012	SL-166-NBZ-SS-0.0-0.5	D154-10	N	GEN PREP	300.0	III
17-Apr-2012	SL-166-NBZ-SS-0.0-0.5	D154-10	N	GEN PREP	314.0	III
17-Apr-2012	SL-166-NBZ-SS-0.0-0.5	D154-10	N	GEN PREP	6020	III
17-Apr-2012	SL-166-NBZ-SS-0.0-0.5	D154-10	N	GEN PREP	7199	III
17-Apr-2012	SL-166-NBZ-SS-0.0-0.5	D154-10	N	GEN PREP	8151A	III
17-Apr-2012	SL-166-NBZ-SS-0.0-0.5MS	D154-10M	MS	3550B	8270C	III
17-Apr-2012	SL-166-NBZ-SS-0.0-0.5	D154-10R	N	GEN PREP	7199	III
17-Apr-2012	SL-166-NBZ-SS-0.0-0.5MSD	D154-10S	MSD	3550B	8270C	III
17-Apr-2012	SL-088-NBZ-SS-0.0-0.5	D154-04	N	3550B	8015B EFH	III
17-Apr-2012	SL-088-NBZ-SS-0.0-0.5	D154-04	N	3550B	8081A	III
17-Apr-2012	SL-088-NBZ-SS-0.0-0.5	D154-04	N	3550B	8082	III
17-Apr-2012	SL-088-NBZ-SS-0.0-0.5	D154-04	N	3550B	8270C	III
17-Apr-2012	SL-088-NBZ-SS-0.0-0.5	D154-04	N	3550B	8270C SIM	III
17-Apr-2012	SL-088-NBZ-SS-0.0-0.5	D154-04	N	7471A	7471A	III
17-Apr-2012	SL-088-NBZ-SS-0.0-0.5	D154-04	N	GEN PREP	300.0	III
17-Apr-2012	SL-088-NBZ-SS-0.0-0.5	D154-04	N	GEN PREP	314.0	III
17-Apr-2012	SL-088-NBZ-SS-0.0-0.5	D154-04	N	GEN PREP	6020	III
17-Apr-2012	SL-088-NBZ-SS-0.0-0.5	D154-04	N	GEN PREP	7199	III
17-Apr-2012	SL-088-NBZ-SS-0.0-0.5	D154-04	N	GEN PREP	8151A	III
17-Apr-2012	SL-088-NBZ-SS-0.0-0.5	D154-04	N	GEN PREP	8330A	III
17-Apr-2012	SL-088-NBZ-SS-0.0-0.5	D154-04	N	GEN PREP	8332	III

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
17-Apr-2012	SL-088-NBZ-SS-0.0-0.5	D154-04	N	GEN PREP	9014	III
17-Apr-2012	SL-088-NBZ-SS-0.0-0.5	D154-04R	N	GEN PREP	7199	III
17-Apr-2012	SL-156-NBZ-SS-0.0-0.5	D154-07	N	3550B	8081A	III
17-Apr-2012	SL-156-NBZ-SS-0.0-0.5	D154-07	N	3550B	8082	III
17-Apr-2012	SL-156-NBZ-SS-0.0-0.5	D154-07	N	3550B	8270C	III
17-Apr-2012	SL-156-NBZ-SS-0.0-0.5	D154-07	N	3550B	8270C SIM	III
17-Apr-2012	SL-156-NBZ-SS-0.0-0.5	D154-07	N	7471A	7471A	III
17-Apr-2012	SL-156-NBZ-SS-0.0-0.5	D154-07	N	GEN PREP	300.0	III
17-Apr-2012	SL-156-NBZ-SS-0.0-0.5	D154-07	N	GEN PREP	314.0	III
17-Apr-2012	SL-156-NBZ-SS-0.0-0.5	D154-07	N	GEN PREP	6020	III
17-Apr-2012	SL-156-NBZ-SS-0.0-0.5	D154-07	N	GEN PREP	7199	III
17-Apr-2012	SL-156-NBZ-SS-0.0-0.5	D154-07	N	GEN PREP	8151A	III
17-Apr-2012	SL-156-NBZ-SS-0.0-0.5	D154-07R	N	GEN PREP	7199	III
17-Apr-2012	SL-161-NBZ-SS-0.0-0.5	D154-08	N	3550B	8081A	III
17-Apr-2012	SL-161-NBZ-SS-0.0-0.5	D154-08	N	3550B	8082	III
17-Apr-2012	SL-161-NBZ-SS-0.0-0.5	D154-08	N	3550B	8270C	III
17-Apr-2012	SL-161-NBZ-SS-0.0-0.5	D154-08	N	3550B	8270C SIM	III
17-Apr-2012	SL-161-NBZ-SS-0.0-0.5	D154-08	N	7471A	7471A	III
17-Apr-2012	SL-161-NBZ-SS-0.0-0.5	D154-08	N	GEN PREP	300.0	III
17-Apr-2012	SL-161-NBZ-SS-0.0-0.5	D154-08	N	GEN PREP	314.0	III
17-Apr-2012	SL-161-NBZ-SS-0.0-0.5	D154-08	N	GEN PREP	6020	III
17-Apr-2012	SL-161-NBZ-SS-0.0-0.5	D154-08	N	GEN PREP	7199	III
17-Apr-2012	SL-161-NBZ-SS-0.0-0.5	D154-08	N	GEN PREP	8151A	III
17-Apr-2012	SL-161-NBZ-SS-0.0-0.5	D154-08R	N	GEN PREP	7199	III
17-Apr-2012	SL-090-NBZ-SS-0.0-0.5	D154-05	N	3550B	8015B EFH	III
17-Apr-2012	SL-090-NBZ-SS-0.0-0.5	D154-05	N	3550B	8081A	III

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
17-Apr-2012	SL-090-NBZ-SS-0.0-0.5	D154-05	N	3550B	8082	III
17-Apr-2012	SL-090-NBZ-SS-0.0-0.5	D154-05	N	3550B	8270C	III
17-Apr-2012	SL-090-NBZ-SS-0.0-0.5	D154-05	N	3550B	8270C SIM	III
17-Apr-2012	SL-090-NBZ-SS-0.0-0.5	D154-05	N	7471A	7471A	III
17-Apr-2012	SL-090-NBZ-SS-0.0-0.5	D154-05	N	GEN PREP	300.0	III
17-Apr-2012	SL-090-NBZ-SS-0.0-0.5	D154-05	N	GEN PREP	314.0	III
17-Apr-2012	SL-090-NBZ-SS-0.0-0.5	D154-05	N	GEN PREP	6020	III
17-Apr-2012	SL-090-NBZ-SS-0.0-0.5	D154-05	N	GEN PREP	7199	III
17-Apr-2012	SL-090-NBZ-SS-0.0-0.5	D154-05	N	GEN PREP	8151A	III
17-Apr-2012	SL-090-NBZ-SS-0.0-0.5	D154-05	N	GEN PREP	8330A	III
17-Apr-2012	SL-090-NBZ-SS-0.0-0.5	D154-05	N	GEN PREP	8332	III
17-Apr-2012	SL-090-NBZ-SS-0.0-0.5	D154-05	N	GEN PREP	9014	III
17-Apr-2012	SL-090-NBZ-SS-0.0-0.5MS	D154-05M	MS	GEN PREP	8151A	III
17-Apr-2012	SL-090-NBZ-SS-0.0-0.5	D154-05R	N	GEN PREP	7199	III
17-Apr-2012	SL-090-NBZ-SS-0.0-0.5MSD	D154-05S	MSD	GEN PREP	8151A	III
17-Apr-2012	EB-NBZ-SS-041712	D154-02	EB	3520C	8015B EFH	III
17-Apr-2012	EB-NBZ-SS-041712	D154-02	EB	3520C	8081A	III
17-Apr-2012	EB-NBZ-SS-041712	D154-02	EB	3520C	8082	III
17-Apr-2012	EB-NBZ-SS-041712	D154-02	EB	7470A	7470A	III
17-Apr-2012	EB-NBZ-SS-041712	D154-02	EB	GEN PREP	300.0	III
17-Apr-2012	EB-NBZ-SS-041712	D154-02	EB	GEN PREP	314.0	III
17-Apr-2012	EB-NBZ-SS-041712	D154-02	EB	GEN PREP	6020	III
17-Apr-2012	EB-NBZ-SS-041712	D154-02	EB	GEN PREP	7199	III
17-Apr-2012	EB-NBZ-SS-041712	D154-02	EB	GEN PREP	8015B	III
17-Apr-2012	EB-NBZ-SS-041712	D154-02	EB	GEN PREP	8015M	III
17-Apr-2012	EB-NBZ-SS-041712	D154-02	EB	GEN PREP	8151A	III

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
17-Apr-2012	EB-NBZ-SS-041712	D154-02	EB	GEN PREP	8330A	III
17-Apr-2012	EB-NBZ-SS-041712	D154-02	EB	GEN PREP	8332	III
17-Apr-2012	EB-NBZ-SS-041712	D154-02	EB	GEN PREP	9014	III
17-Apr-2012	EB-NBZ-SS-041712	D154-02R	EB	GEN PREP	7199	III
17-Apr-2012	EB-NBZ-SS-041712	D154-02W	EB	3520C	8270C	III
17-Apr-2012	SL-147-NBZ-SS-0.0-0.5	D154-06	N	3550B	8081A	III
17-Apr-2012	SL-147-NBZ-SS-0.0-0.5	D154-06	N	3550B	8082	III
17-Apr-2012	SL-147-NBZ-SS-0.0-0.5	D154-06	N	3550B	8270C	III
17-Apr-2012	SL-147-NBZ-SS-0.0-0.5	D154-06	N	3550B	8270C SIM	III
17-Apr-2012	SL-147-NBZ-SS-0.0-0.5	D154-06	N	7471A	7471A	III
17-Apr-2012	SL-147-NBZ-SS-0.0-0.5	D154-06	N	GEN PREP	300.0	III
17-Apr-2012	SL-147-NBZ-SS-0.0-0.5	D154-06	N	GEN PREP	314.0	III
17-Apr-2012	SL-147-NBZ-SS-0.0-0.5	D154-06	N	GEN PREP	6020	III
17-Apr-2012	SL-147-NBZ-SS-0.0-0.5	D154-06	N	GEN PREP	7199	III
17-Apr-2012	SL-147-NBZ-SS-0.0-0.5	D154-06	N	GEN PREP	8151A	III
17-Apr-2012	SL-147-NBZ-SS-0.0-0.5	D154-06R	N	GEN PREP	7199	III
17-Apr-2012	EB-NBZ-SB-041712	D154-01	EB	3520C	8015B EFH	III
17-Apr-2012	EB-NBZ-SB-041712	D154-01	EB	3520C	8082	III
17-Apr-2012	EB-NBZ-SB-041712	D154-01	EB	5030B	8015B GRO	III
17-Apr-2012	EB-NBZ-SB-041712	D154-01	EB	7470A	7470A	III
17-Apr-2012	EB-NBZ-SB-041712	D154-01	EB	GEN PREP	300.0	III
17-Apr-2012	EB-NBZ-SB-041712	D154-01	EB	GEN PREP	314.0	III
17-Apr-2012	EB-NBZ-SB-041712	D154-01	EB	GEN PREP	6020	III
17-Apr-2012	EB-NBZ-SB-041712	D154-01	EB	GEN PREP	7199	III
17-Apr-2012	EB-NBZ-SB-041712	D154-01	EB	GEN PREP	8015B	III
17-Apr-2012	EB-NBZ-SB-041712	D154-01	EB	GEN PREP	8015M	III

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
17-Apr-2012	EB-NBZ-SB-041712	D154-01	EB	GEN PREP	8330A	III
17-Apr-2012	EB-NBZ-SB-041712	D154-01	EB	GEN PREP	8332	III
17-Apr-2012	EB-NBZ-SB-041712	D154-01	EB	GEN PREP	9014	III
17-Apr-2012	EB-NBZ-SB-041712	D154-01R	EB	GEN PREP	7199	III
17-Apr-2012	EB-NBZ-SB-041712	D154-01W	EB	3520C	8270C	III

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Attachment II

Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: 12D154 **Laboratory: EMXT**

EDD Filename: Prep12D154R **eQAPP Name: CDM_SSFL_120730_EMAX**

Method Category: GENCHEM

Method: 300.0 **Matrix: SO**

Sample ID: SL-147-NBZ-SS-0.0-0.5 **Collected:** 4/17/2012 3:25:00 **Analysis Type:** RES **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
FLUORIDE	0.660	J	0.577	MDL	1.15	PQL	MG/KG	J	Z

Method Category: GENCHEM

Method: 9014 **Matrix: SO**

Sample ID: SL-014-NBZ-SS-0.0-0.5 **Collected:** 4/17/2012 10:10:00 **Analysis Type:** RES **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CYANIDE	0.339	J	0.314	MDL	0.627	PQL	MG/KG	J	Z

Sample ID: SL-088-NBZ-SS-0.0-0.5 **Collected:** 4/17/2012 11:00:00 **Analysis Type:** RES **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CYANIDE	0.579	J	0.327	MDL	0.654	PQL	MG/KG	J	Z

Method Category: METALS

Method: 6020 **Matrix: AQ**

Sample ID: EB-NBZ-SB-041712 **Collected:** 4/17/2012 3:45:00 **Analysis Type:** RES **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ALUMINUM	0.0217	J	0.0200	MDL	0.100	PQL	MG/L	J	Z
COPPER	0.000894	J	0.000500	MDL	0.00100	PQL	MG/L	J	Z

Sample ID: EB-NBZ-SS-041712 **Collected:** 4/17/2012 3:00:00 **Analysis Type:** RES **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CALCIUM	0.0492	J	0.0250	MDL	0.100	PQL	MG/L	J	Z
COPPER	0.000613	J	0.000500	MDL	0.00100	PQL	MG/L	J	Z
NICKEL	0.000255	J	0.000200	MDL	0.00100	PQL	MG/L	J	Z

* denotes a non-reportable result

Project Name and Number: 1203-004-010-AL - SSFL AREA IV COLLOCATED SAMPLING

Data Qualifier Summary

Lab Reporting Batch ID: 12D154 **Laboratory: EMXT**

EDD Filename: Prep12D154R **eQAPP Name: CDM_SSFL_120730_EMAX**

Method Category: METALS

Method: 6020 **Matrix: SO**

Sample ID: SL-014-NBZ-SS-0.0-0.5 **Collected: 4/17/2012 10:10:00** **Analysis Type: RES** **Dilution: 0.990**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ALUMINUM	9010		14.9	MDL	29.8	PQL	MG/KG	J	Q
ANTIMONY	0.158	J	0.124	MDL	0.248	PQL	MG/KG	J	Z, Q
BARIUM	71.1		0.248	MDL	0.497	PQL	MG/KG	J	Q
PHOSPHORUS	337		7.45	MDL	14.9	PQL	MG/KG	J	Q
POTASSIUM	3130		37.3	MDL	74.5	PQL	MG/KG	J	Q
SODIUM	78.6	J	62.1	MDL	124	PQL	MG/KG	J	Z
Zirconium	6.21	U	3.11	MDL	6.21	PQL	MG/KG	UJ	Q

Sample ID: SL-088-NBZ-SS-0.0-0.5 **Collected: 4/17/2012 11:00:00** **Analysis Type: RES** **Dilution: 0.995**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ALUMINUM	8520		15.6	MDL	31.3	PQL	MG/KG	J	Q
ANTIMONY	0.200	J	0.130	MDL	0.260	PQL	MG/KG	J	Z, Q
BARIUM	81.2		0.260	MDL	0.521	PQL	MG/KG	J	Q
PHOSPHORUS	401		7.81	MDL	15.6	PQL	MG/KG	J	Q
POTASSIUM	2820		39.1	MDL	78.1	PQL	MG/KG	J	Q
SODIUM	84.8	J	65.1	MDL	130	PQL	MG/KG	J	Z
Zirconium	6.51	U	3.26	MDL	6.51	PQL	MG/KG	UJ	Q

Sample ID: SL-090-NBZ-SS-0.0-0.5 **Collected: 4/17/2012 2:12:00** **Analysis Type: RES** **Dilution: 0.995**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ALUMINUM	9610		13.9	MDL	27.7	PQL	MG/KG	J	Q
ANTIMONY	0.173	J	0.116	MDL	0.231	PQL	MG/KG	J	Z, Q
BARIUM	73.7		0.231	MDL	0.462	PQL	MG/KG	J	Q
BORON	4.52	J	2.89	MDL	5.78	PQL	MG/KG	J	Z
PHOSPHORUS	369		6.93	MDL	13.9	PQL	MG/KG	J	Q
POTASSIUM	3470		34.7	MDL	69.3	PQL	MG/KG	J	Q
SODIUM	81.1	J	57.8	MDL	116	PQL	MG/KG	J	Z
Zirconium	5.78	U	2.89	MDL	5.78	PQL	MG/KG	UJ	Q

Sample ID: SL-147-NBZ-SS-0.0-0.5 **Collected: 4/17/2012 3:25:00** **Analysis Type: RES** **Dilution: 0.971**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ALUMINUM	11000		13.5	MDL	26.9	PQL	MG/KG	J	Q

* denotes a non-reportable result

Project Name and Number: 1203-004-010-AL - SSFL AREA IV COLLOCATED SAMPLING

Data Qualifier Summary

Lab Reporting Batch ID: 12D154 **Laboratory: EMXT**

EDD Filename: Prep12D154R **eQAPP Name: CDM_SSFL_120730_EMAX**

Method Category: METALS

Method: 6020 **Matrix: SO**

Sample ID: SL-147-NBZ-SS-0.0-0.5 **Collected: 4/17/2012 3:25:00** **Analysis Type: RES** **Dilution: 0.971**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	0.174	J	0.112	MDL	0.224	PQL	MG/KG	J	Z, Q
BARIUM	78.3		0.224	MDL	0.448	PQL	MG/KG	J	Q
BORON	3.38	J	2.80	MDL	5.61	PQL	MG/KG	J	Z
PHOSPHORUS	403		6.73	MDL	13.5	PQL	MG/KG	J	Q
POTASSIUM	3570		33.6	MDL	67.3	PQL	MG/KG	J	Q
SELENIUM	0.259	J	0.224	MDL	0.448	PQL	MG/KG	J	Z
SODIUM	67.1	J	56.1	MDL	112	PQL	MG/KG	J	Z
Zirconium	5.61	U	2.80	MDL	5.61	PQL	MG/KG	UJ	Q

Sample ID: SL-156-NBZ-SS-0.0-0.5 **Collected: 4/17/2012 11:17:00** **Analysis Type: RES** **Dilution: 0.980**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ALUMINUM	19300		14.2	MDL	28.4	PQL	MG/KG	J	Q
ANTIMONY	0.303		0.118	MDL	0.237	PQL	MG/KG	J	Q
BARIUM	144		0.237	MDL	0.473	PQL	MG/KG	J	Q
BORON	4.02	J	2.96	MDL	5.92	PQL	MG/KG	J	Z
PHOSPHORUS	537		7.10	MDL	14.2	PQL	MG/KG	J	Q
POTASSIUM	6350		35.5	MDL	71.0	PQL	MG/KG	J	Q
SELENIUM	0.338	J	0.237	MDL	0.473	PQL	MG/KG	J	Z
SILVER	0.0895	J	0.0592	MDL	0.118	PQL	MG/KG	J	Z
SODIUM	63.7	J	59.2	MDL	118	PQL	MG/KG	J	Z
Zirconium	5.92	U	2.96	MDL	5.92	PQL	MG/KG	UJ	Q

Sample ID: SL-161-NBZ-SS-0.0-0.5 **Collected: 4/17/2012 11:50:00** **Analysis Type: RES** **Dilution: 0.995**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ALUMINUM	11100		13.4	MDL	26.7	PQL	MG/KG	J	Q
ANTIMONY	0.167	J	0.111	MDL	0.223	PQL	MG/KG	J	Z, Q
BARIUM	87.9		0.223	MDL	0.446	PQL	MG/KG	J	Q
PHOSPHORUS	356		6.69	MDL	13.4	PQL	MG/KG	J	Q
POTASSIUM	3170		33.4	MDL	66.9	PQL	MG/KG	J	Q
SELENIUM	0.244	J	0.223	MDL	0.446	PQL	MG/KG	J	Z
Zirconium	5.57	U	2.79	MDL	5.57	PQL	MG/KG	UJ	Q

* denotes a non-reportable result

Project Name and Number: 1203-004-010-AL - SSFL AREA IV COLLOCATED SAMPLING

Data Qualifier Summary

Lab Reporting Batch ID: 12D154 **Laboratory: EMXT**

EDD Filename: Prep12D154R **eQAPP Name: CDM_SSFL_120730_EMAX**

Method Category: METALS

Method: 6020 **Matrix: SO**

Sample ID: SL-162-NBZ-SS-0.0-0.5 **Collected:** 4/17/2012 9:55:00 **Analysis Type:** RES **Dilution:** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ALUMINUM	8050		13.2	MDL	26.3	PQL	MG/KG	J	Q
ANTIMONY	0.113	J	0.110	MDL	0.220	PQL	MG/KG	J	Z, Q
BARIUM	55.4		0.220	MDL	0.439	PQL	MG/KG	J	Q
PHOSPHORUS	356		6.59	MDL	13.2	PQL	MG/KG	J	Q
POTASSIUM	2830		32.9	MDL	65.9	PQL	MG/KG	J	Q
Zirconium	5.49	U	2.74	MDL	5.49	PQL	MG/KG	UJ	Q

Sample ID: SL-166-NBZ-SS-0.0-0.5 **Collected:** 4/17/2012 10:30:00 **Analysis Type:** RES **Dilution:** 0.985

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ALUMINUM	8200		13.7	MDL	27.4	PQL	MG/KG	J	Q
ANTIMONY	0.133	J	0.114	MDL	0.229	PQL	MG/KG	J	Z, Q
BARIUM	57.5		0.229	MDL	0.457	PQL	MG/KG	J	Q
PHOSPHORUS	368		6.86	MDL	13.7	PQL	MG/KG	J	Q
POTASSIUM	2570		34.3	MDL	68.6	PQL	MG/KG	J	Q
Zirconium	5.71	U	2.86	MDL	5.71	PQL	MG/KG	UJ	Q

Method Category: METALS

Method: 7471A **Matrix: SO**

Sample ID: SL-014-NBZ-SS-0.0-0.5 **Collected:** 4/17/2012 10:10:00 **Analysis Type:** RES/TOT **Dilution:** 0.998

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
MERCURY	0.0676	J	0.0626	MDL	0.125	PQL	MG/KG	J	Z

Method Category: SVOA

Method: 8015B EFH **Matrix: SO**

Sample ID: SL-014-NBZ-SS-0.0-0.5 **Collected:** 4/17/2012 10:10:00 **Analysis Type:** RES **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
EFH(C8-C11)	0.71	J	0.63	MDL	1.3	PQL	MG/KG	J	Z

* denotes a non-reportable result

Project Name and Number: 1203-004-010-AL - SSFL AREA IV COLLOCATED SAMPLING

Data Qualifier Summary

Lab Reporting Batch ID: 12D154 **Laboratory: EMXT**

EDD Filename: Prep12D154R **eQAPP Name: CDM_SSFL_120730_EMAX**

Method Category: SVOA

Method: 8015B EFH **Matrix: SO**

Sample ID: SL-088-NBZ-SS-0.0-0.5 **Collected: 4/17/2012 11:00:00** **Analysis Type: RES** **Dilution: 1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
EFH(C12-C14)	0.76	J	0.65	MDL	1.3	PQL	MG/KG	J	Z
EFH(C8-C11)	0.97	J	0.65	MDL	1.3	PQL	MG/KG	J	Z

Sample ID: SL-090-NBZ-SS-0.0-0.5 **Collected: 4/17/2012 2:12:00** **Analysis Type: RES** **Dilution: 1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
EFH(C8-C11)	0.70	J	0.58	MDL	1.2	PQL	MG/KG	J	Z

Method Category: SVOA

Method: 8081A **Matrix: SO**

Sample ID: SL-161-NBZ-SS-0.0-0.5 **Collected: 4/17/2012 11:50:00** **Analysis Type: RES-BASE/NEUTRAL** **Dilution: 1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
4,4'-DDE	0.37	J	0.19	MDL	0.38	PQL	UG/KG	J	Z

Method Category: SVOA

Method: 8082 **Matrix: SO**

Sample ID: SL-161-NBZ-SS-0.0-0.5 **Collected: 4/17/2012 11:50:00** **Analysis Type: RES** **Dilution: 1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
Aroclor 5460	2.6	J	1.9	MDL	3.7	PQL	UG/KG	J	Z

Sample ID: SL-162-NBZ-SS-0.0-0.5 **Collected: 4/17/2012 9:55:00** **Analysis Type: RES** **Dilution: 1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
Aroclor 5460	2.9	J	1.9	MDL	3.6	PQL	UG/KG	J	Z

* denotes a non-reportable result

Project Name and Number: 1203-004-010-AL - SSFL AREA IV COLLOCATED SAMPLING

Data Qualifier Summary

Lab Reporting Batch ID: 12D154 **Laboratory: EMXT**

EDD Filename: Prep12D154R **eQAPP Name: CDM_SSFL_120730_EMAX**

Method Category: SVOA

Method: 8270C **Matrix: AQ**

Sample ID: EB-NBZ-SB-041712 **Collected: 4/17/2012 3:45:00** **Analysis Type: RES-BASE/NEUTRAL** **Dilution: 1.03**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BENZIDINE	52	U	21	MDL	52	PQL	UG/L	R	L

Sample ID: EB-NBZ-SS-041712 **Collected: 4/17/2012 3:00:00** **Analysis Type: RES-BASE/NEUTRAL** **Dilution: 1.08**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BENZIDINE	54	U	22	MDL	54	PQL	UG/L	R	L

Method Category: SVOA

Method: 8270C **Matrix: SO**

Sample ID: SL-166-NBZ-SS-0.0-0.5 **Collected: 4/17/2012 10:30:00** **Analysis Type: RES-BASE/NEUTRAL** **Dilution: 1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2-DICHLOROBENZENE	190	U	97	MDL	190	PQL	UG/KG	UJ	Q
1,3-DICHLOROBENZENE	190	U	97	MDL	190	PQL	UG/KG	UJ	Q
BENZIDINE	960	U	490	MDL	960	PQL	UG/KG	R	Q

Method Category: SVOA

Method: 8270C SIM **Matrix: SO**

Sample ID: SL-014-NBZ-SS-0.0-0.5 **Collected: 4/17/2012 10:10:00** **Analysis Type: RES-BASE/NEUTRAL** **Dilution: 1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BENZO(B)FLUORANTHENE	1.5	J	1.1	MDL	2.1	PQL	UG/KG	J	Z
BENZO(G,H,I)PERYLENE	1.2	J	1.1	MDL	2.1	PQL	UG/KG	J	Z
BIS(2-ETHYLHEXYL)PHTHALATE	16	J	11	MDL	21	PQL	UG/KG	J	Z
FLUORANTHENE	1.7	J	1.1	MDL	2.1	PQL	UG/KG	J	Z
PYRENE	1.2	J	1.1	MDL	2.1	PQL	UG/KG	J	Z

Sample ID: SL-088-NBZ-SS-0.0-0.5 **Collected: 4/17/2012 11:00:00** **Analysis Type: RES-BASE/NEUTRAL** **Dilution: 1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BENZO(B)FLUORANTHENE	1.9	J	1.1	MDL	2.2	PQL	UG/KG	J	Z
BENZO(G,H,I)PERYLENE	1.3	J	1.1	MDL	2.2	PQL	UG/KG	J	Z
FLUORANTHENE	1.5	J	1.1	MDL	2.2	PQL	UG/KG	J	Z

* denotes a non-reportable result

Project Name and Number: 1203-004-010-AL - SSFL AREA IV COLLOCATED SAMPLING

Data Qualifier Summary

Lab Reporting Batch ID: 12D154 **Laboratory: EMXT**

EDD Filename: Prep12D154R **eQAPP Name: CDM_SSFL_120730_EMAX**

Method Category: SVOA

Method: 8270C SIM **Matrix: SO**

Sample ID: SL-088-NBZ-SS-0.0-0.5 **Collected: 4/17/2012 11:00:00** **Analysis Type: RES-BASE/NEUTRAL** **Dilution: 1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
PYRENE	1.6	J	1.1	MDL	2.2	PQL	UG/KG	J	Z

Sample ID: SL-090-NBZ-SS-0.0-0.5 **Collected: 4/17/2012 2:12:00** **Analysis Type: RES-BASE/NEUTRAL** **Dilution: 1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BENZO(A)PYRENE	1.7	J	0.99	MDL	2.0	PQL	UG/KG	J	Z
BENZO(G,H,I)PERYLENE	1.9	J	0.99	MDL	2.0	PQL	UG/KG	J	Z
Butylbenzylphthalate	14	J	9.8	MDL	19	PQL	UG/KG	J	Z
CHRYSENE	1.9	J	0.99	MDL	2.0	PQL	UG/KG	J	Z
INDENO(1,2,3-CD)PYRENE	1.6	J	0.99	MDL	2.0	PQL	UG/KG	J	Z
PHENANTHRENE	1.9	J	0.99	MDL	2.0	PQL	UG/KG	J	Z

Sample ID: SL-147-NBZ-SS-0.0-0.5 **Collected: 4/17/2012 3:25:00** **Analysis Type: RES-BASE/NEUTRAL** **Dilution: 1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BENZO(A)ANTHRACENE	1.3	J	0.98	MDL	2.0	PQL	UG/KG	J	Z
FLUORANTHENE	1.0	J	0.98	MDL	2.0	PQL	UG/KG	J	Z

Sample ID: SL-156-NBZ-SS-0.0-0.5 **Collected: 4/17/2012 11:17:00** **Analysis Type: RES-BASE/NEUTRAL** **Dilution: 1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BENZO(A)ANTHRACENE	1.6	J	1.0	MDL	2.1	PQL	UG/KG	J	Z
BENZO(A)PYRENE	1.2	J	1.0	MDL	2.1	PQL	UG/KG	J	Z
FLUORANTHENE	2.0	J	1.0	MDL	2.1	PQL	UG/KG	J	Z
PYRENE	1.6	J	1.0	MDL	2.1	PQL	UG/KG	J	Z

Sample ID: SL-161-NBZ-SS-0.0-0.5 **Collected: 4/17/2012 11:50:00** **Analysis Type: RES-BASE/NEUTRAL** **Dilution: 1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BENZO(A)ANTHRACENE	1.3	J	0.95	MDL	1.9	PQL	UG/KG	J	Z
BENZO(B)FLUORANTHENE	1.6	J	0.95	MDL	1.9	PQL	UG/KG	J	Z
BIS(2-ETHYLHEXYL)PHTHALATE	13	J	9.4	MDL	19	PQL	UG/KG	J	Z
FLUORANTHENE	1.6	J	0.95	MDL	1.9	PQL	UG/KG	J	Z
PYRENE	1.3	J	0.95	MDL	1.9	PQL	UG/KG	J	Z

* denotes a non-reportable result

Project Name and Number: 1203-004-010-AL - SSFL AREA IV COLLOCATED SAMPLING

Data Qualifier Summary

Lab Reporting Batch ID: 12D154 **Laboratory: EMXT**

EDD Filename: Prep12D154R **eQAPP Name: CDM_SSFL_120730_EMAX**

Method Category: SVOA

Method: 8270C SIM **Matrix: SO**

Sample ID: SL-162-NBZ-SS-0.0-0.5 **Collected: 4/17/2012 9:55:00** **Analysis Type: RES-BASE/NEUTRAL** **Dilution: 1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BENZO(A)ANTHRACENE	1.5	J	0.93	MDL	1.9	PQL	UG/KG	J	Z
PYRENE	1.5	J	0.93	MDL	1.9	PQL	UG/KG	J	Z

Sample ID: SL-166-NBZ-SS-0.0-0.5 **Collected: 4/17/2012 10:30:00** **Analysis Type: RES-BASE/NEUTRAL** **Dilution: 1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BENZO(A)ANTHRACENE	1.3	J	0.99	MDL	2.0	PQL	UG/KG	J	Z
BENZO(A)PYRENE	1.0	J	0.99	MDL	2.0	PQL	UG/KG	J	Z
FLUORANTHENE	1.9	J	0.99	MDL	2.0	PQL	UG/KG	J	Z
PYRENE	1.5	J	0.99	MDL	2.0	PQL	UG/KG	J	Z

Method Category: VOA

Method: 8015B GRO **Matrix: AQ**

Sample ID: EB-NBZ-SB-041712 **Collected: 4/17/2012 3:45:00** **Analysis Type: RES** **Dilution: 1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
GASOLINE RANGE ORGANICS (C5-C12)	26	J	10	MDL	50	PQL	UG/L	J	Z

* denotes a non-reportable result

Project Name and Number: 1203-004-010-AL - SSFL AREA IV COLLOCATED SAMPLING

Data Qualifier Summary

Lab Reporting Batch ID: 12D154 **Laboratory: EMXT**

EDD Filename: Prep12D154R **eQAPP Name: CDM_SSFL_120730_EMAX**

Reason Code Legend

Reason Code	*Description*
E	Matrix Spike Precision
L	Laboratory Control Spike Lower Rejection
Q	Matrix Spike Lower Estimation
Q	Matrix Spike Lower Rejection
Q	Matrix Spike Precision
Q	Matrix Spike Upper Estimation
S	Surrogate/Tracer Recovery Lower Estimation
Z	Reporting Limit Trace Value

* denotes a non-reportable result

Project Name and Number: 1203-004-010-AL - SSFL AREA IV COLLOCATED SAMPLING

Enclosure I

Level III ADR Outliers
(including Manual Review Outliers)

Quality Control
Outlier Reports

12D154

Lab Control Spike/Lab Control Spike Duplicate Outlier Report

Lab Reporting Batch ID: 12D154 **Laboratory: EMXT**

EDD Filename: Prep12D154R **eQAPP Name: CDM_SSFL_120730_EMAX**

Method: **8270C**
Matrix: **AQ**

QC Sample ID (Associated Samples)	*Compound*	*LCS %R*	*LCSD %R*	*%R Limits*	*RPD (Limits)*	*Affected Compounds*	*Flag*
SVD043WY (EB-NBZ-SB-041712 EB-NBZ-SS-041712)	BENZIDINE	-	0	20.00-130.00	-	BENZIDINE	J (all detects) R (all non-detects)

Matrix Spike/Matrix Spike Duplicate Outlier Report

Lab Reporting Batch ID: 12D154 **Laboratory: EMXT**

EDD Filename: Prep12D154R **eQAPP Name: CDM_SSFL_120730_EMAX**

***Method:* 8270C**
***Matrix:* SO**

QC Sample ID (Associated Samples)	Compound	MS %R	MSD %R	%R Limits	RPD (Limits)	Affected Compounds	Flag
SL-166-NBZ-SS-0.0-0.5MSD (SL-166-NBZ-SS-0.0-0.5)	1,2,4-TRICHLOROBENZENE	-	-	10.00-130.00	66 (50.00)	1,2,4-TRICHLOROBENZENE	
	1,4-DICHLOROBENZENE	-	-	10.00-130.00	66 (50.00)	1,4-DICHLOROBENZENE	
	2-CHLORONAPHTHALENE	-	-	30.00-130.00	55 (50.00)	2-CHLORONAPHTHALENE	
	2-CHLOROPHENOL	-	-	20.00-130.00	58 (50.00)	2-CHLOROPHENOL	
	2-METHYLPHENOL	-	-	30.00-130.00	51 (50.00)	2-METHYLPHENOL	
	2-NITROPHENOL	-	-	30.00-130.00	64 (50.00)	2-NITROPHENOL	
	ANILINE	-	-	10.00-150.00	55 (50.00)	ANILINE	
	BENZYL ALCOHOL	-	-	30.00-130.00	53 (50.00)	BENZYL ALCOHOL	
	BIS(2-CHLOROETHOXY)METHA	-	-	30.00-130.00	64 (50.00)	BIS(2-CHLOROETHOXY)METH	J (all detects)
	Bis(2-chloroethyl)ether	-	-	30.00-130.00	68 (50.00)	Bis(2-chloroethyl)ether	
	Bis(2-chloroisopropyl)ether	-	-	20.00-130.00	62 (50.00)	Bis(2-chloroisopropyl)ether	
	HEXACHLOROBUTADIENE	-	-	30.00-130.00	62 (50.00)	HEXACHLOROBUTADIENE	
	HEXACHLOROCYCLOPENTADI	-	-	10.00-130.00	67 (50.00)	HEXACHLOROCYCLOPENTAD	
	HEXACHLOROETHANE	-	-	20.00-130.00	60 (50.00)	HEXACHLOROETHANE	
	NITROBENZENE	-	-	30.00-130.00	63 (50.00)	NITROBENZENE	
	N-NITROSO-DI-N-PROPYLAMIN	-	-	20.00-130.00	53 (50.00)	N-NITROSO-DI-N-PROPYLAMI	
	PHENOL	-	-	20.00-130.00	51 (50.00)	PHENOL	
SL-166-NBZ-SS-0.0-0.5MS **SL-166-NBZ-SS-0.0-0.5MSD** (SL-166-NBZ-SS-0.0-0.5)	BENZIDINE	6	0	10.00-150.00	200 (50.00)	BENZIDINE	J(all detects) R(all non-detects)
SL-166-NBZ-SS-0.0-0.5MSD (SL-166-NBZ-SS-0.0-0.5)	1,2-DICHLOROBENZENE	-	28	30.00-130.00	66 (50.00)	1,2-DICHLOROBENZENE	J(all detects)
	1,3-DICHLOROBENZENE	-	26	30.00-130.00	67 (50.00)	1,3-DICHLOROBENZENE	UJ(all non-detects)

Reporting Limit Outliers

Lab Reporting Batch ID: 12D154 **Laboratory: EMXT**

EDD Filename: Prep12D154R **eQAPP Name: CDM_SSFL_120730_EMAX**

Method: 6020
Matrix: AQ

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
EB-NBZ-SB-041712	ALUMINUM	J	0.0217	0.100	PQL	MG/L	J (all detects)
	COPPER	J	0.000894	0.00100	PQL	MG/L	
EB-NBZ-SS-041712	CALCIUM	J	0.0492	0.100	PQL	MG/L	J (all detects)
	COPPER	J	0.000613	0.00100	PQL	MG/L	
	NICKEL	J	0.000255	0.00100	PQL	MG/L	

Method: 8015B GRO
Matrix: AQ

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
EB-NBZ-SB-041712	GASOLINE RANGE ORGANICS (C5-C12)	J	26	50	PQL	UG/L	J (all detects)

Method: 300.0
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-147-NBZ-SS-0.0-0.5	FLUORIDE	J	0.660	1.15	PQL	MG/KG	J (all detects)

Method: 6020
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-014-NBZ-SS-0.0-0.5	ANTIMONY	J	0.158	0.248	PQL	MG/KG	J (all detects)
	SODIUM	J	78.6	124	PQL	MG/KG	
SL-088-NBZ-SS-0.0-0.5	ANTIMONY	J	0.200	0.260	PQL	MG/KG	J (all detects)
	SODIUM	J	84.8	130	PQL	MG/KG	
SL-090-NBZ-SS-0.0-0.5	ANTIMONY	J	0.173	0.231	PQL	MG/KG	J (all detects)
	BORON	J	4.52	5.78	PQL	MG/KG	
	SODIUM	J	81.1	116	PQL	MG/KG	
SL-147-NBZ-SS-0.0-0.5	ANTIMONY	J	0.174	0.224	PQL	MG/KG	J (all detects)
	BORON	J	3.38	5.61	PQL	MG/KG	
	SELENIUM	J	0.259	0.448	PQL	MG/KG	
	SODIUM	J	67.1	112	PQL	MG/KG	
SL-156-NBZ-SS-0.0-0.5	BORON	J	4.02	5.92	PQL	MG/KG	J (all detects)
	SELENIUM	J	0.338	0.473	PQL	MG/KG	
	SILVER	J	0.0895	0.118	PQL	MG/KG	
	SODIUM	J	63.7	118	PQL	MG/KG	
SL-161-NBZ-SS-0.0-0.5	ANTIMONY	J	0.167	0.223	PQL	MG/KG	J (all detects)
	SELENIUM	J	0.244	0.446	PQL	MG/KG	
SL-162-NBZ-SS-0.0-0.5	ANTIMONY	J	0.113	0.220	PQL	MG/KG	J (all detects)
SL-166-NBZ-SS-0.0-0.5	ANTIMONY	J	0.133	0.229	PQL	MG/KG	J (all detects)

Reporting Limit Outliers

Lab Reporting Batch ID: 12D154 **Laboratory: EMXT**

EDD Filename: Prep12D154R **eQAPP Name: CDM_SSFL_120730_EMAX**

Method: 7471A
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-014-NBZ-SS-0.0-0.5	MERCURY	J	0.0676	0.125	PQL	MG/KG	J (all detects)

Method: 8015B EFH
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-014-NBZ-SS-0.0-0.5	EFH(C8-C11)	J	0.71	1.3	PQL	MG/KG	J (all detects)
SL-088-NBZ-SS-0.0-0.5	EFH(C12-C14) EFH(C8-C11)	J J	0.76 0.97	1.3 1.3	PQL PQL	MG/KG MG/KG	J (all detects)
SL-090-NBZ-SS-0.0-0.5	EFH(C8-C11)	J	0.70	1.2	PQL	MG/KG	J (all detects)

Method: 8081A
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-161-NBZ-SS-0.0-0.5	4,4'-DDE	J	0.37	0.38	PQL	UG/KG	J (all detects)

Method: 8082
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-161-NBZ-SS-0.0-0.5	Aroclor 5460	J	2.6	3.7	PQL	UG/KG	J (all detects)
SL-162-NBZ-SS-0.0-0.5	Aroclor 5460	J	2.9	3.6	PQL	UG/KG	J (all detects)

Method: 8270C SIM
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-014-NBZ-SS-0.0-0.5	BENZO(B)FLUORANTHENE BENZO(G,H,I)PERYLENE BIS(2-ETHYLHEXYL)PHTHALATE FLUORANTHENE PYRENE	J J J J J	1.5 1.2 16 1.7 1.2	2.1 2.1 21 2.1 2.1	PQL PQL PQL PQL PQL	UG/KG UG/KG UG/KG UG/KG UG/KG	J (all detects)
SL-088-NBZ-SS-0.0-0.5	BENZO(B)FLUORANTHENE BENZO(G,H,I)PERYLENE FLUORANTHENE PYRENE	J J J J	1.9 1.3 1.5 1.6	2.2 2.2 2.2 2.2	PQL PQL PQL PQL	UG/KG UG/KG UG/KG UG/KG	J (all detects)

Reporting Limit Outliers

Lab Reporting Batch ID: 12D154 **Laboratory: EMXT**

EDD Filename: Prep12D154R **eQAPP Name: CDM_SSFL_120730_EMAX**

Method: 8270C SIM

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-090-NBZ-SS-0.0-0.5	BENZO(A)PYRENE	J	1.7	2.0	PQL	UG/KG	J (all detects)
	BENZO(G,H,I)PERYLENE	J	1.9	2.0	PQL	UG/KG	
	Butylbenzylphthalate	J	14	19	PQL	UG/KG	
	CHRYSENE	J	1.9	2.0	PQL	UG/KG	
	INDENO(1,2,3-CD)PYRENE	J	1.6	2.0	PQL	UG/KG	
	PHENANTHRENE	J	1.9	2.0	PQL	UG/KG	
SL-147-NBZ-SS-0.0-0.5	BENZO(A)ANTHRACENE	J	1.3	2.0	PQL	UG/KG	J (all detects)
	FLUORANTHENE	J	1.0	2.0	PQL	UG/KG	
SL-156-NBZ-SS-0.0-0.5	BENZO(A)ANTHRACENE	J	1.6	2.1	PQL	UG/KG	J (all detects)
	BENZO(A)PYRENE	J	1.2	2.1	PQL	UG/KG	
	FLUORANTHENE	J	2.0	2.1	PQL	UG/KG	
	PYRENE	J	1.6	2.1	PQL	UG/KG	
SL-161-NBZ-SS-0.0-0.5	BENZO(A)ANTHRACENE	J	1.3	1.9	PQL	UG/KG	J (all detects)
	BENZO(B)FLUORANTHENE	J	1.6	1.9	PQL	UG/KG	
	BIS(2-ETHYLHEXYL)PHTHALATE	J	13	19	PQL	UG/KG	
	FLUORANTHENE	J	1.6	1.9	PQL	UG/KG	
	PYRENE	J	1.3	1.9	PQL	UG/KG	
SL-162-NBZ-SS-0.0-0.5	BENZO(A)ANTHRACENE	J	1.5	1.9	PQL	UG/KG	J (all detects)
	PYRENE	J	1.5	1.9	PQL	UG/KG	
SL-166-NBZ-SS-0.0-0.5	BENZO(A)ANTHRACENE	J	1.3	2.0	PQL	UG/KG	J (all detects)
	BENZO(A)PYRENE	J	1.0	2.0	PQL	UG/KG	
	FLUORANTHENE	J	1.9	2.0	PQL	UG/KG	
	PYRENE	J	1.5	2.0	PQL	UG/KG	

Method: 9014

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-014-NBZ-SS-0.0-0.5	CYANIDE	J	0.339	0.627	PQL	MG/KG	J (all detects)
SL-088-NBZ-SS-0.0-0.5	CYANIDE	J	0.579	0.654	PQL	MG/KG	J (all detects)

LDC #: 29230B4
SDG #: 12D154
Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

ADR

7470A/7471A

Date: 2/22/13
Page: 1 of 1
Reviewer: CR
2nd Reviewer: A

METHOD: Metals (EPA SW 846 Method ~~6010B~~/6020~~A~~/~~7000~~)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/17/12
II.	ICP/MS Tune	—	
III.	Calibration	—	
IV.	Blanks	A	
V.	ICP Interference Check Sample (ICS) Analysis	—	
VI.	Matrix Spike Analysis	SW	MS/D (12D146)
VII.	Duplicate Sample Analysis	N	
VIII.	Laboratory Control Samples (LCS)	N	LCS/D
IX.	Internal Standard (ICP-MS)	N	
X.	Furnace Atomic Absorption QC	N	
XI.	ICP Serial Dilution	A	
XII.	Sample Result Verification	N	
XIII.	Overall Assessment of Data	N	
XIV.	Field Duplicates	—	
XV	Field Blanks	SW	EB=1,2

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: soil/water

1	EB-NBZ-SB-041712 W	11		21		31	
2	EB-NBZ-SS-041712 ↓	12		22		32	
3	SL-014-NBZ-SS-0.0-0.5	13		23		33	
4	SL-088-NBZ-SS-0.0-0.5	14		24		34	
5	SL-090-NBZ-SS-0.0-0.5	15		25		35	
6	SL-147-NBZ-SS-0.0-0.5	16		26		36	
7	SL-156-NBZ-SS-0.0-0.5	17		27		37	
8	SL-161-NBZ-SS-0.0-0.5	18		28		38	
9	SL-162-NBZ-SS-0.0-0.5	19		29		39	
10	SL-166-NBZ-SS-0.0-0.5	20		30		40	

Notes:

LDC #: 29230B4

VALIDATION FINDINGS WORKSHEET
Field Blanks

Page: (1 of 1
Reviewer: CR
2nd Reviewer: A

METHOD: Trace Metals (EPA SW846 6010B/7000)

Blank units: mg/L **Associated sample units:** mg/Kg
Sampling date: 4/1712 Soil factor applied 100x
Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: ~~All Soil~~ or 1=More 2=All Soil

Analyte	Blank ID	Blank ID	Sample Identification										
	1	2	Action Limit	No Qualifiers (>5x)									
Al	0.0217		10.85										
Cu	0.0008	0.000613	0.445										
Ca		0.0492	24.6										
Ni		0.000255	0.1										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

LDC #: 29230B4

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Page: 1 of 1
Reviewer: CR
2nd Reviewer: A

METHOD: Trace metals (EPA SW 846 Method 6010/6020/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a matrix spike analyzed for each matrix in this SDG?

Y N N/A Were matrix spike percent recoveries (%R) within the control limits of 75-125? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.

Y N N/A Were all duplicate sample relative percent differences (RPD) ≤ 20% for water samples and ≤35% for soil samples?

LEVEL IV ONLY:

Y N N/A Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

#	MS/MSD ID	Matrix	Analyte	MS %Recovery	MSD %Recovery	RPD (Limits)	Associated Samples	Qualifications
	SL-173-NBZ-SS0.0-0.5MS/MSD		Al		152		All Soil	J det/A
			Ba		172			
			P		146			
			K		134			
			Sb	73	72			J UJ/A
			Zr	53	58			

Comments:

SAMPLE DELIVERY GROUP

12D166

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
18-Apr-2012	TB-041812	D166-11	TB	5030B	8015B GRO	III
18-Apr-2012	SL-008-NBZ-SB-4.5	D166-01	N	5035	8015B GRO	III
18-Apr-2012	SL-008-NBZ-SB-4.0-5.0	D166-02	N	3550B	8015B EFH	III
18-Apr-2012	SL-008-NBZ-SB-4.0-5.0	D166-02	N	3550B	8270C	III
18-Apr-2012	SL-008-NBZ-SB-4.0-5.0	D166-02	N	3550B	8270C SIM	III
18-Apr-2012	SL-008-NBZ-SB-4.0-5.0	D166-02	N	7471A	7471A	III
18-Apr-2012	SL-008-NBZ-SB-4.0-5.0	D166-02	N	GEN PREP	300.0	III
18-Apr-2012	SL-008-NBZ-SB-4.0-5.0	D166-02	N	GEN PREP	314.0	III
18-Apr-2012	SL-008-NBZ-SB-4.0-5.0	D166-02	N	GEN PREP	6020	III
18-Apr-2012	SL-008-NBZ-SB-4.0-5.0	D166-02	N	GEN PREP	7199	III
18-Apr-2012	SL-008-NBZ-SB-4.0-5.0	D166-02	N	GEN PREP	8015B	III
18-Apr-2012	SL-008-NBZ-SB-4.0-5.0	D166-02	N	GEN PREP	8015M	III
18-Apr-2012	SL-008-NBZ-SB-4.0-5.0	D166-02	N	GEN PREP	8330A	III
18-Apr-2012	SL-008-NBZ-SB-4.0-5.0	D166-02	N	GEN PREP	8332	III
18-Apr-2012	SL-008-NBZ-SB-4.0-5.0	D166-02	N	GEN PREP	9014	III
18-Apr-2012	SL-008-NBZ-SB-4.0-5.0DUP	D166-02D	DUP	GEN PREP	7199	III
18-Apr-2012	SL-008-NBZ-SB-4.0-5.0DUP	D166-02D	DUP	GEN PREP	9014	III
18-Apr-2012	SL-008-NBZ-SB-4.0-5.0MS	D166-02G	MS	GEN PREP	7199	III
18-Apr-2012	SL-008-NBZ-SB-4.0-5.0MS	D166-02G1	MS	GEN PREP	7199	III
18-Apr-2012	SL-008-NBZ-SB-4.0-5.0MS	D166-02M	MS	3550B	8015B EFH	III
18-Apr-2012	SL-008-NBZ-SB-4.0-5.0MS	D166-02M	MS	7471A	7471A	III
18-Apr-2012	SL-008-NBZ-SB-4.0-5.0MS	D166-02M	MS	GEN PREP	7199	III
18-Apr-2012	SL-008-NBZ-SB-4.0-5.0MS	D166-02M	MS	GEN PREP	9014	III
18-Apr-2012	SL-008-NBZ-SB-4.0-5.0MS	D166-02M1	MS	GEN PREP	7199	III
18-Apr-2012	SL-008-NBZ-SB-4.0-5.0	D166-02R	N	GEN PREP	7199	III
18-Apr-2012	SL-008-NBZ-SB-4.0-5.0MSD	D166-02S	MSD	3550B	8015B EFH	III

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
18-Apr-2012	SL-008-NBZ-SB-4.0-5.0MSD	D166-02S	MSD	7471A	7471A	III
18-Apr-2012	SL-008-NBZ-SB-4.0-5.0	D166-02W	N	3550B	8082	III
18-Apr-2012	SL-008-NBZ-SB-4.0-5.0DUP	D166-02Z	DUP	GEN PREP	7199	III
18-Apr-2012	SL-081-NBZ-SS-0.0-0.5	D166-03	N	3550B	8015B EFH	III
18-Apr-2012	SL-081-NBZ-SS-0.0-0.5	D166-03	N	3550B	8081A	III
18-Apr-2012	SL-081-NBZ-SS-0.0-0.5	D166-03	N	3550B	8270C	III
18-Apr-2012	SL-081-NBZ-SS-0.0-0.5	D166-03	N	3550B	8270C SIM	III
18-Apr-2012	SL-081-NBZ-SS-0.0-0.5	D166-03	N	7471A	7471A	III
18-Apr-2012	SL-081-NBZ-SS-0.0-0.5	D166-03	N	GEN PREP	300.0	III
18-Apr-2012	SL-081-NBZ-SS-0.0-0.5	D166-03	N	GEN PREP	314.0	III
18-Apr-2012	SL-081-NBZ-SS-0.0-0.5	D166-03	N	GEN PREP	6020	III
18-Apr-2012	SL-081-NBZ-SS-0.0-0.5	D166-03	N	GEN PREP	7199	III
18-Apr-2012	SL-081-NBZ-SS-0.0-0.5	D166-03	N	GEN PREP	8151A	III
18-Apr-2012	SL-081-NBZ-SS-0.0-0.5	D166-03	N	GEN PREP	8330A	III
18-Apr-2012	SL-081-NBZ-SS-0.0-0.5	D166-03	N	GEN PREP	8332	III
18-Apr-2012	SL-081-NBZ-SS-0.0-0.5	D166-03	N	GEN PREP	9014	III
18-Apr-2012	SL-081-NBZ-SS-0.0-0.5	D166-03R	N	GEN PREP	7199	III
18-Apr-2012	SL-081-NBZ-SS-0.0-0.5	D166-03W	N	3550B	8082	III
18-Apr-2012	SL-082-NBZ-SS-0.0-0.5	D166-04	N	3550B	8015B EFH	III
18-Apr-2012	SL-082-NBZ-SS-0.0-0.5	D166-04	N	3550B	8081A	III
18-Apr-2012	SL-082-NBZ-SS-0.0-0.5	D166-04	N	3550B	8082	III
18-Apr-2012	SL-082-NBZ-SS-0.0-0.5	D166-04	N	3550B	8270C	III
18-Apr-2012	SL-082-NBZ-SS-0.0-0.5	D166-04	N	3550B	8270C SIM	III
18-Apr-2012	SL-082-NBZ-SS-0.0-0.5	D166-04	N	7471A	7471A	III
18-Apr-2012	SL-082-NBZ-SS-0.0-0.5	D166-04	N	GEN PREP	300.0	III
18-Apr-2012	SL-082-NBZ-SS-0.0-0.5	D166-04	N	GEN PREP	314.0	III

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
18-Apr-2012	SL-082-NBZ-SS-0.0-0.5	D166-04	N	GEN PREP	6020	III
18-Apr-2012	SL-082-NBZ-SS-0.0-0.5	D166-04	N	GEN PREP	7199	III
18-Apr-2012	SL-082-NBZ-SS-0.0-0.5	D166-04	N	GEN PREP	8151A	III
18-Apr-2012	SL-082-NBZ-SS-0.0-0.5	D166-04	N	GEN PREP	8330A	III
18-Apr-2012	SL-082-NBZ-SS-0.0-0.5	D166-04	N	GEN PREP	8332	III
18-Apr-2012	SL-082-NBZ-SS-0.0-0.5	D166-04	N	GEN PREP	9014	III
18-Apr-2012	SL-082-NBZ-SS-0.0-0.5	D166-04R	N	GEN PREP	7199	III
18-Apr-2012	SL-082-NBZ-SB-2.5-3.5	D166-06	N	3550B	8015B EFH	III
18-Apr-2012	SL-082-NBZ-SB-2.5-3.5	D166-06	N	3550B	8081A	III
18-Apr-2012	SL-082-NBZ-SB-2.5-3.5	D166-06	N	3550B	8082	III
18-Apr-2012	SL-082-NBZ-SB-2.5-3.5	D166-06	N	3550B	8270C	III
18-Apr-2012	SL-082-NBZ-SB-2.5-3.5	D166-06	N	7471A	7471A	III
18-Apr-2012	SL-082-NBZ-SB-2.5-3.5	D166-06	N	GEN PREP	300.0	III
18-Apr-2012	SL-082-NBZ-SB-2.5-3.5	D166-06	N	GEN PREP	314.0	III
18-Apr-2012	SL-082-NBZ-SB-2.5-3.5	D166-06	N	GEN PREP	6020	III
18-Apr-2012	SL-082-NBZ-SB-2.5-3.5	D166-06	N	GEN PREP	7199	III
18-Apr-2012	SL-082-NBZ-SB-2.5-3.5	D166-06	N	GEN PREP	8151A	III
18-Apr-2012	SL-082-NBZ-SB-2.5-3.5	D166-06	N	GEN PREP	8330A	III
18-Apr-2012	SL-082-NBZ-SB-2.5-3.5	D166-06	N	GEN PREP	8332	III
18-Apr-2012	SL-082-NBZ-SB-2.5-3.5	D166-06	N	GEN PREP	9014	III
18-Apr-2012	SL-082-NBZ-SB-2.5-3.5	D166-06R	N	GEN PREP	7199	III
18-Apr-2012	SL-082-NBZ-SB-2.5-3.5	D166-06W	N	3550B	8270C SIM	III
18-Apr-2012	SL-082-NBZ-SB-3.0	D166-05	N	5035	8015B GRO	III
18-Apr-2012	SL-189-NBZ-SS-0.0-0.5	D166-10	N	3550B	8081A	III
18-Apr-2012	SL-189-NBZ-SS-0.0-0.5	D166-10	N	3550B	8082	III
18-Apr-2012	SL-189-NBZ-SS-0.0-0.5	D166-10	N	3550B	8270C	III

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
18-Apr-2012	SL-189-NBZ-SS-0.0-0.5	D166-10	N	3550B	8270C SIM	III
18-Apr-2012	SL-189-NBZ-SS-0.0-0.5	D166-10	N	7471A	7471A	III
18-Apr-2012	SL-189-NBZ-SS-0.0-0.5	D166-10	N	GEN PREP	300.0	III
18-Apr-2012	SL-189-NBZ-SS-0.0-0.5	D166-10	N	GEN PREP	314.0	III
18-Apr-2012	SL-189-NBZ-SS-0.0-0.5	D166-10	N	GEN PREP	6020	III
18-Apr-2012	SL-189-NBZ-SS-0.0-0.5	D166-10	N	GEN PREP	7199	III
18-Apr-2012	SL-189-NBZ-SS-0.0-0.5	D166-10	N	GEN PREP	8151A	III
18-Apr-2012	SL-189-NBZ-SS-0.0-0.5	D166-10R	N	GEN PREP	7199	III
18-Apr-2012	SL-189-NBZ-SS-0.0-0.5	D166-10W	N	GEN PREP	6020	III
18-Apr-2012	SL-083-NBZ-SS-0.0-0.5	D166-07	N	3550B	8015B EFH	III
18-Apr-2012	SL-083-NBZ-SS-0.0-0.5	D166-07	N	3550B	8081A	III
18-Apr-2012	SL-083-NBZ-SS-0.0-0.5	D166-07	N	3550B	8270C	III
18-Apr-2012	SL-083-NBZ-SS-0.0-0.5	D166-07	N	3550B	8270C SIM	III
18-Apr-2012	SL-083-NBZ-SS-0.0-0.5	D166-07	N	7471A	7471A	III
18-Apr-2012	SL-083-NBZ-SS-0.0-0.5	D166-07	N	GEN PREP	300.0	III
18-Apr-2012	SL-083-NBZ-SS-0.0-0.5	D166-07	N	GEN PREP	314.0	III
18-Apr-2012	SL-083-NBZ-SS-0.0-0.5	D166-07	N	GEN PREP	6020	III
18-Apr-2012	SL-083-NBZ-SS-0.0-0.5	D166-07	N	GEN PREP	7199	III
18-Apr-2012	SL-083-NBZ-SS-0.0-0.5	D166-07	N	GEN PREP	8151A	III
18-Apr-2012	SL-083-NBZ-SS-0.0-0.5	D166-07	N	GEN PREP	8330A	III
18-Apr-2012	SL-083-NBZ-SS-0.0-0.5	D166-07	N	GEN PREP	8332	III
18-Apr-2012	SL-083-NBZ-SS-0.0-0.5	D166-07	N	GEN PREP	9014	III
18-Apr-2012	SL-083-NBZ-SS-0.0-0.5MS	D166-07M	MS	3550B	8081A	III
18-Apr-2012	SL-083-NBZ-SS-0.0-0.5	D166-07R	N	GEN PREP	7199	III
18-Apr-2012	SL-083-NBZ-SS-0.0-0.5MSD	D166-07S	MSD	3550B	8081A	III
18-Apr-2012	SL-083-NBZ-SS-0.0-0.5	D166-07T	N	3550B	8082	III

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
18-Apr-2012	SL-083-NBZ-SS-0.0-0.5	D166-07W	N	GEN PREP	6020	III
18-Apr-2012	SL-160-NBZ-SS-0.0-0.5	D166-09	N	3550B	8081A	III
18-Apr-2012	SL-160-NBZ-SS-0.0-0.5	D166-09	N	3550B	8082	III
18-Apr-2012	SL-160-NBZ-SS-0.0-0.5	D166-09	N	3550B	8270C	III
18-Apr-2012	SL-160-NBZ-SS-0.0-0.5	D166-09	N	3550B	8270C SIM	III
18-Apr-2012	SL-160-NBZ-SS-0.0-0.5	D166-09	N	7471A	7471A	III
18-Apr-2012	SL-160-NBZ-SS-0.0-0.5	D166-09	N	GEN PREP	300.0	III
18-Apr-2012	SL-160-NBZ-SS-0.0-0.5	D166-09	N	GEN PREP	314.0	III
18-Apr-2012	SL-160-NBZ-SS-0.0-0.5	D166-09	N	GEN PREP	6020	III
18-Apr-2012	SL-160-NBZ-SS-0.0-0.5	D166-09	N	GEN PREP	7199	III
18-Apr-2012	SL-160-NBZ-SS-0.0-0.5	D166-09	N	GEN PREP	8151A	III
18-Apr-2012	SL-160-NBZ-SS-0.0-0.5	D166-09R	N	GEN PREP	7199	III
18-Apr-2012	SL-160-NBZ-SS-0.0-0.5	D166-09W	N	GEN PREP	6020	III
18-Apr-2012	SL-146-NBZ-SS-0.0-0.5	D166-08	N	3550B	8081A	III
18-Apr-2012	SL-146-NBZ-SS-0.0-0.5	D166-08	N	3550B	8082	III
18-Apr-2012	SL-146-NBZ-SS-0.0-0.5	D166-08	N	3550B	8270C	III
18-Apr-2012	SL-146-NBZ-SS-0.0-0.5	D166-08	N	3550B	8270C SIM	III
18-Apr-2012	SL-146-NBZ-SS-0.0-0.5	D166-08	N	7471A	7471A	III
18-Apr-2012	SL-146-NBZ-SS-0.0-0.5	D166-08	N	GEN PREP	300.0	III
18-Apr-2012	SL-146-NBZ-SS-0.0-0.5	D166-08	N	GEN PREP	314.0	III
18-Apr-2012	SL-146-NBZ-SS-0.0-0.5	D166-08	N	GEN PREP	6020	III
18-Apr-2012	SL-146-NBZ-SS-0.0-0.5	D166-08	N	GEN PREP	7199	III
18-Apr-2012	SL-146-NBZ-SS-0.0-0.5	D166-08	N	GEN PREP	8151A	III
18-Apr-2012	SL-146-NBZ-SS-0.0-0.5	D166-08R	N	GEN PREP	7199	III
18-Apr-2012	SL-146-NBZ-SS-0.0-0.5	D166-08W	N	GEN PREP	6020	III

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Attachment II

Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: 12D166 **Laboratory: EMXT**

EDD Filename: Prep12D166R **eQAPP Name: CDM_SSFL_120730_EMAX**

Method Category: GENCHEM

Method: 300.0 **Matrix: SO**

Sample ID: SL-082-NBZ-SB-2.5-3.5 *Collected:* 4/18/2012 10:57:00 *Analysis Type:* RES *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
Nitrate-NO3	1.09	J	0.853	MDL	1.71	PQL	MG/KG	J	Z

Sample ID: SL-082-NBZ-SS-0.0-0.5 *Collected:* 4/18/2012 10:53:00 *Analysis Type:* RES *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
FLUORIDE	0.831	J	0.573	MDL	1.15	PQL	MG/KG	J	Z

Sample ID: SL-083-NBZ-SS-0.0-0.5 *Collected:* 4/18/2012 2:06:00 *Analysis Type:* RES *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
FLUORIDE	0.692	J	0.572	MDL	1.14	PQL	MG/KG	J	Z

Method Category: GENCHEM

Method: 9014 **Matrix: SO**

Sample ID: SL-081-NBZ-SS-0.0-0.5 *Collected:* 4/18/2012 10:00:00 *Analysis Type:* RES *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CYANIDE	0.335	J	0.298	MDL	0.595	PQL	MG/KG	J	Z

Method Category: METALS

Method: 6020 **Matrix: SO**

Sample ID: SL-008-NBZ-SB-4.0-5.0 *Collected:* 4/18/2012 9:55:00 *Analysis Type:* RES/TOT *Dilution:* 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	0.125	J	0.106	MDL	0.211	PQL	MG/KG	J	Z
SILVER	0.0587	J	0.0528	MDL	0.106	PQL	MG/KG	J	Z
SODIUM	71.8	J	52.8	MDL	106	PQL	MG/KG	J	Z

* denotes a non-reportable result

Project Name and Number: 1203-004-010-AL - SSFL AREA IV COLLOCATED SAMPLING

Data Qualifier Summary

Lab Reporting Batch ID: 12D166 **Laboratory: EMXT**

EDD Filename: Prep12D166R **eQAPP Name: CDM_SSFL_120730_EMAX**

Method Category: **METALS**

Method: **6020** ***Matrix:*** **SO**

Sample ID: **SL-081-NBZ-SS-0.0-0.5** ***Collected:*** **4/18/2012 10:00:00** ***Analysis Type:*** **RES/TOT** ***Dilution:*** **0.980**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	0.166	J	0.117	MDL	0.233	PQL	MG/KG	J	Z
BORON	4.98	J	2.92	MDL	5.83	PQL	MG/KG	J	Z

Sample ID: **SL-082-NBZ-SB-2.5-3.5** ***Collected:*** **4/18/2012 10:57:00** ***Analysis Type:*** **RES/TOT** ***Dilution:*** **0.995**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	0.146	J	0.113	MDL	0.226	PQL	MG/KG	J	Z
SELENIUM	0.227	J	0.226	MDL	0.453	PQL	MG/KG	J	Z
SILVER	0.0947	J	0.0566	MDL	0.113	PQL	MG/KG	J	Z
SODIUM	87.8	J	56.6	MDL	113	PQL	MG/KG	J	Z

Sample ID: **SL-082-NBZ-SS-0.0-0.5** ***Collected:*** **4/18/2012 10:53:00** ***Analysis Type:*** **RES/TOT** ***Dilution:*** **0.971**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	0.173	J	0.111	MDL	0.223	PQL	MG/KG	J	Z
SODIUM	68.3	J	55.7	MDL	111	PQL	MG/KG	J	Z

Sample ID: **SL-083-NBZ-SS-0.0-0.5** ***Collected:*** **4/18/2012 2:06:00** ***Analysis Type:*** **RES/TOT** ***Dilution:*** **1.00**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	0.120	J	0.114	MDL	0.229	PQL	MG/KG	J	Z
SILVER	0.0876	J	0.0572	MDL	0.114	PQL	MG/KG	J	Z

Sample ID: **SL-146-NBZ-SS-0.0-0.5** ***Collected:*** **4/18/2012 3:40:00** ***Analysis Type:*** **RES/TOT** ***Dilution:*** **0.990**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	0.116	J	0.114	MDL	0.228	PQL	MG/KG	J	Z

Sample ID: **SL-160-NBZ-SS-0.0-0.5** ***Collected:*** **4/18/2012 2:25:00** ***Analysis Type:*** **RES/TOT** ***Dilution:*** **0.976**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	0.164	J	0.109	MDL	0.219	PQL	MG/KG	J	Z

* denotes a non-reportable result

Project Name and Number: 1203-004-010-AL - SSFL AREA IV COLLOCATED SAMPLING

Data Qualifier Summary

Lab Reporting Batch ID: 12D166 **Laboratory: EMXT**

EDD Filename: Prep12D166R **eQAPP Name: CDM_SSFL_120730_EMAX**

Method Category: METALS
Method: 6020 **Matrix: SO**

Sample ID: SL-189-NBZ-SS-0.0-0.5 *Collected:* 4/18/2012 11:20:00 *Analysis Type:* RES/TOT *Dilution:* 0.990

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	0.129	J	0.113	MDL	0.227	PQL	MG/KG	J	Z

Method Category: METALS
Method: 7471A **Matrix: SO**

Sample ID: SL-083-NBZ-SS-0.0-0.5 *Collected:* 4/18/2012 2:06:00 *Analysis Type:* RES/TOT *Dilution:* 0.995

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
MERCURY	0.0992	J	0.0569	MDL	0.114	PQL	MG/KG	J	Z

Method Category: SVOA
Method: 8015B EFH **Matrix: SO**

Sample ID: SL-082-NBZ-SS-0.0-0.5 *Collected:* 4/18/2012 10:53:00 *Analysis Type:* RES *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
EFH(C15-C20)	0.86	J	0.57	MDL	1.1	PQL	MG/KG	J	Z

Method Category: SVOA
Method: 8081A **Matrix: SO**

Sample ID: SL-081-NBZ-SS-0.0-0.5 *Collected:* 4/18/2012 10:00:00 *Analysis Type:* RES-BASE/NEUTRAL *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
4,4'-DDD	0.22	J	0.20	MDL	0.40	PQL	UG/KG	J	Z

Sample ID: SL-189-NBZ-SS-0.0-0.5 *Collected:* 4/18/2012 11:20:00 *Analysis Type:* RES-BASE/NEUTRAL *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
4,4'-DDE	0.30	J	0.19	MDL	0.39	PQL	UG/KG	J	Z

* denotes a non-reportable result

Project Name and Number: 1203-004-010-AL - SSFL AREA IV COLLOCATED SAMPLING

Data Qualifier Summary

Lab Reporting Batch ID: 12D166 **Laboratory: EMXT**

EDD Filename: Prep12D166R **eQAPP Name: CDM_SSFL_120730_EMAX**

Method Category: SVOA

Method: 8082 **Matrix: SO**

Sample ID: SL-082-NBZ-SB-2.5-3.5 *Collected:* 4/18/2012 10:57:00 *Analysis Type:* RES *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
Aroclor 5460	2.4	J	1.9	MDL	3.8	PQL	UG/KG	J	Z

Sample ID: SL-146-NBZ-SS-0.0-0.5 *Collected:* 4/18/2012 3:40:00 *Analysis Type:* RES *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
Aroclor 5460	3.6	J	2.0	MDL	3.8	PQL	UG/KG	J	Z

Method Category: SVOA

Method: 8270C **Matrix: SO**

Sample ID: SL-008-NBZ-SB-4.0-5.0 *Collected:* 4/18/2012 9:55:00 *Analysis Type:* RES-BASE/NEUTRAL *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
2-CHLORONAPHTHALENE	180	U	89	MDL	180	PQL	UG/KG	UJ	L
ANILINE	350	U	180	MDL	350	PQL	UG/KG	UJ	E
HEXACHLOROCYCLOPENTADIENE	180	U	89	MDL	180	PQL	UG/KG	UJ	E

Sample ID: SL-081-NBZ-SS-0.0-0.5 *Collected:* 4/18/2012 10:00:00 *Analysis Type:* RES-BASE/NEUTRAL *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
2-CHLORONAPHTHALENE	200	U	100	MDL	200	PQL	UG/KG	UJ	L
ANILINE	400	U	200	MDL	400	PQL	UG/KG	UJ	E
HEXACHLOROCYCLOPENTADIENE	200	U	100	MDL	200	PQL	UG/KG	UJ	E

Sample ID: SL-082-NBZ-SB-2.5-3.5 *Collected:* 4/18/2012 10:57:00 *Analysis Type:* RES-BASE/NEUTRAL *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
2-CHLORONAPHTHALENE	190	U	96	MDL	190	PQL	UG/KG	UJ	L
ANILINE	380	U	190	MDL	380	PQL	UG/KG	UJ	E
HEXACHLOROCYCLOPENTADIENE	190	U	96	MDL	190	PQL	UG/KG	UJ	E

* denotes a non-reportable result

Project Name and Number: 1203-004-010-AL - SSFL AREA IV COLLOCATED SAMPLING

Data Qualifier Summary

Lab Reporting Batch ID: 12D166 **Laboratory: EMXT**

EDD Filename: Prep12D166R **eQAPP Name: CDM_SSFL_120730_EMAX**

Method Category: SVOA

Method: 8270C **Matrix: SO**

Sample ID: SL-082-NBZ-SS-0.0-0.5 *Collected:* 4/18/2012 10:53:00 *Analysis Type:* RES-BASE/NEUTRAL *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
2-CHLORONAPHTHALENE	190	U	96	MDL	190	PQL	UG/KG	UJ	L
ANILINE	380	U	190	MDL	380	PQL	UG/KG	UJ	E
HEXACHLOROCYCLOPENTADIENE	190	U	96	MDL	190	PQL	UG/KG	UJ	E

Sample ID: SL-083-NBZ-SS-0.0-0.5 *Collected:* 4/18/2012 2:06:00 *Analysis Type:* RES-BASE/NEUTRAL *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
2-CHLORONAPHTHALENE	190	U	96	MDL	190	PQL	UG/KG	UJ	L
ANILINE	380	U	190	MDL	380	PQL	UG/KG	UJ	E
HEXACHLOROCYCLOPENTADIENE	190	U	96	MDL	190	PQL	UG/KG	UJ	E

Sample ID: SL-146-NBZ-SS-0.0-0.5 *Collected:* 4/18/2012 3:40:00 *Analysis Type:* RES-BASE/NEUTRAL *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
2-CHLORONAPHTHALENE	190	U	97	MDL	190	PQL	UG/KG	UJ	L
ANILINE	380	U	190	MDL	380	PQL	UG/KG	UJ	E
HEXACHLOROCYCLOPENTADIENE	190	U	97	MDL	190	PQL	UG/KG	UJ	E

Sample ID: SL-160-NBZ-SS-0.0-0.5 *Collected:* 4/18/2012 2:25:00 *Analysis Type:* RES-BASE/NEUTRAL *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
2-CHLORONAPHTHALENE	190	U	94	MDL	190	PQL	UG/KG	UJ	L
ANILINE	370	U	190	MDL	370	PQL	UG/KG	UJ	E
HEXACHLOROCYCLOPENTADIENE	190	U	94	MDL	190	PQL	UG/KG	UJ	E

Sample ID: SL-189-NBZ-SS-0.0-0.5 *Collected:* 4/18/2012 11:20:00 *Analysis Type:* RES-BASE/NEUTRAL *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
2-CHLORONAPHTHALENE	190	U	96	MDL	190	PQL	UG/KG	UJ	L
ANILINE	380	U	190	MDL	380	PQL	UG/KG	UJ	E
HEXACHLOROCYCLOPENTADIENE	190	U	96	MDL	190	PQL	UG/KG	UJ	E

* denotes a non-reportable result

Project Name and Number: 1203-004-010-AL - SSFL AREA IV COLLOCATED SAMPLING

Data Qualifier Summary

Lab Reporting Batch ID: 12D166 **Laboratory: EMXT**

EDD Filename: Prep12D166R **eQAPP Name: CDM_SSFL_120730_EMAX**

Method Category: SVOA

Method: 8270C SIM **Matrix: SO**

Sample ID: **SL-081-NBZ-SS-0.0-0.5** *Collected:* **4/18/2012 10:00:00** *Analysis Type:* **RES-BASE/NEUTRAL** *Dilution:* **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BENZO(A)ANTHRACENE	1.8	J	1.0	MDL	2.0	PQL	UG/KG	J	Z
Butylbenzylphthalate	16	J	10	MDL	20	PQL	UG/KG	J	Z

Sample ID: **SL-082-NBZ-SS-0.0-0.5** *Collected:* **4/18/2012 10:53:00** *Analysis Type:* **RES-BASE/NEUTRAL** *Dilution:* **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
PHENANTHRENE	1.1	J	0.97	MDL	1.9	PQL	UG/KG	J	Z
PYRENE	1.3	J	0.97	MDL	1.9	PQL	UG/KG	J	Z

Sample ID: **SL-146-NBZ-SS-0.0-0.5** *Collected:* **4/18/2012 3:40:00** *Analysis Type:* **RES-BASE/NEUTRAL** *Dilution:* **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BENZO(A)ANTHRACENE	1.5	J	0.98	MDL	2.0	PQL	UG/KG	J	Z
FLUORENE	1.2	J	0.98	MDL	2.0	PQL	UG/KG	J	Z
PHENANTHRENE	1.3	J	0.98	MDL	2.0	PQL	UG/KG	J	Z

Sample ID: **SL-160-NBZ-SS-0.0-0.5** *Collected:* **4/18/2012 2:25:00** *Analysis Type:* **RES-BASE/NEUTRAL** *Dilution:* **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
Butylbenzylphthalate	9.6	J	9.4	MDL	19	PQL	UG/KG	J	Z

Sample ID: **SL-189-NBZ-SS-0.0-0.5** *Collected:* **4/18/2012 11:20:00** *Analysis Type:* **RES-BASE/NEUTRAL** *Dilution:* **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BENZO(B)FLUORANTHENE	1.4	J	0.97	MDL	1.9	PQL	UG/KG	J	Z
FLUORANTHENE	1.1	J	0.97	MDL	1.9	PQL	UG/KG	J	Z
PYRENE	0.98	J	0.97	MDL	1.9	PQL	UG/KG	J	Z

* denotes a non-reportable result

Project Name and Number: 1203-004-010-AL - SSFL AREA IV COLLOCATED SAMPLING

Data Qualifier Summary

Lab Reporting Batch ID: 12D166 **Laboratory: EMXT**

EDD Filename: Prep12D166R **eQAPP Name: CDM_SSFL_120730_EMAX**

Method Category: **VOA**

Method: **8015B GRO** ***Matrix:*** **AQ**

Sample ID: TB-041812 ***Collected:*** 4/18/2012 8:00:00 ***Analysis Type:*** RES ***Dilution:*** 1

Analyte	*Lab Result*	*Lab Qual*	*DL*	*DL Type*	*RL*	*RL Type*	*Units*	*Data Review Qual*	*Reason Code*
GASOLINE RANGE ORGANICS (C5-C12)	37	J	10	MDL	50	PQL	UG/L	J	Z

* denotes a non-reportable result

Project Name and Number: 1203-004-010-AL - SSFL AREA IV COLLOCATED SAMPLING

Data Qualifier Summary

Lab Reporting Batch ID: 12D166 **Laboratory: EMXT**

EDD Filename: Prep12D166R **eQAPP Name: CDM_SSFL_120730_EMAX**

Reason Code Legend

Reason Code	*Description*
E	Laboratory Control Precision
L	Laboratory Control Precision
L	Laboratory Control Spike Lower Estimation
Q	Matrix Spike Upper Estimation
S	Surrogate/Tracer Recovery Lower Estimation
Z	Reporting Limit Trace Value

* denotes a non-reportable result

Project Name and Number: 1203-004-010-AL - SSFL AREA IV COLLOCATED SAMPLING

Enclosure I

Level III ADR Outliers
(including Manual Review Outliers)

Quality Control
Outlier Reports

12D166

Lab Control Spike/Lab Control Spike Duplicate Outlier Report

Lab Reporting Batch ID: 12D166 **Laboratory: EMXT**

EDD Filename: Prep12D166R **eQAPP Name: CDM_SSFL_120730_EMAX**

Method: **8270C**
Matrix: **SO**

QC Sample ID (Associated Samples)	*Compound*	*LCS %R*	*LCSD %R*	*%R Limits*	*RPD (Limits)*	*Affected Compounds*	*Flag*
SVD047SC	2-CHLORONAPHTHALENE	-	47	50.00-130.00	-	2-CHLORONAPHTHALENE	
(SL-008-NBZ-SB-4.0-5.0	ANILINE	-	-	20.00-150.00	56 (50.00)	ANILINE	
SL-081-NBZ-SS-0.0-0.5	HEXACHLOROCYCLOPENTADI	-	-	10.00-130.00	56 (50.00)	HEXACHLOROCYCLOPENTAD	
SL-082-NBZ-SB-2.5-3.5							J (all detects)
SL-082-NBZ-SS-0.0-0.5							UJ (all non-detects)
SL-083-NBZ-SS-0.0-0.5							
SL-146-NBZ-SS-0.0-0.5							
SL-160-NBZ-SS-0.0-0.5							
SL-189-NBZ-SS-0.0-0.5)							

Matrix Spike/Matrix Spike Duplicate Outlier Report

Lab Reporting Batch ID: 12D166 **Laboratory: EMXT**

EDD Filename: Prep12D166R **eQAPP Name: CDM_SSFL_120730_EMAX**

***Method:* 8081A**
***Matrix:* SO**

QC Sample ID (Associated Samples)	*Compound*	*MS %R*	*MSD %R*	*%R Limits*	*RPD (Limits)*	*Affected Compounds*	*Flag*
SL-083-NBZ-SS-0.0-0.5MS **SL-083-NBZ-SS-0.0-0.5MSD** (SL-083-NBZ-SS-0.0-0.5)	4,4'-DDT	201	163	30.00-160.00	-	4,4'-DDT	J (all detects)

Reporting Limit Outliers

Lab Reporting Batch ID: 12D166 **Laboratory: EMXT**

EDD Filename: Prep12D166R **eQAPP Name: CDM_SSFL_120730_EMAX**

Method: 8015B GRO
Matrix: AQ

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
TB-041812	GASOLINE RANGE ORGANICS (C5-C12)	J	37	50	PQL	UG/L	J (all detects)

Method: 300.0
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-082-NBZ-SB-2.5-3.5	Nitrate-NO3	J	1.09	1.71	PQL	MG/KG	J (all detects)
SL-082-NBZ-SS-0.0-0.5	FLUORIDE	J	0.831	1.15	PQL	MG/KG	J (all detects)
SL-083-NBZ-SS-0.0-0.5	FLUORIDE	J	0.692	1.14	PQL	MG/KG	J (all detects)

Method: 6020
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-008-NBZ-SB-4.0-5.0	ANTIMONY SILVER SODIUM	J J J	0.125 0.0587 71.8	0.211 0.106 106	PQL PQL PQL	MG/KG MG/KG MG/KG	J (all detects)
SL-081-NBZ-SS-0.0-0.5	ANTIMONY BORON	J J	0.166 4.98	0.233 5.83	PQL PQL	MG/KG MG/KG	J (all detects)
SL-082-NBZ-SB-2.5-3.5	ANTIMONY SELENIUM SILVER SODIUM	J J J J	0.146 0.227 0.0947 87.8	0.226 0.453 0.113 113	PQL PQL PQL PQL	MG/KG MG/KG MG/KG MG/KG	J (all detects)
SL-082-NBZ-SS-0.0-0.5	ANTIMONY SODIUM	J J	0.173 68.3	0.223 111	PQL PQL	MG/KG MG/KG	J (all detects)
SL-083-NBZ-SS-0.0-0.5	ANTIMONY SILVER	J J	0.120 0.0876	0.229 0.114	PQL PQL	MG/KG MG/KG	J (all detects)
SL-146-NBZ-SS-0.0-0.5	ANTIMONY	J	0.116	0.228	PQL	MG/KG	J (all detects)
SL-160-NBZ-SS-0.0-0.5	ANTIMONY	J	0.164	0.219	PQL	MG/KG	J (all detects)
SL-189-NBZ-SS-0.0-0.5	ANTIMONY	J	0.129	0.227	PQL	MG/KG	J (all detects)

Method: 7471A
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-083-NBZ-SS-0.0-0.5	MERCURY	J	0.0992	0.114	PQL	MG/KG	J (all detects)

Reporting Limit Outliers

Lab Reporting Batch ID: 12D166 **Laboratory: EMXT**

EDD Filename: Prep12D166R **eQAPP Name: CDM_SSFL_120730_EMAX**

Method: 8015B EFH
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-082-NBZ-SS-0.0-0.5	EFH(C15-C20)	J	0.86	1.1	PQL	MG/KG	J (all detects)

Method: 8081A
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-081-NBZ-SS-0.0-0.5	4,4'-DDD	J	0.22	0.40	PQL	UG/KG	J (all detects)
SL-189-NBZ-SS-0.0-0.5	4,4'-DDE	J	0.30	0.39	PQL	UG/KG	J (all detects)

Method: 8082
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-082-NBZ-SB-2.5-3.5	Aroclor 5460	J	2.4	3.8	PQL	UG/KG	J (all detects)
SL-146-NBZ-SS-0.0-0.5	Aroclor 5460	J	3.6	3.8	PQL	UG/KG	J (all detects)

Method: 8270C SIM
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-081-NBZ-SS-0.0-0.5	BENZO(A)ANTHRACENE Butylbenzylphthalate	J J	1.8 16	2.0 20	PQL PQL	UG/KG UG/KG	J (all detects)
SL-082-NBZ-SS-0.0-0.5	PHENANTHRENE PYRENE	J J	1.1 1.3	1.9 1.9	PQL PQL	UG/KG UG/KG	J (all detects)
SL-146-NBZ-SS-0.0-0.5	BENZO(A)ANTHRACENE FLUORENE PHENANTHRENE	J J J	1.5 1.2 1.3	2.0 2.0 2.0	PQL PQL PQL	UG/KG UG/KG UG/KG	J (all detects)
SL-160-NBZ-SS-0.0-0.5	Butylbenzylphthalate	J	9.6	19	PQL	UG/KG	J (all detects)
SL-189-NBZ-SS-0.0-0.5	BENZO(B)FLUORANTHENE FLUORANTHENE PYRENE	J J J	1.4 1.1 0.98	1.9 1.9 1.9	PQL PQL PQL	UG/KG UG/KG UG/KG	J (all detects)

Method: 9014
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-081-NBZ-SS-0.0-0.5	CYANIDE	J	0.335	0.595	PQL	MG/KG	J (all detects)

LDC #: 29230C4
SDG #: 12D166
Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 2/22/13
Page: 1 of 1
Reviewer: CN
2nd Reviewer:

METHOD: Metals (EPA SW 846 Method ~~6010B/6020A/7000~~ 7471A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	—	Sampling dates: 4/18/12
II.	ICP/MS Tune	—	
III.	Calibration	—	
IV.	Blanks	A	
V.	ICP Interference Check Sample (ICS) Analysis	—	
VI.	Matrix Spike Analysis	N	MS/D (6020-CS) (7471A only)
VII.	Duplicate Sample Analysis	N	
VIII.	Laboratory Control Samples (LCS)	N	LCS/D
IX.	Internal Standard (ICP-MS)	N	
X.	Furnace Atomic Absorption QC	N	
XI.	ICP Serial Dilution	N	
XII.	Sample Result Verification	N	
XIII.	Overall Assessment of Data	N	
XIV.	Field Duplicates	—	
XV	Field Blanks	SW	EB=EB-NBZ-SB-041712 \ 12D154 =EB-NBZ-SS-041712 /

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Soil

1	SL-008-NBZ-SB-4.0-5.0	11		21		31	
2	SL-081-NBZ-SS-0.0-0.5	12		22		32	
3	SL-082-NBZ-SS-0.0-0.5	13		23		33	
4	SL-082-NBZ-SB-2.5-3.5	14		24		34	
5	SL-083-NBZ-SS-0.0-0.5	15		25		35	
6	SL-146-NBZ-SS-0.0-0.5	16		26		36	
7	SL-160-NBZ-SS-0.0-0.5	17		27		37	
8	SL-189-NBZ-SS-0.0-0.5	18		28		38	
9	SL-008-NBZ-SB-4.0-5.0MS	19		29		39	
10	SL-008-NBZ-SB-4.0-5.0MSD	20		30		40	

Notes:

LDC #: 29230C4

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: CR
2nd Reviewer: A

METHOD: Trace Metals (EPA SW846 6010B/7000)

Blank units: mg/L **Associated sample units:** mg/Kg
Sampling date: 4/1712 Soil factor applied 100x
Field blank type: (circle one) Field Blank / Rinsate / Other: Associated Samples: EB-NBZ-SB-041712=1, 4 EB-NBZ-SS-041712=2, 3, 5-8

Analyte	Blank ID	Blank ID	Sample Identification										
	EB-NBZ-SB-041712	EB-NBZ-SS-041712	Action Limit	No Qualifiers (>5x)									
Al	0.0217		10.85										
Cu	0.000894	0.000613	0.445										
Ca		0.0492	24.6										
Ni		0.000255	0.1										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

SAMPLE DELIVERY GROUP

12D176

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
19-Apr-2012	TB-041912	D176-14	TB	5030B	8015B GRO	III
19-Apr-2012	TB-041912	D176-14	TB	5030B	8260B	III
19-Apr-2012	TB-041912	D176-14	TB	5030B	8260B SIM	III
19-Apr-2012	SL-012-NBZ-SS-0.0-0.5	D176-01	N	3550B	8081A	III
19-Apr-2012	SL-012-NBZ-SS-0.0-0.5	D176-01	N	3550B	8082	III
19-Apr-2012	SL-012-NBZ-SS-0.0-0.5	D176-01	N	3550B	8270C	III
19-Apr-2012	SL-012-NBZ-SS-0.0-0.5	D176-01	N	3550B	8270C SIM	III
19-Apr-2012	SL-012-NBZ-SS-0.0-0.5	D176-01	N	7471A	7471A	III
19-Apr-2012	SL-012-NBZ-SS-0.0-0.5	D176-01	N	GEN PREP	300.0	III
19-Apr-2012	SL-012-NBZ-SS-0.0-0.5	D176-01	N	GEN PREP	314.0	III
19-Apr-2012	SL-012-NBZ-SS-0.0-0.5	D176-01	N	GEN PREP	6850	III
19-Apr-2012	SL-012-NBZ-SS-0.0-0.5	D176-01	N	GEN PREP	7199	III
19-Apr-2012	SL-012-NBZ-SS-0.0-0.5	D176-01	N	GEN PREP	8151A	III
19-Apr-2012	SL-012-NBZ-SS-0.0-0.5	D176-01	N	GEN PREP	8330A	III
19-Apr-2012	SL-012-NBZ-SS-0.0-0.5	D176-01	N	GEN PREP	8332	III
19-Apr-2012	SL-012-NBZ-SS-0.0-0.5	D176-01	N	GEN PREP	9014	III
19-Apr-2012	SL-012-NBZ-SS-0.0-0.5	D176-01	N	TOTAL	6020	III
19-Apr-2012	SL-012-NBZ-SS-0.0-0.5	D176-01R	N	3550B	8015B EFH	III
19-Apr-2012	SL-012-NBZ-SS-0.0-0.5	D176-01R	N	GEN PREP	7199	III
19-Apr-2012	SL-012-NBZ-SB-1.0	D176-02	N	5035	8015B GRO	III
19-Apr-2012	SL-012-NBZ-SB-1.0	D176-02	N	5035	8260B	III
19-Apr-2012	SL-012-NBZ-SB-1.0	D176-02	N	5035	8260B SIM	III
19-Apr-2012	SL-012-NBZ-SB-0.5-1.5	D176-03	N	3550B	8015B EFH	III
19-Apr-2012	SL-012-NBZ-SB-0.5-1.5	D176-03	N	3550B	8082	III
19-Apr-2012	SL-012-NBZ-SB-0.5-1.5	D176-03	N	3550B	8270C	III
19-Apr-2012	SL-012-NBZ-SB-0.5-1.5	D176-03	N	3550B	8270C SIM	III

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
19-Apr-2012	SL-012-NBZ-SB-0.5-1.5	D176-03	N	7471A	7471A	III
19-Apr-2012	SL-012-NBZ-SB-0.5-1.5	D176-03	N	GEN PREP	300.0	III
19-Apr-2012	SL-012-NBZ-SB-0.5-1.5	D176-03	N	GEN PREP	314.0	III
19-Apr-2012	SL-012-NBZ-SB-0.5-1.5	D176-03	N	GEN PREP	7199	III
19-Apr-2012	SL-012-NBZ-SB-0.5-1.5	D176-03	N	GEN PREP	8015B	III
19-Apr-2012	SL-012-NBZ-SB-0.5-1.5	D176-03	N	GEN PREP	8015M	III
19-Apr-2012	SL-012-NBZ-SB-0.5-1.5	D176-03	N	GEN PREP	8330A	III
19-Apr-2012	SL-012-NBZ-SB-0.5-1.5	D176-03	N	GEN PREP	8332	III
19-Apr-2012	SL-012-NBZ-SB-0.5-1.5	D176-03	N	GEN PREP	9014	III
19-Apr-2012	SL-012-NBZ-SB-0.5-1.5	D176-03	N	TOTAL	6020	III
19-Apr-2012	SL-012-NBZ-SB-0.5-1.5MS	D176-03M	MS	GEN PREP	8330A	III
19-Apr-2012	SL-012-NBZ-SB-0.5-1.5MS	D176-03M	MS	GEN PREP	8332	III
19-Apr-2012	SL-012-NBZ-SB-0.5-1.5	D176-03R	N	GEN PREP	7199	III
19-Apr-2012	SL-012-NBZ-SB-0.5-1.5MSD	D176-03S	MSD	GEN PREP	8330A	III
19-Apr-2012	SL-012-NBZ-SB-0.5-1.5MSD	D176-03S	MSD	GEN PREP	8332	III
19-Apr-2012	SL-184-NBZ-SS-0.0-0.5	D176-11	N	3550B	8081A	III
19-Apr-2012	SL-184-NBZ-SS-0.0-0.5	D176-11	N	3550B	8082	III
19-Apr-2012	SL-184-NBZ-SS-0.0-0.5	D176-11	N	3550B	8270C	III
19-Apr-2012	SL-184-NBZ-SS-0.0-0.5	D176-11	N	3550B	8270C SIM	III
19-Apr-2012	SL-184-NBZ-SS-0.0-0.5	D176-11	N	7471A	7471A	III
19-Apr-2012	SL-184-NBZ-SS-0.0-0.5	D176-11	N	GEN PREP	300.0	III
19-Apr-2012	SL-184-NBZ-SS-0.0-0.5	D176-11	N	GEN PREP	314.0	III
19-Apr-2012	SL-184-NBZ-SS-0.0-0.5	D176-11	N	GEN PREP	7199	III
19-Apr-2012	SL-184-NBZ-SS-0.0-0.5	D176-11	N	GEN PREP	8151A	III
19-Apr-2012	SL-184-NBZ-SS-0.0-0.5	D176-11	N	TOTAL	6020	III
19-Apr-2012	SL-184-NBZ-SS-0.0-0.5	D176-11R	N	GEN PREP	7199	III

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
19-Apr-2012	SL-017-NBZ-SS-0.0-0.5	D176-04	N	3550B	8015B EFH	IV
19-Apr-2012	SL-017-NBZ-SS-0.0-0.5	D176-04	N	3550B	8081A	IV
19-Apr-2012	SL-017-NBZ-SS-0.0-0.5	D176-04	N	3550B	8082	IV
19-Apr-2012	SL-017-NBZ-SS-0.0-0.5	D176-04	N	3550B	8270C	IV
19-Apr-2012	SL-017-NBZ-SS-0.0-0.5	D176-04	N	3550B	8270C SIM	IV
19-Apr-2012	SL-017-NBZ-SS-0.0-0.5	D176-04	N	7471A	7471A	IV
19-Apr-2012	SL-017-NBZ-SS-0.0-0.5	D176-04	N	GEN PREP	300.0	IV
19-Apr-2012	SL-017-NBZ-SS-0.0-0.5	D176-04	N	GEN PREP	314.0	IV
19-Apr-2012	SL-017-NBZ-SS-0.0-0.5	D176-04	N	GEN PREP	7199	IV
19-Apr-2012	SL-017-NBZ-SS-0.0-0.5	D176-04	N	GEN PREP	8151A	IV
19-Apr-2012	SL-017-NBZ-SS-0.0-0.5	D176-04	N	GEN PREP	8330A	IV
19-Apr-2012	SL-017-NBZ-SS-0.0-0.5	D176-04	N	GEN PREP	8332	IV
19-Apr-2012	SL-017-NBZ-SS-0.0-0.5	D176-04	N	GEN PREP	9014	IV
19-Apr-2012	SL-017-NBZ-SS-0.0-0.5	D176-04	N	TOTAL	6020	IV
19-Apr-2012	SL-017-NBZ-SS-0.0-0.5	D176-04R	N	GEN PREP	7199	IV
19-Apr-2012	SL-087-NBZ-SS-0.0-0.5	D176-07	N	3550B	8081A	IV
19-Apr-2012	SL-087-NBZ-SS-0.0-0.5	D176-07	N	3550B	8082	IV
19-Apr-2012	SL-087-NBZ-SS-0.0-0.5	D176-07	N	3550B	8270C	IV
19-Apr-2012	SL-087-NBZ-SS-0.0-0.5	D176-07	N	3550B	8270C SIM	IV
19-Apr-2012	SL-087-NBZ-SS-0.0-0.5	D176-07	N	7471A	7471A	IV
19-Apr-2012	SL-087-NBZ-SS-0.0-0.5	D176-07	N	GEN PREP	300.0	IV
19-Apr-2012	SL-087-NBZ-SS-0.0-0.5	D176-07	N	GEN PREP	314.0	IV
19-Apr-2012	SL-087-NBZ-SS-0.0-0.5	D176-07	N	GEN PREP	7199	IV
19-Apr-2012	SL-087-NBZ-SS-0.0-0.5	D176-07	N	GEN PREP	8015B	IV
19-Apr-2012	SL-087-NBZ-SS-0.0-0.5	D176-07	N	GEN PREP	8015M	IV
19-Apr-2012	SL-087-NBZ-SS-0.0-0.5	D176-07	N	GEN PREP	8151A	IV

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
19-Apr-2012	SL-087-NBZ-SS-0.0-0.5	D176-07	N	GEN PREP	8330A	IV
19-Apr-2012	SL-087-NBZ-SS-0.0-0.5	D176-07	N	GEN PREP	8332	IV
19-Apr-2012	SL-087-NBZ-SS-0.0-0.5	D176-07	N	GEN PREP	9014	IV
19-Apr-2012	SL-087-NBZ-SS-0.0-0.5	D176-07	N	TOTAL	6020	IV
19-Apr-2012	SL-087-NBZ-SS-0.0-0.5	D176-07R	N	3550B	8015B EFH	IV
19-Apr-2012	SL-087-NBZ-SS-0.0-0.5	D176-07R	N	GEN PREP	7199	IV
19-Apr-2012	SL-087-NBZ-SS-0.5	D176-06	N	5035	8015B GRO	IV
19-Apr-2012	SL-087-NBZ-SS-0.5	D176-06	N	5035	8260B	IV
19-Apr-2012	SL-087-NBZ-SS-0.5	D176-06	N	5035	8260B SIM	IV
19-Apr-2012	SL-179-NBZ-SS-0.0-0.5	D176-10	N	3550B	8081A	III
19-Apr-2012	SL-179-NBZ-SS-0.0-0.5	D176-10	N	3550B	8082	IV
19-Apr-2012	SL-179-NBZ-SS-0.0-0.5	D176-10	N	7471A	7471A	IV
19-Apr-2012	SL-179-NBZ-SS-0.0-0.5	D176-10	N	GEN PREP	300.0	IV
19-Apr-2012	SL-179-NBZ-SS-0.0-0.5	D176-10	N	GEN PREP	314.0	IV
19-Apr-2012	SL-179-NBZ-SS-0.0-0.5	D176-10	N	GEN PREP	7199	IV
19-Apr-2012	SL-179-NBZ-SS-0.0-0.5	D176-10	N	GEN PREP	8151A	III
19-Apr-2012	SL-179-NBZ-SS-0.0-0.5	D176-10	N	TOTAL	6020	IV
19-Apr-2012	SL-179-NBZ-SS-0.0-0.5	D176-10R	N	GEN PREP	7199	IV
19-Apr-2012	SL-179-NBZ-SS-0.0-0.5	D176-10W	N	3550B	8270C	IV
19-Apr-2012	SL-179-NBZ-SS-0.0-0.5	D176-10W	N	3550B	8270C SIM	IV
19-Apr-2012	SL-086-NBZ-SS-0.0-0.5	D176-05	N	3550B	8015B EFH	IV
19-Apr-2012	SL-086-NBZ-SS-0.0-0.5	D176-05	N	3550B	8081A	IV
19-Apr-2012	SL-086-NBZ-SS-0.0-0.5	D176-05	N	3550B	8082	IV
19-Apr-2012	SL-086-NBZ-SS-0.0-0.5	D176-05	N	3550B	8270C	IV
19-Apr-2012	SL-086-NBZ-SS-0.0-0.5	D176-05	N	3550B	8270C SIM	IV
19-Apr-2012	SL-086-NBZ-SS-0.0-0.5	D176-05	N	7471A	7471A	IV

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
19-Apr-2012	SL-086-NBZ-SS-0.0-0.5	D176-05	N	GEN PREP	300.0	IV
19-Apr-2012	SL-086-NBZ-SS-0.0-0.5	D176-05	N	GEN PREP	314.0	IV
19-Apr-2012	SL-086-NBZ-SS-0.0-0.5	D176-05	N	GEN PREP	7199	IV
19-Apr-2012	SL-086-NBZ-SS-0.0-0.5	D176-05	N	GEN PREP	8151A	IV
19-Apr-2012	SL-086-NBZ-SS-0.0-0.5	D176-05	N	GEN PREP	8330A	IV
19-Apr-2012	SL-086-NBZ-SS-0.0-0.5	D176-05	N	GEN PREP	8332	IV
19-Apr-2012	SL-086-NBZ-SS-0.0-0.5	D176-05	N	GEN PREP	9014	IV
19-Apr-2012	SL-086-NBZ-SS-0.0-0.5	D176-05	N	TOTAL	6020	IV
19-Apr-2012	SL-086-NBZ-SS-0.0-0.5	D176-05R	N	GEN PREP	7199	IV
19-Apr-2012	SL-193-NBZ-SS-0.0-0.5	D176-12	N	3550B	8081A	III
19-Apr-2012	SL-193-NBZ-SS-0.0-0.5	D176-12	N	3550B	8082	III
19-Apr-2012	SL-193-NBZ-SS-0.0-0.5	D176-12	N	3550B	8270C	III
19-Apr-2012	SL-193-NBZ-SS-0.0-0.5	D176-12	N	3550B	8270C SIM	III
19-Apr-2012	SL-193-NBZ-SS-0.0-0.5	D176-12	N	7471A	7471A	III
19-Apr-2012	SL-193-NBZ-SS-0.0-0.5	D176-12	N	GEN PREP	300.0	III
19-Apr-2012	SL-193-NBZ-SS-0.0-0.5	D176-12	N	GEN PREP	314.0	III
19-Apr-2012	SL-193-NBZ-SS-0.0-0.5	D176-12	N	GEN PREP	7199	III
19-Apr-2012	SL-193-NBZ-SS-0.0-0.5	D176-12	N	GEN PREP	8151A	III
19-Apr-2012	SL-193-NBZ-SS-0.0-0.5	D176-12	N	TOTAL	6020	III
19-Apr-2012	SL-193-NBZ-SS-0.0-0.5MS	D176-12G	MS	GEN PREP	7199	III
19-Apr-2012	SL-193-NBZ-SS-0.0-0.5MS	D176-12G1	MS	GEN PREP	7199	III
19-Apr-2012	SL-193-NBZ-SS-0.0-0.5MSD	D176-12H	MSD	GEN PREP	7199	III
19-Apr-2012	SL-193-NBZ-SS-0.0-0.5MSD	D176-12H1	MSD	GEN PREP	7199	III
19-Apr-2012	SL-193-NBZ-SS-0.0-0.5MS	D176-12M	MS	3550B	8081A	III
19-Apr-2012	SL-193-NBZ-SS-0.0-0.5MS	D176-12M	MS	3550B	8082	III
19-Apr-2012	SL-193-NBZ-SS-0.0-0.5MS	D176-12M	MS	3550B	8270C	III

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IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
19-Apr-2012	SL-193-NBZ-SS-0.0-0.5MS	D176-12M	MS	3550B	8270C SIM	III
19-Apr-2012	SL-193-NBZ-SS-0.0-0.5MS	D176-12M	MS	7471A	7471A	III
19-Apr-2012	SL-193-NBZ-SS-0.0-0.5MS	D176-12M	MS	GEN PREP	300.0	III
19-Apr-2012	SL-193-NBZ-SS-0.0-0.5MS	D176-12M	MS	GEN PREP	314.0	III
19-Apr-2012	SL-193-NBZ-SS-0.0-0.5MS	D176-12M	MS	GEN PREP	7199	III
19-Apr-2012	SL-193-NBZ-SS-0.0-0.5MS	D176-12M	MS	GEN PREP	8151A	III
19-Apr-2012	SL-193-NBZ-SS-0.0-0.5MS	D176-12M	MS	TOTAL	6020	III
19-Apr-2012	SL-193-NBZ-SS-0.0-0.5MS	D176-12M1	MS	GEN PREP	7199	III
19-Apr-2012	SL-193-NBZ-SS-0.0-0.5	D176-12R	N	GEN PREP	7199	III
19-Apr-2012	SL-193-NBZ-SS-0.0-0.5MSD	D176-12S	MSD	3550B	8081A	III
19-Apr-2012	SL-193-NBZ-SS-0.0-0.5MSD	D176-12S	MSD	3550B	8082	III
19-Apr-2012	SL-193-NBZ-SS-0.0-0.5MSD	D176-12S	MSD	3550B	8270C	III
19-Apr-2012	SL-193-NBZ-SS-0.0-0.5MSD	D176-12S	MSD	3550B	8270C SIM	III
19-Apr-2012	SL-193-NBZ-SS-0.0-0.5MSD	D176-12S	MSD	7471A	7471A	III
19-Apr-2012	SL-193-NBZ-SS-0.0-0.5MSD	D176-12S	MSD	GEN PREP	300.0	III
19-Apr-2012	SL-193-NBZ-SS-0.0-0.5MSD	D176-12S	MSD	GEN PREP	314.0	III
19-Apr-2012	SL-193-NBZ-SS-0.0-0.5MSD	D176-12S	MSD	GEN PREP	7199	III
19-Apr-2012	SL-193-NBZ-SS-0.0-0.5MSD	D176-12S	MSD	GEN PREP	8151A	III
19-Apr-2012	SL-193-NBZ-SS-0.0-0.5MSD	D176-12S	MSD	TOTAL	6020	III
19-Apr-2012	SL-193-NBZ-SS-0.0-0.5MSD	D176-12S1	MSD	GEN PREP	7199	III
19-Apr-2012	DUP-09-NBZ-QC-041912	D176-13	FD	3550B	8081A	III
19-Apr-2012	DUP-09-NBZ-QC-041912	D176-13	FD	3550B	8082	III
19-Apr-2012	DUP-09-NBZ-QC-041912	D176-13	FD	3550B	8270C	III
19-Apr-2012	DUP-09-NBZ-QC-041912	D176-13	FD	3550B	8270C SIM	III
19-Apr-2012	DUP-09-NBZ-QC-041912	D176-13	FD	7471A	7471A	III
19-Apr-2012	DUP-09-NBZ-QC-041912	D176-13	FD	GEN PREP	300.0	III

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IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
19-Apr-2012	DUP-09-NBZ-QC-041912	D176-13	FD	GEN PREP	314.0	III
19-Apr-2012	DUP-09-NBZ-QC-041912	D176-13	FD	GEN PREP	7199	III
19-Apr-2012	DUP-09-NBZ-QC-041912	D176-13	FD	GEN PREP	8151A	III
19-Apr-2012	DUP-09-NBZ-QC-041912	D176-13	FD	TOTAL	6020	III
19-Apr-2012	DUP-09-NBZ-QC-041912	D176-13R	FD	GEN PREP	7199	III
19-Apr-2012	SL-178-NBZ-SS-0.0-0.5	D176-09	N	3550B	8081A	IV
19-Apr-2012	SL-178-NBZ-SS-0.0-0.5	D176-09	N	3550B	8082	IV
19-Apr-2012	SL-178-NBZ-SS-0.0-0.5	D176-09	N	3550B	8270C SIM	IV
19-Apr-2012	SL-178-NBZ-SS-0.0-0.5	D176-09	N	7471A	7471A	IV
19-Apr-2012	SL-178-NBZ-SS-0.0-0.5	D176-09	N	GEN PREP	300.0	IV
19-Apr-2012	SL-178-NBZ-SS-0.0-0.5	D176-09	N	GEN PREP	314.0	IV
19-Apr-2012	SL-178-NBZ-SS-0.0-0.5	D176-09	N	GEN PREP	7199	IV
19-Apr-2012	SL-178-NBZ-SS-0.0-0.5	D176-09	N	GEN PREP	8151A	IV
19-Apr-2012	SL-178-NBZ-SS-0.0-0.5	D176-09	N	TOTAL	6020	IV
19-Apr-2012	SL-178-NBZ-SS-0.0-0.5	D176-09R	N	GEN PREP	7199	IV
19-Apr-2012	SL-178-NBZ-SS-0.0-0.5	D176-09W	N	3550B	8270C	IV
19-Apr-2012	SL-150-NBZ-SS-0.0-0.5	D176-08	N	3550B	8081A	IV
19-Apr-2012	SL-150-NBZ-SS-0.0-0.5	D176-08	N	3550B	8082	IV
19-Apr-2012	SL-150-NBZ-SS-0.0-0.5	D176-08	N	3550B	8270C	IV
19-Apr-2012	SL-150-NBZ-SS-0.0-0.5	D176-08	N	3550B	8270C SIM	IV
19-Apr-2012	SL-150-NBZ-SS-0.0-0.5	D176-08	N	7471A	7471A	IV
19-Apr-2012	SL-150-NBZ-SS-0.0-0.5	D176-08	N	GEN PREP	300.0	IV
19-Apr-2012	SL-150-NBZ-SS-0.0-0.5	D176-08	N	GEN PREP	314.0	IV
19-Apr-2012	SL-150-NBZ-SS-0.0-0.5	D176-08	N	GEN PREP	7199	IV
19-Apr-2012	SL-150-NBZ-SS-0.0-0.5	D176-08	N	GEN PREP	8151A	IV
19-Apr-2012	SL-150-NBZ-SS-0.0-0.5	D176-08	N	TOTAL	6020	IV

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
19-Apr-2012	SL-150-NBZ-SS-0.0-0.5	D176-08R	N	GEN PREP	7199	IV

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Attachment II

Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: 12D176 **Laboratory: EMXT**

EDD Filename: 12D176R **eQAPP Name: CDM_SSFL_120730_EMAX**

Method Category: GENCHEM
Method: 300.0 **Matrix: SO**

Sample ID: SL-012-NBZ-SB-0.5-1.5 **Collected:** 4/19/2012 9:25:00 **Analysis Type:** RES **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
FLUORIDE	1.00	J	0.598	MDL	1.20	PQL	MG/KG	J	Z

Sample ID: SL-017-NBZ-SS-0.0-0.5 **Collected:** 4/19/2012 10:09:00 **Analysis Type:** RES **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
FLUORIDE	1.24	J	0.711	MDL	1.42	PQL	MG/KG	J	Z

Sample ID: SL-086-NBZ-SS-0.0-0.5 **Collected:** 4/19/2012 11:40:00 **Analysis Type:** RES **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
FLUORIDE	1.03	J	0.646	MDL	1.29	PQL	MG/KG	J	Z

Method Category: GENCHEM
Method: 9014 **Matrix: SO**

Sample ID: SL-086-NBZ-SS-0.0-0.5 **Collected:** 4/19/2012 11:40:00 **Analysis Type:** RES **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CYANIDE	0.327	J	0.323	MDL	0.646	PQL	MG/KG	J	Z

Method Category: METALS
Method: 6020 **Matrix: SO**

Sample ID: DUP-09-NBZ-QC-041912 **Collected:** 4/19/2012 11:50:00 **Analysis Type:** RES/TOT **Dilution:** 0.995

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	0.222	U	0.111	MDL	0.222	PQL	MG/KG	UJ	Q, FD
SODIUM	57.6	J	55.6	MDL	111	PQL	MG/KG	J	Z, FD
Zirconium	5.56	U	2.78	MDL	5.56	PQL	MG/KG	UJ	Q

Sample ID: SL-012-NBZ-SB-0.5-1.5 **Collected:** 4/19/2012 9:25:00 **Analysis Type:** RES/TOT **Dilution:** 0.952

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	0.228	U	0.114	MDL	0.228	PQL	MG/KG	UJ	Q
SODIUM	92.2	J	56.9	MDL	114	PQL	MG/KG	J	Z

* denotes a non-reportable result

Project Name and Number: 1203-004-010-AL - SSFL AREA IV COLLOCATED SAMPLING

Data Qualifier Summary

Lab Reporting Batch ID: 12D176 **Laboratory: EMXT**

EDD Filename: 12D176R **eQAPP Name: CDM_SSFL_120730_EMAX**

Method Category: **METALS**

Method: **6020** ***Matrix:*** **SO**

Sample ID: **SL-012-NBZ-SB-0.5-1.5** ***Collected:*** **4/19/2012 9:25:00** ***Analysis Type:*** **RES/TOT** ***Dilution:*** **0.952**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
Zirconium	5.69	U	2.85	MDL	5.69	PQL	MG/KG	UJ	Q

Sample ID: **SL-012-NBZ-SS-0.0-0.5** ***Collected:*** **4/19/2012 8:46:00** ***Analysis Type:*** **RES/TOT** ***Dilution:*** **0.957**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	0.267		0.112	MDL	0.223	PQL	MG/KG	J	Q
BORON	3.33	J	2.79	MDL	5.58	PQL	MG/KG	J	Z
SELENIUM	0.263	J	0.223	MDL	0.447	PQL	MG/KG	J	Z
Zirconium	5.58	U	2.79	MDL	5.58	PQL	MG/KG	UJ	Q

Sample ID: **SL-017-NBZ-SS-0.0-0.5** ***Collected:*** **4/19/2012 10:09:00** ***Analysis Type:*** **RES/TOT** ***Dilution:*** **0.966**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	0.330		0.137	MDL	0.275	PQL	MG/KG	J	Q
SELENIUM	0.288	J	0.275	MDL	0.550	PQL	MG/KG	J	Z
SILVER	0.0954	J	0.0687	MDL	0.137	PQL	MG/KG	J	Z
SODIUM	124	J	68.7	MDL	137	PQL	MG/KG	J	Z
Zirconium	6.87	U	3.44	MDL	6.87	PQL	MG/KG	UJ	Q

Sample ID: **SL-086-NBZ-SS-0.0-0.5** ***Collected:*** **4/19/2012 11:40:00** ***Analysis Type:*** **RES/TOT** ***Dilution:*** **0.990**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	0.229	J	0.128	MDL	0.256	PQL	MG/KG	J	Z, Q
SILVER	0.0736	J	0.0640	MDL	0.128	PQL	MG/KG	J	Z
SODIUM	90.1	J	64.0	MDL	128	PQL	MG/KG	J	Z
Zirconium	6.40	U	3.20	MDL	6.40	PQL	MG/KG	UJ	Q

Sample ID: **SL-087-NBZ-SS-0.0-0.5** ***Collected:*** **4/19/2012 10:09:00** ***Analysis Type:*** **RES/TOT** ***Dilution:*** **0.976**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	0.133	J	0.123	MDL	0.246	PQL	MG/KG	J	Z, Q
SODIUM	70.7	J	61.6	MDL	123	PQL	MG/KG	J	Z
Zirconium	6.16	U	3.08	MDL	6.16	PQL	MG/KG	UJ	Q

* denotes a non-reportable result

Project Name and Number: 1203-004-010-AL - SSFL AREA IV COLLOCATED SAMPLING

Data Qualifier Summary

Lab Reporting Batch ID: 12D176 **Laboratory: EMXT**

EDD Filename: 12D176R **eQAPP Name: CDM_SSFL_120730_EMAX**

Method Category: **METALS**

Method: **6020** ***Matrix:*** **SO**

Sample ID: **SL-150-NBZ-SS-0.0-0.5** ***Collected:*** **4/19/2012 3:35:00** ***Analysis Type:*** **RES/TOT** ***Dilution:*** **0.995**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	0.202	J	0.112	MDL	0.224	PQL	MG/KG	J	Z, Q
SODIUM	83.9	J	56.0	MDL	112	PQL	MG/KG	J	Z
Zirconium	5.60	U	2.80	MDL	5.60	PQL	MG/KG	UJ	Q

Sample ID: **SL-178-NBZ-SS-0.0-0.5** ***Collected:*** **4/19/2012 3:00:00** ***Analysis Type:*** **RES/TOT** ***Dilution:*** **0.995**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	0.142	J	0.111	MDL	0.223	PQL	MG/KG	J	Z, Q
SELENIUM	0.274	J	0.223	MDL	0.446	PQL	MG/KG	J	Z
SODIUM	62.0	J	55.7	MDL	111	PQL	MG/KG	J	Z
Zirconium	5.57	U	2.79	MDL	5.57	PQL	MG/KG	UJ	Q

Sample ID: **SL-179-NBZ-SS-0.0-0.5** ***Collected:*** **4/19/2012 11:10:00** ***Analysis Type:*** **RES/TOT** ***Dilution:*** **1.00**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	0.138	J	0.112	MDL	0.225	PQL	MG/KG	J	Z, Q
Zirconium	5.62	U	2.81	MDL	5.62	PQL	MG/KG	UJ	Q

Sample ID: **SL-184-NBZ-SS-0.0-0.5** ***Collected:*** **4/19/2012 10:05:00** ***Analysis Type:*** **RES/TOT** ***Dilution:*** **0.990**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	0.146	J	0.112	MDL	0.225	PQL	MG/KG	J	Z, Q
Zirconium	5.62	U	2.81	MDL	5.62	PQL	MG/KG	UJ	Q

Sample ID: **SL-193-NBZ-SS-0.0-0.5** ***Collected:*** **4/19/2012 11:45:00** ***Analysis Type:*** **RES/TOT** ***Dilution:*** **0.995**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	0.147	J	0.112	MDL	0.224	PQL	MG/KG	J	Z, Q, FD
SODIUM	112	U	55.9	MDL	112	PQL	MG/KG	UJ	FD
Zirconium	5.59	U	2.79	MDL	5.59	PQL	MG/KG	UJ	Q

* denotes a non-reportable result

Project Name and Number: 1203-004-010-AL - SSFL AREA IV COLLOCATED SAMPLING

Data Qualifier Summary

Lab Reporting Batch ID: 12D176 **Laboratory: EMXT**

EDD Filename: 12D176R **eQAPP Name: CDM_SSFL_120730_EMAX**

Method Category: METALS
Method: 7471A **Matrix: SO**

Sample ID: SL-017-NBZ-SS-0.0-0.5 **Collected:** 4/19/2012 10:09:00 **Analysis Type:** RES/TOT **Dilution:** 0.990

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
MERCURY	0.0803	J	0.0704	MDL	0.141	PQL	MG/KG	J	Z

Method Category: SVOA
Method: 8015B EFH **Matrix: SO**

Sample ID: SL-012-NBZ-SS-0.0-0.5 **Collected:** 4/19/2012 8:46:00 **Analysis Type:** RES **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
EFH(C15-C20)	0.69	J	0.58	MDL	1.2	PQL	MG/KG	J	Z

Sample ID: SL-087-NBZ-SS-0.0-0.5 **Collected:** 4/19/2012 10:09:00 **Analysis Type:** RES **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
EFH(C15-C20)	1.1	J	0.63	MDL	1.3	PQL	MG/KG	J	Z
EFH(C8-C11)	0.69	J	0.63	MDL	1.3	PQL	MG/KG	J	Z

Method Category: SVOA
Method: 8081A **Matrix: SO**

Sample ID: DUP-09-NBZ-QC-041912 **Collected:** 4/19/2012 11:50:00 **Analysis Type:** RES-BASE/NEUTRAL **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
4,4'-DDE	0.21	J	0.19	MDL	0.38	PQL	UG/KG	J	Z, FD
4,4'-DDT	0.38	U	0.19	MDL	0.38	PQL	UG/KG	UJ	FD

Sample ID: SL-012-NBZ-SS-0.0-0.5 **Collected:** 4/19/2012 8:46:00 **Analysis Type:** RES-BASE/NEUTRAL **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
4,4'-DDE	0.31	J	0.20	MDL	0.40	PQL	UG/KG	J	Z
4,4'-DDT	0.27	J	0.20	MDL	0.40	PQL	UG/KG	J	Z

Sample ID: SL-017-NBZ-SS-0.0-0.5 **Collected:** 4/19/2012 10:09:00 **Analysis Type:** RES-BASE/NEUTRAL **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
METHOXYCHLOR	2.4	U	1.2	MDL	2.4	PQL	UG/KG	UJ	C

* denotes a non-reportable result

Project Name and Number: 1203-004-010-AL - SSFL AREA IV COLLOCATED SAMPLING

Data Qualifier Summary

Lab Reporting Batch ID: 12D176 **Laboratory: EMXT**

EDD Filename: 12D176R **eQAPP Name: CDM_SSFL_120730_EMAX**

Method Category: SVOA

Method: 8081A **Matrix: SO**

Sample ID: SL-086-NBZ-SS-0.0-0.5 **Collected: 4/19/2012 11:40:00** **Analysis Type: RES-BASE/NEUTRAL** **Dilution: 1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
4,4'-DDE	1.4		0.22	MDL	0.44	PQL	UG/KG	J	*XIII
4,4'-DDT	3.0		0.22	MDL	0.44	PQL	UG/KG	J	*XIII
METHOXYCHLOR	2.2	U	1.1	MDL	2.2	PQL	UG/KG	UJ	C

Sample ID: SL-087-NBZ-SS-0.0-0.5 **Collected: 4/19/2012 10:09:00** **Analysis Type: RES-BASE/NEUTRAL** **Dilution: 1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
4,4'-DDE	0.43	J	0.21	MDL	0.43	PQL	UG/KG	J	*XIII
METHOXYCHLOR	2.1	U	1.1	MDL	2.1	PQL	UG/KG	UJ	C

Sample ID: SL-150-NBZ-SS-0.0-0.5 **Collected: 4/19/2012 3:35:00** **Analysis Type: RES-BASE/NEUTRAL** **Dilution: 1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
METHOXYCHLOR	1.9	U	0.96	MDL	1.9	PQL	UG/KG	UJ	C

Sample ID: SL-178-NBZ-SS-0.0-0.5 **Collected: 4/19/2012 3:00:00** **Analysis Type: RES-BASE/NEUTRAL** **Dilution: 1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
METHOXYCHLOR	1.9	U	0.95	MDL	1.9	PQL	UG/KG	UJ	C

Sample ID: SL-179-NBZ-SS-0.0-0.5 **Collected: 4/19/2012 11:10:00** **Analysis Type: RES-BASE/NEUTRAL** **Dilution: 1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
4,4'-DDE	0.37	J	0.19	MDL	0.38	PQL	UG/KG	J	Z

Sample ID: SL-193-NBZ-SS-0.0-0.5 **Collected: 4/19/2012 11:45:00** **Analysis Type: RES-BASE/NEUTRAL** **Dilution: 1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
4,4'-DDE	1.7		0.19	MDL	0.38	PQL	UG/KG	J	FD
4,4'-DDT	1.8		0.19	MDL	0.38	PQL	UG/KG	J	FD

* denotes a non-reportable result

Project Name and Number: 1203-004-010-AL - SSFL AREA IV COLLOCATED SAMPLING

Data Qualifier Summary

Lab Reporting Batch ID: 12D176 **Laboratory: EMXT**

EDD Filename: 12D176R **eQAPP Name: CDM_SSFL_120730_EMAX**

Method Category: SVOA

Method: 8082 **Matrix: SO**

Sample ID: SL-017-NBZ-SS-0.0-0.5 **Collected: 4/19/2012 10:09:00** **Analysis Type: RES-BASE/NEUTRAL** **Dilution: 1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
AROCLOR 1242	2.4	U	1.2	MDL	2.4	PQL	UG/KG	UJ	C
AROCLOR 1248	2.4	U	1.2	MDL	2.4	PQL	UG/KG	UJ	C
AROCLOR 1260	2.4	U	1.2	MDL	2.4	PQL	UG/KG	UJ	C

Sample ID: SL-086-NBZ-SS-0.0-0.5 **Collected: 4/19/2012 11:40:00** **Analysis Type: RES-BASE/NEUTRAL** **Dilution: 1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
AROCLOR 1242	2.2	U	1.1	MDL	2.2	PQL	UG/KG	UJ	C
AROCLOR 1248	2.2	U	1.1	MDL	2.2	PQL	UG/KG	UJ	C
AROCLOR 1254	7.2		1.1	MDL	2.2	PQL	UG/KG	J	*XIII
AROCLOR 1260	2.2	U	1.1	MDL	2.2	PQL	UG/KG	UJ	C

Sample ID: SL-087-NBZ-SS-0.0-0.5 **Collected: 4/19/2012 10:09:00** **Analysis Type: RES-BASE/NEUTRAL** **Dilution: 1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
AROCLOR 1242	2.1	U	1.1	MDL	2.1	PQL	UG/KG	UJ	C
AROCLOR 1248	2.1	U	1.1	MDL	2.1	PQL	UG/KG	UJ	C
AROCLOR 1254	6.4		1.1	MDL	2.1	PQL	UG/KG	J	*XIII
AROCLOR 1260	2.1	U	1.1	MDL	2.1	PQL	UG/KG	UJ	C

Sample ID: SL-150-NBZ-SS-0.0-0.5 **Collected: 4/19/2012 3:35:00** **Analysis Type: RES-BASE/NEUTRAL** **Dilution: 1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
AROCLOR 1242	1.9	U	0.96	MDL	1.9	PQL	UG/KG	UJ	C
AROCLOR 1248	1.9	U	0.96	MDL	1.9	PQL	UG/KG	UJ	C
AROCLOR 1260	1.9	U	0.96	MDL	1.9	PQL	UG/KG	UJ	C
Aroclor 5460	2.6	J	1.9	MDL	3.7	PQL	UG/KG	J	Z

Sample ID: SL-178-NBZ-SS-0.0-0.5 **Collected: 4/19/2012 3:00:00** **Analysis Type: RES-BASE/NEUTRAL** **Dilution: 1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
AROCLOR 1242	1.9	U	0.95	MDL	1.9	PQL	UG/KG	UJ	C
AROCLOR 1248	1.9	U	0.95	MDL	1.9	PQL	UG/KG	UJ	C
AROCLOR 1260	1.9	U	0.95	MDL	1.9	PQL	UG/KG	UJ	C

* denotes a non-reportable result

Project Name and Number: 1203-004-010-AL - SSFL AREA IV COLLOCATED SAMPLING

Data Qualifier Summary

Lab Reporting Batch ID: 12D176 **Laboratory: EMXT**

EDD Filename: 12D176R **eQAPP Name: CDM_SSFL_120730_EMAX**

Method Category: SVOA

Method: 8082 **Matrix: SO**

Sample ID: SL-179-NBZ-SS-0.0-0.5 *Collected:* 4/19/2012 11:10:00 *Analysis Type:* RES-BASE/NEUTRAL *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
AROCLOR 1242	1.9	U	0.96	MDL	1.9	PQL	UG/KG	UJ	C
AROCLOR 1248	1.9	U	0.96	MDL	1.9	PQL	UG/KG	UJ	C
AROCLOR 1260	1.9	U	0.96	MDL	1.9	PQL	UG/KG	UJ	C

Method Category: SVOA

Method: 8270C **Matrix: SO**

Sample ID: SL-017-NBZ-SS-0.0-0.5 *Collected:* 4/19/2012 10:09:00 *Analysis Type:* RES-BASE/NEUTRAL *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
2-Butoxyethanol	240	U	240	MDL	240	PQL	UG/KG	UJ	*III
2-Phenoxyethanol	240	U	240	MDL	240	PQL	UG/KG	UJ	*III
Tetralin	240	U	240	MDL	240	PQL	UG/KG	UJ	*III

Sample ID: SL-086-NBZ-SS-0.0-0.5 *Collected:* 4/19/2012 11:40:00 *Analysis Type:* RES-BASE/NEUTRAL *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
2-Butoxyethanol	220	U	220	MDL	220	PQL	UG/KG	UJ	*III
2-Phenoxyethanol	220	U	220	MDL	220	PQL	UG/KG	UJ	*III
Tetralin	220	U	220	MDL	220	PQL	UG/KG	UJ	*III

Sample ID: SL-087-NBZ-SS-0.0-0.5 *Collected:* 4/19/2012 10:09:00 *Analysis Type:* RES-BASE/NEUTRAL *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
2-Butoxyethanol	210	U	210	MDL	210	PQL	UG/KG	UJ	*III
2-Phenoxyethanol	210	U	210	MDL	210	PQL	UG/KG	UJ	*III
Tetralin	210	U	210	MDL	210	PQL	UG/KG	UJ	*III

Sample ID: SL-150-NBZ-SS-0.0-0.5 *Collected:* 4/19/2012 3:35:00 *Analysis Type:* RES-BASE/NEUTRAL *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
2-Butoxyethanol	190	U	190	MDL	190	PQL	UG/KG	UJ	*III
2-Phenoxyethanol	190	U	190	MDL	190	PQL	UG/KG	UJ	*III
Tetralin	190	U	190	MDL	190	PQL	UG/KG	UJ	*III

* denotes a non-reportable result

Project Name and Number: 1203-004-010-AL - SSFL AREA IV COLLOCATED SAMPLING

Data Qualifier Summary

Lab Reporting Batch ID: 12D176 **Laboratory: EMXT**

EDD Filename: 12D176R **eQAPP Name: CDM_SSFL_120730_EMAX**

Method Category: SVOA

Method: 8270C **Matrix: SO**

Sample ID: **SL-178-NBZ-SS-0.0-0.5** *Collected:* **4/19/2012 3:00:00** *Analysis Type:* **RES-BASE/NEUTRAL** *Dilution:* **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
2-Butoxyethanol	190	U	190	MDL	190	PQL	UG/KG	UJ	*III
2-Phenoxyethanol	190	U	190	MDL	190	PQL	UG/KG	UJ	*III
Tetralin	190	U	190	MDL	190	PQL	UG/KG	UJ	*III

Sample ID: **SL-179-NBZ-SS-0.0-0.5** *Collected:* **4/19/2012 11:10:00** *Analysis Type:* **RES-BASE/NEUTRAL** *Dilution:* **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
2-Butoxyethanol	190	U	190	MDL	190	PQL	UG/KG	UJ	*III
2-Phenoxyethanol	190	U	190	MDL	190	PQL	UG/KG	UJ	*III
Tetralin	190	U	190	MDL	190	PQL	UG/KG	UJ	*III

Sample ID: **SL-193-NBZ-SS-0.0-0.5** *Collected:* **4/19/2012 11:45:00** *Analysis Type:* **RES-BASE/NEUTRAL** *Dilution:* **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BENZIDINE	930	U	470	MDL	930	PQL	UG/KG	R	Q

Method Category: SVOA

Method: 8270C SIM **Matrix: SO**

Sample ID: **DUP-09-NBZ-QC-041912** *Collected:* **4/19/2012 11:50:00** *Analysis Type:* **RES-BASE/NEUTRAL** *Dilution:* **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1-METHYLNAPHTHALENE	1.9	U	0.95	MDL	1.9	PQL	UG/KG	UJ	FD
2-METHYLNAPHTHALENE	1.9	U	0.95	MDL	1.9	PQL	UG/KG	UJ	FD
BENZO(A)PYRENE	1.9	U	0.95	MDL	1.9	PQL	UG/KG	UJ	FD
BENZO(B)FLUORANTHENE	1.3	J	0.95	MDL	1.9	PQL	UG/KG	J	Z
BENZO(G,H,I)PERYLENE	1.9	U	0.95	MDL	1.9	PQL	UG/KG	UJ	FD
CHRYSENE	1.3	J	0.95	MDL	1.9	PQL	UG/KG	J	Z
FLUORANTHENE	1.3	J	0.95	MDL	1.9	PQL	UG/KG	J	Z
INDENO(1,2,3-CD)PYRENE	1.9	U	0.95	MDL	1.9	PQL	UG/KG	UJ	FD
NAPHTHALENE	1.9	U	0.95	MDL	1.9	PQL	UG/KG	UJ	FD
PHENANTHRENE	1.9	U	0.95	MDL	1.9	PQL	UG/KG	UJ	FD
PYRENE	1.6	J	0.95	MDL	1.9	PQL	UG/KG	J	Z

* denotes a non-reportable result

Project Name and Number: 1203-004-010-AL - SSFL AREA IV COLLOCATED SAMPLING

Data Qualifier Summary

Lab Reporting Batch ID: 12D176 **Laboratory: EMXT**

EDD Filename: 12D176R **eQAPP Name: CDM_SSFL_120730_EMAX**

Method Category: **SVOA**

Method: **8270C SIM** ***Matrix:*** **SO**

Sample ID: **SL-012-NBZ-SS-0.0-0.5** ***Collected:*** **4/19/2012 8:46:00** ***Analysis Type:*** **RES-BASE/NEUTRAL** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BENZO(A)PYRENE	1.2	J	0.99	MDL	2.0	PQL	UG/KG	J	Z
BENZO(B)FLUORANTHENE	1.3	J	0.99	MDL	2.0	PQL	UG/KG	J	Z
BENZO(G,H,I)PERYLENE	1.1	J	0.99	MDL	2.0	PQL	UG/KG	J	Z
BENZO(K)FLUORANTHENE	1.1	J	0.99	MDL	2.0	PQL	UG/KG	J	Z
CHRYSENE	1.0	J	0.99	MDL	2.0	PQL	UG/KG	J	Z
DIBENZO(A,H)ANTHRACENE	1.1	J	0.99	MDL	2.0	PQL	UG/KG	J	Z
INDENO(1,2,3-CD)PYRENE	1.3	J	0.99	MDL	2.0	PQL	UG/KG	J	Z

Sample ID: **SL-017-NBZ-SS-0.0-0.5** ***Collected:*** **4/19/2012 10:09:00** ***Analysis Type:*** **RES-BASE/NEUTRAL** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BENZO(A)PYRENE	1.4	J	1.2	MDL	2.4	PQL	UG/KG	J	Z
BENZO(B)FLUORANTHENE	2.3	J	1.2	MDL	2.4	PQL	UG/KG	J	Z
BENZO(G,H,I)PERYLENE	1.5	J	1.2	MDL	2.4	PQL	UG/KG	J	Z
CHRYSENE	1.4	J	1.2	MDL	2.4	PQL	UG/KG	J	Z
FLUORANTHENE	2.3	J	1.2	MDL	2.4	PQL	UG/KG	J	Z
INDENO(1,2,3-CD)PYRENE	1.6	J	1.2	MDL	2.4	PQL	UG/KG	J	Z
PHENANTHRENE	1.4	J	1.2	MDL	2.4	PQL	UG/KG	J	Z
PYRENE	2.3	J	1.2	MDL	2.4	PQL	UG/KG	J	Z

Sample ID: **SL-086-NBZ-SS-0.0-0.5** ***Collected:*** **4/19/2012 11:40:00** ***Analysis Type:*** **RES-BASE/NEUTRAL** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BENZO(A)PYRENE	2.0	J	1.1	MDL	2.2	PQL	UG/KG	J	Z
FLUORANTHENE	2.1	J	1.1	MDL	2.2	PQL	UG/KG	J	Z
FLUORENE	1.6	J	1.1	MDL	2.2	PQL	UG/KG	J	Z
PHENANTHRENE	1.6	J	1.1	MDL	2.2	PQL	UG/KG	J	Z

Sample ID: **SL-087-NBZ-SS-0.0-0.5** ***Collected:*** **4/19/2012 10:09:00** ***Analysis Type:*** **RES-BASE/NEUTRAL** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1-METHYLNAPHTHALENE	1.3	J	1.1	MDL	2.1	PQL	UG/KG	J	Z
2-METHYLNAPHTHALENE	1.4	J	1.1	MDL	2.1	PQL	UG/KG	J	Z
ACENAPHTHYLENE	1.1	J	1.1	MDL	2.1	PQL	UG/KG	J	Z
BIS(2-ETHYLHEXYL)PHTHALATE	17	J	11	MDL	21	PQL	UG/KG	J	Z

* denotes a non-reportable result

Project Name and Number: 1203-004-010-AL - SSFL AREA IV COLLOCATED SAMPLING

Data Qualifier Summary

Lab Reporting Batch ID: 12D176 **Laboratory: EMXT**

EDD Filename: 12D176R **eQAPP Name: CDM_SSFL_120730_EMAX**

Method Category: SVOA

Method: 8270C SIM **Matrix: SO**

Sample ID: SL-087-NBZ-SS-0.0-0.5 **Collected: 4/19/2012 10:09:00** **Analysis Type: RES-BASE/NEUTRAL** **Dilution: 1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
NAPHTHALENE	1.6	J	1.1	MDL	2.1	PQL	UG/KG	J	Z

Sample ID: SL-150-NBZ-SS-0.0-0.5 **Collected: 4/19/2012 3:35:00** **Analysis Type: RES-BASE/NEUTRAL** **Dilution: 1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BENZO(A)PYRENE	1.4	J	0.96	MDL	1.9	PQL	UG/KG	J	Z
BENZO(G,H,I)PERYLENE	1.8	J	0.96	MDL	1.9	PQL	UG/KG	J	Z
BIS(2-ETHYLHEXYL)PHTHALATE	16	J	9.5	MDL	19	PQL	UG/KG	J	Z
CHRYSENE	1.7	J	0.96	MDL	1.9	PQL	UG/KG	J	Z
INDENO(1,2,3-CD)PYRENE	1.6	J	0.96	MDL	1.9	PQL	UG/KG	J	Z
PHENANTHRENE	1.2	J	0.96	MDL	1.9	PQL	UG/KG	J	Z

Sample ID: SL-178-NBZ-SS-0.0-0.5 **Collected: 4/19/2012 3:00:00** **Analysis Type: RES-BASE/NEUTRAL** **Dilution: 1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BENZO(A)PYRENE	1.4	J	0.95	MDL	1.9	PQL	UG/KG	J	Z
BENZO(G,H,I)PERYLENE	1.8	J	0.95	MDL	1.9	PQL	UG/KG	J	Z
Butylbenzylphthalate	12	J	9.4	MDL	19	PQL	UG/KG	J	Z
INDENO(1,2,3-CD)PYRENE	1.3	J	0.95	MDL	1.9	PQL	UG/KG	J	Z
PHENANTHRENE	1.3	J	0.95	MDL	1.9	PQL	UG/KG	J	Z

Sample ID: SL-179-NBZ-SS-0.0-0.5 **Collected: 4/19/2012 11:10:00** **Analysis Type: RES-BASE/NEUTRAL** **Dilution: 1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BENZO(B)FLUORANTHENE	1.6	J	0.96	MDL	1.9	PQL	UG/KG	J	Z
BENZO(G,H,I)PERYLENE	1.2	J	0.96	MDL	1.9	PQL	UG/KG	J	Z
BIS(2-ETHYLHEXYL)PHTHALATE	18	J	9.4	MDL	19	PQL	UG/KG	J	Z
FLUORANTHENE	1.2	J	0.96	MDL	1.9	PQL	UG/KG	J	Z
PYRENE	1.2	J	0.96	MDL	1.9	PQL	UG/KG	J	Z

Sample ID: SL-184-NBZ-SS-0.0-0.5 **Collected: 4/19/2012 10:05:00** **Analysis Type: RES-BASE/NEUTRAL** **Dilution: 1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1-METHYLNAPHTHALENE	1.1	J	0.96	MDL	1.9	PQL	UG/KG	J	Z
2-METHYLNAPHTHALENE	1.0	J	0.96	MDL	1.9	PQL	UG/KG	J	Z

* denotes a non-reportable result

Project Name and Number: 1203-004-010-AL - SSFL AREA IV COLLOCATED SAMPLING

Data Qualifier Summary

Lab Reporting Batch ID: 12D176 **Laboratory: EMXT**

EDD Filename: Prep12D176R **eQAPP Name: CDM_SSFL_120730_EMAX**

Method Category: SVOA

Method: 8270C SIM **Matrix: SO**

Sample ID: SL-184-NBZ-SS-0.0-0.5 *Collected:* 4/19/2012 10:05:00 *Analysis Type:* RES-BASE/NEUTRAL *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
NAPHTHALENE	1.1	J	0.96	MDL	1.9	PQL	UG/KG	J	Z

Sample ID: SL-193-NBZ-SS-0.0-0.5 *Collected:* 4/19/2012 11:45:00 *Analysis Type:* RES-BASE/NEUTRAL *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1-METHYLNAPHTHALENE	0.98	J	0.96	MDL	1.9	PQL	UG/KG	J	Z, FD
2-METHYLNAPHTHALENE	1.2	J	0.96	MDL	1.9	PQL	UG/KG	J	Z, FD
BENZO(A)PYRENE	1.2	J	0.96	MDL	1.9	PQL	UG/KG	J	Z, FD
BENZO(G,H,I)PERYLENE	1.5	J	0.96	MDL	1.9	PQL	UG/KG	J	Z, FD
Butylbenzylphthalate	13	J	9.4	MDL	19	PQL	UG/KG	J	Z
CHRYSENE	1.4	J	0.96	MDL	1.9	PQL	UG/KG	J	Z
FLUORANTHENE	1.7	J	0.96	MDL	1.9	PQL	UG/KG	J	Z
INDENO(1,2,3-CD)PYRENE	1.2	J	0.96	MDL	1.9	PQL	UG/KG	J	Z, FD
NAPHTHALENE	1.1	J	0.96	MDL	1.9	PQL	UG/KG	J	Z, FD
PHENANTHRENE	1.1	J	0.96	MDL	1.9	PQL	UG/KG	J	Z, FD
PYRENE	1.7	J	0.96	MDL	1.9	PQL	UG/KG	J	Z

Method Category: VOA

Method: 8015B GRO **Matrix: AQ**

Sample ID: TB-041912 *Collected:* 4/19/2012 8:00:00 *Analysis Type:* RES *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
GASOLINE RANGE ORGANICS (C5-C12)	14	J	10	MDL	50	PQL	UG/L	J	Z

Method Category: VOA

Method: 8260B **Matrix: SO**

Sample ID: SL-087-NBZ-SS-0.5 *Collected:* 4/19/2012 10:35:00 *Analysis Type:* RES *Dilution:* 0.92

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
TRICHLOROFLUOROMETHANE	6.0	U	2.4	MDL	6.0	PQL	UG/KG	UJ	C

* denotes a non-reportable result

Project Name and Number: 1203-004-010-AL - SSFL AREA IV COLLOCATED SAMPLING

Data Qualifier Summary

Lab Reporting Batch ID: 12D176 **Laboratory: EMXT**

EDD Filename: Prep12D176R **eQAPP Name: CDM_SSFL_120730_EMAX**

* denotes a non-reportable result

Project Name and Number: 1203-004-010-AL - SSFL AREA IV COLLOCATED SAMPLING

Data Qualifier Summary

Lab Reporting Batch ID: 12D176 **Laboratory: EMXT**

EDD Filename: 12D176R **eQAPP Name: CDM_SSFL_120730_EMAX**

Reason Code Legend

Reason Code	*Description*
*XIII	Compound Quantitation and RLs (RPD)
*III	Initial Calibration, # of points
C	Continuing Calibration Verification Percent Difference Lower Estimation
E	Matrix Spike Precision
FD	Field Duplicate Precision
H	Sampling to Analysis Estimation
Q	Matrix Spike Lower Estimation
Q	Matrix Spike Lower Rejection
Q	Matrix Spike Precision
Q	Matrix Spike Upper Estimation
S	Surrogate/Tracer Recovery Lower Estimation
Z	Reporting Limit Trace Value

* denotes a non-reportable result

Project Name and Number: 1203-004-010-AL - SSFL AREA IV COLLOCATED SAMPLING

Enclosure I

Level III ADR Outliers
(including Manual Review Outliers)

Quality Control
Outlier Reports

12D176

Matrix Spike/Matrix Spike Duplicate Outlier Report

Lab Reporting Batch ID: 12D176 **Laboratory: EMXT**

EDD Filename: 12D176R **eQAPP Name: CDM_SSFL_120730_EMAX**

Method: 6020
Matrix: SO

QC Sample ID (Associated Samples)	Compound	MS %R	MSD %R	%R Limits	RPD (Limits)	Affected Compounds	Flag
SL-193-NBZ-SS-0.0-0.5MS (TOT) **SL-193-NBZ-SS-0.0-0.5MSD (TOT)** (DUP-09-NBZ-QC-041912 SL-012-NBZ-SB-0.5-1.5 SL-012-NBZ-SS-0.0-0.5 SL-017-NBZ-SS-0.0-0.5 SL-086-NBZ-SS-0.0-0.5 SL-087-NBZ-SS-0.0-0.5 SL-150-NBZ-SS-0.0-0.5 SL-178-NBZ-SS-0.0-0.5 SL-179-NBZ-SS-0.0-0.5 SL-184-NBZ-SS-0.0-0.5 SL-193-NBZ-SS-0.0-0.5)	MANGANESE TITANIUM	7 19	- 350	75.00-125.00 75.00-125.00	- -	MANGANESE TITANIUM	No Qual, >4X
SL-193-NBZ-SS-0.0-0.5MS (TOT) **SL-193-NBZ-SS-0.0-0.5MSD (TOT)** (DUP-09-NBZ-QC-041912 SL-012-NBZ-SB-0.5-1.5 SL-012-NBZ-SS-0.0-0.5 SL-017-NBZ-SS-0.0-0.5 SL-086-NBZ-SS-0.0-0.5 SL-087-NBZ-SS-0.0-0.5 SL-150-NBZ-SS-0.0-0.5 SL-178-NBZ-SS-0.0-0.5 SL-179-NBZ-SS-0.0-0.5 SL-184-NBZ-SS-0.0-0.5 SL-193-NBZ-SS-0.0-0.5)	ANTIMONY IRON Zirconium	73 58 43	- - 47	75.00-125.00 75.00-125.00 75.00-125.00	- - -	ANTIMONY IRON Zirconium	J(all detects) UJ(all non-detects) Fe, No Qual, >4X

Method: 8270C
Matrix: SO

QC Sample ID (Associated Samples)	Compound	MS %R	MSD %R	%R Limits	RPD (Limits)	Affected Compounds	Flag
SL-193-NBZ-SS-0.0-0.5MSD (SL-193-NBZ-SS-0.0-0.5)	HEXACHLOROCYCLOPENTADI	-	-	10.00-130.00	68 (50.00)	HEXACHLOROCYCLOPENTAD	J(all detects)
SL-193-NBZ-SS-0.0-0.5MS **SL-193-NBZ-SS-0.0-0.5MSD** (SL-193-NBZ-SS-0.0-0.5)	BENZIDINE	0	0	10.00-150.00	-	BENZIDINE	J(all detects) R(all non-detects)

Project Name and Number: 1203-004-010-AL - SSFL AREA IV COLLOCATED SAMPLING

Field Duplicate RPD Report

Lab Reporting Batch ID: 12D176 **Laboratory: EMXT**

EDD Filename: Prep12D176R **eQAPP Name: CDM_SSFL_120730_EMAX**

Method: 6020
Matrix: SO

Analyte	Concentration (MG/KG) SL-193-NBZ-SS-0.0-0.5 (TOT)	Concentration (MG/KG) DUP-09-NBZ-QC-041912 (TOT)	Sample RPD	eQAPP RPD	Flag
ALUMINUM	10100	10700	6	50.00	
ARSENIC	5.99	5.75	4	50.00	
BARIUM	77.5	74.7	4	50.00	
BERYLLIUM	0.400	0.394	2	50.00	
CADMIUM	0.212	0.202	5	50.00	
CALCIUM	2420	2120	13	50.00	
CHROMIUM	10.7	11.3	5	50.00	
COBALT	4.31	4.26	1	50.00	
COPPER	5.49	5.18	6	50.00	
IRON	16800	17400	4	50.00	
LEAD	6.82	4.20	48	50.00	
LITHIUM	26.4	27.2	3	50.00	No Qualifiers Applied
MAGNESIUM	4010	4130	3	50.00	
MANGANESE	260	256	2	50.00	
MOLYBDENUM	0.368	0.353	4	50.00	
NICKEL	7.65	7.42	3	50.00	
PHOSPHORUS	311	299	4	50.00	
POTASSIUM	3440	3600	5	50.00	
STRONTIUM	16.6	14.3	15	50.00	
THALLIUM	0.223	0.237	6	50.00	
TITANIUM	807	868	7	50.00	
VANADIUM	25.1	25.7	2	50.00	
ZINC	48.2	47.2	2	50.00	
ANTIMONY	0.147	0.222 U	200	50.00	J(all detects)
SODIUM	112 U	57.6	200	50.00	UJ(all non-detects)

Method: 8081A
Matrix: SO

Analyte	Concentration (UG/KG) SL-193-NBZ-SS-0.0-0.5	Concentration (UG/KG) DUP-09-NBZ-QC-041912	Sample RPD	eQAPP RPD	Flag
4,4'-DDE	1.7	0.21	156	50.00	J(all detects)
4,4'-DDT	1.8	0.38 U	200	50.00	UJ(all non-detects)

Method: 8270C SIM
Matrix: SO

Analyte	Concentration (UG/KG) SL-193-NBZ-SS-0.0-0.5	Concentration (UG/KG) DUP-09-NBZ-QC-041912	Sample RPD	eQAPP RPD	Flag
BENZO(B)FLUORANTHENE	2.1	1.3	47	50.00	
BIS(2-ETHYLHEXYL)PHTHALATE	22	19	15	50.00	
Butylbenzylphthalate	13	21	47	50.00	
CHRYSENE	1.4	1.3	7	50.00	No Qualifiers Applied
FLUORANTHENE	1.7	1.3	27	50.00	
PYRENE	1.7	1.6	6	50.00	
1-METHYLNAPHTHALENE	0.98	1.9 U	200	50.00	
2-METHYLNAPHTHALENE	1.2	1.9 U	200	50.00	
BENZO(A)PYRENE	1.2	1.9 U	200	50.00	
BENZO(G,H,I)PERYLENE	1.5	1.9 U	200	50.00	J(all detects)
INDENO(1,2,3-CD)PYRENE	1.2	1.9 U	200	50.00	UJ(all non-detects)
NAPHTHALENE	1.1	1.9 U	200	50.00	
PHENANTHRENE	1.1	1.9 U	200	50.00	

Project Name and Number: 1203-004-010-AL - SSFL AREA IV COLLOCATED SAMPLING

Field Duplicate RPD Report

Lab Reporting Batch ID: 12D176 **Laboratory: EMXT**

EDD Filename: Prep12D176R **eQAPP Name: CDM_SSFL_120730_EMAX**

Method: 9045D
Matrix: SO

Analyte	*Concentration (PH UNIT)*		*Sample RPD*	*eQAPP RPD*	*Flag*
	SL-193-NBZ-SS-0.0-0.5	DUP-09-NBZ-QC-041912			
PH	6.24	6.42	3		No Qualifiers Applied

Project Name and Number: 1203-004-010-AL - SSFL AREA IV COLLOCATED SAMPLING

Reporting Limit Outliers

Lab Reporting Batch ID: 12D176 **Laboratory: EMXT**

EDD Filename: Prep12D176R **eQAPP Name: CDM_SSFL_120730_EMAX**

Method: 8015B GRO
Matrix: AQ

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
TB-041912	GASOLINE RANGE ORGANICS (C5-C12)	J	14	50	PQL	UG/L	J (all detects)

Method: 300.0
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-012-NBZ-SB-0.5-1.5	FLUORIDE	J	1.00	1.20	PQL	MG/KG	J (all detects)
SL-017-NBZ-SS-0.0-0.5	FLUORIDE	J	1.24	1.42	PQL	MG/KG	J (all detects)
SL-086-NBZ-SS-0.0-0.5	FLUORIDE	J	1.03	1.29	PQL	MG/KG	J (all detects)

Method: 6020
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
DUP-09-NBZ-QC-041912	SODIUM	J	57.6	111	PQL	MG/KG	J (all detects)
SL-012-NBZ-SB-0.5-1.5	SODIUM	J	92.2	114	PQL	MG/KG	J (all detects)
SL-012-NBZ-SS-0.0-0.5	BORON SELENIUM	J J	3.33 0.263	5.58 0.447	PQL PQL	MG/KG MG/KG	J (all detects)
SL-017-NBZ-SS-0.0-0.5	SELENIUM SILVER SODIUM	J J J	0.288 0.0954 124	0.550 0.137 137	PQL PQL PQL	MG/KG MG/KG MG/KG	J (all detects)
SL-086-NBZ-SS-0.0-0.5	ANTIMONY SILVER SODIUM	J J J	0.229 0.0736 90.1	0.256 0.128 128	PQL PQL PQL	MG/KG MG/KG MG/KG	J (all detects)
SL-087-NBZ-SS-0.0-0.5	ANTIMONY SODIUM	J J	0.133 70.7	0.246 123	PQL PQL	MG/KG MG/KG	J (all detects)
SL-150-NBZ-SS-0.0-0.5	ANTIMONY SODIUM	J J	0.202 83.9	0.224 112	PQL PQL	MG/KG MG/KG	J (all detects)
SL-178-NBZ-SS-0.0-0.5	ANTIMONY SELENIUM SODIUM	J J J	0.142 0.274 62.0	0.223 0.446 111	PQL PQL PQL	MG/KG MG/KG MG/KG	J (all detects)
SL-179-NBZ-SS-0.0-0.5	ANTIMONY	J	0.138	0.225	PQL	MG/KG	J (all detects)
SL-184-NBZ-SS-0.0-0.5	ANTIMONY	J	0.146	0.225	PQL	MG/KG	J (all detects)
SL-193-NBZ-SS-0.0-0.5	ANTIMONY	J	0.147	0.224	PQL	MG/KG	J (all detects)

Reporting Limit Outliers

Lab Reporting Batch ID: 12D176 **Laboratory: EMXT**

EDD Filename: Prep12D176R **eQAPP Name: CDM_SSFL_120730_EMAX**

Method: 7471A
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-017-NBZ-SS-0.0-0.5	MERCURY	J	0.0803	0.141	PQL	MG/KG	J (all detects)

Method: 8015B EFH
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-012-NBZ-SS-0.0-0.5	EFH(C15-C20)	J	0.69	1.2	PQL	MG/KG	J (all detects)
SL-087-NBZ-SS-0.0-0.5	EFH(C15-C20)	J	1.1	1.3	PQL	MG/KG	J (all detects)
	EFH(C8-C11)	J	0.69	1.3	PQL	MG/KG	

Method: 8081A
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
DUP-09-NBZ-QC-041912	4,4'-DDE	J	0.21	0.38	PQL	UG/KG	J (all detects)
SL-012-NBZ-SS-0.0-0.5	4,4'-DDE	J	0.31	0.40	PQL	UG/KG	J (all detects)
	4,4'-DDT	J	0.27	0.40	PQL	UG/KG	
SL-179-NBZ-SS-0.0-0.5	4,4'-DDE	J	0.37	0.38	PQL	UG/KG	J (all detects)

Method: 8082
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-150-NBZ-SS-0.0-0.5	Aroclor 5460	J	2.6	3.7	PQL	UG/KG	J (all detects)

Method: 8270C SIM
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
DUP-09-NBZ-QC-041912	BENZO(B)FLUORANTHENE	J	1.3	1.9	PQL	UG/KG	J (all detects)
	CHRYSENE	J	1.3	1.9	PQL	UG/KG	
	FLUORANTHENE	J	1.3	1.9	PQL	UG/KG	
	PYRENE	J	1.6	1.9	PQL	UG/KG	
SL-012-NBZ-SS-0.0-0.5	BENZO(A)PYRENE	J	1.2	2.0	PQL	UG/KG	J (all detects)
	BENZO(B)FLUORANTHENE	J	1.3	2.0	PQL	UG/KG	
	BENZO(G,H,I)PERYLENE	J	1.1	2.0	PQL	UG/KG	
	BENZO(K)FLUORANTHENE	J	1.1	2.0	PQL	UG/KG	
	CHRYSENE	J	1.0	2.0	PQL	UG/KG	
	DIBENZO(A,H)ANTHRACENE	J	1.1	2.0	PQL	UG/KG	
	INDENO(1,2,3-CD)PYRENE	J	1.3	2.0	PQL	UG/KG	

Project Name and Number: 1203-004-010-AL - SSFL AREA IV COLLOCATED SAMPLING

Reporting Limit Outliers

Lab Reporting Batch ID: 12D176 **Laboratory: EMXT**

EDD Filename: Prep12D176R **eQAPP Name: CDM_SSFL_120730_EMAX**

Method: 8270C SIM

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-017-NBZ-SS-0.0-0.5	BENZO(A)PYRENE	J	1.4	2.4	PQL	UG/KG	J (all detects)
	BENZO(B)FLUORANTHENE	J	2.3	2.4	PQL	UG/KG	
	BENZO(G,H,I)PERYLENE	J	1.5	2.4	PQL	UG/KG	
	CHRYSENE	J	1.4	2.4	PQL	UG/KG	
	FLUORANTHENE	J	2.3	2.4	PQL	UG/KG	
	INDENO(1,2,3-CD)PYRENE	J	1.6	2.4	PQL	UG/KG	
	PHENANTHRENE	J	1.4	2.4	PQL	UG/KG	
	PYRENE	J	2.3	2.4	PQL	UG/KG	
SL-086-NBZ-SS-0.0-0.5	BENZO(A)PYRENE	J	2.0	2.2	PQL	UG/KG	J (all detects)
	FLUORANTHENE	J	2.1	2.2	PQL	UG/KG	
	FLUORENE	J	1.6	2.2	PQL	UG/KG	
	PHENANTHRENE	J	1.6	2.2	PQL	UG/KG	
SL-087-NBZ-SS-0.0-0.5	1-METHYLNAPHTHALENE	J	1.3	2.1	PQL	UG/KG	J (all detects)
	2-METHYLNAPHTHALENE	J	1.4	2.1	PQL	UG/KG	
	ACENAPHTHYLENE	J	1.1	2.1	PQL	UG/KG	
	BIS(2-ETHYLHEXYL)PHTHALATE	J	17	21	PQL	UG/KG	
	NAPHTHALENE	J	1.6	2.1	PQL	UG/KG	
SL-150-NBZ-SS-0.0-0.5	BENZO(A)PYRENE	J	1.4	1.9	PQL	UG/KG	J (all detects)
	BENZO(G,H,I)PERYLENE	J	1.8	1.9	PQL	UG/KG	
	BIS(2-ETHYLHEXYL)PHTHALATE	J	16	19	PQL	UG/KG	
	CHRYSENE	J	1.7	1.9	PQL	UG/KG	
	INDENO(1,2,3-CD)PYRENE	J	1.6	1.9	PQL	UG/KG	
	PHENANTHRENE	J	1.2	1.9	PQL	UG/KG	
SL-178-NBZ-SS-0.0-0.5	BENZO(A)PYRENE	J	1.4	1.9	PQL	UG/KG	J (all detects)
	BENZO(G,H,I)PERYLENE	J	1.8	1.9	PQL	UG/KG	
	Butylbenzylphthalate	J	12	19	PQL	UG/KG	
	INDENO(1,2,3-CD)PYRENE	J	1.3	1.9	PQL	UG/KG	
	PHENANTHRENE	J	1.3	1.9	PQL	UG/KG	
SL-179-NBZ-SS-0.0-0.5	BENZO(B)FLUORANTHENE	J	1.6	1.9	PQL	UG/KG	J (all detects)
	BENZO(G,H,I)PERYLENE	J	1.2	1.9	PQL	UG/KG	
	BIS(2-ETHYLHEXYL)PHTHALATE	J	18	19	PQL	UG/KG	
	FLUORANTHENE	J	1.2	1.9	PQL	UG/KG	
	PYRENE	J	1.2	1.9	PQL	UG/KG	
SL-184-NBZ-SS-0.0-0.5	1-METHYLNAPHTHALENE	J	1.1	1.9	PQL	UG/KG	J (all detects)
	2-METHYLNAPHTHALENE	J	1.0	1.9	PQL	UG/KG	
	NAPHTHALENE	J	1.1	1.9	PQL	UG/KG	
SL-193-NBZ-SS-0.0-0.5	1-METHYLNAPHTHALENE	J	0.98	1.9	PQL	UG/KG	J (all detects)
	2-METHYLNAPHTHALENE	J	1.2	1.9	PQL	UG/KG	
	BENZO(A)PYRENE	J	1.2	1.9	PQL	UG/KG	
	BENZO(G,H,I)PERYLENE	J	1.5	1.9	PQL	UG/KG	
	Butylbenzylphthalate	J	13	19	PQL	UG/KG	
	CHRYSENE	J	1.4	1.9	PQL	UG/KG	
	FLUORANTHENE	J	1.7	1.9	PQL	UG/KG	
	INDENO(1,2,3-CD)PYRENE	J	1.2	1.9	PQL	UG/KG	
	NAPHTHALENE	J	1.1	1.9	PQL	UG/KG	
	PHENANTHRENE	J	1.1	1.9	PQL	UG/KG	
	PYRENE	J	1.7	1.9	PQL	UG/KG	

Reporting Limit Outliers

Lab Reporting Batch ID: 12D176 **Laboratory: EMXT**

EDD Filename: Prep12D176R **eQAPP Name: CDM_SSFL_120730_EMAX**

Method: **9014**

Matrix: **SO**

SampleID	*Analyte*	*Lab Qual*	*Result*	*Reporting Limit*	*RL Type*	*Units*	*Flag*
SL-086-NBZ-SS-0.0-0.5	CYANIDE	J	0.327	0.646	PQL	MG/KG	J (all detects)

LDC #: 29230D4 **VALIDATION COMPLETENESS WORKSHEET** Date: 2/22/13

SDG #: 12D176 ADR/IV Page: 1 of 1

Laboratory: EMAX Laboratories, Inc. 7471A Reviewer: A

2nd Reviewer: A

METHOD: Metals (EPA SW 846 Method 6020/~~7000~~)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/19/12
II.	ICP/MS Tune	A	
III.	Calibration	A	
IV.	Blanks	A	
V.	ICP Interference Check Sample (ICS) Analysis	A	
VI.	Matrix Spike Analysis	SW	Not reviewed for ADR validation. MS/D (Fe, Mn, Ti 74x)
VII.	Duplicate Sample Analysis	N	Not reviewed for ADR validation.
VIII.	Laboratory Control Samples (LCS)	A	Not reviewed for ADR validation. LCS/D
IX.	Internal Standard (ICP-MS)	A	Not reviewed for ADR validation.
X.	Furnace Atomic Absorption QC	N	Not reviewed for ADR validation.
XI.	ICP Serial Dilution	A	
XII.	Sample Result Verification	A	Not reviewed for ADR validation.
XIII.	Overall Assessment of Data	A	Not reviewed for ADR validation.
XIV.	Field Duplicates	—	(10, 11)
XV	Field Blanks	SW	EB = EB-NBZ-SS-041712 (12D154) = EB-NBZ-SB-041712

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: ** Indicates sample underwent Level IV validation

Soil

1	SL-012-NBZ-SS-0.0-0.5	11	DUP-09-NBZ-QC-041912	21		31	
2	SL-012-NBZ-SB-0.5-1.5	12	SL-193-NBZ-SS-0.0-0.5MS	22		32	
3	SL-017-NBZ-SS-0.0-0.5**	13	SL-193-NBZ-SS-0.0-0.5MSD	23		33	
4	SL-086-NBZ-SS-0.0-0.5**	14		24		34	
5	SL-087-NBZ-SS-0.0-0.5**	15		25		35	
6	SL-150-NBZ-SS-0.0-0.5**	16		26		36	
7	SL-178-NBZ-SS-0.0-0.5**	17		27		37	
8	SL-179-NBZ-SS-0.0-0.5**	18		28		38	
9	SL-184-NBZ-SS-0.0-0.5	19		29		39	
10	SL-193-NBZ-SS-0.0-0.5	20		30		40	

Notes: _____

LDC #: 29230D4

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: Trace Metals (EPA SW846 6010B/7000)

Blank units: mg/L **Associated sample units:** mg/Kg
Sampling date: 4/17/12 Soil factor applied 100x
Field blank type: (circle one) Field Blank / Rinsate / Other: Associated Samples: EB-NBZ-SB-041712=2 EB-NBZ-SS-041712= 1, 3-11

Analyte	Blank ID	Blank ID	Sample Identification										
	EB-NBZ-SB-041712	EB-NBZ-SS-041712	Action Limit	No Qualifiers (>5x)									
Al	0.0217		10.85										
Cu	0.000894	0.000613	0.445										
Ca		0.0492	24.6										
Ni		0.000255	0.1										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

Enclosure II

Level IV Validation Reports

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Santa Susana Field Laboratory
Collection Date:	April 19, 2012
LDC Report Date:	February 27, 2013
Matrix:	Soil
Parameters:	Volatiles
Validation Level:	Level IV
Laboratory:	EMAX Laboratories, Inc.
Sample Delivery Group (SDG):	12D176

Sample Identification

SL-087-NBZ-SS-0.5

Introduction

This data review covers one soil sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows the Quality Assurance Project Plan for Santa Susana Field Laboratory (SSFL), RCRA Facility Investigation, Surficial Media Operable Unit (March 2009, Revision 4) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a Laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

NJ Presumptive evidence of presence of the compound at an estimated quantity.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 30.0% for all compounds.

In the case where the laboratory used a calibration curve to evaluate the compounds, all coefficients of determination (r^2) were greater than or equal to 0.990 .

Average relative response factors (RRF) for all compounds were within method and validation criteria.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

Percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were within the method criteria of less than or equal to 20.0% for calibration check compounds (CCCs) and 25.0% for all other compounds with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
4/26/12	Trichlorofluoromethane	28.7	All samples in SDG 12D176	J (all detects) UJ (all non-detects)	P

The percent differences (%D) of the second source calibration standard were less than or equal to 25.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within method and validation criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

Sample TB-041912 was identified as a trip blank. No volatile contaminants.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria.

XII. Compound Quantitation and RLs

All compound quantitation and RLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 12D176	All compounds reported below the RL.	J (all detects)	A

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was acceptable.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Santa Susana Field Laboratory
Volatiles - Data Qualification Summary - SDG 12D176

SDG	Sample	Compound	Flag	A or P	Reason (Code)
12D176	SL-087-NBZ-SS-0.5	Trichlorofluoromethane	J (all detects) UJ (all non-detects)	P	Continuing calibration (%D) (C)
12D176	SL-087-NBZ-SS-0.5	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and RLs (Z)

Santa Susana Field Laboratory
Volatiles - Laboratory Blank Data Qualification Summary - SDG 12D176

No Sample Data Qualified in this SDG

Santa Susana Field Laboratory
Volatiles - Field Blank Data Qualification Summary - SDG 12D176

No Sample Data Qualified in this SDG

LDC #: 29230D1a **VALIDATION COMPLETENESS WORKSHEET** Date: 2/21/13
SDG #: 12D176 Level IV Page: 1 of 1
Laboratory: EMAX Laboratories, Inc. Reviewer: F
2nd Reviewer: A

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/19/12
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	A	%D RSD ≤ 30, r 2
IV.	Continuing calibration/ICV	SW	ICV/CCV ≤ 25
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	client specified
VIII.	Laboratory control samples	A	LCS ID
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A	
XI.	Target compound identification	A	
XII.	Compound quantitation/RL/LOQ/LODs	A	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	A	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	TB = FB - 041912

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

SOIL

1	SL-087-NBZ-SS-0.5	11	MBLK1S	21		31	
2		12	MBLK2S	22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

6

LDC #: 29230D1a

VALIDATION FINDINGS CHECKLIST

Reviewer: FT
2nd Reviewer:

Method: Volatiles (EPA SW 846 Method 8260B)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. GC/MS instrument performance check				
Were the BFB performance results reviewed and found to be within the specified criteria?	✓			
Were all samples analyzed within the 12 hour clock criteria?	✓			
III. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	✓			
Was a curve fit used for evaluation?	✓			
Did the initial calibration meet the curve fit acceptance criteria of $\geq$ 0.990?	✓			
Were all percent relative standard deviations (%RSD) $\leq$ 30% and relative response factors (RRF) > 0.05?	✓			
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	✓			
Were all percent differences (%D) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	✓			
Were all percent differences (%D) $\leq$ 25% and relative response factors (RRF) $\geq$ 0.05?		✓		
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed at least once every 12 hours for each matrix and concentration?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Surrogate spikes				
Were all surrogate %R within QC limits?	✓			
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?			✓	
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.			✓	
Was a MS/MSD analyzed every 20 samples of each matrix?			✓	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			

LDC #: 29230D1a

VALIDATION FINDINGS CHECKLIST

Reviewer: FT
2nd Reviewer: CT

Validation Area	Yes	No	NA	Findings/Comments
Was an LCS analyzed per analytical batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?			✓	
Were the performance evaluation (PE) samples within the acceptance limits?			✓	
X. Internal Standards				
Were internal standard area counts within -50% or +100% of the associated calibration standard?		✓		
Were retention times within ± 30 seconds of the associated calibration standard?		✓		
XI. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?	✓			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	✓			
Were chromatogram peaks verified and accounted for?	✓			
XII. Compound quantitation/CRQLs				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Tentatively identified compounds (TICs)				
Were the major ions (> 10 percent relative intensity) in the reference spectrum evaluated in sample spectrum?			✓	
Were relative intensities of the major ions within ± 20% between the sample and the reference spectra?			✓	
Did the raw data indicate that the laboratory performed a library search for all required peaks in the chromatograms (samples and blanks)?			✓	
XIV. System performance				
System performance was found to be acceptable.	✓			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XVI. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target compounds were detected in the field duplicates.			✓	
XVII. Field blanks				
Field blanks were identified in this SDG.	✓			
Target compounds were detected in the field blanks.		✓		

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	U. 1,1,2-Trichloroethane	OO. 2,2-Dichloropropane	III. n-Butylbenzene	CCCC.1-Chlorohexane
B. Bromomethane	V. Benzene	PP. Bromochloromethane	JJJ. 1,2-Dichlorobenzene	DDDD. Isopropyl alcohol
C. Vinyl choride**	W. trans-1,3-Dichloropropene	QQ. 1,1-Dichloropropene	KKK. 1,2,4-Trichlorobenzene	EEEE. Acetonitrile
D. Chloroethane	X. Bromoform*	RR. Dibromomethane	LLL. Hexachlorobutadiene	FFFF. Acrolein
E. Methylene chloride	Y. 4-Methyl-2-pentanone	SS. 1,3-Dichloropropane	MMM. Naphthalene	GGGG. Acrylonitrile
F. Acetone	Z. 2-Hexanone	TT. 1,2-Dibromoethane	NNN. 1,2,3-Trichlorobenzene	HHHH. 1,4-Dioxane
G. Carbon disulfide	AA. Tetrachloroethene	UU. 1,1,1,2-Tetrachloroethane	OOO. 1,3,5-Trichlorobenzene	IIII. Isobutyl alcohol
H. 1,1-Dichloroethene**	BB. 1,1,2,2-Tetrachloroethane*	VV. Isopropylbenzene	PPP. trans-1,2-Dichloroethene	JJJJ. Methacrylonitrile
I. 1,1-Dichloroethane*	CC. Toluene**	WW. Bromobenzene	QQQ. cis-1,2-Dichloroethene	KKKK. Propionitrile
J. 1,2-Dichloroethene, total	DD. Chlorobenzene*	XX. 1,2,3-Trichloropropane	RRR. m,p-Xylenes	LLLL. Ethyl ether
K. Chloroform**	EE. Ethylbenzene**	YY. n-Propylbenzene	SSS. o-Xylene	MMMM. Benzyl chloride
L. 1,2-Dichloroethane	FF. Styrene	ZZ. 2-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	NNNN.
M. 2-Butanone	GG. Xylenes, total	AAA. 1,3,5-Trimethylbenzene	UUU. 1,2-Dichlorotetrafluoroethane	OOOO.
N. 1,1,1-Trichloroethane	HH. Vinyl acetate	BBB. 4-Chlorotoluene	VVV. 4-Ethyltoluene	PPPP.
O. Carbon tetrachloride	II. 2-Chloroethylvinyl ether	CCC. tert-Butylbenzene	WWW. Ethanol	QQQQ.
P. Bromodichloromethane	JJ. Dichlorodifluoromethane	DDD. 1,2,4-Trimethylbenzene	XXX. Di-isopropyl ether	RRRR.
Q. 1,2-Dichloropropane**	KK. Trichlorofluoromethane	EEE. sec-Butylbenzene	YYY. tert-Butanol	SSSS.
R. cis-1,3-Dichloropropene	LL. Methyl-tert-butyl ether	FFF. 1,3-Dichlorobenzene	ZZZ. tert-Butyl alcohol	TTTT.
S. Trichloroethene	MM. 1,2-Dibromo-3-chloropropane	GGG. p-Isopropyltoluene	AAAA. Ethyl tert-butyl ether	UUUU.
T. Dibromochloromethane	NN. Methyl ethyl ketone	HHH. 1,4-Dichlorobenzene	BBBB. tert-Amyl methyl ether	VVVV.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

LDC #: 29230P1a

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Page: 1 of 1
Reviewer: FT
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?
Y N N/A Were percent differences (%D) and relative response factors (RRF) within method criteria for all CCC's and SPCC's ?
Y N N/A Were all %D and RRFs within the validation criteria of ≤25 %D and ≥0.05 RRF ?

code = C

#	Date	Standard ID	Compound	Finding %D (Limit: ≤25.0%)	Finding RRF (Limit: ≥0.05)	Associated Samples	Qualifications
	4/26/12	RD B274-ccv	KK	28.7		All	J/UJ/R

CONCAL_8260B.1S

LDC #: 29230D1a

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
Reviewer: FT
2nd Reviewer:

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$RRF = (A_x)(C_{is})/(A_{is})(C_x)$
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

A_x = Area of compound,
C_x = Concentration of compound,
S = Standard deviation of the RRFs
X = Mean of the RRFs

A_{is} = Area of associated internal standard
C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference Internal Standard)	Reported RRF (SV std)	Recalculated RRF (SV std)	Reported Average RRF (initial)	Recalculated Average RRF (initial)	Reported %RSD	Recalculated %RSD
1	V003B16	2/16/12	C (1st internal standard)	0.247	0.247	0.243	0.243	10.76	10.76
			V (2nd internal standard)	1.422	1.422	1.437	1.437	2.54	2.54
			BB (3rd internal standard)	0.985	0.985	0.999	0.999	2-75	2-75
			(4th internal standard)						
2			(1st internal standard)						
			(2nd internal standard)						
			(3rd internal standard)						
			(4th internal standard)						
3			(1st internal standard)						
			(2nd internal standard)						
			(3rd internal standard)						
			(4th internal standard)						
4			(1st internal standard)						
			(2nd internal standard)						
			(3rd internal standard)						
			(4th internal standard)						

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 29230D1a

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: FT
2nd Reviewer: A

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
$RRF = (A_x)(C_{is})/(A_{is})(C_x)$

Where: ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
A_x = Area of compound, A_{is} = Area of associated internal standard
C_x = Concentration of compound, C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference internal Standard)	Average RRF (initial)	Reported RRF (CC)	Recalculated RRF (CC)	Reported %D	Recalculated %D
1	RDV322	4/26/12	C (1st internal standard)	0.243	0.246	0.246	1.2	1.2
			V (2nd internal standard)	1.437	1.333	1.333	7.2	7.2
			B13 (3rd internal standard)	0.999	1.069	1.069	7.0	7.0
			(4th internal standard)					
2			(1st internal standard)					
			(2nd internal standard)					
			(3rd internal standard)					
			(4th internal standard)					
3			(1st internal standard)					
			(2nd internal standard)					
			(3rd internal standard)					
			(4th internal standard)					
4			(1st internal standard)					
			(2nd internal standard)					
			(3rd internal standard)					
			(4th internal standard)					

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 29230D1a

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Page: 1 of 1
Reviewer: FT
2nd reviewer:

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: #1

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane	50.0	53.84	108	108	0
1,2-Dichloroethane-d4	↓	49.66	99.3	99.3	↓
Toluene-d8	↓	52.25	105	105	↓
Bromofluorobenzene	↓	58.07	116	116	↓

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

LDC #: 29230D1a

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample Results Verification

Page: 1 of 1
Reviewer: FT
2nd Reviewer: SA

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratoy control sample and laboratory control sample duplicate (if applicable) were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * SSC/SA Where: SSC = Spiked sample concentration
SA = Spike added

RPD = | LCS - LCSD | * 2/(LCS + LCSD) LCS = Laboraotry control sample percent recovery LCSD = Laboratory control sample duplicate percent recovery

LCS ID: vcs1D

Compound	Spike Added (ug/kg)		Spiked Sample Concentration (ug/kg)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc	Reported	Recalc	Reported	Recalculated
1,1-Dichloroethene	50.0	50.0	51.0	50.4	102	102	101	101	1	1
Trichloroethene			49.3	48.7	99	99	97	97	1	1
Benzene			48.5	49.4	97	97	99	99	2	2
Toluene			46.0	46.2	92	92	92	92	1	1
Chlorobenzene			47.3	47.5	95	95	95	95	0	0

Comments: Refer to Laboratory Control Sample findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 29230D1a

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: FT
2nd reviewer: A

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

Y N N/A Were all reported results recalculated and verified for all level IV samples?

Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(DF)}{(A_{is})(RRF)(V_o)(\%S)}$

A_x = Area of the characteristic ion (EICP) for the compound to be measured

A_{is} = Area of the characteristic ion (EICP) for the specific internal standard

I_s = Amount of internal standard added in nanograms (ng)

RRF = Relative response factor of the calibration standard.

V_o = Volume or weight of sample pruged in milliliters (ml) or grams (g).

Df = Dilution factor.

%S = Percent solids, applicable to soils and solid matrices only.

Example:

Sample I.D. _____ , _____:

Conc. = $\frac{(\quad)(\quad)(\quad)}{(\quad)(\quad)(\quad)(\quad)}$

= MD

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Santa Susana Field Laboratory

Collection Date: April 19, 2012

LDC Report Date: February 27, 2013

Matrix: Soil

Parameters: 1,4-Dioxane

Validation Level: Level IV

Laboratory: EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 12D176

Sample Identification

SL-087-NBZ-SS-0.5

Introduction

This data review covers one soil sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B using Selected Ion Monitoring (SIM) for 1,4-Dioxane.

This review follows the Quality Assurance Project Plan for Santa Susana Field Laboratory (SSFL), RCRA Facility Investigation, Surficial Media Operable Unit (March 2009, Revision 4) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

NJ Presumptive evidence of presence of the compound at an estimated quantity.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 30.0% for 1,4-dioxane.

Average relative response factors (RRF) for all compounds were within method and validation criteria.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

Percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were within the method criteria of less than or equal to 25.0% for 1,4-dioxane.

The percent differences (%D) of the second source calibration standard were less than or equal to 25.0% for 1,4-dioxane.

All of the continuing calibration relative response factors (RRF) were within method and validation criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,4-dioxane was found in the method blanks.

Sample TB-041912 was identified as a trip blank. No 1,4-dioxane was found.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria.

XII. Compound Quantitation and RLs

All compound quantitation and RLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 12D176	All compounds reported below the RL.	J (all detects)	A

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was acceptable.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

Santa Susana Field Laboratory
1,4-Dioxane - Data Qualification Summary - SDG 12D176

SDG	Sample	Compound	Flag	A or P	Reason (Code)
12D176	SL-087-NBZ-SS-0.5	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and RLs (Z)

Santa Susana Field Laboratory
1,4-Dioxane - Laboratory Blank Data Qualification Summary - SDG 12D176

No Sample Data Qualified in this SDG

Santa Susana Field Laboratory
1,4-Dioxane - Field Blank Data Qualification Summary - SDG 12D176

No Sample Data Qualified in this SDG

LDC #: 29230D1b **VALIDATION COMPLETENESS WORKSHEET** Date: 2/21/13
SDG #: 12D176 Level IV Page: 1 of 1
Laboratory: EMAX Laboratories, Inc. Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS 1,4-Dioxane (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/19/12
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	A	% RSD ≤30
IV.	Continuing calibration/ICV	A	ICV/CCV ≤25
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	client specific
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A	
XI.	Target compound identification	A	
XII.	Compound quantitation/RL/LOQ/LODs	A	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	A	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	TB = TB-041912

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

SOIL

1	SL-087-NBZ-SS-0.5	11	MBLK15	21		31	
2		12	MBLK25	22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

LDC #: 29230 01b

VALIDATION FINDINGS CHECKLIST

Reviewer: FT
2nd Reviewer: A

Method: Volatiles (EPA SW 846 Method 8260B)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. GC/MS instrument performance check				
Were the BFB performance results reviewed and found to be within the specified criteria?	✓			
Were all samples analyzed within the 12 hour clock criteria?	✓			
III. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	✓			
Was a curve fit used for evaluation?		✓		
Did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?			✓	
Were all percent relative standard deviations (%RSD) ≤ 30% and relative response factors (RRF) > 0.05?	✓			
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	✓			
Were all percent differences (%D) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	✓			
Were all percent differences (%D) ≤ 25% and relative response factors (RRF) ≥ 0.05?	✓			
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed at least once every 12 hours for each matrix and concentration?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Surrogate spikes				
Were all surrogate %R within QC limits?	✓			
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?			✓	
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.			✓	
Was a MS/MSD analyzed every 20 samples of each matrix?			✓	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			

Validation Area	Yes	No	NA	Findings/Comments
Was an LCS analyzed per analytical batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?			✓	
Were the performance evaluation (PE) samples within the acceptance limits?			✓	
X. Internal standards				
Were internal standard area counts within -50% or +100% of the associated calibration standard?	✓			
Were retention times within ± 30 seconds of the associated calibration standard?	✓			
XI. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?			✓	
Did compound spectra meet specified EPA "Functional Guidelines" criteria?			✓	
Were chromatogram peaks verified and accounted for?		✓		
XII. Compound quantitation/CRQLs				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?			✓	
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?		✓		
XIII. Tentatively identified compounds (TICs)				
Were the major ions (> 10 percent relative intensity) in the reference spectrum evaluated in sample spectrum?			✓	
Were relative intensities of the major ions within ± 20% between the sample and the reference spectra?			✓	
Did the raw data indicate that the laboratory performed a library search for all required peaks in the chromatograms (samples and blanks)?			✓	
XIV. System performance				
System performance was found to be acceptable.	✓			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XVI. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target compounds were detected in the field duplicates.				✓
XVII. Field blanks				
Field blanks were identified in this SDG.	✓			
Target compounds were detected in the field blanks.		✓		

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	U. 1,1,2-Trichloroethane	OO. 2,2-Dichloropropane	III. n-Butylbenzene	CCCC.1-Chlorohexane
B. Bromomethane	V. Benzene	PP. Bromochloromethane	JJJ. 1,2-Dichlorobenzene	DDDD. Isopropyl alcohol
C. Vinyl choride**	W. trans-1,3-Dichloropropene	QQ. 1,1-Dichloropropene	KKK. 1,2,4-Trichlorobenzene	EEEE. Acetonitrile
D. Chloroethane	X. Bromoform*	RR. Dibromomethane	LLL. Hexachlorobutadiene	FFFF. Acrolein
E. Methylene chloride	Y. 4-Methyl-2-pentanone	SS. 1,3-Dichloropropane	MMM. Naphthalene	GGGG. Acrylonitrile
F. Acetone	Z. 2-Hexanone	TT. 1,2-Dibromoethane	NNN. 1,2,3-Trichlorobenzene	HHHH. 1,4-Dioxane
G. Carbon disulfide	AA. Tetrachloroethene	UU. 1,1,1,2-Tetrachloroethane	OOO. 1,3,5-Trichlorobenzene	IIII. Isobutyl alcohol
H. 1,1-Dichloroethene**	BB. 1,1,2,2-Tetrachloroethane*	VV. Isopropylbenzene	PPP. trans-1,2-Dichloroethene	JJJJ. Methacrylonitrile
I. 1,1-Dichloroethane*	CC. Toluene**	WW. Bromobenzene	QQQ. cis-1,2-Dichloroethene	KKKK. Propionitrile
J. 1,2-Dichloroethene, total	DD. Chlorobenzene*	XX. 1,2,3-Trichloropropane	RRR. m,p-Xylenes	LLLL. Ethyl ether
K. Chloroform**	EE. Ethylbenzene**	YY. n-Propylbenzene	SSS. o-Xylene	MMMM. Benzyl chloride
L. 1,2-Dichloroethane	FF. Styrene	ZZ. 2-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	NNNN.
M. 2-Butanone	GG. Xylenes, total	AAA. 1,3,5-Trimethylbenzene	UUU. 1,2-Dichlorotetrafluoroethane	OOOO.
N. 1,1,1-Trichloroethane	HH. Vinyl acetate	BBB. 4-Chlorotoluene	VVV. 4-Ethyltoluene	PPPP.
O. Carbon tetrachloride	II. 2-Chloroethylvinyl ether	CCC. tert-Butylbenzene	WWW. Ethanol	QQQQ.
P. Bromodichloromethane	JJ. Dichlorodifluoromethane	DDD. 1,2,4-Trimethylbenzene	XXX. Di-isopropyl ether	RRRR.
Q. 1,2-Dichloropropane**	KK. Trichlorofluoromethane	EEE. sec-Butylbenzene	YYY. tert-Butanol	SSSS.
R. cis-1,3-Dichloropropene	LL. Methyl-tert-butyl ether	FFF. 1,3-Dichlorobenzene	ZZZ. tert-Butyl alcohol	TTTT.
S. Trichloroethene	MM. 1,2-Dibromo-3-chloropropane	GGG. p-Isopropyltoluene	AAAA. Ethyl tert-butyl ether	UUUU.
T. Dibromochloromethane	NN. Methyl ethyl ketone	HHH. 1,4-Dichlorobenzene	BBBB. tert-Amyl methyl ether	VVVV.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

LDC #: 29230016

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: FT
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$RRF = (A_x)(C_{is})/(A_{is})(C_x)$
average RRF = sum of the RRFs/number of standards
$\%RSD = 100 * (S/X)$

A_x = Area of compound,
C_x = Concentration of compound,
S = Standard deviation of the RRFs
X = Mean of the RRFs

A_{is} = Area of associated internal standard
C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference Internal Standard)	Reported RRF (200std)	Recalculated RRF (200std)	Reported Average RRF (initial)	Recalculated Average RRF (initial)	Reported %RSD	Recalculated %RSD
1	VOF5J31	10/31/11	1,4-Dioxane (1st internal standard)	1.163	1.163	1.145	1.145	7.02	7.02
			(2nd internal standard)						
			(3rd internal standard)						
			(4th internal standard)						
2			(1st internal standard)						
			(2nd internal standard)						
			(3rd internal standard)						
			(4th internal standard)						
3			(1st internal standard)						
			(2nd internal standard)						
			(3rd internal standard)						
			(4th internal standard)						
4			(1st internal standard)						
			(2nd internal standard)						
			(3rd internal standard)						
			(4th internal standard)						

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 29230D16

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Page: 1 of 1
Reviewer: FT
2nd Reviewer: [signature]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
$RRF = (A_x)(C_{is})/(A_{is})(C_x)$

Where: ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
A_x = Area of compound, A_{is} = Area of associated internal standard
C_x = Concentration of compound, C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference internal Standard)	Average RRF (initial)	Reported RRF (CC)	Recalculated RRF (CC)	Reported %D	Recalculated %D
1	RD1036	4/25/12	1,4-Dioxane (1st internal standard)	1.145	1.160	1.160	1.3	1.3
			(2nd internal standard)					
			(3rd internal standard)					
			(4th internal standard)					
2			(1st internal standard)					
			(2nd internal standard)					
			(3rd internal standard)					
			(4th internal standard)					
3			(1st internal standard)					
			(2nd internal standard)					
			(3rd internal standard)					
			(4th internal standard)					
4			(1st internal standard)					
			(2nd internal standard)					
			(3rd internal standard)					
			(4th internal standard)					

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 29230D1b

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Page: 1 of 1
Reviewer: FT
2nd reviewer: A

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: #1

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4	20	16.97	84.8	84.8	0
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

LDC #: 29230D1b

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample Results Verification

Reviewer: FT
2nd Reviewer: A

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratoy control sample and laboratory control sample duplicate (if applicable) were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * SSC/SA Where: SSC = Spiked sample concentration
SA = Spike added

RPD = | LCS - LCSD | * 2/(LCS + LCSD) LCS = Laboraotry control sample percent recovery LCSD = Laboratory control sample duplicate percent recovery

LCS ID: LCS/D

Compound	Spike Added (ug/kg)		Spiked Sample Concentration (ug/kg)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc	Reported	Recalc	Reported	Recalculated
1,1-Dichloroethene										
Trichloroethene										
Benzene										
Toluene										
Chlorobenzene										
1,4- Dioxane	200	200	199	207	100	100	103	103	4	4

Comments: Refer to Laboratory Control Sample findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 29230D1b

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: FT
2nd reviewer: A

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

Y N N/A Were all reported results recalculated and verified for all level IV samples?

Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(DF)}{(A_{is})(RRF)(V_o)(\%S)}$

A_x = Area of the characteristic ion (EICP) for the compound to be measured

A_{is} = Area of the characteristic ion (EICP) for the specific internal standard

I_s = Amount of internal standard added in nanograms (ng)

RRF = Relative response factor of the calibration standard.

V_o = Volume or weight of sample pruged in milliliters (ml) or grams (g).

Df = Dilution factor.

%S = Percent solids, applicable to soils and solid matrices only.

Example:

Sample I.D. _____, _____:

Conc. = $\frac{(\quad)(\quad)(\quad)}{(\quad)(\quad)(\quad)(\quad)}$

= ND

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Santa Susana Field Laboratory
Collection Date:	April 19, 2012
LDC Report Date:	February 26, 2013
Matrix:	Soil
Parameters:	Semivolatiles
Validation Level:	Level IV
Laboratory:	EMAX Laboratories, Inc.
Sample Delivery Group (SDG):	12D176

Sample Identification

SL-017-NBZ-SS-0.0-0.5
SL-086-NBZ-SS-0.0-0.5
SL-087-NBZ-SS-0.0-0.5
SL-150-NBZ-SS-0.0-0.5
SL-178-NBZ-SS-0.0-0.5
SL-179-NBZ-SS-0.0-0.5

Introduction

This data review covers 6 soil samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows the Quality Assurance Project Plan for Santa Susana Field Laboratory (SSFL), RCRA Facility Investigation, Surficial Media Operable Unit (March 2009, Revision 4) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

NJ Presumptive evidence of presence of the compound at an estimated quantity.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals. All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations with the following exceptions:

Sample	Compound	Finding	Criteria	Flag	A or P
All samples in SDG 12D176	Tetralin 2-Butoxyethanol 2-Phenoxyethanol	A one point calibration was performed.	A five point calibration is specified by the method.	J (all detects) UJ (all non-detects)	P

Percent relative standard deviations (%RSD) were less than or equal to 30.0% for all compounds.

In the case where the laboratory used a calibration curve to evaluate the compounds all coefficients of determination (r^2) were greater than or equal to 0.990 .

Average relative response factors (RRF) for all compounds were within method and validation criteria.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

Percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were within the method criteria of less than or equal to 20.0% for calibration check compounds (CCCs) and 25.0% for all other compounds.

The percent differences (%D) of the second source calibration standard were less than or equal to 25.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within method and validation criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks.

Sample EB-NBZ-SS-041712 (from SDG 12D154) was identified as an equipment blank. No semivolatile contaminants were found.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were not within QC limits. Since there were no associated samples, no data were qualified.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria.

XII. Compound Quantitation and RLs

All compound quantitation and RLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 12D176	All compounds reported below the RL.	J (all detects)	A

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was acceptable.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Santa Susana Field Laboratory
Semivolatiles - Data Qualification Summary - SDG 12D176

SDG	Sample	Compound	Flag	A or P	Reason (Code)
12D176	SL-017-NBZ-SS-0.0-0.5 SL-086-NBZ-SS-0.0-0.5 SL-087-NBZ-SS-0.0-0.5 SL-150-NBZ-SS-0.0-0.5 SL-178-NBZ-SS-0.0-0.5 SL-179-NBZ-SS-0.0-0.5	Tetralin 2-Butoxyethanol 2-Phenoxyethanol	J (all detects) UJ (all non-detects)	P	Initial calibration (# of points) (*III)
12D176	SL-017-NBZ-SS-0.0-0.5 SL-086-NBZ-SS-0.0-0.5 SL-087-NBZ-SS-0.0-0.5 SL-150-NBZ-SS-0.0-0.5 SL-178-NBZ-SS-0.0-0.5 SL-179-NBZ-SS-0.0-0.5	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and RLs (Z)

Santa Susana Field Laboratory
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 12D176

No Sample Data Qualified in this SDG

Santa Susana Field Laboratory
Semivolatiles - Field Blank Data Qualification Summary - SDG 12D176

No Sample Data Qualified in this SDG

LDC #: 29230D2a **VALIDATION COMPLETENESS WORKSHEET** Date: 2/21/13
SDG #: 12D176 Level IV Page: 1 of 1
Laboratory: EMAX Laboratories, Inc. Reviewer: [illegible]
2nd Reviewer: A

METHOD: GC/MS Semivolatiles (EPA SW 846 Method 8270C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/19/12
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	SW	% RSD ≤ 30, r^2
IV.	Continuing calibration/ICV	A	ICV/CCV ≤ 20
V.	Blanks	A	
VI.	Surrogate spikes	A	No Ass. Sample
VII.	Matrix spike/Matrix spike duplicates	SW	SL-193-NBZ-SS-0.0-0.5 MS ID
VIII.	Laboratory control samples	A	LCS ID
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A	
XI.	Target compound identification	A	
XII.	Compound quantitation/RL/LOQ/LODs	A	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	A	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	~~4 + 7~~
XVII.	Field blanks	N	EB = ~~EB-NBZ-SB-041712~~ = EB-NBZ-SS-041712

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

SDG # 12D152

Validated Samples:

SOIL

4	1	SL-017-NBZ-SS-0.0-0.5	11	MBLK15	21		31	
5	2	SL-086-NBZ-SS-0.0-0.5	12		22		32	
7	3	SL-087-NBZ-SS-0.0-0.5	13		23		33	
8	4	SL-150-NBZ-SS-0.0-0.5	14		24		34	
9	5	SL-178-NBZ-SS-0.0-0.5	15		25		35	
10	6	SL-179-NBZ-SS-0.0-0.5	16		26		36	
	7		17		27		37	
	8		18		28		38	
	9		19		29		39	
	10		20		30		40	

LDC #: 29230D2a

VALIDATION FINDINGS CHECKLIST

Reviewer: FT
2nd Reviewer: A

Method: Semivolatiles (EPA SW 846 Method 8270C)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. GC/MS Instrument performance check				
Were the DFTPP performance results reviewed and found to be within the specified criteria?	✓			
Were all samples analyzed within the 12 hour clock criteria?	✓			
III. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			no on 3 compounds
Were all percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	✓			
Was a curve fit used for evaluation?	✓			
Did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?	✓			
Were all percent relative standard deviations (%RSD) ≤ 30% and relative response factors (RRF) > 0.05?	✓			
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	✓			
Were all percent differences (%D) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	✓			
Were all percent differences (%D) ≤ 25% and relative response factors (RRF) ≥ 0.05?	✓			
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed for each matrix and concentration?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Surrogate spikes				
Were all surrogate %R within QC limits?	✓			
If 2 or more base neutral or acid surrogates were outside QC limits, was a reanalysis performed to confirm %R?			✓	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?			✓	
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.			✓	
Was a MS/MSD analyzed every 20 samples of each matrix?			✓	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			

LDC #: 29230D2S

VALIDATION FINDINGS CHECKLIST

Reviewer: FT
2nd Reviewer: A

Validation Area	Yes	No	NA	Findings/Comments
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?			✓	
Were the performance evaluation (PE) samples within the acceptance limits?			✓	
X. Internal standards				
Were internal standard area counts within -50% or +100% of the associated calibration standard?	✓			
Were retention times within ± 30 seconds from the associated calibration standard?	✓			
XI. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?			✓	
Did compound spectra meet specified EPA "Functional Guidelines" criteria?			✓	
Were chromatogram peaks verified and accounted for?		✓		
XII. Compound quantitation/CRQL				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?			✓	
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?		✓		
XIII. Tentatively identified compounds (TICs)				
Were the major ions (> 10 percent relative intensity) in the reference spectrum evaluated in sample spectrum?			✓	
Were relative intensities of the major ions within ± 20% between the sample and the reference spectra?			✓	
Did the raw data indicate that the laboratory performed a library search for all required peaks in the chromatograms (samples and blanks)?			✓	
XIV. System performance				
System performance was found to be acceptable.	✓			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XVI. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target compounds were detected in the field duplicates.			✓	
XVII. Field blanks				
Field blanks were identified in this SDG.	✓	✓		
Target compounds were detected in the field blanks.	✓		✓	

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS BNA (EPA Method 8270)

A. Phenol	P. Bis(2-chloroethoxy)methane	EE. 2,6-Dinitrotoluene	TT. Pentachlorophenol	III. Benzo(a)pyrene
B. Bis (2-chloroethyl) ether	Q. 2,4-Dichlorophenol	FF. 3-Nitroaniline	UU. Phenanthrene	JJJ. Indeno(1,2,3-cd)pyrene
C. 2-Chlorophenol	R. 1,2,4-Trichlorobenzene	GG. Acenaphthene	VV. Anthracene	KKK. Dibenz(a,h)anthracene
D. 1,3-Dichlorobenzene	S. Naphthalene	HH. 2,4-Dinitrophenol	WW. Carbazole	LLL. Benzo(g,h,i)perylene
E. 1,4-Dichlorobenzene	T. 4-Chloroaniline	II. 4-Nitrophenol	XX. Di-n-butylphthalate	MMM. Bis(2-Chloroisopropyl)ether
F. 1,2-Dichlorobenzene	U. Hexachlorobutadiene	JJ. Dibenzofuran	YY. Fluoranthene	NNN. Aniline
G. 2-Methylphenol	V. 4-Chloro-3-methylphenol	KK. 2,4-Dinitrotoluene	ZZ. Pyrene	OOO. N-Nitrosodimethylamine
H. 2,2'-Oxybis(1-chloropropane)	W. 2-Methylnaphthalene	LL. Diethylphthalate	AAA. Butylbenzylphthalate	PPP. Benzoic Acid
I. 4-Methylphenol	X. Hexachlorocyclopentadiene	MM. 4-Chlorophenyl-phenyl ether	BBB. 3,3'-Dichlorobenzidine	QQQ. Benzyl alcohol
J. N-Nitroso-di-n-propylamine	Y. 2,4,6-Trichlorophenol	NN. Fluorene	CCC. Benzo(a)anthracene	RRR. Pyridine
K. Hexachloroethane	Z. 2,4,5-Trichlorophenol	OO. 4-Nitroaniline	DDD. Chrysene	SSS. Benzidine
L. Nitrobenzene	AA. 2-Chloronaphthalene	PP. 4,6-Dinitro-2-methylphenol	EEE. Bis(2-ethylhexyl)phthalate	TTT. 1-Methylnaphthalene
M. Isophorone	BB. 2-Nitroaniline	QQ. N-Nitrosodiphenylamine (1)	FFF. Di-n-octylphthalate	UUU.
N. 2-Nitrophenol	CC. Dimethylphthalate	RR. 4-Bromophenyl-phenylether	GGG. Benzo(b)fluoranthene	VVV.
O. 2,4-Dimethylphenol	DD. Acenaphthylene	SS. Hexachlorobenzene	HHH. Benzo(k)fluoranthene	WWW.

LDC #: 29230D29

VALIDATION FINDINGS WORKSHEET
Initial Calibration

Reviewer: FT
2nd Reviewer:

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y (N) N/A Did the laboratory conduct an acceptable 5 point calibration prior to sample analysis?

Y N (N/A) Were percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCC's and SPCC's?

Y N (N/A) Was a curve fit used for evaluation? If yes, what was the acceptance criteria used for evaluation?_____

Y N (N/A) Did the initial calibration meet the acceptance criteria?

Y N (N/A) Were all %RSDs and RRFs within the validation criteria of ≤30 %RSD and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %RSD (Limit: ≤30.0%)	Finding RRF (Limit: ≥0.05)	Associated Samples	Qualifications
		Tetralin, quantitated and reported based on one point calibrations	2-Butoxyethanol, 2-Phenoxyethanol			All	J/UJ/R (C)

INICAL.2S

LDC #: 29230D29

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: FT
2nd Reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$RRF = (A_x)(C_{is})/(A_{is})(C_x)$
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

A_x = Area of compound,
C_x = Concentration of compound,
S = Standard deviation of the RRFs,

A_{is} = Area of associated internal standard
C_{is} = Concentration of internal standard
X = Mean of the RRFs

#	Standard ID	Calibration Date	Compound (Reference Internal Standard)	Reported RRF (25 std)	Recalculated RRF (25 std)	Reported Average RRF (initial)	Recalculated Average RRF (initial)	Reported %RSD	Recalculated %RSD
1	SVE4AX5	1/25/12	Phenol (1st internal standard)	1.328	1.328	1.300	1.300	1.82	1.82
			Naphthalene (2nd internal standard)	1.043	1.043	1.028	1.028	1.92	1.92
			Fluorene (3rd internal standard)	1.406	1.406	1.404	1.404	2.66	2.66
			Pentachlorophenol (4th internal standard)	0.165	0.165	0.161	0.161	8.70	8.70
			Bis(2-ethylhexyl)~~phthalate~~ Adipate (5th internal standard)	0.447	0.447	0.438	0.438	7.21	7.21
			Benzo(a)pyrene (6th internal standard)	1.079	1.079	1.103	1.103	3.48	3.48
2	SVE4AX5A	1/25/12	~~Phenol~~ Benzidine (1st internal standard) (2nd)	0.765	0.765	0.783	0.783	13.68	13.68
			Naphthalene (2nd internal standard)						
			Fluorene (3rd internal standard)						
			Pentachlorophenol (4th internal standard)						
			Bis(2-ethylhexyl)phthalate (5th internal standard)						
			Benzo(a)pyrene (6th internal standard)						
3	SVE4AX5	1/25/12	~~Phenol (1st~~ EEE internal standard) 5th	0.762	0.762	0.733	0.733	7.63	7.63
			Naphthalene (2nd internal standard)						
			Fluorene (3rd internal standard)						
			Pentachlorophenol (4th internal standard)						
			Bis(2-ethylhexyl)phthalate (5th internal standard)						
			Benzo(a)pyrene (6th internal standard)						

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 29230D2a

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: FT
2nd Reviewer:

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
$RRF = (A_x)(C_{is})/(A_{is})(C_x)$

Where: ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
A_x = Area of compound, A_{is} = Area of associated internal standard
C_x = Concentration of compound, C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference Internal Standard)	Average RRF (initial)	Reported RRF (CC)	Recalculated RRF (CC)	Reported %D	Recalculated %D
1	RE1003	5/2/12	Phenol (1st internal standard)	1.300	1.173	1.173	9.8	9.8
			Naphthalene (2nd internal standard)	1.028	0.971	0.971	5.5	5.5
			Fluorene (3rd internal standard)	1.404	1.415	1.415	0.8	0.8
			Pentachlorophenol (4th internal standard)	0.161	0.149	0.149	7.5	7.5
			Bis(2-ethylhexyl)phthalate (5th internal standard)	~~0.438~~ 0.733	0.706	0.706	3.7	3.7
			Benzo(a)pyrene (6th internal standard)	1.103	1.062	1.062	3.7	3.7
2	RE1004	5/2/12	~~Phenol~~ Benzidine (1st internal standard)	0.783	0.715	0.715	8.7	8.7
			Naphthalene (2nd internal standard)					
			Fluorene (3rd internal standard)					
			Pentachlorophenol (4th internal standard)					
			Bis(2-ethylhexyl)phthalate (5th internal standard)					
			Benzo(a)pyrene (6th internal standard)					
3			Phenol (1st internal standard)					
			Naphthalene (2nd internal standard)					
			Fluorene (3rd internal standard)					
			Pentachlorophenol (4th internal standard)					
			Bis(2-ethylhexyl)phthalate (5th internal standard)					
			Benzo(a)pyrene (6th internal standard)					

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 29230D2a

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Page: 1 of 1
Reviewer: FT
2nd reviewer: A

METHOD: GC/MS Semivolatiles (EPA SW 846 Method 8270)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: 1

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5	10	6.44	64.4	64.4	0
2-Fluorobiphenyl	↓	6.04	60.4	60.4	
Terphenyl-d14	↓	8.07	80.7	80.7	
Phenol-d5	30	19.62	65.4	65.4	
2-Fluorophenol	↓	17.84	59.5	59.5	
2,4,6-Tribromophenol	↓	23.23	77.4	77.4	↓
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5					
2-Fluorobiphenyl					
Terphenyl-d14					
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5					
2-Fluorobiphenyl					
Terphenyl-d14					
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

LDC #: 29230026

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Reviewer: FT
2nd Reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SC/SA Where: SSC = Spike concentration
SA = Spike added

RPD = I LCSC - LCSDC I * 2/(LCSC + LCSDC) LCSC = Laboraotry control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS/LCSD samples: LCS ID

Compound	Spike Added (ug/kg)		Spike Concentration (ug/kg)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc	Reported	Recalc	Reported	Recalculated
Phenol	667	667	411	495	62	62	74	74	18	18
N-Nitroso-di-n-propylamine	↓	↓	376	455	56	56	68	68	19	19
4-Chloro-3-methylphenol			423	508	64	64	76	76	18	18
Acenaphthene			443	534	66	66	80	80	19	19
Pentachlorophenol			429	483	64	64	72	72	12	12
Pyrene			555	591	83	83	89	89	6	6

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 27230D2S

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: FT
2nd reviewer: A

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(V_t)(DF)(2.0)}{(A_{is})(RRF)(V_o)(V_i)(\%S)}$

A_x	=	Area of the characteristic ion (EICP) for the compound to be measured
A_{is}	=	Area of the characteristic ion (EICP) for the specific internal standard
I_s	=	Amount of internal standard added in nanograms (ng)
V_o	=	Volume or weight of sample extract in milliliters (ml) or grams (g).
V_i	=	Volume of extract injected in microliters (ul)
V_t	=	Volume of the concentrated extract in microliters (ul)
Df	=	Dilution Factor.
%S	=	Percent solids, applicable to soil and solid matrices only.
2.0	=	Factor of 2 to account for GPC cleanup

Example:

Sample I.D. _____, _____:

Conc. = $\frac{(\quad)(\quad)(\quad)(\quad)(\quad)}{(\quad)(\quad)(\quad)(\quad)(\quad)}$

NP

=

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Santa Susana Field Laboratory

Collection Date: April 19, 2012

LDC Report Date: February 27, 2013

Matrix: Soil

Parameters: Semivolatiles

Validation Level: Level IV

Laboratory: EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 12D176

Sample Identification

SL-017-NBZ-SS-0.0-0.5
SL-086-NBZ-SS-0.0-0.5
SL-087-NBZ-SS-0.0-0.5
SL-150-NBZ-SS-0.0-0.5
SL-178-NBZ-SS-0.0-0.5
SL-179-NBZ-SS-0.0-0.5

Introduction

This data review covers 6 soil samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C using Selected Ion Monitoring (SIM) for Semivolatiles.

This review follows the Quality Assurance Project Plan for Santa Susana Field Laboratory (SSFL), RCRA Facility Investigation, Surficial Media Operable Unit (March 2009, Revision 4) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

NJ Presumptive evidence of presence of the compound at an estimated quantity.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals. All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard.

Percent relative standard deviations (%RSD) were less than or equal to 30.0% for all compounds.

In the case where the laboratory used a calibration curve to evaluate the compounds, all coefficients of determination (r^2) were greater than or equal to 0.990 .

Average relative response factors (RRF) for all compounds were within method and validation criteria.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

Percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were within the method criteria of less than or equal to 20.0% for calibration check compounds (CCCs) and 25.0% for all other compounds.

The percent differences (%D) of the second source calibration standard were less than or equal to 25.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within method and validation criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria.

XII. Compound Quantitation and RLs

All compound quantitation and RLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 12D176	All compounds reported below the RL.	J (all detects)	A

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was acceptable.

Santa Susana Field Laboratory
Semivolatiles - Data Qualification Summary - SDG 12D176

SDG	Sample	Compound	Flag	A or P	Reason (Code)
12D176	SL-017-NBZ-SS-0.0-0.5 SL-086-NBZ-SS-0.0-0.5 SL-087-NBZ-SS-0.0-0.5 SL-150-NBZ-SS-0.0-0.5 SL-178-NBZ-SS-0.0-0.5 SL-179-NBZ-SS-0.0-0.5	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and RLs (Z)

Santa Susana Field Laboratory
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 12D176

No Sample Data Qualified in this SDG

Santa Susana Field Laboratory
Semivolatiles - Field Blank Data Qualification Summary - SDG 12D176

No Sample Data Qualified in this SDG

LDC #: 29230D2b

VALIDATION COMPLETENESS WORKSHEET

Level IV

Date: 2/21/13

SDG #: 12D176

Page: 1 of 1

Laboratory: EMAX Laboratories, Inc.

Reviewer: FT

2nd Reviewer: A

METHOD: GC/MS ~~Polynuclear Aromatic Hydrocarbons~~ SVOA (EPA SW 846 Method 8270C-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/19/12
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	A	%D RSD ≤ 30, r²
IV.	Continuing calibration/ICV	A	ICV/CCV ≤ 25
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	SL-193-NBZ-SS-0.0-0.5 MS/D
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A	
XI.	Target compound identification	A	
XII.	Compound quantitation/RL/LOQ/LODs	A	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	A	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: SOIL

4	1	SL-017-NBZ-SS-0.0-0.5	11	MBLK15	21		31	
5	2	SL-086-NBZ-SS-0.0-0.5	12		22		32	
7	3	SL-087-NBZ-SS-0.0-0.5	13		23		33	
8	4	SL-150-NBZ-SS-0.0-0.5	14		24		34	
9	5	SL-178-NBZ-SS-0.0-0.5	15		25		35	
10	6	SL-179-NBZ-SS-0.0-0.5	16		26		36	
	7		17		27		37	
	8		18		28		38	
	9		19		29		39	
	10		20		30		40	

LDC #: 29230D2b

VALIDATION FINDINGS CHECKLIST

Page: 1 of 2
Reviewer: FT
2nd Reviewer: A

Method: Semivolatiles (EPA SW 846 Method 8270C)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. GC/MS instrument performance check				
Were the DFTPP performance results reviewed and found to be within the specified criteria?	✓			
Were all samples analyzed within the 12 hour clock criteria?	✓			
III. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	✓			
Was a curve fit used for evaluation?	✓			
Did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?	✓			
Were all percent relative standard deviations (%RSD) ≤ 30% and relative response factors (RRF) > 0.05?	✓			
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	✓			
Were all percent differences (%D) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	✓			
Were all percent differences (%D) ≤ 25% and relative response factors (RRF) ≥ 0.05?	✓			
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed for each matrix and concentration?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Surrogate spikes				
Were all surrogate %R within QC limits?	✓			
If 2 or more base neutral or acid surrogates were outside QC limits, was a reanalysis performed to confirm %R?			✓	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?			✓	
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.	✓			
Was a MS/MSD analyzed every 20 samples of each matrix?	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?	✓			
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			

LDC #: 29230D26

VALIDATION FINDINGS CHECKLIST

Reviewer: FT
2nd Reviewer: A

Validation Area	Yes	No	NA	Findings/Comments
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
X. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?			✓	
Were the performance evaluation (PE) samples within the acceptance limits?			✓	
XI. Internal standards				
Were internal standard area counts within -50% or +100% of the associated calibration standard?	✓			
Were retention times within ± 30 seconds from the associated calibration standard?	✓			
XII. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?	✓			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	✓			
Were chromatogram peaks verified and accounted for?	✓			
XIII. Compound quantitation (CRQL)				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIV. Tentatively identified compounds (TICs)				
Were the major ions (> 10 percent relative intensity) in the reference spectrum evaluated in sample spectrum?			✓	
Were relative intensities of the major ions within ± 20% between the sample and the reference spectra?			✓	
Did the raw data indicate that the laboratory performed a library search for all required peaks in the chromatograms (samples and blanks)?			✓	
XV. System performance				
System performance was found to be acceptable.	✓			
XVI. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XVII. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target compounds were detected in the field duplicates.			✓	
XVIII. Field blanks				
Field blanks were identified in this SDG.		✓		
Target compounds were detected in the field blanks.			✓	

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS BNA (EPA Method 8270)

A. Phenol	P. Bis(2-chloroethoxy)methane	EE. 2,6-Dinitrotoluene	TT. Pentachlorophenol	III. Benzo(a)pyrene
B. Bis (2-chloroethyl) ether	Q. 2,4-Dichlorophenol	FF. 3-Nitroaniline	UU. Phenanthrene	JJJ. Indeno(1,2,3-cd)pyrene
C. 2-Chlorophenol	R. 1,2,4-Trichlorobenzene	GG. Acenaphthene	VV. Anthracene	KKK. Dibenz(a,h)anthracene
D. 1,3-Dichlorobenzene	S. Naphthalene	HH. 2,4-Dinitrophenol	WW. Carbazole	LLL. Benzo(g,h,i)perylene
E. 1,4-Dichlorobenzene	T. 4-Chloroaniline	II. 4-Nitrophenol	XX. Di-n-butylphthalate	MMM. Bis(2-Chloroisopropyl)ether
F. 1,2-Dichlorobenzene	U. Hexachlorobutadiene	JJ. Dibenzofuran	YY. Fluoranthene	NNN. Aniline
G. 2-Methylphenol	V. 4-Chloro-3-methylphenol	KK. 2,4-Dinitrotoluene	ZZ. Pyrene	OOO. N-Nitrosodimethylamine
H. 2,2'-Oxybis(1-chloropropane)	W. 2-Methylnaphthalene	LL. Diethylphthalate	AAA. Butylbenzylphthalate	PPP. Benzoic Acid
I. 4-Methylphenol	X. Hexachlorocyclopentadiene	MM. 4-Chlorophenyl-phenyl ether	BBB. 3,3'-Dichlorobenzidine	QQQ. Benzyl alcohol
J. N-Nitroso-di-n-propylamine	Y. 2,4,6-Trichlorophenol	NN. Fluorene	CCC. Benzo(a)anthracene	RRR. Pyridine
K. Hexachloroethane	Z. 2,4,5-Trichlorophenol	OO. 4-Nitroaniline	DDD. Chrysene	SSS. Benzidine
L. Nitrobenzene	AA. 2-Chloronaphthalene	PP. 4,6-Dinitro-2-methylphenol	EEE. Bis(2-ethylhexyl)phthalate	TTT. 1-Methylnaphthalene
M. Isophorone	BB. 2-Nitroaniline	QQ. N-Nitrosodiphenylamine (1)	FFF. Di-n-octylphthalate	UUU.
N. 2-Nitrophenol	CC. Dimethylphthalate	RR. 4-Bromophenyl-phenylether	GGG. Benzo(b)fluoranthene	VVV.
O. 2,4-Dimethylphenol	DD. Acenaphthylene	SS. Hexachlorobenzene	HHH. Benzo(k)fluoranthene	WWW.

LDC #: 29230D2b

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
Reviewer: FT
2nd Reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$RRF = (A_x)(C_{is})/(A_{is})(C_x)$
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

A_x = Area of compound,
C_x = Concentration of compound,
S = Standard deviation of the RRFs,

A_{is} = Area of associated internal standard
C_{is} = Concentration of internal standard
X = Mean of the RRFs

#	Standard ID	Calibration Date	Compound (Reference Internal Standard)	Reported RRF (10 std)	Recalculated RRF (10 std)	Reported Average RRF (initial)	Recalculated Average RRF (initial)	Reported %RSD	Recalculated %RSD
1	SVE4A255	1/25/12	~~Phenol (1st internal standard)~~						
			Naphthalene (~~2nd~~ internal standard) 1st	3.606	3.606	3.773	3.773	8.47	8.47
			~~Fluorene (3rd~~ Anthracene internal standard) 2nd	1.175	1.175	1.146	1.146	3.14	3.14
			~~Pentachlorophenol (4th~~ Benzo (a) Pyrene internal standard) 3rd	1.115	1.115	0.991	0.991	13.16	13.16
			~~Bis(2-ethylhexyl)phthalate (5th internal standard)~~						
			~~Benzo(a)pyrene (6th internal standard)~~						
2			Phenol (1st internal standard)						
			Naphthalene (2nd internal standard)						
			Fluorene (3rd internal standard)						
			Pentachlorophenol (4th internal standard)						
			Bis(2-ethylhexyl)phthalate (5th internal standard)						
			Benzo(a)pyrene (6th internal standard)						
3			Phenol (1st internal standard)						
			Naphthalene (2nd internal standard)						
			Fluorene (3rd internal standard)						
			Pentachlorophenol (4th internal standard)						
			Bis(2-ethylhexyl)phthalate (5th internal standard)						
			Benzo(a)pyrene (6th internal standard)						

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 29230D26

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Page: 1 of 1
Reviewer: FT
2nd Reviewer:

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
RRF = $(A_x)(C_{is})/(A_{is})(C_x)$

Where: ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
A_x = Area of compound, A_{is} = Area of associated internal standard
C_x = Concentration of compound, C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference Internal Standard)	Average RRF (initial)	Reported RRF (CC)	Recalculated RRF (CC)	Reported %D	Recalculated %D
1	REJ003	5/2/12	~~Phenol (1st internal standard)~~					
			Naphthalene (2nd internal standard) 1ST	3.773	3.167	3.167	16.1	16.1
			~~Fluorene~~ Anthracene (3rd internal standard) 2nd	1.146	1.058	1.058	7.7	7.7
			~~Pentachlorophenol~~ Benzo(a) Pyrene (4th internal standard) 3rd	0.991	1.068	1.068	7.8	7.8
			Bis(2-ethylhexyl)phthalate (5th internal standard)					
			Benzo(a)pyrene (6th internal standard)					
2	REJ328	5/14/12	~~Phenol (1st internal standard)~~					
			Naphthalene (2nd internal standard)	3.773	3.330	3.330	11.7	11.7
			~~Fluorene~~ Anthracene (3rd internal standard)	1.146	1.057	1.057	7.8	7.8
			~~Pentachlorophenol~~ Benzo(a) Pyrene (4th internal standard)	0.991	1.091	1.091	10.1	10.1
			Bis(2-ethylhexyl)phthalate (5th internal standard)					
			Benzo(a)pyrene (6th internal standard)					
3			Phenol (1st internal standard)					
			Naphthalene (2nd internal standard)					
			Fluorene (3rd internal standard)					
			Pentachlorophenol (4th internal standard)					
			Bis(2-ethylhexyl)phthalate (5th internal standard)					
			Benzo(a)pyrene (6th internal standard)					

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 29230p2b

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Page: 1 of 1
Reviewer: FT
2nd reviewer: A

METHOD: GC/MS Semivolatiles (EPA SW 846 Method 8270)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: 4

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5	10	6.61	66.1	66.1	0
2-Fluorobiphenyl	10	6.05	60.5	60.5	↓
Terphenyl-d14	10	7.64	76.4	76.4	↓
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

Sample ID: _____

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5					
2-Fluorobiphenyl					
Terphenyl-d14					
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

Sample ID: _____

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5					
2-Fluorobiphenyl					
Terphenyl-d14					
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

LDC #: 29230026

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Reviewer: FT
2nd Reviewer: A

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SC/SA Where: SSC = Spike concentration
SA = Spike added

RPD = | LCSC - LCSDC | * 2/(LCSC + LCSDC) LCSC = Laboraotry control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS/LCSD samples: LCS ID

Compound	Spike Added (ug/kg)		Spike Concentration (ug/kg)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc	Reported	Recalc	Reported	Recalculated
Phenol										
N-Nitroso-di-n-propylamine										
4-Chloro-3-methylphenol										
Acenaphthene	333	333	271	279	81	81	84	84	3	3
Pentachlorophenol										
Pyrene	↓	↓	283	318	85	85	95	95	12	12

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 29230D2b

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: FT
2nd reviewer: A

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(V_t)(DF)(2.0)}{(A_{is})(RRF)(V_o)(V_i)(\%S)}$

A_x	=	Area of the characteristic ion (EICP) for the compound to be measured
A_{is}	=	Area of the characteristic ion (EICP) for the specific internal standard
I_s	=	Amount of internal standard added in nanograms (ng)
V_o	=	Volume or weight of sample extract in milliliters (ml) or grams (g).
V_i	=	Volume of extract injected in microliters (ul)
V_t	=	Volume of the concentrated extract in microliters (ul)
Df	=	Dilution Factor.
%S	=	Percent solids, applicable to soil and solid matrices only.
2.0	=	Factor of 2 to account for GPC cleanup

Example:

Sample I.D. #1, 44:

Conc. = $\frac{(1567)(40)(1)}{(186295)(1.180)(30)(0.703)}$

= 1.352 ug/kg

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Santa Susana Field Laboratory

Collection Date: April 19, 2012

LDC Report Date: February 27, 2013

Matrix: Soil

Parameters: Chlorinated Pesticides

Validation Level: Level IV

Laboratory: EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 12D176

Sample Identification

SL-017-NBZ-SS-0.0-0.5
SL-086-NBZ-SS-0.0-0.5
SL-087-NBZ-SS-0.0-0.5
SL-150-NBZ-SS-0.0-0.5
SL-178-NBZ-SS-0.0-0.5

Introduction

This data review covers 5 soil samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8081A for Chlorinated Pesticides.

This review follows the Quality Assurance Project Plan for Santa Susana Field Laboratory (SSFL), RCRA Facility Investigation, Surficial Media Operable Unit (March 2009, Revision 4) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

NJ Presumptive evidence of presence of the compound at an estimated quantity.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/ECD Instrument Performance Check

Instrument performance was acceptable unless noted otherwise under initial calibration and continuing calibration sections.

III. Initial Calibration

Initial calibration of single compounds was performed for the primary (quantitation) column and confirmation column as required by this method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

Retention time windows were evaluated and considered technically acceptable.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 20.0% QC limits with the following exceptions:

Date	Standard	Column	Compound	%D	Associated Samples	Flag	A or P
5/1/12	LE01005B/6B	STX-CLP2	Methoxychlor	22	All samples in SDG 12D176	J (all detects) UJ (all non-detects)	A

The percent differences (%D) of the second source calibration standard were less than or equal to 20.0% for all compounds.

Retention times (RT) of all compounds in the calibration standards were within QC limits.

The individual 4,4'-DDT and Endrin breakdowns (%BD) were less than or equal to 15.0%.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No chlorinated pesticide contaminants were found in the method blanks.

Sample EB-NBZ-SS-041712 (from SDG 12D154) was identified as an equipment blank. No chlorinated pesticide contaminants were found.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

XI. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XII. Target Compound Identification

All target compound identifications were within validation criteria.

XIII. Compound Quantitation and RLs

All compound quantitation and RLs were within validation criteria.

The sample results for detected compounds from the two columns were within 40% relative percent difference (RPD) with the following exceptions:

Sample	Compound	RPD	Flag	A or P
SL-086-NBZ-SS-0.0-0.5	4,4'-DDE 4,4'-DDT	90 55	J (all detects) J (all detects)	A
SL-087-NBZ-SS-0.0-0.5	4,4'-DDE	48	J (all detects)	A

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 12D176	All compounds reported below the RL.	J (all detects)	A

XIV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XV. Field Duplicates

No field duplicates were identified in this SDG.

Santa Susana Field Laboratory
Chlorinated Pesticides - Data Qualification Summary - SDG 12D176

SDG	Sample	Compound	Flag	A or P	Reason (Code)
12D176	SL-017-NBZ-SS-0.0-0.5 SL-086-NBZ-SS-0.0-0.5 SL-087-NBZ-SS-0.0-0.5 SL-150-NBZ-SS-0.0-0.5 SL-178-NBZ-SS-0.0-0.5	Methoxychlor	J (all detects) UJ (all non-detects)	A	Continuing calibration (%D) (C)
12D176	SL-086-NBZ-SS-0.0-0.5	4,4'-DDE 4,4'-DDT	J (all detects) J (all detects)	A	Compound quantitation and RLs (RPD) (*XIII)
12D176	SL-087-NBZ-SS-0.0-0.5	4,4'-DDE	J (all detects)	A	Compound quantitation and RLs (RPD) (*XIII)
12D176	SL-017-NBZ-SS-0.0-0.5 SL-086-NBZ-SS-0.0-0.5 SL-087-NBZ-SS-0.0-0.5 SL-150-NBZ-SS-0.0-0.5 SL-178-NBZ-SS-0.0-0.5	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and RLs (Z)

Santa Susana Field Laboratory
Chlorinated Pesticides - Laboratory Blank Data Qualification Summary - SDG 12D176

No Sample Data Qualified in this SDG

Santa Susana Field Laboratory
Chlorinated Pesticides - Field Blank Data Qualification Summary - SDG 12D176

No Sample Data Qualified in this SDG

LDC #: 29230D3a

VALIDATION COMPLETENESS WORKSHEET

SDG #: 12D176

Level IV

Laboratory: EMAX Laboratories, Inc.

Date: 2/21/13

Page: 1 of 1

Reviewer: [illegible]

2nd Reviewer: [illegible]

METHOD: GC Chlorinated Pesticides (EPA SW846 Method 8081A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/19/12
II.	GC/ECD Instrument Performance Check	A	
III.	Initial calibration	A	% RSD ≤ 20
IV.	Continuing calibration/ICV	~~A~~ SW	ICV/CCV ≤ 20
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	SL-193-NBZ-SS-0.0-0.5
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional quality assurance and quality control	N	
X.	Florisil cartridge check	N	
XI.	GPC Calibration	N	
XII.	Target compound identification	A	
XIII.	Compound quantitation/RL/LOQ/LODs	SW	
XIV.	Overall assessment of data	A	
XV.	Field duplicates	N	
XVI.	Field blanks	ND	EB = EB-NBZ-SS-041712 SDG # 12D154

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

SOIL

4	1	SL-017-NBZ-SS-0.0-0.5	11		21		31	
5	2	SL-086-NBZ-SS-0.0-0.5	12		22		32	
7	3	SL-087-NBZ-SS-0.0-0.5	13		23		33	
8	4	SL-150-NBZ-SS-0.0-0.5	14		24		34	
9	5	SL-178-NBZ-SS-0.0-0.5	15		25		35	
	6		16		26		36	
	7		17		27		37	
	8		18		28		38	
	9		19		29		39	
	10		20		30		40	

Notes: _____

LDC #: 29230D3a
SDG #: see cover

VALIDATION FINDINGS CHECKLIST

Reviewer: RT
2nd Reviewer: A

Method: Pesticides/PCBs (EPA SW 846 Method 8081/8082)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. GC/ECD Instrument performance check				
Was the instrument performance found to be acceptable?	✓			
III. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Was a linear fit used for evaluation? If yes, were all percent relative standard deviations (%RSD) ≤ 20%?	✓			
Was a curve fit used for evaluation? If Yes, what was the acceptance criteria used?		✓		
Did the initial calibration meet the curve fit acceptance criteria?			✓	
Were the RT windows properly established?	✓			
Were the required standard concentrations analyzed in the initial calibration?	✓			
IV. Continuing calibration				
What type of continuing calibration calculation was performed? ___%D or ___%R	✓			
Were Evaluation mix standards analyzed prior to the initial calibration and sample analysis?	✓			
Were endrin and 4,4'-DDT breakdowns ≤ 15%.0 for individual breakdown in the Evaluation mix standards?	✓			
Was a continuing calibration analyzed daily?	✓			
Were all percent differences (%D) ≤ ~~15%.0~~ 20 or percent recoveries ~~85-115%?~~ 80-120	✓			
Were all the retention times within the acceptance windows?	✓			
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed for each matrix and concentration?	✓			
Were extract cleanup blanks analyzed with every batch requiring clean-up?			✓	
Was there contamination in the method blanks or clean-up blanks? If yes, please see the Blanks validation completeness worksheet.			✓	
VI. Surrogate spikes				
Were all surrogate %R within the QC limits?	✓			
If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R?			✓	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?			✓	

LDC #: 29230D3a
SDG #: all cores

VALIDATION FINDINGS CHECKLIST

Reviewer: [illegible]
2nd Reviewer: [illegible]

Validation Area	Yes	No	NA	Findings/Comments
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.	✓			
Was a MS/MSD analyzed every 20 samples of each matrix?	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?	✓			
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?			✓	
Were the performance evaluation (PE) samples within the acceptance limits?			✓	
X. Target compound identification				
Were the retention times of reported detects within the RT windows?	✓			
XI. Compound quantitation/CRQLs				
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions, dry weight factors, and clean-up activities applicable to level IV validation?	✓			
XII. System performance				
System performance was found to be acceptable.	✓			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XIV. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target compounds were detected in the field duplicates.			✓	
XV. Field blanks				
Field blanks were identified in this SDG.	✓	✓		
Target compounds were detected in the field blanks.		✓	✓	

VALIDATION FINDINGS WORKSHEET

METHOD: Pesticide/PCBs (EPASW 846 Method 8081/8082)

A. alpha-BHC	I. Dieldrin	Q. Endrin ketone	Y. Aroclor-1242	GG.
B. beta-BHC	J. 4,4'-DDE	R. Endrin aldehyde	Z. Aroclor-1248	HH.
C. delta-BHC	K. Endrin	S. alpha-Chlordane	AA. Aroclor-1254	II.
D. gamma-BHC	L. Endosulfan II	T. gamma-Chlordane	BB. Aroclor-1260	JJ.
E. Heptachlor	M. 4,4'-DDD	U. Toxaphene	CC. DB 608	KK.
F. Aldrin	N. Endosulfan sulfate	V. Aroclor-1016	DD. DB 1701	LL.
G. Heptachlor epoxide	O. 4,4'-DDT	W. Aroclor-1221	EE.	MM.
H. Endosulfan I	P. Methoxychlor	X. Aroclor-1232	FF.	NN.

Notes:_____

LDC #: 29230D3a

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Page: 1 of 1
Reviewer: FT
2nd Reviewer: [illegible]

METHOD: ✓ **GC** __ **HPLC**

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

What type of continuing calibration calculation was performed? __%D or __RPD

[✓ Y] N N/A Were continuing calibration standards analyzed at the required frequencies?

Y [✓ N] N/A Did the continuing calibration standards meet the %D / RPD validation criteria of ≤~~15.0~~ 20%?

Level IV Only

[✓ Y] N N/A Were the retention times for all calibrated compounds within their respective acceptance windows?

(c)

#	Date	Standard ID	Detector/ Column	Compound	%D / RPD (Limit ≤ ~~15.0~~) 20	RT (limit)	Associated Samples	Qualifications
	5/1/12	LE01005B/6B	STX-CLP2	P	22	( )	All	J/UJ/A
						( )		
						( )		
						( )		
						( )		
						( )		
						( )		
						( )		
						( )		
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						( )		
						( )		
						( )		

LDC #: 29230D3a

VALIDATION FINDINGS WORKSHEET
Compound Quantitation and Reported CRQLs

Reviewer: FT
2nd Reviewer:

METHOD: ✓ GC __ HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Level IV/D Only

Y N N/A Were CRQLs adjusted for sample dilutions, dry weight factors, etc.?

Y N N/A Did the reported results for detected target compounds agree within 10.0% of the recalculated results?

* X111

#	Compound Name	% RPD Bet 2 Col Finding ≤ 40	Associated Samples	Qualifications
	J	90	2	J/A det
	δ	55		
	J	48	3	J/A det

Comments: See sample calculation verification worksheet for recalculations

LDC #: 29230D3q
SDG #: per cover

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: JMG
2nd Reviewer: [illegible]

METHOD: GC ✓ HPLC ____

The calibration Factor (CF), average CF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

CF = A/C
average CF = sum of the CF/number of standards
%RSD = 100 * (S/X)

A = Area of compound,
C = Concentration of compound,
S = Standard deviation of the CF
X = Mean of the CFs

#	Standard ID	Calibration Date	Compound	Reported CF (20 std)	Recalculated CF (20 std)	Reported Average CF (initial)	Recalculated Average CF (initial)	Reported %RSD	Recalculated %RSD
1	ICAL	4/20/12	endosulfan I RTXCLP1	160703	160703	159658	159658	4.4	4.4
			Methoxychlor	58974	58974	56321.6	56321.6	15.1	15.1
2			↓ RTXCLP2	123297	123297	125787.5	125787.5	2.4	2.4
				52856	52856	50875.7	50875.7	9.9	9.9
3									
4									

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 29230P39
SDG #: per cover

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC ✓ HPLC ____

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration CF were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. CF - CF)/ave. CF
CF = A/C

Where: ave. CF = initial calibration average CF
CF = continuing calibration CF
A = Area of compound
C = Concentration of compound

#	Standard ID	Calibration Date	Compound	Average CF(Ical)/ CCV Conc.	Reported CF/Conc. CCV	Recalculated CF/Conc. CCV	Reported %D	Recalculated %D
1	LE01005A	5/1/12	endosulfan I / RTXclP1	20.0	19.07	19.07	5	5
			methoxychlor	200.0	169.04	169.04	15	15
			RTXclP2	20.0	18.63	18.63	7	7
2			↓	20.0	15.86	15.86	22	22
3								
4								

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 29230039
SDG #: see cover

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Reviewer: EB
2nd reviewer: CR

METHOD: ✓ **GC** __ **HPLC**

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: #1

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
TCMX	RTX cl-pcb 2	40	35.032	87.6	87.6	0
DCB	RTX cl-pcb 1	↓	23.197	58.0	58.0	0

Sample ID: _____

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	

Sample ID: _____

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	

LDC #: 29230D39
SDG #: pw cover

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample/Laboratory Control Sample Duplicate Results Verification

Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

The percent recoveries (%R) and Relative Percent difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100* (SSC-SC)/SA

Where: SSC = Spiked sample concentration
SA = Spike added
SC = Concentration

RPD = I LCS - LCSD I * 2/(LCS + LCSD)

LCS = Laboratory control sample percent recovery
LCSD = Laboratory control sample duplicate percent recovery

LCS/LCSD samples: LCS ID

Compound	Spike Added (ug/kg)		Spiked Sample Concentration (ug/kg)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
gamma-BHC	2.67	2.67	2.28	2.39	85	85	90	90	5	5
4,4'-DDT	↓	↓	2.75	2.82	103	103	106	106	3	3

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 29230D3s
SDG #: see cover

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: JD
2nd Reviewer: [illegible]

METHOD: __ GC __ HPLC

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds within 10% of the reported results?

Concentration= (A)(Fv)(Df) / (RF)(Vs or Ws)(%S/100)

A= Area or height of the compound to be measured
Fv= Final Volume of extract
Df= Dilution Factor
RF= Average response factor of the compound In the initial calibration
Vs= Initial volume of the sample
Ws= Initial weight of the sample
%S= Percent Solid

Example:

Sample ID. # 1 Compound Name 4,4'DDE

Concentration = $\frac{(2609733)(4)}{(114301.6)(30)(0.703)}$

= 4.3 ug/kg

#	Sample ID	Compound	Reported Concentrations ( )	Recalculated Results Concentrations ( )	Qualifications

Comments: _____

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Santa Susana Field Laboratory
Collection Date:	April 19, 2012
LDC Report Date:	February 27, 2013
Matrix:	Soil
Parameters:	Polychlorinated Biphenyls
Validation Level:	Level IV
Laboratory:	EMAX Laboratories, Inc.
Sample Delivery Group (SDG):	12D176

Sample Identification

SL-017-NBZ-SS-0.0-0.5
SL-086-NBZ-SS-0.0-0.5
SL-087-NBZ-SS-0.0-0.5
SL-150-NBZ-SS-0.0-0.5
SL-178-NBZ-SS-0.0-0.5
SL-179-NBZ-SS-0.0-0.5

Introduction

This data review covers 6 soil samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8082 for Polychlorinated Biphenyls.

This review follows the Quality Assurance Project Plan for Santa Susana Field Laboratory (SSFL), RCRA Facility Investigation, Surficial Media Operable Unit (March 2009, Revision 4) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

NJ Presumptive evidence of presence of the compound at an estimated quantity.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/ECD Instrument Performance Check

Instrument performance was acceptable unless noted otherwise under initial calibration and continuing calibration sections.

III. Initial Calibration

Initial calibration of multicomponent compounds was performed for the primary (quantitation) column as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

Retention time windows were evaluated and considered technically acceptable.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 20.0% QC limits with the following exceptions:

Date	Standard	Column	Compound	%D	Associated Samples	Affected Compound	Flag	A or P
5/12/12	KE11028A	ZB-M-1	Aroclor-1260	24	MBLK1S	Aroclor-1260 Aroclor-1242 Aroclor-1248	J (all detects) UJ (all non-detects)	A
5/12/12	KE11030B	ZB-M-2	Aroclor-5460	50	MBLK1S	Aroclor-5460 Aroclor-5432 Aroclor-5442	J (all detects) UJ (all non-detects)	A
5/12/12	KE11041A	ZB-M-1	Aroclor-1260	26	SL-017-NBZ-SS-0.0-0.5 SL-086-NBZ-SS-0.0-0.5 SL-087-NBZ-SS-0.0-0.5 SL-150-NBZ-SS-0.0-0.5 SL-178-NBZ-SS-0.0-0.5 SL-179-NBZ-SS-0.0-0.5	Aroclor-1260 Aroclor-1242 Aroclor-1248	J (all detects) UJ (all non-detects)	A

The percent difference (%D) of the second source calibration standard were less than or equal to 20.0% for all compounds.

Retention times (RT) of all compounds in the calibration standards were within QC limits.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated biphenyl contaminants were found in the method blanks.

Sample EB-NBZ-SS-041712 (from SDG 12D154) was identified as an equipment blank. No polychlorinated biphenyl contaminants were found.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

XI. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XII. Target Compound Identification

All target compound identifications were within validation criteria.

XIII. Compound Quantitation and RLs

All compound quantitation and RLs were within validation criteria.

The sample results for detected compounds from the two columns were within 40% relative percent difference (RPD) with the following exceptions:

Sample	Compound	RPD	Flag	A or P
SL-086-NBZ-SS-0.0-0.5	Aroclor-1254	57	J (all detects)	A
SL-087-NBZ-SS-0.0-0.5	Aroclor-1254	61	J (all detects)	A

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 12D176	All compounds reported below the RL.	J (all detects)	A

XIV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XV. Field Duplicates

No field duplicates were identified in this SDG.

Santa Susana Field Laboratory
Polychlorinated Biphenyls - Data Qualification Summary - SDG 12D176

SDG	Sample	Compound	Flag	A or P	Reason (Code)
12D176	SL-017-NBZ-SS-0.0-0.5 SL-086-NBZ-SS-0.0-0.5 SL-087-NBZ-SS-0.0-0.5 SL-150-NBZ-SS-0.0-0.5 SL-178-NBZ-SS-0.0-0.5 SL-179-NBZ-SS-0.0-0.5	Aroclor-1260 Aroclor-1242 Aroclor-1248	J (all detects) UJ (all non-detects)	A	Continuing calibration (%D) (C)
12D176	SL-086-NBZ-SS-0.0-0.5 SL-087-NBZ-SS-0.0-0.5	Aroclor-1254	J (all detects)	A	Compound quantitation and RLs (RPD) (*XIII)
12D176	SL-017-NBZ-SS-0.0-0.5 SL-086-NBZ-SS-0.0-0.5 SL-087-NBZ-SS-0.0-0.5 SL-150-NBZ-SS-0.0-0.5 SL-178-NBZ-SS-0.0-0.5 SL-179-NBZ-SS-0.0-0.5	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and RLs (Z)

Santa Susana Field Laboratory
Polychlorinated Biphenyls - Laboratory Blank Data Qualification Summary - SDG 12D176

No Sample Data Qualified in this SDG

Santa Susana Field Laboratory
Polychlorinated Biphenyls - Field Blank Data Qualification Summary - SDG 12D176

No Sample Data Qualified in this SDG

LDC #: 29230D3b

SDG #: 12D176

Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level IV

Date: 2/21/13

Page: 1 of 7

Reviewer: PJ

2nd Reviewer: A

METHOD: GC Polychlorinated Biphenyls (EPA SW 846 Method 8082)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/19/12
II.	GC/ECD Instrument Performance Check	NA	
III.	Initial calibration	A	%D RSD ≤ 20
IV.	Continuing calibration/ICV	SW	ICV/CCV ≤ 20
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	SL-193-NBZ-SS-0.0-0.5 MS/D
VIII.	Laboratory control samples	A	MS/D
IX.	Regional quality assurance and quality control	N	
X.	Florisil cartridge check	N	
XI.	GPC Calibration	N	
XII.	Target compound identification	A	
XIII.	Compound quantitation/RL/LOQ/LODs	SW	
XIV.	Overall assessment of data	A	
XV.	Field duplicates	N	
XVI.	Field blanks	ND	EB = ~~EB-NBZ-SB-04/17/12~~ = EB-NBZ-SS-04/17/12

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

SDG # 12P152

Validated Samples:

SOIL

1	SL-017-NBZ-SS-0.0-0.5	11	MBLK15	21		31	
2	SL-086-NBZ-SS-0.0-0.5	12		22		32	
3	SL-087-NBZ-SS-0.0-0.5	13		23		33	
4	SL-150-NBZ-SS-0.0-0.5	14		24		34	
5	SL-178-NBZ-SS-0.0-0.5	15		25		35	
6	SL-179-NBZ-SS-0.0-0.5	16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 29230D36
SDG #: all waters

VALIDATION FINDINGS CHECKLIST

Page: 1 of 2
Reviewer: FD
2nd Reviewer: A

Method: ✓ GC _____ HPLC

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) ≤ 20%?	✓			
Was a curve fit used for evaluation?		✓		
Did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?			✓	
Were the RT windows properly established?	✓			
IV. Continuing calibration				
Was a continuing calibration analyzed daily?	✓			
Were all percent differences (%D) ≤ 20%.0 or percent recoveries 80-120%?	✓			
Were all the retention times within the acceptance windows?	✓			
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed for each matrix and concentration?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Surrogate spikes				
Were all surrogate %R within the QC limits?	✓			
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?			✓	
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.	✓			
Was a MS/MSD analyzed every 20 samples of each matrix?	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?	✓			
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?			✓	
Were the performance evaluation (PE) samples within the acceptance limits?			✓	

LDC #: 29230836
SDG #: per cover

VALIDATION FINDINGS CHECKLIST

Reviewer: FJ
2nd Reviewer: A

Validation Area	Yes	No	NA	Findings/Comments
X. Target compound identification				
Were the retention times of reported detects within the RT windows?	✓			
XI. Compound quantitation/CRQLs				
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XII. System performance				
System performance was found to be acceptable.	✓			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XIV. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target compounds were detected in the field duplicates.			✓	
XV. Field blanks				
Field blanks were identified in this SDG.	✓	✓		
Target compounds were detected in the field blanks.		✓	✓	

VALIDATION FINDINGS WORKSHEET

METHOD: Pesticide/PCBs (EPASW 846 Method 8081/8082)

A. alpha-BHC	I. Dieldrin	Q. Endrin ketone	Y. Aroclor-1242	GG.
B. beta-BHC	J. 4,4'-DDE	R. Endrin aldehyde	Z. Aroclor-1248	HH.
C. delta-BHC	K. Endrin	S. alpha-Chlordane	AA. Aroclor-1254	II.
D. gamma-BHC	L. Endosulfan II	T. gamma-Chlordane	BB. Aroclor-1260	JJ.
E. Heptachlor	M. 4,4'-DDD	U. Toxaphene	CC. DB 608	KK.
F. Aldrin	N. Endosulfan sulfate	V. Aroclor-1016	DD. DB 1701	LL.
G. Heptachlor epoxide	O. 4,4'-DDT	W. Aroclor-1221	EE.	MM.
H. Endosulfan I	P. Methoxychlor	X. Aroclor-1232	FF.	NN.

Notes:_____

LDC #: 29230036

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Page: 1 of 1
Reviewer: FT
2nd Reviewer:

METHOD: ✓ GC __ HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
What type of continuing calibration calculation was performed? ___%D or ___RPD
Y N N/A Were continuing calibration standards analyzed at the required frequencies?
Y N N/A Did the continuing calibration standards meet the %D / RPD validation criteria of ≤15.0%?
Level IV Only
Y N N/A Were the retention times for all calibrated compounds within their respective acceptance windows?

code = C

#	Date	Standard ID	Detector/ Column	Compound	%D / RPD (Limit ≤ 15.0) 20	RT (limit)	Associated Samples	Qualifications
	5/12/12	KE110281A	ZB-M-1	BB	24	( )	MB415	J/UJ/A
						( )		qual BB, Y, Z
						( )		
						( )		
	5/12/12	KE110301B	ZB-M-2	Aroclor 5460	50	( )	↓	J/UJ/A
						( )		qual Aroclor 5460
						( )		5432
						( )		5442
	5/12/12	KE110411A	ZB-M-1	BB	26	( )	All except BLK	
						( )		J/UJ/A qual
						( )		BB, Y, Z
						( )		
						( )		
						( )		
						( )		
						( )		
						( )		
						( )		
						( )		
						( )		
						( )		
						( )		
						( )		
						( )		
						( )		

LDC #: 27230D3b

VALIDATION FINDINGS WORKSHEET
Compound Quantitation and Reported CRQLs

Reviewer: FT
2nd Reviewer: CA

METHOD: ✓ **GC** __ **HPLC**

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Level IV/D Only

Y N N/A Were CRQLs adjusted for sample dilutions, dry weight factors, etc.? * X III

Y N N/A Did the reported results for detected target compounds agree within 10.0% of the recalculated results?

#	Compound Name	Finding (% RPD Bet 2 col ≤ 40)	Associated Samples	Qualifications
	Aroclor 1254	57	2	J/A dq
	(AA)			
	↓	61	3	↓

Comments: See sample calculation verification worksheet for recalculations

LDC #: 29230P3b
SDG #: [illegible]

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
Reviewer: FJ
2nd Reviewer: [illegible]

METHOD: GC ✓ HPLC _____

The calibration Factor (CF), average CF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

CF = A/C
average CF = sum of the CF/number of standards
%RSD = 100 * (S/X)

A = Area of compound,
C = Concentration of compound,
S = Standard deviation of the CF
X = Mean of the CFs

#	Standard ID	Calibration Date	Compound	Reported CF (50 std)	Recalculated CF (50std)	Reported Average CF (initial)	Recalculated Average CF (initial)	Reported %RSD	Recalculated %RSD
1	ICAL	2/29/12	ZB-Multiresidue 1 ✓	3697.26	3697.26	3671.742	3671.742	7.5	7.5
			PCB 1260-1 ✓						
2			ZB Multiresidue 2						
			PCB 1260-1	9860	9860	10079.1	10079.1	18.5	18.5
3									
4									

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 29230D3b
SDG #: fw cover

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Page: 1 of 7
Reviewer: EJ
2nd Reviewer:

METHOD: GC ✓ HPLC ____

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration CF were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. CF - CF)/ave. CF
CF = A/C

Where: ave. CF = initial calibration average CF
CF = continuing calibration CF
A = Area of compound
C = Concentration of compound

#	Standard ID	Calibration Date	Compound	Average CF(Ical)/ CCV Conc.	Reported CF/Conc. CCV	Recalculated CF/Conc. CCV	Reported %D	Recalculated %D
1	KE 110288	5/12/12	PCB 1260	500.0	618.424	618.424	24	24
2								
3								
4								

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: [illegible]
SDG #: see cover

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Reviewer: FT
2nd reviewer: [illegible]

METHOD: ✓ GC __ HPLC

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: #1

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
	ZB- Multi-Residue			Reported	Recalculated	
DCB	~~SF~~ 1	40	38.63	96.5	96.5	0
TCMX	↓	↓	40.77	102	102	0

Sample ID: _____

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	

Sample ID: _____

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	

LDC #: 29230D35
SDG #: MU cover

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample/Laboratory Control Sample Duplicate Results Verification

Reviewer: F
2nd Reviewer: A

METHOD: (GC __HPLC

The percent recoveries (%R) and Relative Percent difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100* (SSC-SC)/SA
RPD = | LCS - LCSD | * 2/(LCS + LCSD)

Where: SSC = Spiked sample concentration
SA = Spike added
LCS = Laboratory control sample percent recovery
SC = Concentration
LCSD = Laboratory control sample duplicate percent recovery

LCS/LCSD samples: LCS ID

Compound	Spike Added (ug/kg)		Spiked Sample Concentration (ug/kg)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline (8015)										
Diesel (8015)										
Benzene (8021B)										
Methane (RSK-175)										
2,4-D (8151)										
Dinoseb (8151)										
Naphthalene (8310)										
Anthracene (8310)										
HMX (8330)										
2,4,6-Trinitrotoluene (8330)										
Aroclor-1260	66.7	66.7	55.3	52.4	83	83	79	79	5	5

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 29230D03b
SDG #: [illegible]

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: ✓ GC __ HPLC

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds within 10% of the reported results?

Concentration= (A)(Fv)(Df) / (RF)(Vs or Ws)(%S/100)

A= Area or height of the compound to be measured
Fv= Final Volume of extract
Df= Dilution Factor
RF= Average response factor of the compound in the initial calibration
Vs= Initial volume of the sample
Ws= Initial weight of the sample
%S= Percent Solid

Example:

Sample ID. #2 Compound Name Aroclor 1254

1254-1
Concentration = (70469)(X) / (11388.1)(30.03)

= 6.19 ug/kg

#	Sample ID	Compound	Reported Concentrations ( )	Recalculated Results Concentrations ( )	Qualifications
	1254-1 =	6.19	[illegible] / concentration		
	-2 =	9.48	=	(41.69)(4)	
	-3 =	11.91		(30.03)(0.774)	
	-4 =	4.18			
	-5 =	9.93	=	7.2 ug/kg	
	Total =	41.69			

Comments: _____

SAMPCALew.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Santa Susana Field Laboratory

Collection Date: April 19, 2012

LDC Report Date: March 1, 2013

Matrix: Soil

Parameters: Metals

Validation Level: Level IV

Laboratory: EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 12D176

Sample Identification

SL-017-NBZ-SS-0.0-0.5
SL-086-NBZ-SS-0.0-0.5
SL-087-NBZ-SS-0.0-0.5
SL-150-NBZ-SS-0.0-0.5
SL-178-NBZ-SS-0.0-0.5
SL-179-NBZ-SS-0.0-0.5

Introduction

This data review covers 6 soil samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6020 and 7471A for Metals. The metals analyzed were Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, and Zirconium.

This review follows the Quality Assurance Project Plan for Santa Susana Field Laboratory (SSFL), RCRA Facility Investigation, Surficial Media Operable Unit (March 2009, Revision 4) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review (January 2010).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

NJ Presumptive evidence of presence of the compound at an estimated quantity.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. ICPMS Tune

The mass calibration was within 0.1 AMU and the percent relative standard deviation (%RSD) was less than or equal to 5% .

III. Calibration

An initial calibration was performed.

The frequency and analysis criteria of the initial calibration verification (ICV) and continuing calibration verification (CCV) were met.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No metal contaminants were found in the initial, continuing and preparation blanks.

Sample EB-NBZ-SS-041712 (from SDG 12D154) was identified as an equipment blank. No metal contaminants were found with the following exceptions:

Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
EB-NBZ-SS-041712	4/17/12	Copper Calcium Nickel	0.000613 mg/L 0.0492 mg/L 0.000255 mg/L	All samples in SDG 12D176

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks.

V. ICP Interference Check Sample (ICS) Analysis

The frequency of analysis was met.

The criteria for analysis were met.

VI. Matrix Spike Analysis

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Analyte	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
SL-193-NBZ-SS-0.0-0.5MS/MSD (All samples in SDG 12D176)	Antimony	73 (75-125)	-	-	J (all detects) UJ (all non-detects)	A
	Zirconium	43 (75-125)	47 (75-125)	-	J (all detects) UJ (all non-detects)	

VII. Duplicate Sample Analysis

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Internal Standards

All internal standard percent recoveries (%R) were within QC limits.

X. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

XI. ICP Serial Dilution

ICP serial dilution analysis was performed by the laboratory. The analysis criteria were met.

XII. Sample Result Verification

All sample result verifications were acceptable.

All metals reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 12D176	All analytes reported below the RL and above the MDL.	J (all detects)	A

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

Santa Susana Field Laboratory
Metals - Data Qualification Summary - SDG 12D176

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
12D176	SL-017-NBZ-SS-0.0-0.5 SL-086-NBZ-SS-0.0-0.5 SL-087-NBZ-SS-0.0-0.5 SL-150-NBZ-SS-0.0-0.5 SL-178-NBZ-SS-0.0-0.5 SL-179-NBZ-SS-0.0-0.5	Antimony Zirconium	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	A	Matrix spike/Matrix spike duplicate (%R) (Q)
12D176	SL-017-NBZ-SS-0.0-0.5 SL-086-NBZ-SS-0.0-0.5 SL-087-NBZ-SS-0.0-0.5 SL-150-NBZ-SS-0.0-0.5 SL-178-NBZ-SS-0.0-0.5 SL-179-NBZ-SS-0.0-0.5	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (Z)

Santa Susana Field Laboratory
Metals - Laboratory Blank Data Qualification Summary - SDG 12D176

No Sample Data Qualified in this SDG

Santa Susana Field Laboratory
Metals - Field Blank Data Qualification Summary - SDG 12D176

No Sample Data Qualified in this SDG

LDC #: 29230D4

SDG #: 12D176

Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

~~ADR~~/IV

7471A

Date: 2/22/13

Page: 1 of 1

Reviewer:

2nd Reviewer:

METHOD: Metals (EPA SW 846 Method 6020/~~7000~~)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/19/12
II.	ICP/MS Tune	A	
III.	Calibration	A	
IV.	Blanks	A	
V.	ICP Interference Check Sample (ICS) Analysis	A	
VI.	Matrix Spike Analysis	SW	Not reviewed for ADR validation. MS/D (Fe, Mn, Ti 7x)
VII.	Duplicate Sample Analysis	N	Not reviewed for ADR validation.
VIII.	Laboratory Control Samples (LCS)	A	Not reviewed for ADR validation. LCS/D
IX.	Internal Standard (ICP-MS)	A	Not reviewed for ADR validation.
X.	Furnace Atomic Absorption QC	N	Not reviewed for ADR validation.
XI.	ICP Serial Dilution	A	
XII.	Sample Result Verification	A	Not reviewed for ADR validation.
XIII.	Overall Assessment of Data	A	Not reviewed for ADR validation.
XIV.	Field Duplicates	N	~~(10,11)~~
XV	Field Blanks	SW	EB = EB-NBZ-SS-041712 \ 12D154 = ~~EB-NBZ-SS-041712~~

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: ** Indicates sample underwent Level IV validation

soil

1	SL-012-NBZ-SS-0.0-0.5	11	~~DUP-09-NBZ-QC-041912~~	21		31	
~~2~~	~~SL-012-NBZ-SB-0.5-1.5~~	12	SL-193-NBZ-SS-0.0-0.5MS	22		32	
3	SL-017-NBZ-SS-0.0-0.5**	13	~~SL-193-NBZ-SS-0.0-0.5MSD~~	23		33	
4	SL-086-NBZ-SS-0.0-0.5**	14		24		34	
5	SL-087-NBZ-SS-0.0-0.5**	15		25		35	
6	SL-150-NBZ-SS-0.0-0.5**	16		26		36	
7	SL-178-NBZ-SS-0.0-0.5**	17		27		37	
8	SL-179-NBZ-SS-0.0-0.5**	18		28		38	
~~9~~	~~SL-184-NBZ-SS-0.0-0.5~~	19		29		39	
~~10~~	~~SL-193-NBZ-SS-0.0-0.5~~	20		30		40	

Notes:

LDC #: 29230D4

VALIDATION FINDINGS CHECKLIST

Page: 1 of 2
Reviewer: CR
2nd Reviewer: W

Method: Metals (EPA SW 846 Method 6010B/7000/6020)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. ICP/MS Tune				
Were all isotopes in the tuning solution mass resolution within 0.1 amu?	✓			
Were %RSD of isotopes in the tuning solution ≤5%?	✓			
III. Calibration				
Were all instruments calibrated daily, each set-up time?	✓			
Were the proper number of standards used?	✓			
Were all initial and continuing calibration verification %Rs within the 90-110% (80-120% for mercury) QC limits?	✓			
Were all initial calibration correlation coefficients ≥ 0.995?	✓			
IV. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
V. ICP Interference Check Sample				
Were ICP interference check samples performed daily?	✓			
Were the AB solution percent recoveries (%R) with the 80-120% QC limits?	✓			
VI. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water.	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 75-125 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.		✓		
Were the MS/MSD or duplicate relative percent differences (RPD) ≤ 20% for waters and ≤ 35% for soil samples? A control limit of +/- RL(+/-2X RL for soil) was used for samples that were ≤ 5X the RL, including when only one of the duplicate sample values were ≤ 5X the RL.	✓			
VII. Laboratory control samples				
Was an LCS anaylzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 80-120% QC limits for water samples and laboratory established QC limits for soils?	✓			

LDC #: 29923D4

VALIDATION FINDINGS CHECKLIST

Reviewer: GR
2nd Reviewer: W

Validation Area	Yes	No	NA	Findings/Comments
VIII. Furnace Atomic Absorption QC				
If MSA was performed, was the correlation coefficients > 0.995?			✓	
Do all applicable analysies have duplicate injections? (Level IV only)			✓	
For sample concentrations > RL, are applicable duplicate injection RSD values < 20%? (Level IV only)			✓	
Were analytical spike recoveries within the 85-115% QC limits?			✓	
IX. ICP Serial Dilution				
Was an ICP serial dilution analyzed if analyte concentrations were > 50X the MDL (ICP)/>100X the MDL(ICP/MS)?	✓			
Were all percent differences (%Ds) < 10%?	✓			
Was there evidence of negative interference? If yes, professional judgement will be used to qualify the data.		✓		
X. Internal Standards (EPA SW 846 Method 6020/EPA 200.8)				
Were all the percent recoveries (%R) within the 30-120% (6020)/60-125% (200.8) of the intensity of the internal standard in the associated initial calibration?	✓			
If the %Rs were outside the criteria, was a reanalysis performed?	✓			
XI. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		✓		
Were the performance evaluation (PE) samples within the acceptance limits?			✓	
XII. Sample Result Verification				
Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XIV. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target analytes were detected in the field duplicates.			✓	
XV. Field blanks				
Field blanks were identified in this SDG.	✓			
Target analytes were detected in the field blanks.	✓			

LDC #: 2923004

VALIDATION FINDINGS WORKSHEET
Sample Specific Element Reference

Page: 1 of 1
Reviewer: CR
2nd reviewer: [illegible]

All circled elements are applicable to each sample.

Sample ID	Matrix	Target Analyte List (TAL)
All		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr
QC:12,13		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr
Analysis Method		
ICP		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr
ICP-MS		Al, Sb, As, ~~Ba, Be, B, Cd, Ca~~, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr

Comments: Mercury by CVAA if performed

LDC #: 29230D4

VALIDATION FINDINGS WORKSHEET
Field Blanks

Page: 1 of 1
Reviewer: CL
2nd Reviewer: VV

METHOD: Trace Metals (EPA SW846 6010B/7000)

Blank units: mg/L **Associated sample units:** mg/Kg
Sampling date: 4/17/12 Soil factor applied 100x
Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: ~~EB-NBZ-SB-041712=2 EB-NBZ-SS-041712= 1, 3-11~~ All CL

Analyte	Blank ID	Blank ID	Sample Identification											
	~~EB-NBZ-SB-041712~~	EB-NBZ-SS-041712	Action Limit	No Qualifiers (>5x)										
~~Al~~	~~0.0217~~		10.85 CL											
Cu	~~0.000894~~ CL	0.000613	0.445											
Ca		0.0492	24.6											
Ni		0.000255	0.1											

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

LDC #: 24020D4

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Page: 1 of 1
Reviewer: CR
2nd Reviewer: [signature]

METHOD: Trace metals (EPA SW 846 Method 6010/6020/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Was a matrix spike analyzed for each matrix in this SDG?

Y (N) N/A Were matrix spike percent recoveries (%R) within the control limits of 75-125? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.

(Y) N N/A Were all duplicate sample relative percent differences (RPD) ≤ 20% for water samples and ≤35% for soil samples?

LEVEL IV ONLY:

Y N (N/A) Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

(Q)

#	MS/MSD ID	Matrix	Analyte	MS %Recovery	MSD %Recovery	RPD (Limits)	Associated Samples	Qualifications
	12/13	S	Sb	73			All	J/UJ/A
			Zr	43	47		↓	↓

Comments: Fe, Mn, Ti 74X

MSD.4SW

LDC #: 29230D7

VALIDATION FINDINGS WORKSHEET
Initial and Continuing Calibration Calculation Verification

Reviewer: GR
2nd Reviewer: LV

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

An initial and continuing calibration verification percent recovery (%R) was recalculated for each type of analysis using the following formula:

%R = Found x 100 / True

Where, Found = concentration (in ug/L) of each analyte measured in the analysis of the ICV or CCV solution
True = concentration (in ug/L) of each analyte in the ICV or CCV source

Standard ID	Type of Analysis	Element	Found (ug/L)	True (ug/L)	Recalculated %R	Reported %R	Acceptable (Y/N)
	ICP (Initial calibration)						
FCV	ICP/MS (Initial calibration)	Ti	31.74	30	106	106	Y
ICV	CVAA (Initial calibration)	Hg	2.12	2	106	—	↓
	ICP (Continuing calibration)						
CCV6	ICP/MS (Continuing calibration)	Se	25.58	25	102	102	↓
CCV2	CVAA (Continuing calibration)	Hg	5.1	5	102	—	↓
	GFAA (Initial calibration)						
	GFAA (Continuing calibation)						

Comments: Refer to Calibration Verification findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 29230D9

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

Page: 1 of 1
Reviewer: 9R
2nd Reviewer: LA

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

Percent recoveries (%R) for an ICP interference check sample, a laboratory control sample and a matrix spike sample were recalculated using the following formula:

$\%R = \frac{Found}{True} \times 100$

Where, Found = Concentration of each analyte measured in the analysis of the sample. For the matrix spike calculation, Found = SSR (spiked sample result) - SR (sample result).
True = Concentration of each analyte in the source.

A sample and duplicate relative percent difference (RPD) was recalculated using the following formula:

$RPD = \frac{|S-D|}{(S+D)/2} \times 100$

Where, S = Original sample concentration
D = Duplicate sample concentration

An ICP serial dilution percent difference (%D) was recalculated using the following formula:

$\%D = \frac{|I-SDR|}{I} \times 100$

Where, I = Initial Sample Result (mg/L)
SDR = Serial Dilution Result (mg/L) (Instrument Reading x 5)

Sample ID	Type of Analysis	Element	Found / S / I (units)	True / D / SDR (units)	Recalculated %R / RPD / %D	Reported %R / RPD / %D	Acceptable (Y/N)
ICSAB	ICP interference check	Mn	18.4	20	92	92	Y
LCS	Laboratory control sample	Pb	25.6	25	103	103	
12	Matrix spike	Se	(SSR-SR) 25.6	26.9	95	95	
12/13	Duplicate	Mo	26.7	28.1	5	5	
10	ICP serial dilution	Ba	77.5	76.5	1	1	

Comments: Refer to appropriate worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 29230D4

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: CR
2nd reviewer: [signature]

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Have results been reported and calculated correctly?
Y N N/A Are results within the calibrated range of the instruments and within the linear range of the ICP?
Y N N/A Are all detection limits below the CRDL?

Detected analyte results for As were recalculated and verified using the following equation:

Concentration = $\frac{(RD)(FV)(Dil)}{(In.\ Vol.)}$

RD = Raw data concentration
FV = Final volume (ml)
In. Vol. = Initial volume (ml) or weight (G)
Dil = Dilution factor

Recalculation:

$$\frac{100mL(10)(5.03\ mg/L)}{0.703(2.07g)(1000)} = 3.457\ mg/kg$$

#	Sample ID	Analyte	Reported Concentration (mg/kg)	Calculated Concentration (mg/kg)	Acceptable (Y/N)
	3	Al	9990	9990	Y
		Sb	0.330	0.330	
		As	3.46	3.46	
		Ba	106	106	
		Be	0.427	0.427	
		B	22.8	22.8	
		Cd	0.284	0.284	
		Ca	13400	13400	
		Cr	15.8	15.8	
		Co	5.40	5.40	
		Cu	10.6	10.6	
		Fe	18300	18300	
		Pb	16.8	16.8	
		Mg	6510	6510	
		Mn	370	370	
		Mo	0.717	0.717	
		Ni	11.9	11.9	
		K	3540	3540	
		Se	0.288	0.288	
		Ag	0.0954	0.0954	
		Na	124	124	
		Sr	41.2	41.2	
		Tl	0.222	0.222	
		Ti	905	905	
		V	34.5	34.5	
		Zn	68.8	68.8	
		Li	24.1	24.1	
		P	532	532	

Note:

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Santa Susana Field Laboratory

Collection Date: April 19, 2012

LDC Report Date: February 27, 2013

Matrix: Soil

Parameters: Herbicides

Validation Level: Level IV

Laboratory: EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 12D176

Sample Identification

SL-017-NBZ-SS-0.0-0.5
SL-086-NBZ-SS-0.0-0.5
SL-087-NBZ-SS-0.0-0.5
SL-150-NBZ-SS-0.0-0.5
SL-178-NBZ-SS-0.0-0.5

Introduction

This data review covers 5 soil samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8151A for Herbicides.

This review follows the Quality Assurance Project Plan for Santa Susana Field Laboratory (SSFL), RCRA Facility Investigation, Surficial Media Operable Unit (March 2009, Revision 4) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

NJ Presumptive evidence of presence of the compound at an estimated quantity.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

All target compound identifications were within validation criteria.

IX. Compound Quantitation and RLs

All compound quantitation and RLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 12D176	All compounds reported below the RL.	J (all detects)	A

X. System Performance

The system performance was acceptable.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

Santa Susana Field Laboratory
Herbicides - Data Qualification Summary - SDG 12D176

SDG	Sample	Compound	Flag	A or P	Reason (Code)
12D176	SL-017-NBZ-SS-0.0-0.5 SL-086-NBZ-SS-0.0-0.5 SL-087-NBZ-SS-0.0-0.5 SL-150-NBZ-SS-0.0-0.5 SL-178-NBZ-SS-0.0-0.5	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and RLs (Z)

Santa Susana Field Laboratory
Herbicides - Laboratory Blank Data Qualification Summary - SDG 12D176

No Sample Data Qualified in this SDG

Santa Susana Field Laboratory
Herbicides - Field Blank Data Qualification Summary - SDG 12D176

No Sample Data Qualified in this SDG

LDC #: 29230D5 **VALIDATION COMPLETENESS WORKSHEET** Date: 2/22/13
SDG #: 12D176 Level IV Page: 1 of 1
Laboratory: EMAX Laboratories, Inc. Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC Herbicides (EPA SW 846 Method 8151A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/19/12
II	Initial calibration	A	%D RSD ≤20
III.	Calibration verification/ICV	A	ICV/CCV ≤20
IV.	Blanks	A	
V	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	A	SL-193-NBZ-SS-0.0-0.5MS/D
VII.	Laboratory control samples	A	LCS/D
VIII.	Target compound identification	A	
IX.	Compound quantitation/RL/LOQ/LODs	A	
X.	System Performance	A	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	ND	EB = EB-NBZ-SS-041712 SDG # 12D154

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: SOIL

4	1	SL-017-NBZ-SS-0.0-0.5	11		21		31	
5	2	SL-086-NBZ-SS-0.0-0.5	12		22		32	
7	3	SL-087-NBZ-SS-0.0-0.5	13		23		33	
8	4	SL-150-NBZ-SS-0.0-0.5	14		24		34	
9	5	SL-178-NBZ-SS-0.0-0.5	15		25		35	
	6		16		26		36	
	7		17		27		37	
	8		18		28		38	
	9		19		29		39	
	10		20		30		40	

Notes: _____

LDC #: 29230D5
SDG #: per cover

VALIDATION FINDINGS CHECKLIST

Page: 1 of 2
Reviewer: FP
2nd Reviewer: A

Method: ✓ GC ____ HPLC

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) ≤ 20%?	✓			
Was a curve fit used for evaluation?		✓		
Did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?			✓	
Were the RT windows properly established?				
IV. Continuing calibration				
Was a continuing calibration analyzed daily?	✓			
Were all percent differences (%D) ≤ 20%.0 or percent recoveries 80-120%?	✓			
Were all the retention times within the acceptance windows?	✓			
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed for each matrix and concentration?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Surrogate spikes				
Were all surrogate %R within the QC limits?	✓			
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?			✓	
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.	✓			
Was a MS/MSD analyzed every 20 samples of each matrix?	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?	✓			
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?			✓	
Were the performance evaluation (PE) samples within the acceptance limits?			✓	

.DC #: 2923005
SDG #: per cover

VALIDATION FINDINGS CHECKLIST

Reviewer: FJ
2nd Reviewer: A

Validation Area	Yes	No	NA	Findings/Comments
X. Target compound identification				
Were the retention times of reported detects within the RT windows?			✓	
XI. Compound quantitation/CRQLs				
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?		✓		
XII. System performance				
System performance was found to be acceptable.	✓			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XIV. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target compounds were detected in the field duplicates.			✓	
XV. Field blanks				
Field blanks were identified in this SDG.	✓	✓		
Target compounds were detected in the field blanks.		✓	✓	

LDC #: 29230D5
SDG #: [illegible]

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
Reviewer: FJ
2nd Reviewer: [illegible]

METHOD: GC ✓ HPLC ____

The calibration Factor (CF), average CF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

CF = A/C
average CF = sum of the CF/number of standards
%RSD = 100 * (S/X)

A = Area of compound,
C = Concentration of compound,
S = Standard deviation of the CF
X = Mean of the CFs

#	Standard ID	Calibration Date	Compound	Reported CF (160 std)	Recalculated CF (160 std)	Reported Average CF (initial)	Recalculated Average CF (initial)	Reported %RSD	Recalculated %RSD
1	ICAL	3/21/12	2,4-D STX-CLP1	770	770	838.6	838.6	14.5	14.5
			Dinoseb	1871	1871	2004.4	2004.4	10.5	10.5
2	ICAL	3/21/12	↓	839	839	914.6	914.6	14.6	14.6
				1957	1957	2038.6	2038.6	2.5	2.5
3									
4									

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 7923005
SDG #: w Cover

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: EJ
2nd Reviewer: [illegible]

METHOD: GC ✓ HPLC ____

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration CF were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. CF - CF)/ave. CF
CF = A/C

Where: ave. CF = initial calibration average CF
CF = continuing calibration CF
A = Area of compound
C = Concentration of compound

#	Standard ID	Calibration Date	Compound	Average CF(ical)/ CCV Conc.	Reported CF/Conc. CCV	Recalculated CF/Conc. CCV	Reported %D	Recalculated %D
1	WD 26002A	4/26/12	2,4-D STX CLP1	60.0	57.69	57.69	4	4
			Dinoseb	60.0	71.05	71.05	18	18
2			↓ STX CLP2	↓	58.46	58.46	3	3
			↓	↓	58.52	58.52	3	3
3								
4								

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 11230J3

SDG #: see cover

METHOD: ✓ GC __ HPLC

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Reviewer: FT

2nd reviewer: [illegible]

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: #4

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
2,4-DCPAA	ch B	600	591.08	98.5	98.5	0

Sample ID: _____

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	

Sample ID: _____

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	

LDC #: 29230D5
SDG #: all cases

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample/Laboratory Control Sample Duplicate Results Verification

Reviewer: F
2nd Reviewer: A

METHOD: __ GC __HPLC

The percent recoveries (%R) and Relative Percent difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100* (SSC-SC)/SA
RPD = I LCS - LCSD I * 2/(LCS + LCSD)

Where: SSC = Spiked sample concentration
SA = Spike added
LCS = Laboratory control sample percent recovery
SC = Concentration
LCSD = Laboratory control sample duplicate percent recovery

LCS/LCSD samples: lcs/ld

Compound	Spike Added (ug/kg)		Spiked Sample Concentration (ug/kg)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline (8015)										
Diesel (8015)										
Benzene (8021B)										
Methane (RSK-175)										
2,4-D (8151)	15.0	15.0	11.7	13.4	78	78	89	89	14	14
Dinoseb (8151)	15.0	15.0	9.51	10.0	63	63	67	67	5	5
Naphthalene (8310)										
Anthracene (8310)										
HMX (8330)										
2,4,6-Trinitrotoluene (8330)										

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 29230D5
SDG #: pu gone

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: F
2nd Reviewer: A

METHOD: ✓ GC __ HPLC

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds within 10% of the reported results?

Concentration= $\frac{(A)(Fv)(Df)}{(RF)(Vs \text{ or } Ws)(\%S/100)}$

A= Area or height of the compound to be measured
Fv= Final Volume of extract
Df= Dilution Factor
RF= Average response factor of the compound in the initial calibration
Vs= Initial volume of the sample
Ws= Initial weight of the sample
%S= Percent Solid

Example:

Sample ID._____ Compound Name _____

Concentration =_____

ND

#	Sample ID	Compound	Reported Concentrations ( )	Recalculated Results Concentrations ( )	Qualifications

Comments: _____

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Santa Susana Field Laboratory

Collection Date: April 19, 2012

LDC Report Date: February 26, 2013

Matrix: Soil

Parameters: Wet Chemistry

Validation Level: Level IV

Laboratory: EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 12D176

Sample Identification

SL-017-NBZ-SS-0.0-0.5
SL-086-NBZ-SS-0.0-0.5
SL-087-NBZ-SS-0.0-0.5
SL-150-NBZ-SS-0.0-0.5
SL-178-NBZ-SS-0.0-0.5
SL-179-NBZ-SS-0.0-0.5

Introduction

This data review covers 6 soil samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 9010A and 9014 for Cyanide, EPA Method 300.0 for Nitrate and Fluoride, EPA SW 846 Method 7199 for Hexavalent Chromium, and EPA 314.0 Perchlorate.

This review follows the Quality Assurance Project Plan for Santa Susana Field Laboratory (SSFL), RCRA Facility Investigation, Surficial Media Operable Unit (March 2009, Revision 4) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review (January 2010).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

NJ Presumptive evidence of presence of the compound at an estimated quantity.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

All criteria for the initial calibration of each method were met.

III. Calibration Verification

Calibration verification frequency and analysis criteria were met for each method when applicable.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the initial, continuing and preparation blanks.

Sample EB-NBZ-SS-041712 (from SDG 12D154) was identified as an equipment blank. No contaminant concentrations were found.

V. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VI. Duplicates

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Sample Result Verification

All sample result verifications were acceptable.

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 12D176	All analytes reported below the RL and above the MDL.	J (all detects)	A

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

No field duplicates were identified in this SDG.

Santa Susana Field Laboratory
Wet Chemistry - Data Qualification Summary - SDG 12D176

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
12D176	SL-017-NBZ-SS-0.0-0.5 SL-086-NBZ-SS-0.0-0.5 SL-087-NBZ-SS-0.0-0.5 SL-150-NBZ-SS-0.0-0.5 SL-178-NBZ-SS-0.0-0.5 SL-179-NBZ-SS-0.0-0.5	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (Z)

Santa Susana Field Laboratory
Wet Chemistry – Laboratory Blank Data Qualification Summary - SDG 12D176

No Sample Data Qualified in this SDG

Santa Susana Field Laboratory
Wet Chemistry - Field Blank Data Qualification Summary - SDG 12D176

No Sample Data Qualified in this SDG

LDC #: 29230D6 **VALIDATION COMPLETENESS WORKSHEET** Date: 2/22/13
SDG #: 12D176 Level IV Page: 1 of 1
Laboratory: EMAX Laboratories, Inc. Reviewer: MS
2nd Reviewer: W

METHOD: (Analyte) Cyanide (EPA SW846 Method 9010A/9014), Nitrate-~~N~~, Fluoride (EPA Method 300.0), Hexavalent Chromium (EPA SW846 Method 7199), Perchlorate (EPA Method 314.0)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/19/12
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	A	
IV	Matrix Spike/Matrix Spike Duplicates	A	MS/D
V	Duplicates	N	
VI.	Laboratory control samples	A	LCS/D
VII.	Sample result verification	A	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X	Field blanks	ND	EB= EB-NBZ-SS-041712 (SDG:12D154)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: SOIL

1	SL-017-NBZ-SS-0.0-0.5	11		21		31	
2	SL-086-NBZ-SS-0.0-0.5	12		22		32	
3	SL-087-NBZ-SS-0.0-0.5	13		23		33	
4	SL-150-NBZ-SS-0.0-0.5	14		24		34	
5	SL-178-NBZ-SS-0.0-0.5	15		25		35	
6	SL-179-NBZ-SS-0.0-0.5	16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 29273006

VALIDATION FINDINGS CHECKLIST

Reviewer: QR
2nd Reviewer: [illegible]

Method: Inorganics (EPA Method See cover)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. Calibration				
Were all instruments calibrated daily, each set-up time?	✓			
Were the proper number of standards used?	✓			
Were all initial calibration correlation coefficients ≥ 0.995?	✓			
Were all initial and continuing calibration verification %Rs within the 90-110% QC limits?	✓			
Were titrant checks performed as required? (Level IV only)			✓	
Were balance checks performed as required? (Level IV only)	✓			
III. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
IV. Matrix spike/Matrix spike duplicates and Duplicates				
Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water.	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 75-125 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.	✓			
Were the MS/MSD or duplicate relative percent differences (RPD) ≤ 20% for waters and ≤ 35% for soil samples? A control limit of ≤ CRDL(≤ 2X CRDL for soil) was used for samples that were ≤ 5X the CRDL, including when only one of the duplicate sample values were ≤ 5X the CRDL.	✓			
V. Laboratory control samples				
Was an LCS anaylzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 80-120% (85-115% for Method 300.0) QC limits?	✓			
VI. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		✓		
Were the performance evaluation (PE) samples within the acceptance limits?			✓	

Validation Area	Yes	No	NA	Findings/Comments
VII. Sample Result Verification				
Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
Were detection limits < RL?	✓			
VIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
IX. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target analytes were detected in the field duplicates.			✓	
X. Field blanks				
Field blanks were identified in this SDG.	✓			
Target analytes were detected in the field blanks.		✓		

LDC #: 29230D6

VALIDATION FINDINGS WORKSHEET

Sample Specific Analysis Reference

Page: 1 of 1

Reviewer: CR

2nd reviewer:

All circled methods are applicable to each sample.

Sample ID	Parameter
1-6	pH TDS Cl [✓ F] NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC [✓ Cr6+] [✓ ClO_4]
1-3	pH TDS Cl F [✓ NO_3] NO_2 SO_4 O-PO_4 Alk [✓ CN] NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4

Comments:

LDC #: 29923B6

Validation Findings Worksheet
Initial and Continuing Calibration Calculation Verification

Reviewer: AR
2nd Reviewer: [illegible]

Method: Inorganics, Method see cover

The correlation coefficient (r) for the calibration of F was recalculated. Calibration date: 4/19/12

An initial or continuing calibration verification percent recovery (%R) was recalculated for each type of analysis using the following formula:

$\%R = \frac{\text{Found} \times 100}{\text{True}}$

Where, Found = concentration of each analyte measured in the analysis of the ICV or CCV solution
True = concentration of each analyte in the ICV or CCV source

Type of analysis	Analyte	Standard	Conc. (mg/l)	Area	Recalculated r or r^2	Reported r or r^2	Acceptable (Y/N)
Initial calibration	F	s1	0.05	1.149	*0.999860*	0.999855	Y
		s2	0.1	2.381			
		s3	0.2	4.906			
		s4	0.5	13.01			
		s5	1	27.54			
		s6	2	57.05			
		s7	5	144.9			
		s8	10	280.7			
Calibration verification	NO_3	ICV	1	1,015	101.5	101.5	
Calibration verification	Cr^{6+}	CCV	2	1,948	97	97	
Calibration verification	CN	↓	0.1	0.099	99	99	✓

Comments: Refer to Calibration Verification findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 29230B

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

Reviewer: GR
2nd Reviewer:

METHOD: Inorganics, Method See cover

Percent recoveries (%R) for a laboratory control sample and a matrix spike sample were recalculated using the following formula:

$\%R = \frac{Found}{True} \times 100$ Where, Found = concentration of each analyte measured in the analysis of the sample. For the matrix spike calculation, Found = SSR (spiked sample result) - SR (sample result).
True = concentration of each analyte in the source.

A sample and duplicate relative percent difference (RPD) was recalculated using the following formula:

$RPD = \frac{|S-D|}{(S+D)/2} \times 100$ Where, S = Original sample concentration
D = Duplicate sample concentration

Sample ID	Type of Analysis	Element	Found / S (units)	True / D (units)	Recalculated %R / RPD	Reported %R / RPD	Acceptable (Y/N)
LCS	Laboratory control sample	Cr6+	407	480	85	85	Y
SL-193-NB32-SS00-0.5	Matrix spike sample	F	(SSR-SR) 7.62	6.74	113	113	↓
↓	Duplicate sample	Cr6+	279	278	0	0	↓

Comments: Refer to appropriate worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 09230D6

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: QR
2nd reviewer:

METHOD: Inorganics, Method See cover

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Have results been reported and calculated correctly?
Y N N/A Are results within the calibrated range of the instruments?
Y N N/A Are all detection limits below the CRQL?

Compound (analyte) results for NO_3 reported with a positive detect were recalculated and verified using the following equation:

Concentration = $0.0239972(Area)+0.0301755$

Recalculation: $\frac{(0.0239972(30.17)+0.0301755)\,60mL}{20.0027g(0.703)}\left(\frac{62}{14}\right)=14.25\ mg/kg$

#	Sample ID	Analyte	Reported Concentration (mg/kg)	Calculated Concentration (mg/kg)	Acceptable (Y/N)
	1	F	1.24	1.24	Y
		NO_3	14.3	14.3	
		CN	0.711	0.711	

Note:

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Santa Susana Field Laboratory
Collection Date:	April 19, 2012
LDC Report Date:	March 6, 2013
Matrix:	Soil
Parameters:	Total Petroleum Hydrocarbons as Gasoline
Validation Level:	Level IV
Laboratory:	EMAX Laboratories, Inc.
Sample Delivery Group (SDG):	12D176

Sample Identification

SL-087-NBZ-SS-0.5

Introduction

This data review covers one soil sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8015B for Total Petroleum Hydrocarbons (TPH) as Gasoline.

This review follows the Quality Assurance Project Plan for Santa Susana Field Laboratory (SSFL), RCRA Facility Investigation, Surficial Media Operable Unit (March 2009, Revision 4) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

NJ Presumptive evidence of presence of the compound at an estimated quantity.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration of compounds was performed as required by the method.

The percent relative standard deviations (%RSD) of calibration factors for compounds were less than or equal to 20.0%.

III. Calibration Verification

Calibration verification was performed at required frequencies. The percent differences (%D) of amounts in continuing standard mixtures were within the 20.0% QC limits.

The percent differences (%D) of the second source calibration standard were less than or equal to 20.0% for all compounds.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No total petroleum hydrocarbons as gasoline contaminants were found in the method blanks.

Sample TB-041912 was identified as a trip blank. No total petroleum hydrocarbons as gasoline contaminants were found with the following exceptions:

Blank ID	Sampling Date	Compound	Concentration	Associated Samples
TB-041912	4/19/12	Gasoline range organics	14 ug/L	All samples in SDG 12D176

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

All target compound identifications were within validation criteria.

IX. Compound Quantitation and RLs

All compound quantitation and RLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 12D176	All compounds reported below the RL.	J (all detects)	A

X. System Performance

The system performance was acceptable.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

Santa Susana Field Laboratory
Total Petroleum Hydrocarbons as Gasoline - Data Qualification Summary - SDG 12D176

SDG	Sample	Compound	Flag	A or P	Reason (Code)
12D176	SL-087-NBZ-SS-0.5	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and RLs (Z)

Santa Susana Field Laboratory
Total Petroleum Hydrocarbons as Gasoline - Laboratory Blank Data Qualification Summary - SDG 12D176

No Sample Data Qualified in this SDG

Santa Susana Field Laboratory
Total Petroleum Hydrocarbons as Gasoline - Field Blank Data Qualification Summary - SDG 12D176

No Sample Data Qualified in this SDG

LDC #: 29230D7 **VALIDATION COMPLETENESS WORKSHEET** Date: 2/22/13
SDG #: 12D176 Level IV Page: 1 of 1
Laboratory: EMAX Laboratories, Inc. Reviewer: [illegible]
2nd Reviewer: A

METHOD: GC TPH as Gasoline (EPA SW 846 Method 8015B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/19/12
II	Initial calibration	A	%D RSD ≤ 20
III.	Calibration verification/ICV	A	ICV/CCV ≤ 20
IV.	Blanks	A	
V	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	client specified
VII.	Laboratory control samples	A	LCS ID
VIII.	Target compound identification	A	
IX.	Compound quantitation/RL/LOQ/LODs	A	
X.	System Performance	A	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks SW	~~A~~	TB = TB-041912 ~~EB = EB-NB2-SS-041712~~ ~~SDG# 12D176~~

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: SOIL

1	SL-087-NBZ-SS-0.5	11	MS/MSD	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

DC #: 29230D7
SDG #: per cover

VALIDATION FINDINGS CHECKLIST

Reviewer: FT
2nd Reviewer: A

Method: ✓ GC _____ HPLC

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) ≤ 20%?	✓			
Was a curve fit used for evaluation?		✓		
Did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?			✓	
Were the RT windows properly established?	✓			
IV. Continuing calibration				
Was a continuing calibration analyzed daily?	✓			
Were all percent differences (%D) ≤ 20%.0 or percent recoveries 80-120%?	✓			
Were all the retention times within the acceptance windows?	✓			
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed for each matrix and concentration?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Surrogate spikes				
Were all surrogate %R within the QC limits?	✓			
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?			✓	
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.			✓	
Was a MS/MSD analyzed every 20 samples of each matrix?			✓	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?			✓	
Were the performance evaluation (PE) samples within the acceptance limits?			✓	

LDC #: 29230D7
SDG #: all cancel

VALIDATION FINDINGS CHECKLIST

Reviewer: FJ
2nd Reviewer: A

Validation Area	Yes	No	NA	Findings/Comments
X. Target compound identification				
Were the retention times of reported detects within the RT windows?	✓			
XI. Compound quantitation/CRQLs				
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XII. System performance				
System performance was found to be acceptable.	✓			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XIV. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target compounds were detected in the field duplicates.			✓	
XV. Field blanks				
Field blanks were identified in this SDG.	✓	~~✓~~		
Target compounds were detected in the field blanks.		✓	~~✓~~	

LDC #: 29230D7

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: FT
2nd Reviewer: A

METHOD: __ GC __ HPLC
Y N N/A Were field blanks identified in this SDG?
Y N N/A Were target compounds detected in the field blanks?
Blank units: ug/L **Associated sample units:** mg/kg
Sampling date: 4/19/12
Field blank type: (circle one) Field Blank / Trip Blank / Atmospheric Blank / Ambient Blank
Rinsate / Equipment Rinsate / Equipment Blank / Source Blank / Other: TB
Associated Samples: All (ND)

Compound	Blank ID	Blank ID	Sample Identification							
	TB-041912									
Gasoline Range Organics	14									
CRQL										

Blank units: _____ **Associated sample units:** _____
Sampling date: _____
Field blank type: (circle one) Field Blank / Trip Blank/ Atmospheric Blank/ Ambient Blank
Rinsate / Equipment Rinsate / Equipment Blank / Source Blank / Other: _____
Associated Samples: _____

Compound	Blank ID	Blank ID	Sample Identification							
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with compound concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

LDC #: 29230 D7
SDG #: [illegible]

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC ✓ HPLC ____

The calibration Factor (CF), average CF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

CF = A/C
average CF = sum of the CF/number of standards
%RSD = 100 * (S/X)

A = Area of compound,
C = Concentration of compound,
S = Standard deviation of the CF
X = Mean of the CFs

#	Standard ID	Calibration Date	Compound	Reported CF (52/std)	Recalculated CF (52/std)	Reported Average CF (initial)	Recalculated Average CF (initial)	Reported %RSD	Recalculated %RSD
1	ICAL	1/25/12	GRO C5-C12	17199	17199	17064.3	17064.3	3.2	3.2
2									
3									
4									

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 27230D7
SDG #: fw cover

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: FD
2nd Reviewer: C

METHOD: GC ✓ HPLC _____

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration CF were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. CF - CF)/ave. CF
CF = A/C

Where: ave. CF = initial calibration average CF
CF = continuing calibration CF
A = Area of compound
C = Concentration of compound

#	Standard ID	Calibration Date	Compound	Average CF(ical)/ CCV Conc.	Reported CF/Conc. CCV	Recalculated CF/Conc. CCV	Reported %D	Recalculated %D
1	ED 23021A	4/24/12	GRO C5-C12	1000.0	907.61	907.61	9	9
2								
3								
4								

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 42d 30M1
SDG #: see cover

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Reviewer: FT
2nd reviewer: [illegible]

METHOD: ✓ GC ___ HPLC

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: # 1

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
4- BFB	NS	40	28.15	70.4	70.4	0

Sample ID: _____

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	

Sample ID: _____

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	

LDC #: 29230D7
SDG #: all covers

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample/Laboratory Control Sample Duplicate Results Verification

Reviewer: F
2nd Reviewer: A

METHOD: ✓ GC __HPLC

The percent recoveries (%R) and Relative Percent difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100* (SSC-SC)/SA
RPD = | LCS - LCSD | * 2/(LCS + LCSD)

Where: SSC = Spiked sample concentration
SA = Spike added
LCS = Laboratory control sample percent recovery
SC = Concentration
LCSD = Laboratory control sample duplicate percent recovery

LCS/LCSD samples: lcs/D

Compound	Spike Added (mg/kg)		Spiked Sample Concentration (mg/kg)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline (8015)	25.0	25.0	21.8	21.0	87	87	84	84	4	4
Diesel (8015)										
Benzene (8021B)										
Methane (RSK-175)										
2,4-D (8151)										
Dinoseb (8151)										
Naphthalene (8310)										
Anthracene (8310)										
HMX (8330)										
2,4,6-Trinitrotoluene (8330)										

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 29230D7
SDG #: [illegible]

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: ✓ GC __ HPLC

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds within 10% of the reported results?

Concentration= $\frac{(A)(Fv)(Df)}{(RF)(Vs \text{ or } Ws)(\%S/100)}$

A= Area or height of the compound to be measured
Fv= Final Volume of extract
Df= Dilution Factor
RF= Average response factor of the compound in the initial calibration
Vs= Initial volume of the sample
Ws= Initial weight of the sample
%S= Percent Solid

Example:

Sample ID._____ Compound Name _____

Concentration =_____

#	Sample ID	Compound	Reported Concentrations ( )	Recalculated Results Concentrations ( )	Qualifications

Comments: _____

SAMPCALew.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Santa Susana Field Laboratory
Collection Date:	April 19, 2012
LDC Report Date:	February 27, 2013
Matrix:	Soil
Parameters:	Total Petroleum Hydrocarbons as Extractables
Validation Level:	Level IV
Laboratory:	EMAX Laboratories, Inc.
Sample Delivery Group (SDG):	12D176

Sample Identification

SL-017-NBZ-SS-0.0-0.5
SL-086-NBZ-SS-0.0-0.5
SL-087-NBZ-SS-0.0-0.5

Introduction

This data review covers 3 soil samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8015B for Total Petroleum Hydrocarbons (TPH) as Extractables.

This review follows the Quality Assurance Project Plan for Santa Susana Field Laboratory (SSFL), RCRA Facility Investigation, Surficial Media Operable Unit (March 2009, Revision 4) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

NJ Presumptive evidence of presence of the compound at an estimated quantity.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration of compounds was performed as required by the method.

The percent relative standard deviations (%RSD) of calibration factors for compounds were less than or equal to 20.0%.

III. Calibration Verification

Calibration verification was performed at required frequencies. The percent differences (%D) of amounts in continuing standard mixtures were within the 20.0% QC limits.

The percent differences (%D) of the second source calibration standard were less than or equal to 20.0% for all compounds.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No total petroleum hydrocarbons as extractables contaminants were found in the method blanks.

Sample EB-NBZ-SS-041712 (from SDG 12D154) was identified as an equipment blank. No total petroleum hydrocarbons as extractables contaminants were found.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

All target compound identifications were within validation criteria.

IX. Compound Quantitation and RLs

All compound quantitation and RLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 12D176	All compounds reported below the RL.	J (all detects)	A

X. System Performance

The system performance was acceptable.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

Santa Susana Field Laboratory
Total Petroleum Hydrocarbons as Extractables - Data Qualification Summary - SDG 12D176

SDG	Sample	Compound	Flag	A or P	Reason (Code)
12D176	SL-017-NBZ-SS-0.0-0.5 SL-086-NBZ-SS-0.0-0.5 SL-087-NBZ-SS-0.0-0.5	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and RLs (Z)

Santa Susana Field Laboratory
Total Petroleum Hydrocarbons as Extractables - Laboratory Blank Data Qualification Summary - SDG 12D176

No Sample Data Qualified in this SDG

Santa Susana Field Laboratory
Total Petroleum Hydrocarbons as Extractables - Field Blank Data Qualification Summary - SDG 12D176

No Sample Data Qualified in this SDG

LDC #: 29230D8 **VALIDATION COMPLETENESS WORKSHEET** Date: 2/21/13
SDG #: 12D176 Level IV Page: 1 of 1
Laboratory: EMAX Laboratories, Inc. Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC TPH as Extractables (EPA SW 846 Method 8015B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/19/12
II	Initial calibration	A	% RSD ≤ 20
III.	Calibration verification/ICV	A	ICV/CCV ≤ 20
IV.	Blanks	A	
V	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	client specified
VII.	Laboratory control samples	A	LCS/D
VIII.	Target compound identification	A	
IX.	Compound quantitation/RL/LOQ/LODs	A	
X.	System Performance	A	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	ND	EB = EB NBZ-SS--041712 SDG # 12D154

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: SOIL

4	1	SL-017-NBZ-SS-0.0-0.5	11	MBLK15	21		31	
5	2	SL-086-NBZ-SS-0.0-0.5	12	MBLK25	22		32	
7	3	SL-087-NBZ-SS-0.0-0.5	13		23		33	
	4		14		24		34	
	5		15		25		35	
	6		16		26		36	
	7		17		27		37	
	8		18		28		38	
	9		19		29		39	
	10		20		30		40	

Notes: _____

LDC #: 29230D8
SDG #: all waters

VALIDATION FINDINGS CHECKLIST

Reviewer: FM
2nd Reviewer: A

Method: ✓ GC _____ HPLC

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) ≤ 20%?	✓			
Was a curve fit used for evaluation?		✓		
Did the initial calibration meet the curve fit acceptance criteria of > 0.990?			✓	
Were the RT windows properly established?	✓			
IV. Continuing calibration				
Was a continuing calibration analyzed daily?	✓			
Were all percent differences (%D) ≤ 20%.0 or percent recoveries 80-120%?	✓			
Were all the retention times within the acceptance windows?	✓			
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed for each matrix and concentration?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Surrogate spikes				
Were all surrogate %R within the QC limits?	✓			
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?			✓	
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.			✓	
Was a MS/MSD analyzed every 20 samples of each matrix?			✓	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?			✓	
Were the performance evaluation (PE) samples within the acceptance limits?			✓	

LDC #: 29230D8
SDG #: per cover

VALIDATION FINDINGS CHECKLIST

Reviewer: FJ
2nd Reviewer: A

Validation Area	Yes	No	NA	Findings/Comments
X. Target compound identification.				
Were the retention times of reported detects within the RT windows?			✓	
XI. Compound quantitation/CRQLs.				
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XII. System performance.				
System performance was found to be acceptable.	✓			
XIII. Overall assessment of data.				
Overall assessment of data was found to be acceptable.	✓			
XIV. Field duplicates.				
Field duplicate pairs were identified in this SDG.		✓		
Target compounds were detected in the field duplicates.			✓	
XV. Field blanks.				
Field blanks were identified in this SDG.	✓	NA		
Target compounds were detected in the field blanks.		✓	NA	

LDC #: 29230D8
SDG #: [illegible]

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC ✓ HPLC ____

The calibration Factor (CF), average CF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

CF = A/C
average CF = sum of the CF/number of standards
%RSD = 100 * (S/X)

A = Area of compound,
C = Concentration of compound,
S = Standard deviation of the CF
X = Mean of the CFs

#	Standard ID	Calibration Date	Compound	Reported CF (100std)	Recalculated CF (100std)	Reported Average CF (initial)	Recalculated Average CF (initial)	Reported %RSD	Recalculated %RSD
1	ICAL	EFH (C8-C11)	EFH (C8-C11)	25697	25697	23084.1	23084.1	10.8	10.8
2									
3									
4									

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 29230D8
SDG #: w Cover

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: EJ
2nd Reviewer: SK

METHOD: GC ✓ HPLC _____

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration CF were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. CF - CF)/ave. CF
CF = A/C

Where: ave. CF = initial calibration average CF
CF = continuing calibration CF
A = Area of compound
C = Concentration of compound

#	Standard ID	Calibration Date	Compound	Average CF(Ical)/ CCV Conc.	Reported CF/Conc. CCV	Recalculated CF/Conc. CCV	Reported %D	Recalculated %D
1	LD240SDA	4/25/12	Total EFH (C8-C40)	500.0	498.14	498.14	0	0
	LD24062A	4/25/12	↓	500.0	533.28	533.28	7	7
2								
	LD24074A	4/25/12	↓	500.0	540.33	540.33	8	8
3	LD26074A	4/27/12	↓	500.0	521.80	521.80	4	4
4								

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 21230Y8
SDG #: see cover
METHOD: ✓ GC __ HPLC

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Reviewer: FT
2nd reviewer: A

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: # 1

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Bromobenzene	NS	100	50.447	50.4	50.4	0
Hexacosane	↓	25	22.838	91.4	91.4	0

Sample ID:

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	

Sample ID:

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	

LDC #: 29230D8
SDG #: all covers

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample/Laboratory Control Sample Duplicate Results Verification

Reviewer: FO
2nd Reviewer: A

METHOD: ✓ GC __HPLC

The percent recoveries (%R) and Relative Percent difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100* (SSC-SC)/SA
RPD = I LCS - LCSD I * 2/(LCS + LCSD)

Where: SSC = Spiked sample concentration
SA = Spike added
LCS = Laboratory control sample percent recovery
SC = Concentration
LCSD = Laboratory control sample duplicate percent recovery

LCS/LCSD samples: LCS 10

Compound	Spike Added (mg/kg)		Spiked Sample Concentration (mg/kg)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline (8015)										
Diesel (8015)										
Benzene (8021B)										
Methane (RSK-175)										
2,4-D (8151)										
Dinoseb (8151)										
Naphthalene (8310)										
Anthracene (8310)										
HMX (8330)										
2,4,6-Trinitrotoluene (8330)										
Total EFH (c9-c40)	50.0	50.0	45.1	40.7	90	90	81	81	10	10

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 2923008
SDG #: all waters

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: ✓ GC ___ HPLC

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds within 10% of the reported results?

Concentration= $\frac{(A)(Fv)(Df)}{(RF)(Vs \text{ or } Ws)(\%S/100)}$

A= Area or height of the compound to be measured
Fv= Final Volume of extract
Df= Dilution Factor
RF= Average response factor of the compound in the initial calibration
Vs= Initial volume of the sample
Ws= Initial weight of the sample
%S= Percent Solid

Example:

Sample ID. #1 Compound Name EFH (c8-11)

Concentration = $\frac{(623087)\ (3)}{(23084.06471)\ (30)\ (0.703)}$

= 3.8 mg/kg

#	Sample ID	Compound	Reported Concentrations ( )	Recalculated Results Concentrations ( )	Qualifications

Comments: _____

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Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Santa Susana Field Laboratory

Collection Date: April 19, 2012

LDC Report Date: February 27, 2013

Matrix: Soil

Parameters: Nitroglycerine & PETN

Validation Level: Level IV

Laboratory: EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 12D176

Sample Identification

SL-017-NBZ-SS-0.0-0.5
SL-086-NBZ-SS-0.0-0.5
SL-087-NBZ-SS-0.0-0.5

Introduction

This data review covers 3 soil samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8332 for Nitroglycerine and PETN.

This review follows the Quality Assurance Project Plan for Santa Susana Field Laboratory (SSFL), RCRA Facility Investigation, Surficial Media Operable Unit (March 2009, Revision 4) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

NJ Presumptive evidence of presence of the compound at an estimated quantity.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration of compounds was performed for the primary (quantitation) column and confirmation column as required by the method.

Triplicate injections of the initial calibration were performed.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

Retention time windows were evaluated and considered technically acceptable.

III. Continuing Calibration

Continuing calibration was performed at required frequencies. The percent differences (%D) of amounts in continuing standard mixtures were within the 20.0% QC limits.

The percent differences (%D) of the second source calibration standard were less than or equal to 20.0% for all compounds.

Retention times (RT) of all compounds in the calibration standards were within QC limits.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No nitroglycerine or PETN was found in the method blanks.

Sample EB-NBZ-SS-041712 (from SDG 12D154) was identified as an equipment blank. No nitroglycerine or PETN was found.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/(Matrix Spike) Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

All target compound identifications were within validation criteria.

IX. Compound Quantitation and RLs

All compound quantitation and RLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 12D176	All compounds reported below the RL.	J (all detects)	A

X. System Performance

The system performance was acceptable.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

Santa Susana Field Laboratory
Nitroglycerine & PETN - Data Qualification Summary - SDG 12D176

SDG	Sample	Compound	Flag	A or P	Reason (Code)
12D176	SL-017-NBZ-SS-0.0-0.5 SL-086-NBZ-SS-0.0-0.5 SL-087-NBZ-SS-0.0-0.5	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and RLs (Z)

Santa Susana Field Laboratory
Nitroglycerine & PETN - Laboratory Blank Data Qualification Summary - SDG 12D176

No Sample Data Qualified in this SDG

Santa Susana Field Laboratory
Nitroglycerine & PETN - Field Blank Data Qualification Summary - SDG 12D176

No Sample Data Qualified in this SDG

LDC #: 29230D24 **VALIDATION COMPLETENESS WORKSHEET** Date: 2/22/13
SDG #: 12D176 Level IV Page: 1 of 1
Laboratory: EMAX Laboratories, Inc. Reviewer: JP
2nd Reviewer: A

METHOD: HPLC Nitroglycerine & PETN (EPA SW 846 Method 8332)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/19/12
II	Initial calibration	A	
III.	Calibration verification/ICV	A	
IV.	Blanks	A	
V	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	client specific
VII.	Laboratory control samples	A	LCS/LD
VIII.	Target compound identification	A	
IX.	Compound quantitation/RL/LOQ/LODs	A	
X.	System Performance	A	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	ND	EB-~~NBZ-SB-041712~~ = EB-NBZ-SS-041712

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

SDG # 12D154

Validated Samples: SOIL

4 1	SL-017-NBZ-SS-0.0-0.5	11	MBLK15	21		31	
5 2	SL-086-NBZ-SS-0.0-0.5	12		22		32	
7 3	SL-087-NBZ-SS-0.0-0.5	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 29230D24
SDG #: per cover

VALIDATION FINDINGS CHECKLIST

Reviewer: FM
2nd Reviewer: A

Method: ✓ GC ✓ HPLC

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) ≤ 20%?	✓			
Was a curve fit used for evaluation?		✓		
Did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?			✓	
Were the RT windows properly established?	✓			
IV. Continuing calibration				
Was a continuing calibration analyzed daily?	✓			
Were all percent differences (%D) ≤ 20%.0 or percent recoveries 80-120%?	✓			
Were all the retention times within the acceptance windows?		✓		
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed for each matrix and concentration?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Surrogate spikes				
Were all surrogate %R within the QC limits?	✓			
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?			✓	
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.			✓	
Was a MS/MSD analyzed every 20 samples of each matrix?			✓	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?			✓	
Were the performance evaluation (PE) samples within the acceptance limits?			✓	

LDC #: 29230D24
SDG #: all cons

VALIDATION FINDINGS CHECKLIST

Reviewer: FJ
2nd Reviewer: A

Validation Area	Yes	No	NA	Findings/Comments
X. Target compound identification				
Were the retention times of reported detects within the RT windows?			✓	
XI. Compound quantitation/CRQLs				
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?		✓		
XII. System performance				
System performance was found to be acceptable.	✓			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XIV. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target compounds were detected in the field duplicates.			✓	
XV. Field blanks				
Field blanks were identified in this SDG.	✓	NA		
Target compounds were detected in the field blanks.		✓	NA	

LDC #: 29230D24
SDG #: [illegible]

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC [illegible] HPLC [illegible]

The calibration Factor (CF), average CF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

CF = A/C
average CF = sum of the CF/number of standards
%RSD = 100 * (S/X)

A = Area of compound,
C = Concentration of compound,
S = Standard deviation of the CF
X = Mean of the CFs

#	Standard ID	Calibration Date	Compound	Reported CF (252_{std})	Recalculated CF (252_{std})	Reported Average CF (initial)	Recalculated Average CF (initial)	Reported %RSD	Recalculated %RSD
1	ICAL	7/20/11	Nitroglycerin	102	102	101.8	101.8	5.1	5.1
2									
3									
4									

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 29230D24
SDG #: pw cover

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: EJ
2nd Reviewer: SR

METHOD: GC W HPLC ✓

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration CF were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. CF - CF)/ave. CF
CF = A/C

Where: ave. CF = initial calibration average CF
CF = continuing calibration CF
A = Area of compound
C = Concentration of compound

#	Standard ID	Calibration Date	Compound	Average CF(ical)/ CCV Conc.	Reported CF/Conc. CCV	Recalculated CF/Conc. CCV	Reported %D	Recalculated %D
1	PD25005A	4/25/12	Nitroglycerin	750.0	727.66	727.66	3	3
2	PD25031A	4/26/12	↓	750.0	750.63	750.63	0	0
3								
4								

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 29230024

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Reviewer: FT
2nd reviewer:

METHOD: ___ GC ✓ HPLC

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: #1

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
1,2-Dinitrobenzene	C-18	200	252.9	126	126	0

Sample ID: _____

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	

Sample ID: _____

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	

LDC #: 29230D24
SDG #: all cores

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample/Laboratory Control Sample Duplicate Results Verification

Reviewer: FR
2nd Reviewer: SA

METHOD: ✓ GC __HPLC

The percent recoveries (%R) and Relative Percent difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100* (SSC-SC)/SA
RPD = | LCS - LCSD | * 2/(LCS + LCSD)

Where: SSC = Spiked sample concentration
SA = Spike added
LCS = Laboratory control sample percent recovery
SC = Concentration
LCSD = Laboratory control sample duplicate percent recovery

LCS/LCSD samples: 1265 10

Compound	Spike Added (ug/kg)		Spiked Sample Concentration (ug/kg)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline (8015)										
Diesel (8015)										
Benzene (8021B)										
Methane (RSK-175)										
2,4-D (8151)										
Dinoseb (8151)										
Naphthalene (8310)										
Anthracene (8310)										
HMX (8330)										
2,4,6-Trinitrotoluene (8330)										
Nitroglycerin	7500	7500	7920	7970	106	106	106	106	1	1

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 29230D24
SDG #: pu groups

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: ✓ GC ___ HPLC

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds within 10% of the reported results?

Concentration= $\frac{(A)(Fv)(Df)}{(RF)(Vs \text{ or } Ws)(\%S/100)}$

A= Area or height of the compound to be measured
Fv= Final Volume of extract
Df= Dilution Factor
RF= Average response factor of the compound in the initial calibration
Vs= Initial volume of the sample
Ws= Initial weight of the sample
%S= Percent Solid

Example:

Sample ID._____ Compound Name _____

Concentration =_____

ND

#	Sample ID	Compound	Reported Concentrations ( )	Recalculated Results Concentrations ( )	Qualifications

Comments: _____

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Santa Susana Field Laboratory

Collection Date: April 19, 2012

LDC Report Date: February 27, 2013

Matrix: Soil

Parameters: Explosives

Validation Level: Level IV

Laboratory: EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 12D176

Sample Identification

SL-017-NBZ-SS-0.0-0.5
SL-086-NBZ-SS-0.0-0.5
SL-087-NBZ-SS-0.0-0.5

Introduction

This data review covers 3 soil samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8330A for Explosives.

This review follows the Quality Assurance Project Plan for Santa Susana Field Laboratory (SSFL), RCRA Facility Investigation, Surficial Media Operable Unit (March 2009, Revision 4) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

NJ Presumptive evidence of presence of the compound at an estimated quantity.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration of compounds was performed for the primary (quantitation) column and confirmation column as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

Retention time windows were evaluated and considered technically acceptable.

III. Calibration Verification

Calibration verification was performed at the required frequencies. The percent differences (%D) of amounts in continuing standard mixtures were within the 20.0% QC limits.

The percent differences (%D) of the second source calibration standard were less than or equal to 20.0% for all compounds.

Retention times (RT) of all compounds in the calibration standards were within QC limits.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No explosive contaminants were found in the method blanks.

Sample EB-NBZ-SS-041712 (from SDG 12D154) was identified as an equipment blank. No explosive contaminants were found.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

Santa Susana Field Laboratory
Explosives - Data Qualification Summary - SDG 12D176

SDG	Sample	Compound	Flag	A or P	Reason (Code)
12D176	SL-017-NBZ-SS-0.0-0.5 SL-086-NBZ-SS-0.0-0.5 SL-087-NBZ-SS-0.0-0.5	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and RLs (Z)

Santa Susana Field Laboratory
Explosives - Laboratory Blank Data Qualification Summary - SDG 12D176

No Sample Data Qualified in this SDG

Santa Susana Field Laboratory
Explosives - Field Blank Data Qualification Summary - SDG 12D176

No Sample Data Qualified in this SDG

LDC #: 29230D40 **VALIDATION COMPLETENESS WORKSHEET** Date: 1/22/13
SDG #: 12D176 Level IV Page: 1 of 1
Laboratory: EMAX Laboratories, Inc. Reviewer: F
2nd Reviewer: E

METHOD: HPLC Explosives (EPA SW 846 Method 8330A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/19/12
II	Initial calibration	A	%D ≤ 20
III.	Calibration verification/ICV	A	ICV/CCV ≤ 20
IV.	Blanks	A	
V	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	A	SL-012-NBZ-SB-0.5-1.5 MS/D
VII.	Laboratory control samples	A	LCS/D
VIII.	Target compound identification	A	
IX.	Compound quantitation/RL/LOQ/LODs	A	
X.	System Performance	A	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	ND	EB = ~~EB-NBZ-SB-041712~~ = EB-NBZ-SS-041712

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

SDG # 12D154

Validated Samples: SOIL

1	SL-017-NBZ-SS-0.0-0.5	11		21		31	
2	SL-086-NBZ-SS-0.0-0.5	12		22		32	
3	SL-087-NBZ-SS-0.0-0.5	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

DC #: 29230 D4U
SDG #: all waters

VALIDATION FINDINGS CHECKLIST

Reviewer: FA
2nd Reviewer: A

Method: ~~GC~~ ✓ HPLC

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) ≤ 20%?	✓			
Was a curve fit used for evaluation?		✓		
Did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?			✓	
Were the RT windows properly established?	✓			
IV. Continuing calibration				
Was a continuing calibration analyzed daily?	✓			
Were all percent differences (%D) ≤ 20%.0 or percent recoveries 80-120%?	✓			
Were all the retention times within the acceptance windows?	✓			
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed for each matrix and concentration?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Surrogate spikes				
Were all surrogate %R within the QC limits?	✓			
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?			✓	
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.	✓		✓	
Was a MS/MSD analyzed every 20 samples of each matrix?	✓		✓	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?	✓			
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?			✓	
Were the performance evaluation (PE) samples within the acceptance limits?			✓	

LDC #: 29230D40
SDG #: per cover

VALIDATION FINDINGS CHECKLIST

Reviewer: FJ
2nd Reviewer: A

Validation Area	Yes	No	NA	Findings/Comments
X. Target compound identification				
Were the retention times of reported detects within the RT windows?			✓	
XI. Compound quantitation/CRQLs				
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XII. System performance				
System performance was found to be acceptable.	✓			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XIV. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target compounds were detected in the field duplicates.			✓	
XV. Field blanks				
Field blanks were identified in this SDG.	✓	✓	✓	
Target compounds were detected in the field blanks.		✓		

LDC #: 29230D4U
SDG #: [illegible]

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
Reviewer: FJ
2nd Reviewer: [illegible]

METHOD: GC _____ HPLC ✓

The calibration Factor (CF), average CF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

CF = A/C
average CF = sum of the CF/number of standards
%RSD = 100 * (S/X)

A = Area of compound,
C = Concentration of compound,
S = Standard deviation of the CF
X = Mean of the CFs

#	Standard ID	Calibration Date	Compound	Reported CF (200 std)	Recalculated CF (200 std)	Reported Average CF (initial)	Recalculated Average CF (initial)	Reported %RSD	Recalculated %RSD
1	ICAL C18	4/5/12	HMX	213.76	213.76	230.494	230.494	7.0	7.0
			2,4,6-TNT	422.80	422.80	451.583	451.583	9.7	9.7
2									
3									
4									

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 29230D4W
SDG #: w cover

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: EJ
2nd Reviewer: [illegible]

METHOD: GC_____HPLC ✓

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration CF were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. CF - CF)/ave. CF
CF = A/C

Where: ave. CF = initial calibration average CF
CF = continuing calibration CF
A = Area of compound
C = Concentration of compound

#	Standard ID	Calibration Date	Compound	Average CF(ical)/ CCV Conc.	Reported CF/Conc. CCV	Recalculated CF/Conc. CCV	Reported %D	Recalculated %D
1	XD25003A	4/25/12	HMX	400	371.45	371.45	7	7
			2,4,6-TNB	400	395.39	395.39	1	1
2	XD25023A	4/26/12	↓	↓	381.13	381.13	5	5
					406.85	406.85	2	2
3								
4								

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 27230M4C
SDG #: see cover

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Reviewer: FT
2nd reviewer: [illegible]

METHOD: __ GC _✓_ HPLC

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: # 1

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
1,2- Dinitrobenzene	e-18	200	189.9	95.0	95.0	0

Sample ID: _____

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	

Sample ID: _____

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	

LDC #: 29230D4C
SDG #: pu cover

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample/Laboratory Control Sample Duplicate Results Verification

Reviewer: F
2nd Reviewer: A

METHOD: __ GC / HPLC

The percent recoveries (%R) and Relative Percent difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100* (SSC-SC)/SA
RPD = | LCS - LCSD | * 2/(LCS + LCSD)

Where: SSC = Spiked sample concentration
SA = Spike added
LCS = Laboratory control sample percent recovery
SC = Concentration
LCSD = Laboratory control sample duplicate percent recovery

LCS/LCSD samples: pu lcs lcsd

Compound	Spike Added (ug/Kg)		Spiked Sample Concentration (ug/Kg)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline (8015)										
Diesel (8015)										
Benzene (8021B)										
Methane (RSK-175)										
2,4-D (8151)										
Dinoseb (8151)										
Naphthalene (8310)										
Anthracene (8310)										
HMX (8330)	2000	2000	2010	1960	100	100	98	98	3	3
2,4,6-Trinitrotoluene (8330)	2000	2000	1830	1770	91	91	89	89	3	3

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 29230D4J
SDG #: pu power

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: ___ GC ___ HPLC

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds within 10% of the reported results?

Concentration= $\frac{(A)(Fv)(Df)}{(RF)(Vs \text{ or } Ws)(\%S/100)}$

A= Area or height of the compound to be measured
Fv= Final Volume of extract
Df= Dilution Factor
RF= Average response factor of the compound in the initial calibration
Vs= Initial volume of the sample
Ws= Initial weight of the sample
%S= Percent Solid

Example:

Sample ID._____ Compound Name _____

Concentration =_____

NP

#	Sample ID	Compound	Reported Concentrations ( )	Recalculated Results Concentrations ( )	Qualifications

Comments: _____

SAMPCALew.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Santa Susana Field Laboratory
Collection Date:	April 19, 2012
LDC Report Date:	February 27, 2013
Matrix:	Soil
Parameters:	Alcohols
Validation Level:	Level IV
Laboratory:	EMAX Laboratories, Inc.
Sample Delivery Group (SDG):	12D176

Sample Identification

SL-087-NBZ-SS-0.0-0.5

Introduction

This data review covers one soil sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8015B for Alcohols.

This review follows the Quality Assurance Project Plan for Santa Susana Field Laboratory (SSFL), RCRA Facility Investigation, Surficial Media Operable Unit (March 2009, Revision 4) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

NJ Presumptive evidence of presence of the compound at an estimated quantity.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration of compounds was performed as required by the method.

The percent relative standard deviations (%RSD) of calibration factors for compounds were less than or equal to 20.0%.

Retention time windows were evaluated and considered technically acceptable.

III. Calibration Verification

Calibration verification was performed at required frequencies.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 20.0% QC limits.

The percent differences (%D) of the second source calibration standard were less than or equal to 20.0% for all compounds.

Retention times (RT) of all compounds in the calibration standards were within QC limits.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No alcohol contaminants were found in the method blanks.

Sample EB-NBZ-SS-041712 (from SDG 12D154) was identified as an equipment blank. No alcohol contaminants were found.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

All target compound identifications were within validation criteria.

IX. Compound Quantitation and RLs

All compound quantitation and RLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 12D176	All compounds reported below the RL.	J (all detects)	A

X. System Performance

The system performance was acceptable.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

Santa Susana Field Laboratory
Alcohols - Data Qualification Summary - SDG 12D176

SDG	Sample	Compound	Flag	A or P	Reason (Code)
12D176	SL-087-NBZ-SS-0.0-0.5	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and RLs (Z)

Santa Susana Field Laboratory
Alcohols - Laboratory Blank Data Qualification Summary - SDG 12D176

No Sample Data Qualified in this SDG

Santa Susana Field Laboratory
Alcohols - Field Blank Data Qualification Summary - SDG 12D176

No Sample Data Qualified in this SDG

LDC #: 29230D43 **VALIDATION COMPLETENESS WORKSHEET** Date: 2/22/13

SDG #: 12D176 Level IV Page: 1 of 1

Laboratory: EMAX Laboratories, Inc. Reviewer: FM

2nd Reviewer:

METHOD: GC Alcohols (EPA SW 846 Method 8015B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/19/12
II	Initial calibration	A	%RSD ≤ 20
III.	Calibration verification/ICV	A	ICV/CCV ≤ 20
IV.	Blanks	A	
V	Surrogate recovery	N	not required
VI.	Matrix spike/Matrix spike duplicates	N	client specified
VII.	Laboratory control samples	A	LCS/LD
VIII.	Target compound identification	A	
IX.	Compound quantitation/RL/LOQ/LODs	A	
X.	System Performance	A	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	ND	EB = ~~EB-NBZ-SS-041712~~ = EB-NBZ-SS-041712

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

SDG # 12D154

Validated Samples: SOIL

1	SL-087-NBZ-SS-0.0-0.5	11	MBLK15	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 29230D43
SDG #: all water

VALIDATION FINDINGS CHECKLIST

Reviewer: FT
2nd Reviewer: A

Method: ✓ GC _____ HPLC

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) ≤ 20%?	✓			
Was a curve fit used for evaluation?		✓		
Did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?			✓	
Were the RT windows properly established?	✓			
IV. Continuing calibration				
Was a continuing calibration analyzed daily?	✓			
Were all percent differences (%D) ≤ 20%.0 or percent recoveries 80-120%?	✓			
Were all the retention times within the acceptance windows?	✓			
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed for each matrix and concentration?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Surrogate spikes				
Were all surrogate %R within the QC limits?			✓	
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?			✓	
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.			✓	
Was a MS/MSD analyzed every 20 samples of each matrix?			✓	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?			✓	
Were the performance evaluation (PE) samples within the acceptance limits?			✓	

LDC #: 29230D43
SDG #: per cover

VALIDATION FINDINGS CHECKLIST

Reviewer: FJ
2nd Reviewer: C

Validation Area	Yes	No	NA	Findings/Comments
X. Target compound identification				
Were the retention times of reported detects within the RT windows?			✓	
XI. Compound quantitation/CRQLs				
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XII. System performance				
System performance was found to be acceptable.	✓			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XIV. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target compounds were detected in the field duplicates.			✓	
XV. Field blanks				
Field blanks were identified in this SDG.	✓	~~✓~~		
Target compounds were detected in the field blanks.		✓	~~✓~~	

LDC #: 29230D43
SDG #: [illegible]

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC ✓ HPLC ____

The calibration Factor (CF), average CF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

CF = A/C
average CF = sum of the CF/number of standards
%RSD = 100 * (S/X)

A = Area of compound,
C = Concentration of compound,
S = Standard deviation of the CF
X = Mean of the CFs

#	Standard ID	Calibration Date	Compound	Reported CF (10 std)	Recalculated CF (10 std)	Reported Average CF (initial)	Recalculated Average CF (initial)	Reported %RSD	Recalculated %RSD
1	ICAL	4/9/12	ethanol	9301.30	9301.30	9631.90J	9631.90J	5.2	5.2
2									
3									
4									

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 29230104 3
SDG #: fw cover

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: F2
2nd Reviewer: [illegible]

METHOD: GC ✓ HPLC _____

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration CF were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. CF - CF)/ave. CF
CF = A/C

Where: ave. CF = initial calibration average CF
CF = continuing calibration CF
A = Area of compound
C = Concentration of compound

#	Standard ID	Calibration Date	Compound	Average CF(ical)/ CCV Conc.	Reported CF/Conc. CCV	Recalculated CF/Conc. CCV	Reported %D	Recalculated %D
1	BD20002A	4/20/12	ethanol	10	8.59	8.59	14	14
2								
3								
4								

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 29230D43
SDG #: all cores

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample/Laboratory Control Sample Duplicate Results Verification

Reviewer: EJ
2nd Reviewer: AA

METHOD: ✓ GC __HPLC

The percent recoveries (%R) and Relative Percent difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100* (SSC-SC)/SA
RPD = | LCS - LCSD | * 2/(LCS + LCSD)

Where: SSC = Spiked sample concentration
SA = Spike added
LCS = Laboratory control sample percent recovery
SC = Concentration
LCSD = Laboratory control sample duplicate percent recovery

LCS/LCSD samples: lcs ID

Compound	Spike Added (ug/kg)		Spiked Sample Concentration (ug/kg)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline (8015)										
Diesel (8015)										
Benzene (8021B)										
Methane (RSK-175)										
2,4-D (8151)										
Dinoseb (8151)										
Naphthalene (8310)										
Anthracene (8310)										
HMX (8330)										
2,4,6-Trinitrotoluene (8330)										
Ethanol	10000	10000	10400	9310	104	104	93	93	11	11

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 29230D43
SDG #: pu ganey

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: ___GC ___HPLC

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds within 10% of the reported results?

Concentration= $\frac{(A)(Fv)(Df)}{(RF)(Vs \text{ or } Ws)(\%S/100)}$

A= Area or height of the compound to be measured
Fv= Final Volume of extract
Df= Dilution Factor
RF= Average response factor of the compound in the initial calibration
Vs= Initial volume of the sample
Ws= Initial weight of the sample
%S= Percent Solid

Example:

Sample ID._____ Compound Name _____

Concentration =_____

MD

#	Sample ID	Compound	Reported Concentrations ( )	Recalculated Results Concentrations ( )	Qualifications

Comments: _____

SAMPCALew.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Santa Susana Field Laboratory
Collection Date:	April 19, 2012
LDC Report Date:	February 27, 2013
Matrix:	Soil
Parameters:	Glycols
Validation Level:	Level IV
Laboratory:	EMAX Laboratories, Inc.
Sample Delivery Group (SDG):	12D176

Sample Identification

SL-087-NBZ-SS-0.0-0.5

Introduction

This data review covers one soil sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8015B for Glycols.

This review follows the Quality Assurance Project Plan for Santa Susana Field Laboratory (SSFL), RCRA Facility Investigation, Surficial Media Operable Unit (March 2009, Revision 4) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

NJ Presumptive evidence of presence of the compound at an estimated quantity.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration of compounds was performed as required by the method.

The percent relative standard deviations (%RSD) of calibration factors for compounds were less than or equal to 20.0%.

Retention time windows were evaluated and considered technically acceptable.

III. Calibration Verification

Calibration verification was performed at required frequencies.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 20.0% QC limits.

The percent differences (%D) of the second source calibration standard were less than or equal to 20.0% for all compounds.

Retention times (RT) of all compounds in the calibration standards were within QC limits.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No glycol contaminants were found in the method blanks.

Sample EB-NBZ-SS-041712 (from SDG 12D154) was identified as an equipment blank. No glycol contaminants were found.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

Santa Susana Field Laboratory
Glycols - Data Qualification Summary - SDG 12D176

SDG	Sample	Compound	Flag	A or P	Reason (Code)
12D176	SL-087-NBZ-SS-0.0-0.5	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and RLs (Z)

Santa Susana Field Laboratory
Glycols - Laboratory Blank Data Qualification Summary - SDG 12D176

No Sample Data Qualified in this SDG

Santa Susana Field Laboratory
Glycols - Field Blank Data Qualification Summary - SDG 12D176

No Sample Data Qualified in this SDG

LDC #: 29230D45 **VALIDATION COMPLETENESS WORKSHEET** Date: 2/22/13
SDG #: 12D176 Level IV Page: 1 of 1
Laboratory: EMAX Laboratories Inc. Reviewer: B
2nd Reviewer: A

METHOD: GC Glycols (EPA SW 846 Method 8015B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/19/12
II	Initial calibration	A	% RSD ≤ 20
III.	Calibration verification/ICV	A	ICV/CCV ≤ 20
IV.	Blanks	A	
V	Surrogate recovery	N	not required
VI.	Matrix spike/Matrix spike duplicates	N	client specified
VII.	Laboratory control samples	A	LCS 10
VIII.	Target compound identification	A	
IX.	Compound quantitation/RL/LOQ/LODs	A	
X.	System Performance	A	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	ND	EB = ~~EB - NBZ - SB - 041712~~ = EB - NBZ - SS - 041712

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

SDG # 12D154

Validated Samples:

SOIL

1	SL-087-NBZ-SS-0.0-0.5	11	MBLK1S	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 29230P45
SDG #: per cover

VALIDATION FINDINGS CHECKLIST

Reviewer: FM
2nd Reviewer: A

Method: ✓ GC _____ HPLC

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) ≤ 20%?	✓			
Was a curve fit used for evaluation?		✓		
Did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?			✓	
Were the RT windows properly established?	✓			
IV. Continuing calibration				
Was a continuing calibration analyzed daily?	✓			
Were all percent differences (%D) ≤ 20%.0 or percent recoveries 80-120%?	✓			
Were all the retention times within the acceptance windows?	✓			
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed for each matrix and concentration?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Surrogate spikes				
Were all surrogate %R within the QC limits?	NA		✓	
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?			✓	
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.			✓	
Was a MS/MSD analyzed every 20 samples of each matrix?			✓	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?			✓	
Were the performance evaluation (PE) samples within the acceptance limits?			✓	

LDC #: 29230D45
SDG #: pw copy

VALIDATION FINDINGS CHECKLIST

Reviewer: FJ
2nd Reviewer: A

Validation Area	Yes	No	NA	Findings/Comments
X. Target compound identification				
Were the retention times of reported detects within the RT windows?	✓			
XI. Compound quantitation/CRQLs				
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XII. System performance				
System performance was found to be acceptable.	✓			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XIV. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target compounds were detected in the field duplicates.			✓	
XV. Field blanks				
Field blanks were identified in this SDG.	✓	NA		
Target compounds were detected in the field blanks.		✓	NA	

LDC #: 29230D4J
SDG #: [illegible]

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
Reviewer: FJ
2nd Reviewer: [illegible]

METHOD: GC ✓ HPLC ____

The calibration Factor (CF), average CF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

CF = A/C
average CF = sum of the CF/number of standards
%RSD = 100 * (S/X)

A = Area of compound,
C = Concentration of compound,
S = Standard deviation of the CF
X = Mean of the CFs

#	Standard ID	Calibration Date	Compound	Reported CF (40std)	Recalculated CF (40std)	Reported Average CF (initial)	Recalculated Average CF (initial)	Reported %RSD	Recalculated %RSD
1	ICAL	4/18/12	Propylene Glycol	7536	7534	7684.4	7684.4	10.5	10.5
2									
3									
4									

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 29230D45
SDG #: w Cover

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: F2
2nd Reviewer: Q

METHOD: GC ✓ HPLC ____

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration CF were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. CF - CF)/ave. CF
CF = A/C

Where: ave. CF = initial calibration average CF
CF = continuing calibration CF
A = Area of compound
C = Concentration of compound

#	Standard ID	Calibration Date	Compound	Average CF(Ical)/ CCV Conc.	Reported CF/Conc. CCV	Recalculated CF/Conc. CCV	Reported %D	Recalculated %D
1	TD20004A	4/20/12	Propylene Glycol	25.0	21.94	21.94	12	12
2								
3								
4								

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 29230D45
SDG #: all cores

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample/Laboratory Control Sample Duplicate Results Verification

Reviewer: FO
2nd Reviewer: AA

METHOD: ✓ GC __HPLC

The percent recoveries (%R) and Relative Percent difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100* (SSC-SC)/SA
RPD = | LCS - LCSD | * 2/(LCS + LCSD)

Where: SSC = Spiked sample concentration
SA = Spike added
LCS = Laboratory control sample percent recovery
SC = Concentration
LCSD = Laboratory control sample duplicate percent recovery

LCS/LCSD samples: LCS ID

Compound	Spike Added (mg/kg)		Spiked Sample Concentration (mg/kg)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline (8015)										
Diesel (8015)										
Benzene (8021B)										
Methane (RSK-175)										
2,4-D (8151)										
Dinoseb (8151)										
Naphthalene (8310)										
Anthracene (8310)										
HMX (8330)										
2,4,6-Trinitrotoluene (8330)										
Diethylene Glycol	50.0	50.0	51.5	46.4	103	103	93	93	10	10

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 29230D4J
SDG #: pu grave

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: ___ GC ___ HPLC

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds within 10% of the reported results?

Concentration= $\frac{(A)(Fv)(Df)}{(RF)(Vs \text{ or } Ws)(\%S/100)}$

A= Area or height of the compound to be measured
Fv= Final Volume of extract
Df= Dilution Factor
RF= Average response factor of the compound in the initial calibration
Vs= Initial volume of the sample
Ws= Initial weight of the sample
%S= Percent Solid

Example:

Sample ID._____ Compound Name _____

Concentration =_____

#	Sample ID	Compound	Reported Concentrations ( )	Recalculated Results Concentrations ( )	Qualifications

Comments: _____

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Santa Susana Field Laboratory
Collection Date:	April 19, 2012
LDC Report Date:	February 27, 2013
Matrix:	Soil
Parameters:	Perchlorate
Validation Level:	Level IV
Laboratory:	EMAX Laboratories, Inc.
Sample Delivery Group (SDG):	12D176

Sample Identification

SL-012-NBZ-SS-0.0-0.5

Introduction

This data review covers one soil sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 6850 for Perchlorate.

This review follows the Quality Assurance Project Plan for Santa Susana Field Laboratory (SSFL), RCRA Facility Investigation, Surficial Media Operable Unit (March 2009, Revision 4) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

NJ Presumptive evidence of presence of the compound at an estimated quantity.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals. All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination (r^2) was greater than or equal to 0.990 .

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

All of the continuing calibration percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were less than or equal to 15.0% for unlabeled compounds and less than or equal to 50.0% for labeled compounds.

The percent differences (%D) of the second source calibration standard were less than or equal to 15.0% for unlabeled compounds and less than or equal to 50.0% for labeled compounds.

The percent differences (%D) of the limit of detection verification (LODV) calibration standard were less than or equal to 50.0% for perchlorate.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No perchlorate was found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogate spikes were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria.

XII. Compound Quantitation and RLs

All compound quantitation and RLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 12D176	All compounds reported below the RL.	J (all detects)	A

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was acceptable.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

Santa Susana Field Laboratory
Perchlorate - Data Qualification Summary - SDG 12D176

SDG	Sample	Compound	Flag	A or P	Reason (Code)
12D176	SL-012-NBZ-SS-0.0-0.5	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and RLs (Z)

Santa Susana Field Laboratory
Perchlorate - Laboratory Blank Data Qualification Summary - SDG 12D176

No Sample Data Qualified in this SDG

Santa Susana Field Laboratory
Perchlorate - Field Blank Data Qualification Summary - SDG 12D176

No Sample Data Qualified in this SDG

LDC #: 29230D87 **VALIDATION COMPLETENESS WORKSHEET** Date: 2/22/13

SDG #: 12D176 Level IV Page: 1 of 1

Laboratory: EMAX Laboratories, Inc. Reviewer: [illegible]

2nd Reviewer: [illegible]

METHOD: LC/MS Perchlorate (EPA SW846 Method 6850)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/19/12
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	A	r^2
IV.	Continuing calibration/ICV	A	ICV/CCV ≤ 15/50 LODV ≤ 50
V.	Blanks	A	
VI.	Surrogate spikes	N	not required
VII.	Matrix spike/Matrix spike duplicates	N	client specified
VIII.	Laboratory control samples	A	LCS/LD
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A	
XI.	Target compound identification	A	
XII.	Compound quantitation/RL/LOQ/LODs	A	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	A	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: SOIL

1	SL-012-NBZ-SS-0.0-0.5	11	MB	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

LDC #: 29230Q87

VALIDATION FINDINGS CHECKLIST

Reviewer: FT
2nd Reviewer: A

Method: ~~Semivolatiles (EPA SW 846 Method 8270C)~~ Perchlorate 6852

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.				
II. GC/MS Instrument performance check				
Were the DFTPP performance results reviewed and found to be within the specified criteria?	✓			
Were all samples analyzed within the 12 hour clock criteria?	✓			
III. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?			✓	
Was a curve fit used for evaluation?	✓			
Did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?	✓			
Were all percent relative standard deviations (%RSD) ≤ 30% and relative response factors (RRF) > 0.05?			✓	
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	✓			
Were all percent differences (%D) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?			✓	
Were all percent differences (%D) ~~≤ 25%~~ 15/52 and relative response factors (RRF) ≥ 0.05?	✓			
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed for each matrix and concentration?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Surrogate spikes				
Were all surrogate %R within QC limits?			✓	
If 2 or more base neutral or acid surrogates were outside QC limits, was a reanalysis performed to confirm %R?			✓	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?				✓
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.			✓	
Was a MS/MSD analyzed every 20 samples of each matrix?			✓	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			

LDC #: 29230D87

VALIDATION FINDINGS CHECKLIST

Reviewer: FT
2nd Reviewer: A

Validation Area	Yes	No	NA	Findings/Comments
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?			✓	
Were the performance evaluation (PE) samples within the acceptance limits?			✓	
X. Internal standards				
Were internal standard area counts within -50% or +100% of the associated calibration standard?	✓			
Were retention times within ± 30 seconds from the associated calibration standard?	✓			
XI. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?			✓	
Did compound spectra meet specified EPA "Functional Guidelines" criteria?			✓	
Were chromatogram peaks verified and accounted for?	✓			
XII. Compound quantitation/CRQLs				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?			✓	
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?		✓		
XIII. Tentatively identified compounds (TICs)				
Were the major ions (> 10 percent relative intensity) in the reference spectrum evaluated in sample spectrum?			✓	
Were relative intensities of the major ions within ± 20% between the sample and the reference spectra?			✓	
Did the raw data indicate that the laboratory performed a library search for all required peaks in the chromatograms (samples and blanks)?			✓	
XIV. System performance				
System performance was found to be acceptable.	✓			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XVI. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target compounds were detected in the field duplicates.			✓	
XVII. Field blanks				
Field blanks were identified in this SDG.		✓		
Target compounds were detected in the field blanks.			✓	

LDC # 29230087
SDG# 12D176

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: 6850

Parameter: perchlorate

weighted

Date	Instrument	Compound	Y	X	
03/02/2012	NS	perchlorate	0.09050	0.05	
			0.16323	0.10	
			0.37489	0.25	
			0.77283	0.50	
			1.48528	1.00	
			3.63370	2.50	
			7.24902	5.00	
			14.43676	10.00	

Regression Output:	Regression Output:	Reported	
Constant	0.03038		
Std Err of Y Est	0.01511		
R Squared	0.99999		0.99990
No. of Observations	8.00000		
Degrees of Freedom	6.00000		
X Coefficient(s)	1.441E+000		

LDC #: 29230P87

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: FT
2nd Reviewer: AA

METHOD: ~~GC/MS BNA (EPA SW 846 Method 8270C)~~ Perchlorate 6850

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
$RRF = (A_x)(C_{is})/(A_{is})(C_x)$

Where: ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
A_x = Area of compound, A_{is} = Area of associated internal standard
C_x = Concentration of compound, C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference Internal Standard)	Average RRF (initial)	Reported RRF (CC)	Recalculated RRF (CC)	Reported %R	Recalculated %R
1	CCV 9.19	4/27/12	~~Phenol (1st internal standard)~~ Perchlorate	2.0	2.076	2.076	104	104
			Naphthalene (2nd internal standard)					
			Fluorene (3rd internal standard)					
			Pentachlorophenol (4th internal standard)					
			Bis(2-ethylhexyl)phthalate (5th internal standard)					
			~~Benzo(a)pyrene (6th internal standard)~~					
2			Phenol (1st internal standard)					
			Naphthalene (2nd internal standard)					
			Fluorene (3rd internal standard)					
			Pentachlorophenol (4th internal standard)					
			Bis(2-ethylhexyl)phthalate (5th internal standard)					
			Benzo(a)pyrene (6th internal standard)					
3			Phenol (1st internal standard)					
			Naphthalene (2nd internal standard)					
			Fluorene (3rd internal standard)					
			Pentachlorophenol (4th internal standard)					
			Bis(2-ethylhexyl)phthalate (5th internal standard)					
			Benzo(a)pyrene (6th internal standard)					

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 29230P81

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Reviewer: FT
2nd Reviewer: [illegible]

METHOD: ~~GC/MS BNA (EPA SW 846 Method 8270)~~ Perchlorate 6850

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SC/SA Where: SSC = Spike concentration
SA = Spike added

RPD = | LCSC - LCSDC | * 2/(LCSC + LCSDC) LCSC = Laboraotry control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS/LCSD samples: ws 10

Compound	Spike Added (ug/Kg)		Spike Concentration (ug/Kg)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc	Reported	Recalc	Reported	Recalculated
Phenol										
N-Nitroso-di-n-propylamine										
4-Chloro-3-methylphenol										
Acenaphthene										
Pentachlorophenol										
Pyrene										
Perchlorate	25.0	25.0	25.1	24.4	100	100	98	98	3	3

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 29230087

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: FT
2nd reviewer:

METHOD: ~~GC/MS BNA (EPA SW 846 Method 8270)~~ Perchlorate 6850

Y N ~~N/A~~ Were all reported results recalculated and verified for all level IV samples?
Y N ~~N/A~~ Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(V_t)(DF)(2.0)}{(A_{is})(RRF)(V_o)(V_i)(\%S)}$

A_x	=	Area of the characteristic ion (EICP) for the compound to be measured
A_{is}	=	Area of the characteristic ion (EICP) for the specific internal standard
I_s	=	Amount of internal standard added in nanograms (ng)
V_o	=	Volume or weight of sample extract in milliliters (ml) or grams (g).
V_i	=	Volume of extract injected in microliters (ul)
V_t	=	Volume of the concentrated extract in microliters (ul)
Df	=	Dilution Factor.
%S	=	Percent solids, applicable to soil and solid matrices only.
2.0	=	Factor of 2 to account for GPC cleanup

Example:

Sample I.D. _____, _____:

Conc. = $\frac{(\quad)(\quad)(\quad)(\quad)(\quad)}{(\quad)(\quad)(\quad)(\quad)(\quad)}$

=

MD

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

SAMPLE DELIVERY GROUP

12D192

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
20-Apr-2012	SL-080-NBZ-SS-0.0-0.5	D192-03	N	3550B	8015B EFH	III
20-Apr-2012	SL-080-NBZ-SS-0.0-0.5	D192-03	N	3550B	8081A	III
20-Apr-2012	SL-080-NBZ-SS-0.0-0.5	D192-03	N	3550B	8082	III
20-Apr-2012	SL-080-NBZ-SS-0.0-0.5	D192-03	N	3550B	8270C	III
20-Apr-2012	SL-080-NBZ-SS-0.0-0.5	D192-03	N	3550B	8270C SIM	III
20-Apr-2012	SL-080-NBZ-SS-0.0-0.5	D192-03	N	7471A	7471A	III
20-Apr-2012	SL-080-NBZ-SS-0.0-0.5	D192-03	N	GEN PREP	300.0	III
20-Apr-2012	SL-080-NBZ-SS-0.0-0.5	D192-03	N	GEN PREP	314.0	III
20-Apr-2012	SL-080-NBZ-SS-0.0-0.5	D192-03	N	GEN PREP	6850	III
20-Apr-2012	SL-080-NBZ-SS-0.0-0.5	D192-03	N	GEN PREP	7199	III
20-Apr-2012	SL-080-NBZ-SS-0.0-0.5	D192-03	N	GEN PREP	8151A	III
20-Apr-2012	SL-080-NBZ-SS-0.0-0.5	D192-03	N	GEN PREP	8330A	III
20-Apr-2012	SL-080-NBZ-SS-0.0-0.5	D192-03	N	GEN PREP	8332	III
20-Apr-2012	SL-080-NBZ-SS-0.0-0.5	D192-03	N	GEN PREP	9014	III
20-Apr-2012	SL-080-NBZ-SS-0.0-0.5	D192-03	N	TOTAL	6020	III
20-Apr-2012	SL-080-NBZ-SS-0.0-0.5	D192-03R	N	GEN PREP	7199	III
20-Apr-2012	SL-080-NBZ-SS-0.0-0.5	D192-03W	N	TOTAL	6020	III
20-Apr-2012	SL-202-NBZ-SS-0.0-0.5	D192-07	N	3550B	8081A	III
20-Apr-2012	SL-202-NBZ-SS-0.0-0.5	D192-07	N	3550B	8082	III
20-Apr-2012	SL-202-NBZ-SS-0.0-0.5	D192-07	N	3550B	8270C	III
20-Apr-2012	SL-202-NBZ-SS-0.0-0.5	D192-07	N	3550B	8270C SIM	III
20-Apr-2012	SL-202-NBZ-SS-0.0-0.5	D192-07	N	7471A	7471A	III
20-Apr-2012	SL-202-NBZ-SS-0.0-0.5	D192-07	N	GEN PREP	300.0	III
20-Apr-2012	SL-202-NBZ-SS-0.0-0.5	D192-07	N	GEN PREP	314.0	III
20-Apr-2012	SL-202-NBZ-SS-0.0-0.5	D192-07	N	GEN PREP	6850	III
20-Apr-2012	SL-202-NBZ-SS-0.0-0.5	D192-07	N	GEN PREP	7199	III

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
20-Apr-2012	SL-202-NBZ-SS-0.0-0.5	D192-07	N	GEN PREP	8151A	III
20-Apr-2012	SL-202-NBZ-SS-0.0-0.5	D192-07	N	TOTAL	6020	III
20-Apr-2012	SL-202-NBZ-SS-0.0-0.5MS	D192-07M	MS	3550B	8082	III
20-Apr-2012	SL-202-NBZ-SS-0.0-0.5	D192-07R	N	GEN PREP	7199	III
20-Apr-2012	SL-202-NBZ-SS-0.0-0.5MSD	D192-07S	MSD	3550B	8082	III
20-Apr-2012	SL-202-NBZ-SS-0.0-0.5	D192-07W	N	TOTAL	6020	III
20-Apr-2012	SL-170-NBZ-SS-0.0-0.5	D192-05	N	3550B	8081A	III
20-Apr-2012	SL-170-NBZ-SS-0.0-0.5	D192-05	N	3550B	8082	III
20-Apr-2012	SL-170-NBZ-SS-0.0-0.5	D192-05	N	3550B	8270C	III
20-Apr-2012	SL-170-NBZ-SS-0.0-0.5	D192-05	N	3550B	8270C SIM	III
20-Apr-2012	SL-170-NBZ-SS-0.0-0.5	D192-05	N	7471A	7471A	III
20-Apr-2012	SL-170-NBZ-SS-0.0-0.5	D192-05	N	GEN PREP	300.0	III
20-Apr-2012	SL-170-NBZ-SS-0.0-0.5	D192-05	N	GEN PREP	314.0	III
20-Apr-2012	SL-170-NBZ-SS-0.0-0.5	D192-05	N	GEN PREP	6850	III
20-Apr-2012	SL-170-NBZ-SS-0.0-0.5	D192-05	N	GEN PREP	7199	III
20-Apr-2012	SL-170-NBZ-SS-0.0-0.5	D192-05	N	GEN PREP	8151A	III
20-Apr-2012	SL-170-NBZ-SS-0.0-0.5	D192-05	N	TOTAL	6020	III
20-Apr-2012	SL-170-NBZ-SS-0.0-0.5	D192-05R	N	GEN PREP	7199	III
20-Apr-2012	SL-170-NBZ-SS-0.0-0.5	D192-05W	N	TOTAL	6020	III
20-Apr-2012	SL-018-NBZ-SS-0.0-0.5	D192-02	N	3550B	8015B EFH	III
20-Apr-2012	SL-018-NBZ-SS-0.0-0.5	D192-02	N	3550B	8081A	III
20-Apr-2012	SL-018-NBZ-SS-0.0-0.5	D192-02	N	3550B	8082	III
20-Apr-2012	SL-018-NBZ-SS-0.0-0.5	D192-02	N	3550B	8270C	III
20-Apr-2012	SL-018-NBZ-SS-0.0-0.5	D192-02	N	3550B	8270C SIM	III
20-Apr-2012	SL-018-NBZ-SS-0.0-0.5	D192-02	N	7471A	7471A	III
20-Apr-2012	SL-018-NBZ-SS-0.0-0.5	D192-02	N	GEN PREP	300.0	III

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
20-Apr-2012	SL-018-NBZ-SS-0.0-0.5	D192-02	N	GEN PREP	314.0	III
20-Apr-2012	SL-018-NBZ-SS-0.0-0.5	D192-02	N	GEN PREP	6850	III
20-Apr-2012	SL-018-NBZ-SS-0.0-0.5	D192-02	N	GEN PREP	7199	III
20-Apr-2012	SL-018-NBZ-SS-0.0-0.5	D192-02	N	GEN PREP	8151A	III
20-Apr-2012	SL-018-NBZ-SS-0.0-0.5	D192-02	N	GEN PREP	8330A	III
20-Apr-2012	SL-018-NBZ-SS-0.0-0.5	D192-02	N	GEN PREP	8332	III
20-Apr-2012	SL-018-NBZ-SS-0.0-0.5	D192-02	N	GEN PREP	9014	III
20-Apr-2012	SL-018-NBZ-SS-0.0-0.5	D192-02	N	TOTAL	6020	III
20-Apr-2012	SL-018-NBZ-SS-0.0-0.5MS	D192-02M	MS	GEN PREP	300.0	III
20-Apr-2012	SL-018-NBZ-SS-0.0-0.5MS	D192-02M	MS	GEN PREP	314.0	III
20-Apr-2012	SL-018-NBZ-SS-0.0-0.5	D192-02R	N	GEN PREP	7199	III
20-Apr-2012	SL-018-NBZ-SS-0.0-0.5MSD	D192-02S	MSD	GEN PREP	300.0	III
20-Apr-2012	SL-018-NBZ-SS-0.0-0.5MSD	D192-02S	MSD	GEN PREP	314.0	III
20-Apr-2012	SL-018-NBZ-SS-0.0-0.5	D192-02W	N	TOTAL	6020	III
20-Apr-2012	SL-089-NBZ-SS-0.0-0.5	D192-04	N	3550B	8015B EFH	III
20-Apr-2012	SL-089-NBZ-SS-0.0-0.5	D192-04	N	3550B	8081A	III
20-Apr-2012	SL-089-NBZ-SS-0.0-0.5	D192-04	N	3550B	8082	III
20-Apr-2012	SL-089-NBZ-SS-0.0-0.5	D192-04	N	3550B	8270C	III
20-Apr-2012	SL-089-NBZ-SS-0.0-0.5	D192-04	N	3550B	8270C SIM	III
20-Apr-2012	SL-089-NBZ-SS-0.0-0.5	D192-04	N	7471A	7471A	III
20-Apr-2012	SL-089-NBZ-SS-0.0-0.5	D192-04	N	GEN PREP	300.0	III
20-Apr-2012	SL-089-NBZ-SS-0.0-0.5	D192-04	N	GEN PREP	314.0	III
20-Apr-2012	SL-089-NBZ-SS-0.0-0.5	D192-04	N	GEN PREP	6850	III
20-Apr-2012	SL-089-NBZ-SS-0.0-0.5	D192-04	N	GEN PREP	7199	III
20-Apr-2012	SL-089-NBZ-SS-0.0-0.5	D192-04	N	GEN PREP	8151A	III
20-Apr-2012	SL-089-NBZ-SS-0.0-0.5	D192-04	N	GEN PREP	8330A	III

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
20-Apr-2012	SL-089-NBZ-SS-0.0-0.5	D192-04	N	GEN PREP	8332	III
20-Apr-2012	SL-089-NBZ-SS-0.0-0.5	D192-04	N	GEN PREP	9014	III
20-Apr-2012	SL-089-NBZ-SS-0.0-0.5	D192-04	N	TOTAL	6020	III
20-Apr-2012	SL-089-NBZ-SS-0.0-0.5	D192-04R	N	GEN PREP	7199	III
20-Apr-2012	SL-089-NBZ-SS-0.0-0.5	D192-04W	N	TOTAL	6020	III
20-Apr-2012	SL-016-NBZ-SS-0.0-0.5	D192-01	N	3550B	8081A	III
20-Apr-2012	SL-016-NBZ-SS-0.0-0.5	D192-01	N	3550B	8082	III
20-Apr-2012	SL-016-NBZ-SS-0.0-0.5	D192-01	N	3550B	8270C	III
20-Apr-2012	SL-016-NBZ-SS-0.0-0.5	D192-01	N	3550B	8270C SIM	III
20-Apr-2012	SL-016-NBZ-SS-0.0-0.5	D192-01	N	7471A	7471A	III
20-Apr-2012	SL-016-NBZ-SS-0.0-0.5	D192-01	N	GEN PREP	300.0	III
20-Apr-2012	SL-016-NBZ-SS-0.0-0.5	D192-01	N	GEN PREP	314.0	III
20-Apr-2012	SL-016-NBZ-SS-0.0-0.5	D192-01	N	GEN PREP	6850	III
20-Apr-2012	SL-016-NBZ-SS-0.0-0.5	D192-01	N	GEN PREP	7199	III
20-Apr-2012	SL-016-NBZ-SS-0.0-0.5	D192-01	N	GEN PREP	8151A	III
20-Apr-2012	SL-016-NBZ-SS-0.0-0.5	D192-01	N	GEN PREP	8330A	III
20-Apr-2012	SL-016-NBZ-SS-0.0-0.5	D192-01	N	GEN PREP	8332	III
20-Apr-2012	SL-016-NBZ-SS-0.0-0.5	D192-01	N	GEN PREP	9014	III
20-Apr-2012	SL-016-NBZ-SS-0.0-0.5	D192-01	N	TOTAL	6020	III
20-Apr-2012	SL-016-NBZ-SS-0.0-0.5	D192-01R	N	3550B	8015B EFH	III
20-Apr-2012	SL-016-NBZ-SS-0.0-0.5	D192-01R	N	GEN PREP	7199	III
20-Apr-2012	SL-016-NBZ-SS-0.0-0.5	D192-01W	N	TOTAL	6020	III
20-Apr-2012	SL-171-NBZ-SS-0.0-0.5	D192-06	N	3550B	8081A	III
20-Apr-2012	SL-171-NBZ-SS-0.0-0.5	D192-06	N	3550B	8082	III
20-Apr-2012	SL-171-NBZ-SS-0.0-0.5	D192-06	N	3550B	8270C	III
20-Apr-2012	SL-171-NBZ-SS-0.0-0.5	D192-06	N	3550B	8270C SIM	III

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
20-Apr-2012	SL-171-NBZ-SS-0.0-0.5	D192-06	N	7471A	7471A	III
20-Apr-2012	SL-171-NBZ-SS-0.0-0.5	D192-06	N	GEN PREP	300.0	III
20-Apr-2012	SL-171-NBZ-SS-0.0-0.5	D192-06	N	GEN PREP	314.0	III
20-Apr-2012	SL-171-NBZ-SS-0.0-0.5	D192-06	N	GEN PREP	6850	III
20-Apr-2012	SL-171-NBZ-SS-0.0-0.5	D192-06	N	GEN PREP	7199	III
20-Apr-2012	SL-171-NBZ-SS-0.0-0.5	D192-06	N	GEN PREP	8151A	III
20-Apr-2012	SL-171-NBZ-SS-0.0-0.5	D192-06	N	TOTAL	6020	III
20-Apr-2012	SL-171-NBZ-SS-0.0-0.5	D192-06R	N	GEN PREP	7199	III
20-Apr-2012	SL-171-NBZ-SS-0.0-0.5	D192-06W	N	TOTAL	6020	III

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Attachment II

Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: 12D192 **Laboratory: EMXT**

EDD Filename: Prep12D192R **eQAPP Name: CDM_SSFL_120730_EMAX**

Method Category: GENCHEM

Method: 300.0 **Matrix: SO**

Sample ID: SL-018-NBZ-SS-0.0-0.5 *Collected:* 4/20/2012 10:59:00 *Analysis Type:* RES *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
FLUORIDE	0.811	J	0.607	MDL	1.21	PQL	MG/KG	J	Z

Method Category: GENCHEM

Method: 9014 **Matrix: SO**

Sample ID: SL-080-NBZ-SS-0.0-0.5 *Collected:* 4/20/2012 9:50:00 *Analysis Type:* RES *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CYANIDE	0.431	J	0.291	MDL	0.581	PQL	MG/KG	J	Z

Method Category: METALS

Method: 6020 **Matrix: SO**

Sample ID: SL-016-NBZ-SS-0.0-0.5 *Collected:* 4/20/2012 12:10:00 *Analysis Type:* RES/TOT *Dilution:* 0.985

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	0.252		0.124	MDL	0.248	PQL	MG/KG	J	Q
BARIUM	93.3		0.248	MDL	0.497	PQL	MG/KG	J	Q
LEAD	15.7		0.124	MDL	0.248	PQL	MG/KG	J	Q
SILVER	0.0730	J	0.0621	MDL	0.124	PQL	MG/KG	J	Z
SODIUM	107	J	62.1	MDL	124	PQL	MG/KG	J	Z
Zirconium	6.21	U	3.11	MDL	6.21	PQL	MG/KG	UJ	Q

Sample ID: SL-018-NBZ-SS-0.0-0.5 *Collected:* 4/20/2012 10:59:00 *Analysis Type:* RES/TOT *Dilution:* 0.976

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	0.240		0.118	MDL	0.237	PQL	MG/KG	J	Q
BARIUM	69.5		0.237	MDL	0.474	PQL	MG/KG	J	Q
BORON	3.46	J	2.96	MDL	5.92	PQL	MG/KG	J	Z
LEAD	10.5		0.118	MDL	0.237	PQL	MG/KG	J	Q
SODIUM	69.3	J	59.2	MDL	118	PQL	MG/KG	J	Z
Zirconium	5.92	U	2.96	MDL	5.92	PQL	MG/KG	UJ	Q

* denotes a non-reportable result

Project Name and Number: 1203-004-010-AL - SSFL AREA IV COLLOCATED SAMPLING

Data Qualifier Summary

Lab Reporting Batch ID: 12D192 **Laboratory: EMXT**

EDD Filename: Prep12D192R **eQAPP Name: CDM_SSFL_120730_EMAX**

Method Category: METALS

Method: 6020 **Matrix: SO**

Sample ID: SL-080-NBZ-SS-0.0-0.5 *Collected:* 4/20/2012 9:50:00 *Analysis Type:* RES/TOT *Dilution:* 0.985

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	0.192	J	0.115	MDL	0.229	PQL	MG/KG	J	Z, Q
BARIUM	70.3		0.229	MDL	0.458	PQL	MG/KG	J	Q
BORON	2.95	J	2.86	MDL	5.73	PQL	MG/KG	J	Z
LEAD	9.40		0.115	MDL	0.229	PQL	MG/KG	J	Q
SODIUM	59.0	J	57.3	MDL	115	PQL	MG/KG	J	Z
Zirconium	5.73	U	2.86	MDL	5.73	PQL	MG/KG	UJ	Q

Sample ID: SL-089-NBZ-SS-0.0-0.5 *Collected:* 4/20/2012 12:06:00 *Analysis Type:* RES/TOT *Dilution:* 0.990

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	0.254		0.112	MDL	0.224	PQL	MG/KG	J	Q
BARIUM	76.6		0.224	MDL	0.448	PQL	MG/KG	J	Q
BORON	3.38	J	2.80	MDL	5.60	PQL	MG/KG	J	Z
LEAD	13.1		0.112	MDL	0.224	PQL	MG/KG	J	Q
Zirconium	5.60	U	2.80	MDL	5.60	PQL	MG/KG	UJ	Q

Sample ID: SL-170-NBZ-SS-0.0-0.5 *Collected:* 4/20/2012 10:55:00 *Analysis Type:* RES/TOT *Dilution:* 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	0.188	J	0.110	MDL	0.219	PQL	MG/KG	J	Z, Q
BARIUM	63.0		0.219	MDL	0.439	PQL	MG/KG	J	Q
LEAD	7.49		0.110	MDL	0.219	PQL	MG/KG	J	Q
Zirconium	5.48	U	2.74	MDL	5.48	PQL	MG/KG	UJ	Q

Sample ID: SL-171-NBZ-SS-0.0-0.5 *Collected:* 4/20/2012 1:25:00 *Analysis Type:* RES/TOT *Dilution:* 0.976

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	0.207	J	0.106	MDL	0.213	PQL	MG/KG	J	Z, Q
BARIUM	75.9		0.213	MDL	0.426	PQL	MG/KG	J	Q
LEAD	6.98		0.106	MDL	0.213	PQL	MG/KG	J	Q
SODIUM	54.7	J	53.2	MDL	106	PQL	MG/KG	J	Z
Zirconium	5.32	U	2.66	MDL	5.32	PQL	MG/KG	UJ	Q

* denotes a non-reportable result

Project Name and Number: 1203-004-010-AL - SSFL AREA IV COLLOCATED SAMPLING

Data Qualifier Summary

Lab Reporting Batch ID: 12D192 **Laboratory: EMXT**

EDD Filename: Prep12D192R **eQAPP Name: CDM_SSFL_120730_EMAX**

Method Category: METALS

Method: 6020 **Matrix: SO**

Sample ID: SL-202-NBZ-SS-0.0-0.5 *Collected:* 4/20/2012 10:10:00 *Analysis Type:* RES/TOT *Dilution:* 0.976

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	0.170	J	0.105	MDL	0.210	PQL	MG/KG	J	Z, Q
BARIUM	104		0.210	MDL	0.420	PQL	MG/KG	J	Q
LEAD	5.80		0.105	MDL	0.210	PQL	MG/KG	J	Q
SELENIUM	0.365	J	0.210	MDL	0.420	PQL	MG/KG	J	Z
Zirconium	5.25	U	2.63	MDL	5.25	PQL	MG/KG	UJ	Q

Method Category: SVOA

Method: 8015B EFH **Matrix: SO**

Sample ID: SL-016-NBZ-SS-0.0-0.5 *Collected:* 4/20/2012 12:10:00 *Analysis Type:* RES *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
EFH(C8-C11)	0.88	J	0.63	MDL	1.3	PQL	MG/KG	J	Z

Sample ID: SL-089-NBZ-SS-0.0-0.5 *Collected:* 4/20/2012 12:06:00 *Analysis Type:* RES *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
EFH(C8-C11)	0.58	J	0.57	MDL	1.1	PQL	MG/KG	J	Z

Method Category: SVOA

Method: 8082 **Matrix: SO**

Sample ID: SL-089-NBZ-SS-0.0-0.5 *Collected:* 4/20/2012 12:06:00 *Analysis Type:* RES *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
Aroclor 5460	3.6	J	1.9	MDL	3.7	PQL	UG/KG	J	Z

* denotes a non-reportable result

Project Name and Number: 1203-004-010-AL - SSFL AREA IV COLLOCATED SAMPLING

Data Qualifier Summary

Lab Reporting Batch ID: 12D192 **Laboratory: EMXT**

EDD Filename: Prep12D192R **eQAPP Name: CDM_SSFL_120730_EMAX**

Method Category: SVOA

Method: 8270C SIM **Matrix: SO**

Sample ID: SL-018-NBZ-SS-0.0-0.5 *Collected:* 4/20/2012 10:59:00 *Analysis Type:* RES-BASE/NEUTRAL *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CHRYSENE	1.7	J	1.0	MDL	2.1	PQL	UG/KG	J	Z
PHENANTHRENE	1.4	J	1.0	MDL	2.1	PQL	UG/KG	J	Z

Sample ID: SL-080-NBZ-SS-0.0-0.5 *Collected:* 4/20/2012 9:50:00 *Analysis Type:* RES-BASE/NEUTRAL *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
INDENO(1,2,3-CD)PYRENE	1.7	J	0.99	MDL	2.0	PQL	UG/KG	J	Z
NAPHTHALENE	1.1	J	0.99	MDL	2.0	PQL	UG/KG	J	Z
PHENANTHRENE	1.9	J	0.99	MDL	2.0	PQL	UG/KG	J	Z

Sample ID: SL-089-NBZ-SS-0.0-0.5 *Collected:* 4/20/2012 12:06:00 *Analysis Type:* RES-BASE/NEUTRAL *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BENZO(A)ANTHRACENE	1.7	J	0.96	MDL	1.9	PQL	UG/KG	J	Z
Butylbenzylphthalate	14	J	9.5	MDL	19	PQL	UG/KG	J	Z

Sample ID: SL-170-NBZ-SS-0.0-0.5 *Collected:* 4/20/2012 10:55:00 *Analysis Type:* RES-BASE/NEUTRAL *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BENZO(A)ANTHRACENE	0.95	J	0.93	MDL	1.9	PQL	UG/KG	J	Z
BENZO(K)FLUORANTHENE	1.0	J	0.93	MDL	1.9	PQL	UG/KG	J	Z
Butylbenzylphthalate	13	J	9.2	MDL	18	PQL	UG/KG	J	Z
CHRYSENE	1.8	J	0.93	MDL	1.9	PQL	UG/KG	J	Z
FLUORENE	1.5	J	0.93	MDL	1.9	PQL	UG/KG	J	Z
PHENANTHRENE	1.6	J	0.93	MDL	1.9	PQL	UG/KG	J	Z

Sample ID: SL-171-NBZ-SS-0.0-0.5 *Collected:* 4/20/2012 1:25:00 *Analysis Type:* RES-BASE/NEUTRAL *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BENZO(A)PYRENE	1.0	J	0.93	MDL	1.9	PQL	UG/KG	J	Z
BENZO(G,H,I)PERYLENE	1.8	J	0.93	MDL	1.9	PQL	UG/KG	J	Z
Butylbenzylphthalate	15	J	9.2	MDL	18	PQL	UG/KG	J	Z
FLUORANTHENE	1.6	J	0.93	MDL	1.9	PQL	UG/KG	J	Z

* denotes a non-reportable result

Project Name and Number: 1203-004-010-AL - SSFL AREA IV COLLOCATED SAMPLING

Data Qualifier Summary

Lab Reporting Batch ID: 12D192 **Laboratory: EMXT**

EDD Filename: Prep12D192R **eQAPP Name: CDM_SSFL_120730_EMAX**

Method Category: **SVOA**

Method: **8270C SIM** ***Matrix:*** **SO**

Sample ID: **SL-171-NBZ-SS-0.0-0.5** ***Collected:*** **4/20/2012 1:25:00** ***Analysis Type:*** **RES-BASE/NEUTRAL** ***Dilution:*** 1

Analyte	*Lab Result*	*Lab Qual*	*DL*	*DL Type*	*RL*	*RL Type*	*Units*	*Data Review Qual*	*Reason Code*
INDENO(1,2,3-CD)PYRENE	1.5	J	0.93	MDL	1.9	PQL	UG/KG	J	Z
PYRENE	1.5	J	0.93	MDL	1.9	PQL	UG/KG	J	Z

* denotes a non-reportable result

Project Name and Number: 1203-004-010-AL - SSFL AREA IV COLLOCATED SAMPLING

Data Qualifier Summary

Lab Reporting Batch ID: 12D192 **Laboratory: EMXT**

EDD Filename: Prep12D192R **eQAPP Name: CDM_SSFL_120730_EMAX**

Reason Code Legend

Reason Code	*Description*
Q	Matrix Spike Lower Estimation
Q	Matrix Spike Upper Estimation
Z	Reporting Limit Trace Value

* denotes a non-reportable result

Project Name and Number: 1203-004-010-AL - SSFL AREA IV COLLOCATED SAMPLING

Enclosure I

Level III ADR Outliers
(including Manual Review Outliers)

Quality Control
Outlier Reports

12D192

Reporting Limit Outliers

Lab Reporting Batch ID: 12D192 **Laboratory: EMXT**

EDD Filename: Prep12D192R **eQAPP Name: CDM_SSFL_120730_EMAX**

Method: 300.0
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-018-NBZ-SS-0.0-0.5	FLUORIDE	J	0.811	1.21	PQL	MG/KG	J (all detects)

Method: 6020
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-016-NBZ-SS-0.0-0.5	SILVER	J	0.0730	0.124	PQL	MG/KG	J (all detects)
	SODIUM	J	107	124	PQL	MG/KG	
SL-018-NBZ-SS-0.0-0.5	BORON	J	3.46	5.92	PQL	MG/KG	J (all detects)
	SODIUM	J	69.3	118	PQL	MG/KG	
SL-080-NBZ-SS-0.0-0.5	ANTIMONY	J	0.192	0.229	PQL	MG/KG	J (all detects)
	BORON	J	2.95	5.73	PQL	MG/KG	
	SODIUM	J	59.0	115	PQL	MG/KG	
SL-089-NBZ-SS-0.0-0.5	BORON	J	3.38	5.60	PQL	MG/KG	J (all detects)
SL-170-NBZ-SS-0.0-0.5	ANTIMONY	J	0.188	0.219	PQL	MG/KG	J (all detects)
SL-171-NBZ-SS-0.0-0.5	ANTIMONY	J	0.207	0.213	PQL	MG/KG	J (all detects)
	SODIUM	J	54.7	106	PQL	MG/KG	
SL-202-NBZ-SS-0.0-0.5	ANTIMONY	J	0.170	0.210	PQL	MG/KG	J (all detects)
	SELENIUM	J	0.365	0.420	PQL	MG/KG	

Method: 8015B EFH
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-016-NBZ-SS-0.0-0.5	EFH(C8-C11)	J	0.88	1.3	PQL	MG/KG	J (all detects)
SL-089-NBZ-SS-0.0-0.5	EFH(C8-C11)	J	0.58	1.1	PQL	MG/KG	J (all detects)

Method: 8082
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-089-NBZ-SS-0.0-0.5	Aroclor 5460	J	3.6	3.7	PQL	UG/KG	J (all detects)

Method: 8270C SIM
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-018-NBZ-SS-0.0-0.5	CHRYSENE	J	1.7	2.1	PQL	UG/KG	J (all detects)
	PHENANTHRENE	J	1.4	2.1	PQL	UG/KG	

Project Name and Number: 1203-004-010-AL - SSFL AREA IV COLLOCATED SAMPLING

Reporting Limit Outliers

Lab Reporting Batch ID: 12D192 **Laboratory: EMXT**

EDD Filename: Prep12D192R **eQAPP Name: CDM_SSFL_120730_EMAX**

Method: 8270C SIM

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-080-NBZ-SS-0.0-0.5	INDENO(1,2,3-CD)PYRENE	J	1.7	2.0	PQL	UG/KG	J (all detects)
	NAPHTHALENE	J	1.1	2.0	PQL	UG/KG	
	PHENANTHRENE	J	1.9	2.0	PQL	UG/KG	
SL-089-NBZ-SS-0.0-0.5	BENZO(A)ANTHRACENE	J	1.7	1.9	PQL	UG/KG	J (all detects)
	Butylbenzylphthalate	J	14	19	PQL	UG/KG	
SL-170-NBZ-SS-0.0-0.5	BENZO(A)ANTHRACENE	J	0.95	1.9	PQL	UG/KG	J (all detects)
	BENZO(K)FLUORANTHENE	J	1.0	1.9	PQL	UG/KG	
	Butylbenzylphthalate	J	13	18	PQL	UG/KG	
	CHRYSENE	J	1.8	1.9	PQL	UG/KG	
	FLUORENE	J	1.5	1.9	PQL	UG/KG	
	PHENANTHRENE	J	1.6	1.9	PQL	UG/KG	
SL-171-NBZ-SS-0.0-0.5	BENZO(A)PYRENE	J	1.0	1.9	PQL	UG/KG	J (all detects)
	BENZO(G,H,I)PERYLENE	J	1.8	1.9	PQL	UG/KG	
	Butylbenzylphthalate	J	15	18	PQL	UG/KG	
	FLUORANTHENE	J	1.6	1.9	PQL	UG/KG	
	INDENO(1,2,3-CD)PYRENE	J	1.5	1.9	PQL	UG/KG	
	PYRENE	J	1.5	1.9	PQL	UG/KG	

Method: 9014

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-080-NBZ-SS-0.0-0.5	CYANIDE	J	0.431	0.581	PQL	MG/KG	J (all detects)

LDC #: 29230E4
SDG #: 12D192
Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 2/22/13
Page: 1 of 1
Reviewer: CL
2nd Reviewer: A

METHOD: Metals (EPA SW 846 Method 6010B/6020A/~~7000~~ 7471A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	—	Sampling dates: 4/20/12
II.	ICP/MS Tune	—	
III.	Calibration	—	
IV.	Blanks	A	
V.	ICP Interference Check Sample (ICS) Analysis	—	
VI.	Matrix Spike Analysis	SW	MS/D (SDG: 12D197 from)
VII.	Duplicate Sample Analysis	N	
VIII.	Laboratory Control Samples (LCS)	N	LCS/D
IX.	Internal Standard (ICP-MS)	N	
X.	Furnace Atomic Absorption QC	N	
XI.	ICP Serial Dilution	A	
XII.	Sample Result Verification	N	
XIII.	Overall Assessment of Data	N	
XIV.	Field Duplicates	—	
XV	Field Blanks	SW	EB= EB-NBZ-SS-041712(12015A)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Soil

1	SL-016-NBZ-SS-0.0-0.5	11		21		31	
2	SL-018-NBZ-SS-0.0-0.5	12		22		32	
3	SL-080-NBZ-SS-0.0-0.5	13		23		33	
4	SL-089-NBZ-SS-0.0-0.5	14		24		34	
5	SL-170-NBZ-SS-0.0-0.5	15		25		35	
6	SL-171-NBZ-SS-0.0-0.5	16		26		36	
7	SL-202-NBZ-SS-0.0-0.5	17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

LDC #: 29230E4

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: CM
2nd Reviewer: SA

METHOD: Trace Metals (EPA SW846 6010B/7000)

Blank units: mg/L **Associated sample units:** mg/Kg
Sampling date: 4/17/12 Soil factor applied 100x
Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: All

Analyte	Blank ID	Sample Identification										
	EB-NBZ-SS-041712	Action Limit	No Qualifiers (>5x)									
Cu	0.000613	0.3										
Ca	0.0492	24.6										
Ni	0.000255	0.1										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

SAMPLE DELIVERY GROUP

12D197

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
23-Apr-2012	SL-199-NBZ-SS-0.0-0.5	D197-01	N	3550B	8081A	III
23-Apr-2012	SL-199-NBZ-SS-0.0-0.5	D197-01	N	3550B	8082	III
23-Apr-2012	SL-199-NBZ-SS-0.0-0.5	D197-01	N	3550B	8270C	III
23-Apr-2012	SL-199-NBZ-SS-0.0-0.5	D197-01	N	3550B	8270C SIM	III
23-Apr-2012	SL-199-NBZ-SS-0.0-0.5	D197-01	N	7471A	7471A	III
23-Apr-2012	SL-199-NBZ-SS-0.0-0.5	D197-01	N	GEN PREP	300.0	III
23-Apr-2012	SL-199-NBZ-SS-0.0-0.5	D197-01	N	GEN PREP	314.0	III
23-Apr-2012	SL-199-NBZ-SS-0.0-0.5	D197-01	N	GEN PREP	7199	III
23-Apr-2012	SL-199-NBZ-SS-0.0-0.5	D197-01	N	GEN PREP	8151A	III
23-Apr-2012	SL-199-NBZ-SS-0.0-0.5	D197-01	N	TOTAL	6020	III
23-Apr-2012	SL-199-NBZ-SS-0.0-0.5	D197-01R	N	GEN PREP	7199	III
23-Apr-2012	SL-199-NBZ-SS-0.0-0.5	D197-01W	N	TOTAL	6020	III
23-Apr-2012	SL-200-NBZ-SS-0.0-0.5	D197-02	N	3550B	8081A	III
23-Apr-2012	SL-200-NBZ-SS-0.0-0.5	D197-02	N	3550B	8082	III
23-Apr-2012	SL-200-NBZ-SS-0.0-0.5	D197-02	N	3550B	8270C	III
23-Apr-2012	SL-200-NBZ-SS-0.0-0.5	D197-02	N	3550B	8270C SIM	III
23-Apr-2012	SL-200-NBZ-SS-0.0-0.5	D197-02	N	7471A	7471A	III
23-Apr-2012	SL-200-NBZ-SS-0.0-0.5	D197-02	N	GEN PREP	300.0	III
23-Apr-2012	SL-200-NBZ-SS-0.0-0.5	D197-02	N	GEN PREP	314.0	III
23-Apr-2012	SL-200-NBZ-SS-0.0-0.5	D197-02	N	GEN PREP	7199	III
23-Apr-2012	SL-200-NBZ-SS-0.0-0.5	D197-02	N	GEN PREP	8151A	III
23-Apr-2012	SL-200-NBZ-SS-0.0-0.5	D197-02	N	TOTAL	6020	III
23-Apr-2012	SL-200-NBZ-SS-0.0-0.5	D197-02R	N	GEN PREP	7199	III
23-Apr-2012	SL-200-NBZ-SS-0.0-0.5	D197-02W	N	TOTAL	6020	III
23-Apr-2012	SL-201-NBZ-SS-0.0-0.5	D197-03	N	3550B	8081A	III
23-Apr-2012	SL-201-NBZ-SS-0.0-0.5	D197-03	N	3550B	8082	III

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
23-Apr-2012	SL-201-NBZ-SS-0.0-0.5	D197-03	N	3550B	8270C	III
23-Apr-2012	SL-201-NBZ-SS-0.0-0.5	D197-03	N	3550B	8270C SIM	III
23-Apr-2012	SL-201-NBZ-SS-0.0-0.5	D197-03	N	7471A	7471A	III
23-Apr-2012	SL-201-NBZ-SS-0.0-0.5	D197-03	N	GEN PREP	300.0	III
23-Apr-2012	SL-201-NBZ-SS-0.0-0.5	D197-03	N	GEN PREP	314.0	III
23-Apr-2012	SL-201-NBZ-SS-0.0-0.5	D197-03	N	GEN PREP	7199	III
23-Apr-2012	SL-201-NBZ-SS-0.0-0.5	D197-03	N	GEN PREP	8151A	III
23-Apr-2012	SL-201-NBZ-SS-0.0-0.5	D197-03	N	TOTAL	6020	III
23-Apr-2012	SL-201-NBZ-SS-0.0-0.5MS	D197-03M	MS	TOTAL	6020	III
23-Apr-2012	SL-201-NBZ-SS-0.0-0.5	D197-03R	N	GEN PREP	7199	III
23-Apr-2012	SL-201-NBZ-SS-0.0-0.5MSD	D197-03S	MSD	TOTAL	6020	III
23-Apr-2012	SL-201-NBZ-SS-0.0-0.5	D197-03T	N	3550B	8081A	III
23-Apr-2012	SL-201-NBZ-SS-0.0-0.5	D197-03W	N	TOTAL	6020	III
23-Apr-2012	EB-NBZ-SS-042312	D197-04	EB	3520C	8081A	III
23-Apr-2012	EB-NBZ-SS-042312	D197-04	EB	3520C	8082	III
23-Apr-2012	EB-NBZ-SS-042312	D197-04	EB	3520C	8270C	III
23-Apr-2012	EB-NBZ-SS-042312	D197-04	EB	7470A	7470A	III
23-Apr-2012	EB-NBZ-SS-042312	D197-04	EB	GEN PREP	300.0	III
23-Apr-2012	EB-NBZ-SS-042312	D197-04	EB	GEN PREP	7199	III
23-Apr-2012	EB-NBZ-SS-042312	D197-04	EB	GEN PREP	8151A	III
23-Apr-2012	EB-NBZ-SS-042312	D197-04	EB	TOTAL	6020	III
23-Apr-2012	EB-NBZ-SS-042312	D197-04R	EB	GEN PREP	314.0	III
23-Apr-2012	EB-NBZ-SS-042312	D197-04R	EB	GEN PREP	7199	III

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Attachment II

Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: 12D197 **Laboratory: EMXT**

EDD Filename: Prep12D197R **eQAPP Name: CDM_SSFL_120730_EMAX**

Method Category: METALS
Method: 6020 **Matrix:** AQ

Sample ID: EB-NBZ-SS-042312 ***Collected:*** 4/23/2012 3:30:00 ***Analysis Type:*** RES/TOT ***Dilution:*** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CALCIUM	0.0303	J	0.0250	MDL	0.100	PQL	MG/L	J	Z
COPPER	0.000579	J	0.000500	MDL	0.00100	PQL	MG/L	J	Z
LEAD	0.000106	J	0.000100	MDL	0.00100	PQL	MG/L	J	Z

Method Category: METALS
Method: 6020 **Matrix:** SO

Sample ID: SL-199-NBZ-SS-0.0-0.5 ***Collected:*** 4/23/2012 9:42:00 ***Analysis Type:*** RES/TOT ***Dilution:*** 0.985

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	0.278		0.107	MDL	0.213	PQL	MG/KG	J	Q
BARIUM	63.2		0.213	MDL	0.427	PQL	MG/KG	J	Q
LEAD	8.76		0.107	MDL	0.213	PQL	MG/KG	J	Q
SELENIUM	0.253	J	0.213	MDL	0.427	PQL	MG/KG	J	Z
SODIUM	64.1	J	53.4	MDL	107	PQL	MG/KG	J	Z
Zirconium	5.34	U	2.67	MDL	5.34	PQL	MG/KG	UJ	Q

Sample ID: SL-200-NBZ-SS-0.0-0.5 ***Collected:*** 4/23/2012 10:39:00 ***Analysis Type:*** RES/TOT ***Dilution:*** 0.980

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	0.131	J	0.107	MDL	0.215	PQL	MG/KG	J	Z, Q
BARIUM	79.3		0.215	MDL	0.429	PQL	MG/KG	J	Q
LEAD	7.99		0.107	MDL	0.215	PQL	MG/KG	J	Q
SODIUM	56.4	J	53.7	MDL	107	PQL	MG/KG	J	Z
Zirconium	5.37	U	2.68	MDL	5.37	PQL	MG/KG	UJ	Q

Sample ID: SL-201-NBZ-SS-0.0-0.5 ***Collected:*** 4/23/2012 11:10:00 ***Analysis Type:*** RES/TOT ***Dilution:*** 0.995

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	0.438		0.117	MDL	0.234	PQL	MG/KG	J	Q
BARIUM	96.6		0.234	MDL	0.469	PQL	MG/KG	J	Q
LEAD	28.6		0.117	MDL	0.234	PQL	MG/KG	J	Q
Zirconium	5.86	U	2.93	MDL	5.86	PQL	MG/KG	UJ	Q

* denotes a non-reportable result

Project Name and Number: 1203-004-010-AL - SSFL AREA IV COLLOCATED SAMPLING

Data Qualifier Summary

Lab Reporting Batch ID: 12D197 **Laboratory: EMXT**

EDD Filename: Prep12D197R **eQAPP Name: CDM_SSFL_120730_EMAX**

Method Category: SVOA

Method: 8270C SIM **Matrix:** SO

Sample ID: **SL-200-NBZ-SS-0.0-0.5** ***Collected:*** **4/23/2012 10:39:00** ***Analysis Type:*** **RES-BASE/NEUTRAL** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BENZO(B)FLUORANTHENE	1.0	J	0.93	MDL	1.9	PQL	UG/KG	J	Z
BIS(2-ETHYLHEXYL)PHTHALATE	17	J	9.2	MDL	18	PQL	UG/KG	J	Z

Sample ID: **SL-201-NBZ-SS-0.0-0.5** ***Collected:*** **4/23/2012 11:10:00** ***Analysis Type:*** **RES-BASE/NEUTRAL** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1-METHYLNAPHTHALENE	1.5	J	1.0	MDL	2.0	PQL	UG/KG	J	Z
ACENAPHTHYLENE	1.8	J	1.0	MDL	2.0	PQL	UG/KG	J	Z
DIBENZO(A,H)ANTHRACENE	1.4	J	1.0	MDL	2.0	PQL	UG/KG	J	Z

* denotes a non-reportable result

Project Name and Number: 1203-004-010-AL - SSFL AREA IV COLLOCATED SAMPLING

Data Qualifier Summary

Lab Reporting Batch ID: 12D197 **Laboratory: EMXT**

EDD Filename: Prep12D197R **eQAPP Name: CDM_SSFL_120730_EMAX**

Reason Code Legend

Reason Code	*Description*
*XIII	Exceeded Calibration Range
A	Professional Judgment
B	Method Blank Contamination
Q	Matrix Spike Lower Estimation
Q	Matrix Spike Lower Rejection
Q	Matrix Spike Upper Estimation
Z	Reporting Limit Trace Value

* denotes a non-reportable result

Project Name and Number: 1203-004-010-AL - SSFL AREA IV COLLOCATED SAMPLING

Enclosure I

Level III ADR Outliers
(including Manual Review Outliers)

Quality Control
Outlier Reports

12D197

Matrix Spike/Matrix Spike Duplicate Outlier Report

Lab Reporting Batch ID: 12D197 **Laboratory: EMXT**

EDD Filename: Prep12D197R **eQAPP Name: CDM_SSFL_120730_EMAX**

Method: **6020**
Matrix: **SO**

QC Sample ID (Associated Samples)	*Compound*	*MS %R*	*MSD %R*	*%R Limits*	*RPD (Limits)*	*Affected Compounds*	*Flag*
SL-201-NBZ-SS-0.0-0.5MS (TOT) **SL-201-NBZ-SS-0.0-0.5MSD (TOT)** (SL-199-NBZ-SS-0.0-0.5 SL -200-NBZ-SS-0.0-0.5 SL -201-NBZ-SS-0.0-0.5)	BARIUM LEAD	- 128	143 128	75.00-125.00 75.00-125.00	- -	BARIUM LEAD	J (all detects)
SL-201-NBZ-SS-0.0-0.5MS (TOT) **SL-201-NBZ-SS-0.0-0.5MSD (TOT)** (SL-199-NBZ-SS-0.0-0.5 SL -200-NBZ-SS-0.0-0.5 SL -201-NBZ-SS-0.0-0.5)	TITANIUM	-49	266	75.00-125.00	-	TITANIUM	No Qual, 4X
SL-201-NBZ-SS-0.0-0.5MS (TOT) **SL-201-NBZ-SS-0.0-0.5MSD (TOT)** (SL-199-NBZ-SS-0.0-0.5 SL -200-NBZ-SS-0.0-0.5 SL -201-NBZ-SS-0.0-0.5)	ALUMINUM ANTIMONY IRON MANGANESE Zirconium	54 - 48 52 44	139 73 126 177 50	75.00-125.00 75.00-125.00 75.00-125.00 75.00-125.00 75.00-125.00	- - - - -	ALUMINUM ANTIMONY IRON MANGANESE Zirconium	J(all detects) UJ(all non-detects) Al, Fe, Mn No Qual, >4X

Project Name and Number: 1203-004-010-AL - SSFL AREA IV COLLOCATED SAMPLING

Reporting Limit Outliers

Lab Reporting Batch ID: 12D197 **Laboratory: EMXT**

EDD Filename: Prep12D197R **eQAPP Name: CDM_SSFL_120730_EMAX**

Method: 6020
Matrix: AQ

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
EB-NBZ-SS-042312	CALCIUM	J	0.0303	0.100	PQL	MG/L	J (all detects)
	COPPER	J	0.000579	0.00100	PQL	MG/L	
	LEAD	J	0.000106	0.00100	PQL	MG/L	

Method: 6020
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-199-NBZ-SS-0.0-0.5	SELENIUM	J	0.253	0.427	PQL	MG/KG	J (all detects)
	SODIUM	J	64.1	107	PQL	MG/KG	
SL-200-NBZ-SS-0.0-0.5	ANTIMONY	J	0.131	0.215	PQL	MG/KG	J (all detects)
	SODIUM	J	56.4	107	PQL	MG/KG	

Method: 8270C SIM
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-200-NBZ-SS-0.0-0.5	BENZO(B)FLUORANTHENE	J	1.0	1.9	PQL	UG/KG	J (all detects)
	BIS(2-ETHYLHEXYL)PHTHALATE	J	17	18	PQL	UG/KG	
SL-201-NBZ-SS-0.0-0.5	1-METHYLNAPHTHALENE	J	1.5	2.0	PQL	UG/KG	J (all detects)
	ACENAPHTHYLENE	J	1.8	2.0	PQL	UG/KG	
	DIBENZO(A,H)ANTHRACENE	J	1.4	2.0	PQL	UG/KG	

LDC #: 29230F4
SDG #: 12D197
Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

ADR
7470A/7471A

Date: 2/22/13
Page: 1 of 1
Reviewer: CL
2nd Reviewer: A

METHOD: Metals (EPA SW 846 Method ~~6010B~~/6020~~A~~/~~7000~~)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/23/12
II.	ICP/MS Tune	—	
III.	Calibration	—	
IV.	Blanks	A	
V.	ICP Interference Check Sample (ICS) Analysis	—	
VI.	Matrix Spike Analysis	N	MS/D (Al, Fe, Mn, Ti >4X)
VII.	Duplicate Sample Analysis	N	
VIII.	Laboratory Control Samples (LCS)	N	LCS/D
IX.	Internal Standard (ICP-MS)	N	
X.	Furnace Atomic Absorption QC	N	
XI.	ICP Serial Dilution	A	
XII.	Sample Result Verification	N	
XIII.	Overall Assessment of Data	N	
XIV.	Field Duplicates	—	
XV	Field Blanks	SW	EB=4

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: soil/water

1	SL-199-NBZ-SS-0.0-0.5	11		21		31	
2	SL-200-NBZ-SS-0.0-0.5	12		22		32	
3	SL-201-NBZ-SS-0.0-0.5	13		23		33	
4	EB-NBZ-SS-042312 W	14		24		34	
5	SL-201-NBZ-SS-0.0-0.5MS	15		25		35	
6	SL-201-NBZ-SS-0.0-0.5MSD	16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 29230F4

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: CR
2nd Reviewer: A

METHOD: Trace Metals (EPA SW846 6010B/7000)

Blank units: mg/L **Associated sample units:** mg/Kg
Sampling date: 4/17/12 Soil factor applied 100x
Field blank type: (circle one) Field Blank / Rinsate / Other: Associated Samples: All Soil

Analyte	Blank ID	Sample Identification										
	4	Action Limit	No Qualifiers (>5x)									
Ca	0.0303	15.15										
Cu	0.000579	0.2895										
Pb	0.000106	0.053										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

SAMPLE DELIVERY GROUP

DE296

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
12-Mar-2012	SL-003-NBZ-SS-0.0-0.5	6577278	N	3546	1625C	III
12-Mar-2012	SL-003-NBZ-SS-0.0-0.5	6577278	N	3550B	8015B	III
12-Mar-2012	SL-003-NBZ-SS-0.0-0.5	6577278	N	METHOD	8315A	III
12-Mar-2012	SL-003-NBZ-SB-4.0-5.0	6577279	N	3546	1625C	III
12-Mar-2012	SL-003-NBZ-SB-4.0-5.0	6577279	N	3550B	8015B	III
12-Mar-2012	SL-003-NBZ-SB-4.0-5.0	6577279	N	METHOD	8315A	III
12-Mar-2012	SL-002-NBZ-SS-0.0-0.5	6577275	N	3546	1625C	III
12-Mar-2012	SL-002-NBZ-SS-0.0-0.5	6577275	N	3550B	8015B	III
12-Mar-2012	SL-002-NBZ-SS-0.0-0.5	6577275	N	METHOD	8315A	III
12-Mar-2012	SL-002-NBZ-SS-0.0-0.5MSD	P577275M241827A	MSD	METHOD	8315A	III
12-Mar-2012	SL-002-NBZ-SS-0.0-0.5MSD	P577275M261813	MSD	3546	1625C	III
12-Mar-2012	SL-002-NBZ-SS-0.0-0.5MS	P577275R241817A	MS	METHOD	8315A	III
12-Mar-2012	SL-002-NBZ-SS-0.0-0.5MS	P577275R261753	MS	3546	1625C	III
12-Mar-2012	SL-002-NBZ-SB-4.0-5.0	6577276	N	3546	1625C	III
12-Mar-2012	SL-002-NBZ-SB-4.0-5.0	6577276	N	3550B	8015B	III
12-Mar-2012	SL-002-NBZ-SB-4.0-5.0	6577276	N	METHOD	8315A	III
12-Mar-2012	SL-002-NBZ-SB-7.5-8.5	6577277	N	3546	1625C	III
12-Mar-2012	SL-002-NBZ-SB-7.5-8.5	6577277	N	3550B	8015B	III
12-Mar-2012	SL-002-NBZ-SB-7.5-8.5	6577277	N	METHOD	8315A	III
12-Mar-2012	SL-010-NBZ-SB-4.0-5.0	6577282	N	3546	1625C	III
12-Mar-2012	SL-010-NBZ-SB-4.0-5.0	6577282	N	3550B	8015B	III
12-Mar-2012	SL-010-NBZ-SB-4.0-5.0	6577282	N	METHOD	8315A	III
12-Mar-2012	SL-007-NBZ-SB-4.0-5.0	6577280	N	3546	1625C	III
12-Mar-2012	SL-007-NBZ-SB-4.0-5.0	6577280	N	3550B	8015B	III
12-Mar-2012	SL-007-NBZ-SB-4.0-5.0	6577280	N	METHOD	8315A	III
12-Mar-2012	SL-007-NBZ-SB-9.0-10.0	6577281	N	3546	1625C	III

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
12-Mar-2012	SL-007-NBZ-SB-9.0-10.0	6577281	N	3550B	8015B	III
12-Mar-2012	SL-007-NBZ-SB-9.0-10.0	6577281	N	METHOD	8315A	III
13-Mar-2012	SL-006-NBZ-SB-3.0-4.0	6577284	N	3546	1625C	III
13-Mar-2012	SL-006-NBZ-SB-3.0-4.0	6577284	N	3550B	8015B	III
13-Mar-2012	SL-006-NBZ-SB-3.0-4.0	6577284	N	METHOD	8315A	III
13-Mar-2012	SL-005-NBZ-SB-4.0-5.0	6577283	N	3546	1625C	III
13-Mar-2012	SL-005-NBZ-SB-4.0-5.0	6577283	N	3550B	8015B	III
13-Mar-2012	SL-005-NBZ-SB-4.0-5.0	6577283	N	METHOD	8315A	III
13-Mar-2012	SL-015-NBZ-SS-0.0-0.5	6577285	N	3546	1625C	III
13-Mar-2012	SL-015-NBZ-SS-0.0-0.5	6577285	N	3550B	8015B	III
13-Mar-2012	SL-015-NBZ-SS-0.0-0.5	6577285	N	METHOD	8315A	III
13-Mar-2012	SL-021-NBZ-SS-0.0-0.5	6577286	N	3546	1625C	III
13-Mar-2012	SL-021-NBZ-SS-0.0-0.5	6577286	N	3550B	8015B	III
13-Mar-2012	SL-021-NBZ-SS-0.0-0.5	6577286	N	METHOD	8315A	III
13-Mar-2012	SL-021-NBZ-SB-4.0-5.0	6577287	N	3546	1625C	III
13-Mar-2012	SL-021-NBZ-SB-4.0-5.0	6577287	N	3550B	8015B	III
13-Mar-2012	SL-021-NBZ-SB-4.0-5.0	6577287	N	METHOD	8315A	III

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Attachment II

Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: DE296 **Laboratory: LL**

EDD Filename: DE296_v1 **eQAPP Name: CDM_SSFL_120718_Lan**

Method Category: **SVOA**

Method: **8315A** ***Matrix:*** **SO**

Sample ID: **SL-021-NBZ-SS-0.0-0.5** *Collected:* **3/13/2012 3:30:00** *Analysis Type:* **RES** *Dilution:* 1

Analyte	*Lab Result*	*Lab Qual*	*DL*	*DL Type*	*RL*	*RL Type*	*Units*	*Data Review Qual*	*Reason Code*
FORMALDEHYDE	740	J	620	MDL	1500	PQL	ug/Kg	J	Z

* denotes a non-reportable result

Project Name and Number: 1203-004-009-AL - SSFL Area IV Collocated Soil Sampling

Data Qualifier Summary

Lab Reporting Batch ID: DE296 **Laboratory: LL**

EDD Filename: DE296_v1 **eQAPP Name: CDM_SSFL_120718_Lan**

Reason Code Legend

Reason Code	*Description*
S	Surrogate/Tracer Recovery Upper Estimation
Z	Reporting Limit Trace Value

* denotes a non-reportable result

Project Name and Number: 1203-004-009-AL - SSFL Area IV Collocated Soil Sampling

Enclosure I

Level III ADR Outliers
(including Manual Review Outliers)

Quality Control
Outlier Reports

DE296

Reporting Limit Outliers

Lab Reporting Batch ID: DE296 **Laboratory: LL**

EDD Filename: DE296_v1 **eQAPP Name: CDM_SSFL_120718_Lan**

Method: **8315A**

Matrix: **SO**

SampleID	*Analyte*	*Lab Qual*	*Result*	*Reporting Limit*	*RL Type*	*Units*	*Flag*
SL-021-NBZ-SS-0.0-0.5	FORMALDEHYDE	J	740	1500	PQL	ug/Kg	J (all detects)

SAMPLE DELIVERY GROUP

DE297

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
13-Mar-2012	SL-019-NBZ-SS-0.0-0.5	6580645	N	3546	1625C	III
13-Mar-2012	SL-019-NBZ-SS-0.0-0.5	6580645	N	3550B	8015B	III
13-Mar-2012	SL-019-NBZ-SS-0.0-0.5	6580645	N	METHOD	8315A	III
13-Mar-2012	SL-019-NBZ-SS-0.0-0.5MSD	P580645M242141A	MSD	METHOD	8315A	III
13-Mar-2012	SL-019-NBZ-SS-0.0-0.5MS	P580645R242131A	MS	METHOD	8315A	III
13-Mar-2012	SL-019-NBZ-SB-3.0-4.0	6580644	N	3546	1625C	III
13-Mar-2012	SL-019-NBZ-SB-3.0-4.0	6580644	N	3550B	8015B	III
13-Mar-2012	SL-019-NBZ-SB-3.0-4.0	6580644	N	METHOD	8315A	III
13-Mar-2012	SL-019-NBZ-SB-3.0-4.0MSD	P580644M261307	MSD	3546	1625C	III
13-Mar-2012	SL-019-NBZ-SB-3.0-4.0MS	P580644R261248	MS	3546	1625C	III
14-Mar-2012	SL-022-NBZ-SS-0.0-0.5	6580650	N	3546	1625C	III
14-Mar-2012	SL-022-NBZ-SS-0.0-0.5	6580650	N	3550B	8015B	III
14-Mar-2012	SL-022-NBZ-SS-0.0-0.5	6580650	N	METHOD	8315A	III
14-Mar-2012	SL-022-NBZ-SB-4.0-5.0	6580646	N	3546	1625C	III
14-Mar-2012	SL-022-NBZ-SB-4.0-5.0	6580646	N	3550B	8015B	III
14-Mar-2012	SL-022-NBZ-SB-4.0-5.0	6580646	N	METHOD	8315A	III
14-Mar-2012	SL-022-NBZ-SB-9.0-10.0	6580647	N	3546	1625C	III
14-Mar-2012	SL-022-NBZ-SB-9.0-10.0	6580647	N	3550B	8015B	III
14-Mar-2012	SL-022-NBZ-SB-9.0-10.0	6580647	N	METHOD	8315A	III
14-Mar-2012	SL-024-NBZ-SS-0.0-0.5	6580652	N	3546	1625C	III
14-Mar-2012	SL-024-NBZ-SS-0.0-0.5	6580652	N	3550B	8015B	III
14-Mar-2012	SL-024-NBZ-SS-0.0-0.5	6580652	N	METHOD	8315A	III
14-Mar-2012	SL-023-NBZ-SS-0.0-0.5	6580651	N	3546	1625C	III
14-Mar-2012	SL-023-NBZ-SS-0.0-0.5	6580651	N	3550B	8015B	III
14-Mar-2012	SL-023-NBZ-SS-0.0-0.5	6580651	N	METHOD	8315A	III
14-Mar-2012	SL-023-NBZ-SB-4.0-5.0	6580648	N	3546	1625C	III

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
14-Mar-2012	SL-023-NBZ-SB-4.0-5.0	6580648	N	3550B	8015B	III
14-Mar-2012	SL-023-NBZ-SB-4.0-5.0	6580648	N	METHOD	8315A	III
14-Mar-2012	SL-023-NBZ-SB-8.5-9.5	6580649	N	3546	1625C	III
14-Mar-2012	SL-023-NBZ-SB-8.5-9.5	6580649	N	3550B	8015B	III
14-Mar-2012	SL-023-NBZ-SB-8.5-9.5	6580649	N	METHOD	8315A	III
14-Mar-2012	SL-030-NBZ-SS-0.0-0.5	6580653	N	3546	1625C	III
14-Mar-2012	SL-030-NBZ-SS-0.0-0.5	6580653	N	3550B	8015B	III
14-Mar-2012	SL-030-NBZ-SS-0.0-0.5	6580653	N	METHOD	8315A	III
15-Mar-2012	SL-029-NBZ-SS-0.0-0.5	6580654	N	3546	1625C	III
15-Mar-2012	SL-029-NBZ-SS-0.0-0.5	6580654	N	3550B	8015B	III
15-Mar-2012	SL-029-NBZ-SS-0.0-0.5	6580654	N	METHOD	8315A	III
15-Mar-2012	SL-058-NBZ-SS-0.0-0.5	6580656	N	3546	1625C	III
15-Mar-2012	SL-058-NBZ-SS-0.0-0.5	6580656	N	3550B	8015B	III
15-Mar-2012	SL-058-NBZ-SS-0.0-0.5	6580656	N	METHOD	8315A	III
15-Mar-2012	SL-052-NBZ-SS-0.0-0.5	6580655	N	3546	1625C	III
15-Mar-2012	SL-052-NBZ-SS-0.0-0.5	6580655	N	3550B	8015B	III
15-Mar-2012	SL-052-NBZ-SS-0.0-0.5	6580655	N	METHOD	8315A	III
15-Mar-2012	EB-NBZ-SS-031512	6580658	EB	3510C	8015B	III
15-Mar-2012	EB-NBZ-SS-031512	6580658	EB	3520C	1625C	III
15-Mar-2012	EB-NBZ-SS-031512	6580658	EB	METHOD	8315A	III
15-Mar-2012	EB-NBZ-SB-031512	6580657	EB	3510C	8015B	III
15-Mar-2012	EB-NBZ-SB-031512	6580657	EB	3520C	1625C	III
15-Mar-2012	EB-NBZ-SB-031512	6580657	EB	METHOD	8315A	III

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Attachment II

Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: DE297 **Laboratory:** LL

EDD Filename: DE297_v1 **eQAPP Name:** CDM_SSFL_120718_Lan

Method Category: SVOA

Method: 1625C **Matrix:** SO

Sample ID: SL-019-NBZ-SB-3.0-4.0 *Collected:* 3/13/2012 2:35:00 *Analysis Type:* RES-BASE/NEUTRAL *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
N-NITROSODIMETHYLAMINE	17.7	U	17.7	MDL	35.4	PQL	ng/Kg	UJ	Q

* denotes a non-reportable result

Project Name and Number: 1203-004-009-AL - SSFL Area IV Collocated Soil Sampling

Data Qualifier Summary

Lab Reporting Batch ID: DE297 **Laboratory: LL**

EDD Filename: DE297_v1 **eQAPP Name: CDM_SSFL_120718_Lan**

Reason Code Legend

Reason Code	*Description*
B	Method Blank Contamination
Q	Matrix Spike Lower Estimation
S	Surrogate/Tracer Recovery Upper Estimation

* denotes a non-reportable result

Project Name and Number: 1203-004-009-AL - SSFL Area IV Collocated Soil Sampling

Enclosure I

Level III ADR Outliers
(including Manual Review Outliers)

Quality Control
Outlier Reports

DE297

Matrix Spike/Matrix Spike Duplicate Outlier Report

Lab Reporting Batch ID: DE297 **Laboratory: LL**

EDD Filename: DE297_v1 **eQAPP Name: CDM_SSFL_120718_Lan**

Method: **1625C**
Matrix: **SO**

QC Sample ID (Associated Samples)	*Compound*	*MS %R*	*MSD %R*	*%R Limits*	*RPD (Limits)*	*Affected Compounds*	*Flag*
SL-019-NBZ-SB-3.0-4.0MS (SL-019-NBZ-SB-3.0-4.0)	N-NITROSODIMETHYLAMINE	67	-	70.00-130.00	-	N-NITROSODIMETHYLAMINE	J (all detects) UJ (all non-detects)

SAMPLE DELIVERY GROUP

DE298

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
15-Mar-2012	SL-053-NBZ-SS-0.0-0.5	6582497	N	3546	1625C	III
15-Mar-2012	SL-053-NBZ-SS-0.0-0.5	6582497	N	3550B	8015B	III
15-Mar-2012	SL-053-NBZ-SS-0.0-0.5	6582497	N	METHOD	8315A	III
15-Mar-2012	SL-053-NBZ-SB-3.5-4.5	6582498	N	3546	1625C	III
15-Mar-2012	SL-053-NBZ-SB-3.5-4.5	6582498	N	3550B	8015B	III
15-Mar-2012	SL-053-NBZ-SB-3.5-4.5	6582498	N	METHOD	8315A	III
15-Mar-2012	SL-056-NBZ-SS-0.0-0.5	6582499	N	3546	1625C	III
15-Mar-2012	SL-056-NBZ-SS-0.0-0.5	6582499	N	3550B	8015B	III
15-Mar-2012	SL-056-NBZ-SS-0.0-0.5	6582499	N	METHOD	8315A	III
15-Mar-2012	SL-056-NBZ-SB-3.0-4.0	6582500	N	3546	1625C	III
15-Mar-2012	SL-056-NBZ-SB-3.0-4.0	6582500	N	3550B	8015B	III
15-Mar-2012	SL-056-NBZ-SB-3.0-4.0	6582500	N	METHOD	8315A	III
16-Mar-2012	SL-068-NBZ-SB-2.5-3.5	6582502	N	3546	1625C	III
16-Mar-2012	SL-068-NBZ-SB-2.5-3.5	6582502	N	METHOD	8315A	III
16-Mar-2012	SL-068-NBZ-SB-2.5-3.5 MS	6582503	MS	3546	1625C	III
16-Mar-2012	SL-068-NBZ-SB-2.5-3.5 MS	6582503	MS	METHOD	8315A	III
16-Mar-2012	SL-068-NBZ-SB-2.5-3.5 MSD	6582504	MSD	3546	1625C	III
16-Mar-2012	SL-068-NBZ-SB-2.5-3.5 MSD	6582504	MSD	METHOD	8315A	III
16-Mar-2012	SL-067-NBZ-SB-1.5-2.5	6582501	N	3546	1625C	III
16-Mar-2012	SL-067-NBZ-SB-1.5-2.5	6582501	N	3550B	8015B	III
16-Mar-2012	SL-067-NBZ-SB-1.5-2.5	6582501	N	METHOD	8315A	III
16-Mar-2012	DUP-01-NBZ-QC-031612	6582508	FD	3546	1625C	III
16-Mar-2012	DUP-01-NBZ-QC-031612	6582508	FD	3550B	8015B	III
16-Mar-2012	DUP-01-NBZ-QC-031612	6582508	FD	METHOD	8315A	III
16-Mar-2012	SL-072-NBZ-SB-4.0-5.0	6582507	N	3546	1625C	III
16-Mar-2012	SL-072-NBZ-SB-4.0-5.0	6582507	N	3550B	8015B	III

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
16-Mar-2012	SL-072-NBZ-SB-4.0-5.0	6582507	N	METHOD	8315A	III

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Attachment II

Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: DE298 **Laboratory:** LL

EDD Filename: DE298_v1 **eQAPP Name:** CDM_SSFL_120718_Lan

Method Category: SVOA

Method: 8315A **Matrix:** SO

Sample ID: SL-067-NBZ-SB-1.5-2.5 *Collected:* 3/16/2012 11:45:00 *Analysis Type:* RES *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
FORMALDEHYDE	910	J	640	MDL	1600	PQL	ug/Kg	U	B

* denotes a non-reportable result

Project Name and Number: 1203-004-009-AL - SSFL Area IV Collocated Soil Sampling

Data Qualifier Summary

Lab Reporting Batch ID: DE298 **Laboratory: LL**

EDD Filename: DE298_v1 **eQAPP Name: CDM_SSFL_120718_Lan**

Reason Code Legend

Reason Code	*Description*
B	Method Blank Contamination
E	Laboratory Duplicate Precision
Q	Laboratory Duplicate Precision
Z	Reporting Limit Trace Value

* denotes a non-reportable result

Project Name and Number: 1203-004-009-AL - SSFL Area IV Collocated Soil Sampling

Enclosure I

Level III ADR Outliers
(including Manual Review Outliers)

Quality Control
Outlier Reports

DE298

Method Blank Outlier Report

Lab Reporting Batch ID: DE298 Laboratory: LL

EDD Filename: DE298_v1 eQAPP Name: CDM_SSFL_120718_Lan

Method: 8315A
Matrix: SO

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples
P81813AB241915A	3/23/2012 7:15:00 PM	FORMALDEHYDE	1300 ug/Kg	DUP-01-NBZ-QC-031612 SL-053-NBZ-SB-3.5-4.5 SL-053-NBZ-SS-0.0-0.5 SL-056-NBZ-SB-3.0-4.0 SL-056-NBZ-SS-0.0-0.5 SL-067-NBZ-SB-1.5-2.5 SL-068-NBZ-SB-2.5-3.5 SL-072-NBZ-SB-4.0-5.0

The following samples and their listed target analytes were qualified due to contamination reported in this blank

Sample ID	Analyte	Reported Result	Modified Final Result
SL-067-NBZ-SB-1.5-2.5(RES)	FORMALDEHYDE	910 ug/Kg	1600U ug/Kg

Reporting Limit Outliers

Lab Reporting Batch ID: DE298 **Laboratory:** LL

EDD Filename: DE298_v1 **eQAPP Name:** CDM_SSFL_120718_Lan

Method: 8315A
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-067-NBZ-SB-1.5-2.5	FORMALDEHYDE	J	910	1600	PQL	ug/Kg	J (all detects)

SAMPLE DELIVERY GROUP

DE299

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
19-Mar-2012	SL-071-NBZ-SB-4.0-5.0	6587615	N	3546	1625C	III
19-Mar-2012	SL-071-NBZ-SB-4.0-5.0	6587615	N	3550B	8015B	III
19-Mar-2012	SL-071-NBZ-SB-4.0-5.0	6587615	N	METHOD	8315A	III
19-Mar-2012	SL-071-NBZ-SB-4.0-5.0MSD	P587615M242157A	MSD	METHOD	8315A	III
19-Mar-2012	SL-071-NBZ-SB-4.0-5.0MS	P587615R242148A	MS	METHOD	8315A	III
19-Mar-2012	SL-074-NBZ-SB-0.5-1.5	6587618	N	3546	1625C	III
19-Mar-2012	SL-074-NBZ-SB-0.5-1.5	6587618	N	3550B	8015B	III
19-Mar-2012	SL-074-NBZ-SB-0.5-1.5	6587618	N	METHOD	8315A	III
19-Mar-2012	SL-073-NBZ-SB-9.0-10.0	6587617	N	3546	1625C	III
19-Mar-2012	SL-073-NBZ-SB-9.0-10.0	6587617	N	3550B	8015B	III
19-Mar-2012	SL-073-NBZ-SB-9.0-10.0	6587617	N	METHOD	8315A	III
19-Mar-2012	SL-073-NBZ-SB-4.0-5.0	6587616	N	3546	1625C	III
19-Mar-2012	SL-073-NBZ-SB-4.0-5.0	6587616	N	3550B	8015B	III
19-Mar-2012	SL-073-NBZ-SB-4.0-5.0	6587616	N	METHOD	8315A	III
20-Mar-2012	SL-075-NBZ-SS-0.0-0.5	6587621	N	3546	1625C	III
20-Mar-2012	SL-075-NBZ-SS-0.0-0.5	6587621	N	3550B	8015B	III
20-Mar-2012	SL-075-NBZ-SS-0.0-0.5	6587621	N	METHOD	8315A	III
20-Mar-2012	SL-076-NBZ-SS-0.0-0.5	6587622	N	3546	1625C	III
20-Mar-2012	SL-076-NBZ-SS-0.0-0.5	6587622	N	3550B	8015B	III
20-Mar-2012	SL-076-NBZ-SS-0.0-0.5	6587622	N	METHOD	8315A	III
20-Mar-2012	SL-077-NBZ-SS-0.0-0.5	6587623	N	3546	1625C	III
20-Mar-2012	SL-077-NBZ-SS-0.0-0.5	6587623	N	3550B	8015B	III
20-Mar-2012	SL-077-NBZ-SS-0.0-0.5	6587623	N	METHOD	8315A	III
20-Mar-2012	SL-077-NBZ-SB-2.5-3.5	6587624	N	3546	1625C	III
20-Mar-2012	SL-077-NBZ-SB-2.5-3.5	6587624	N	3550B	8015B	III
20-Mar-2012	SL-077-NBZ-SB-2.5-3.5	6587624	N	METHOD	8315A	III

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
20-Mar-2012	SL-069-NBZ-SB-3.0-4.0	6587619	N	3546	1625C	III
20-Mar-2012	SL-069-NBZ-SB-3.0-4.0	6587619	N	3550B	8015B	III
20-Mar-2012	SL-069-NBZ-SB-3.0-4.0	6587619	N	METHOD	8315A	III
20-Mar-2012	SL-070-NBZ-SS-0.0-0.5	6587620	N	3546	1625C	III
20-Mar-2012	SL-070-NBZ-SS-0.0-0.5	6587620	N	3550B	8015B	III
20-Mar-2012	SL-070-NBZ-SS-0.0-0.5	6587620	N	METHOD	8315A	III
21-Mar-2012	SL-066-NBZ-SB-2.0-3.0	6587626	N	3546	1625C	III
21-Mar-2012	SL-066-NBZ-SB-2.0-3.0	6587626	N	3550B	8015B	III
21-Mar-2012	SL-066-NBZ-SB-2.0-3.0	6587626	N	METHOD	8315A	III
21-Mar-2012	SL-065-NBZ-SB-1.0-2.0	6587625	N	3546	1625C	III
21-Mar-2012	SL-065-NBZ-SB-1.0-2.0	6587625	N	3550B	8015B	III
21-Mar-2012	SL-065-NBZ-SB-1.0-2.0	6587625	N	METHOD	8315A	III
21-Mar-2012	EB-NBZ-SS-032112	6587627	EB	3510C	8015B	III
21-Mar-2012	EB-NBZ-SS-032112	6587627	EB	3520C	1625C	III
21-Mar-2012	EB-NBZ-SS-032112	6587627	EB	METHOD	8315A	III

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Attachment II

Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: DE299

Laboratory: LL

EDD Filename: DE299_v1

eQAPP Name: CDM_SSFL_120718_Lan

No Data Review Qualifiers Applied.

Enclosure I

Level III ADR Outliers
(including Manual Review Outliers)

Quality Control Outlier Reports

DE299

Lab Control Spike/Lab Control Spike Duplicate Outlier Report

Lab Reporting Batch ID: DE299 **Laboratory: LL**

EDD Filename: DE299_v1 **eQAPP Name: CDM_SSFL_120718_Lan**

Method: **8015B**
Matrix: **SO**

QC Sample ID (Associated Samples)	*Compound*	*LCS %R*	*LCSD %R*	*%R Limits*	*RPD (Limits)*	*Affected Compounds*	*Flag*
P20885AY320010A	m-Terphenyl	-	117	64.00-111.00	-	m-Terphenyl	
(SL-065-NBZ-SB-1.0-2.0	p-Terphenyl	-	116	69.00-109.00	-	p-Terphenyl	
SL-066-NBZ-SB-2.0-3.0							
SL-069-NBZ-SB-3.0-4.0							
SL-070-NBZ-SS-0.0-0.5							
SL-071-NBZ-SB-4.0-5.0							
SL-073-NBZ-SB-4.0-5.0							J (all detects)
SL-073-NBZ-SB-9.0-10.0							
SL-074-NBZ-SB-0.5-1.5							
SL-075-NBZ-SS-0.0-0.5							
SL-076-NBZ-SS-0.0-0.5							
SL-077-NBZ-SB-2.5-3.5							
SL-077-NBZ-SS-0.0-0.5)							

SAMPLE DELIVERY GROUP

DE300

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
21-Mar-2012	SL-064-NBZ-SB-0.5-1.5	6589219	N	3546	1625C	III
21-Mar-2012	SL-064-NBZ-SB-0.5-1.5	6589219	N	3550B	8015B	III
21-Mar-2012	SL-064-NBZ-SB-0.5-1.5	6589219	N	METHOD	8315A	III
21-Mar-2012	SL-063-NBZ-SB-0.5-1.5	6589218	N	3546	1625C	III
21-Mar-2012	SL-063-NBZ-SB-0.5-1.5	6589218	N	3550B	8015B	III
21-Mar-2012	SL-063-NBZ-SB-0.5-1.5	6589218	N	METHOD	8315A	III
21-Mar-2012	SL-062-NBZ-SB-2.5-3.5	6589217	N	3546	1625C	III
21-Mar-2012	SL-062-NBZ-SB-2.5-3.5	6589217	N	3550B	8015B	III
21-Mar-2012	SL-062-NBZ-SB-2.5-3.5	6589217	N	METHOD	8315A	III
22-Mar-2012	SL-061-NBZ-SB-1.0-2.0	6589224	N	3546	1625C	III
22-Mar-2012	SL-061-NBZ-SB-1.0-2.0	6589224	N	3550B	8015B	III
22-Mar-2012	SL-061-NBZ-SB-1.0-2.0	6589224	N	METHOD	8315A	III
22-Mar-2012	SL-060-NBZ-SS-0.0-0.5	6589223	N	3546	1625C	III
22-Mar-2012	SL-060-NBZ-SS-0.0-0.5	6589223	N	3550B	8015B	III
22-Mar-2012	SL-060-NBZ-SS-0.0-0.5	6589223	N	METHOD	8315A	III
22-Mar-2012	SL-059-NBZ-SS-0.0-0.5	6589222	N	3546	1625C	III
22-Mar-2012	SL-059-NBZ-SS-0.0-0.5	6589222	N	3550B	8015B	III
22-Mar-2012	SL-059-NBZ-SS-0.0-0.5	6589222	N	METHOD	8315A	III
22-Mar-2012	SL-055-NBZ-SS-0.0-0.5	6589221	N	3546	1625C	III
22-Mar-2012	SL-055-NBZ-SS-0.0-0.5	6589221	N	3550B	8015B	III
22-Mar-2012	SL-055-NBZ-SS-0.0-0.5	6589221	N	METHOD	8315A	III
22-Mar-2012	SL-054-NBZ-SS-0.0-0.5	6589220	N	3546	1625C	III
22-Mar-2012	SL-054-NBZ-SS-0.0-0.5	6589220	N	3550B	8015B	III
22-Mar-2012	SL-054-NBZ-SS-0.0-0.5	6589220	N	METHOD	8315A	III
22-Mar-2012	EB-NBZ-SB-032212	6589225	EB	3510C	8015B	III
22-Mar-2012	EB-NBZ-SB-032212	6589225	EB	3520C	1625C	III

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
22-Mar-2012	EB-NBZ-SB-032212	6589225	EB	METHOD	8315A	III

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Attachment II

Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: DE300

Laboratory: LL

EDD Filename: DE300_v1

eQAPP Name: CDM_SSFL_120718_Lan

No Data Review Qualifiers Applied.

Enclosure I

Level III ADR Outliers
(including Manual Review Outliers)

Quality Control Outlier Reports

DE300

Lab Control Spike/Lab Control Spike Duplicate Outlier Report

Lab Reporting Batch ID: DE300 **Laboratory: LL**

EDD Filename: DE300_v1 **eQAPP Name: CDM_SSFL_120718_Lan**

***Method:* 8015B**
***Matrix:* SO**

QC Sample ID (Associated Samples)	*Compound*	*LCS %R*	*LCSD %R*	*%R Limits*	*RPD (Limits)*	*Affected Compounds*	*Flag*
P20885AY320010A	m-Terphenyl	-	117	64.00-111.00	-	m-Terphenyl	
(SL-054-NBZ-SS-0.0-0.5	p-Terphenyl	-	116	69.00-109.00	-	p-Terphenyl	
SL-055-NBZ-SS-0.0-0.5							
SL-059-NBZ-SS-0.0-0.5							
SL-060-NBZ-SS-0.0-0.5							J (all detects)
SL-061-NBZ-SB-1.0-2.0							
SL-062-NBZ-SB-2.5-3.5							
SL-063-NBZ-SB-0.5-1.5							
SL-064-NBZ-SB-0.5-1.5)							

SAMPLE DELIVERY GROUP

DE301

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
23-Mar-2012	SL-057-NBZ-SS-0.0-0.5	6590844	N	3546	1625C	III
23-Mar-2012	SL-057-NBZ-SS-0.0-0.5	6590844	N	3550B	8015B	III
23-Mar-2012	SL-057-NBZ-SS-0.0-0.5	6590844	N	METHOD	8315A	III
23-Mar-2012	SL-057-NBZ-SS-0.0-0.5 MS	6590845	MS	3546	1625C	III
23-Mar-2012	SL-057-NBZ-SS-0.0-0.5 MS	6590845	MS	METHOD	8315A	III
23-Mar-2012	SL-057-NBZ-SS-0.0-0.5 MSD	6590846	MSD	3546	1625C	III
23-Mar-2012	SL-057-NBZ-SS-0.0-0.5 MSD	6590846	MSD	METHOD	8315A	III
23-Mar-2012	DUP-02-NBZ-QC-032312	6590849	FD	3546	1625C	III
23-Mar-2012	DUP-02-NBZ-QC-032312	6590849	FD	3550B	8015B	III
23-Mar-2012	DUP-02-NBZ-QC-032312	6590849	FD	METHOD	8315A	III
23-Mar-2012	SL-051-NBZ-SB-1.5-2.5	6590843	N	3546	1625C	III
23-Mar-2012	SL-051-NBZ-SB-1.5-2.5	6590843	N	3550B	8015B	III
23-Mar-2012	SL-051-NBZ-SB-1.5-2.5	6590843	N	METHOD	8315A	III
23-Mar-2012	SL-049-NBZ-SB-2.0-3.0	6590842	N	3546	1625C	III
23-Mar-2012	SL-049-NBZ-SB-2.0-3.0	6590842	N	3550B	8015B	III
23-Mar-2012	SL-049-NBZ-SB-2.0-3.0	6590842	N	METHOD	8315A	III
23-Mar-2012	SL-048-NBZ-SS-0.0-0.5	6590840	N	3546	1625C	III
23-Mar-2012	SL-048-NBZ-SS-0.0-0.5	6590840	N	3550B	8015B	III
23-Mar-2012	SL-048-NBZ-SS-0.0-0.5	6590840	N	METHOD	8315A	III
23-Mar-2012	SL-048-NBZ-SB-4.0-5.0	6590841	N	3546	1625C	III
23-Mar-2012	SL-048-NBZ-SB-4.0-5.0	6590841	N	3550B	8015B	III
23-Mar-2012	SL-048-NBZ-SB-4.0-5.0	6590841	N	METHOD	8315A	III
23-Mar-2012	SL-047-NBZ-SB-4.0-5.0	6590850	N	3546	1625C	III
23-Mar-2012	SL-047-NBZ-SB-4.0-5.0	6590850	N	3550B	8015B	III
23-Mar-2012	SL-047-NBZ-SB-4.0-5.0	6590850	N	METHOD	8315A	III

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Attachment II

Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: DE301 **Laboratory:** LL

EDD Filename: DE301_v1 **eQAPP Name:** CDM_SSFL_120718_Lan

Method Category: VOA

Method: 8015B **Matrix:** SO

Sample ID: DUP-02-NBZ-QC-032312 *Collected:* 3/23/2012 9:28:00 *Analysis Type:* RES *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
p-Terphenyl	5.4		1.6	MDL	3.8	PQL	mg/Kg	J	L

Sample ID: SL-057-NBZ-SS-0.0-0.5 *Collected:* 3/23/2012 9:20:00 *Analysis Type:* RES *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
p-Terphenyl	4.7		1.7	MDL	3.9	PQL	mg/Kg	J	L

* denotes a non-reportable result

Project Name and Number: 1203-004-009-AL - SSFL Area IV Collocated Soil Sampling

Data Qualifier Summary

Lab Reporting Batch ID: DE301 **Laboratory: LL**

EDD Filename: DE301_v1 **eQAPP Name: CDM_SSFL_120718_Lan**

Reason Code Legend

Reason Code	*Description*
L	Laboratory Control Spike Upper Estimation

* denotes a non-reportable result

Project Name and Number: 1203-004-009-AL - SSFL Area IV Collocated Soil Sampling

Enclosure I

Level III ADR Outliers
(including Manual Review Outliers)

Quality Control Outlier Reports

DE301

Lab Control Spike/Lab Control Spike Duplicate Outlier Report

Lab Reporting Batch ID: DE301 **Laboratory: LL**

EDD Filename: DE301_v1 **eQAPP Name: CDM_SSFL_120718_Lan**

Method: **8015B**
Matrix: **SO**

QC Sample ID (Associated Samples)	*Compound*	*LCS %R*	*LCSD %R*	*%R Limits*	*RPD (Limits)*	*Affected Compounds*	*Flag*
P20901AQ321410A **P20901AY321432A** (DUP-02-NBZ-QC-032312 SL -047-NBZ-SB-4.0-5.0 SL -048-NBZ-SB-4.0-5.0 SL -048-NBZ-SS-0.0-0.5 SL -049-NBZ-SB-2.0-3.0 SL -051-NBZ-SB-1.5-2.5 SL -057-NBZ-SS-0.0-0.5 SL -057-NBZ-SS-0.0-0.5	m-Terphenyl p-Terphenyl	112 111	121 120	64.00-111.00 69.00-109.00	- -	m-Terphenyl p-Terphenyl	J (all detects)

Project Name and Number: 1203-004-009-AL - SSFL Area IV Collocated Soil Sampling

Field Duplicate RPD Report

Lab Reporting Batch ID: DE301 **Laboratory: LL**

EDD Filename: DE301_v1 **eQAPP Name: CDM_SSFL_120718_Lan**

Method: 160.3M
Matrix: SO

Analyte	Concentration (%)		Sample RPD	eQAPP RPD	Flag
	SL-057-NBZ-SS-0.0-0.5	DUP-02-NBZ-QC-032312			
MOISTURE	9.1	7.2	23		No Qualifiers Applied

Method: 8015B
Matrix: SO

Analyte	Concentration (mg/Kg)		Sample RPD	eQAPP RPD	Flag
	SL-057-NBZ-SS-0.0-0.5	DUP-02-NBZ-QC-032312			
p-Terphenyl	4.7	5.4	14	50.00	No Qualifiers Applied

SAMPLE DELIVERY GROUP

DE302

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
26-Mar-2012	SL-046-NBZ-SS-0.0-0.5	6595131	N	3546	1625C	III
26-Mar-2012	SL-046-NBZ-SS-0.0-0.5	6595131	N	3550B	8015B	III
26-Mar-2012	SL-046-NBZ-SS-0.0-0.5	6595131	N	METHOD	8315A	III
26-Mar-2012	SL-046-NBZ-SB-4.0-5.0	6595132	N	3546	1625C	III
26-Mar-2012	SL-046-NBZ-SB-4.0-5.0	6595132	N	3550B	8015B	III
26-Mar-2012	SL-046-NBZ-SB-4.0-5.0	6595132	N	METHOD	8315A	III
26-Mar-2012	SL-045-NBZ-SS-0.0-0.5	6595129	N	3546	1625C	III
26-Mar-2012	SL-045-NBZ-SS-0.0-0.5	6595129	N	3550B	8015B	III
26-Mar-2012	SL-045-NBZ-SS-0.0-0.5	6595129	N	METHOD	8315A	III
26-Mar-2012	SL-045-NBZ-SB-4.0-5.0	6595130	N	3546	1625C	III
26-Mar-2012	SL-045-NBZ-SB-4.0-5.0	6595130	N	3550B	8015B	III
26-Mar-2012	SL-045-NBZ-SB-4.0-5.0	6595130	N	METHOD	8315A	III
26-Mar-2012	SL-042-NBZ-SS-0.0-0.5	6595127	N	3546	1625C	III
26-Mar-2012	SL-042-NBZ-SS-0.0-0.5	6595127	N	3550B	8015B	III
26-Mar-2012	SL-042-NBZ-SS-0.0-0.5	6595127	N	METHOD	8315A	III
26-Mar-2012	SL-050-NBZ-SS-0.0-0.5	6595133	N	3546	1625C	III
26-Mar-2012	SL-050-NBZ-SS-0.0-0.5	6595133	N	3550B	8015B	III
26-Mar-2012	SL-050-NBZ-SS-0.0-0.5	6595133	N	METHOD	8315A	III
26-Mar-2012	SL-043-NBZ-SS-0.0-0.5	6595128	N	3546	1625C	III
26-Mar-2012	SL-043-NBZ-SS-0.0-0.5	6595128	N	3550B	8015B	III
26-Mar-2012	SL-043-NBZ-SS-0.0-0.5	6595128	N	METHOD	8315A	III
27-Mar-2012	SL-078-NBZ-SS-0.0-0.5	6595135	N	3546	1625C	III
27-Mar-2012	SL-078-NBZ-SS-0.0-0.5	6595135	N	3550B	8015B	III
27-Mar-2012	SL-078-NBZ-SS-0.0-0.5	6595135	N	METHOD	8315A	III
27-Mar-2012	SL-038-NBZ-SS-0.0-0.5	6595134	N	3546	1625C	III
27-Mar-2012	SL-038-NBZ-SS-0.0-0.5	6595134	N	3550B	8015B	III

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
27-Mar-2012	SL-038-NBZ-SS-0.0-0.5	6595134	N	METHOD	8315A	III
27-Mar-2012	EB-NBZ-SB-032712	6595136	EB	3510C	8015B	III
27-Mar-2012	EB-NBZ-SB-032712	6595136	EB	3520C	1625C	III
27-Mar-2012	EB-NBZ-SB-032712	6595136	EB	METHOD	8315A	III
27-Mar-2012	EB-NBZ-SS-032712	6595137	EB	3510C	8015B	III
27-Mar-2012	EB-NBZ-SS-032712	6595137	EB	3520C	1625C	III
27-Mar-2012	EB-NBZ-SS-032712	6595137	EB	METHOD	8315A	III

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Attachment II

Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: DE302 **Laboratory:** LL

EDD Filename: DE302_v1 **eQAPP Name:** CDM_SSFL_120718_Lan

Method Category: **SVOA**

Method: **8315A** ***Matrix:*** **AQ**

Sample ID: EB-NBZ-SB-032712 ***Collected:*** 3/27/2012 3:00:00 ***Analysis Type:*** RES ***Dilution:*** 1

Analyte	*Lab Result*	*Lab Qual*	*DL*	*DL Type*	*RL*	*RL Type*	*Units*	*Data Review Qual*	*Reason Code*
FORMALDEHYDE	27	J	10	MDL	50	PQL	ug/L	U	B

* denotes a non-reportable result

Project Name and Number: 1203-004-009-AL - SSFL Area IV Collocated Soil Sampling

Data Qualifier Summary

Lab Reporting Batch ID: DE302 **Laboratory: LL**

EDD Filename: DE302_v1 **eQAPP Name: CDM_SSFL_120718_Lan**

Reason Code Legend

Reason Code	*Description*
B	Method Blank Contamination
S	Surrogate/Tracer Recovery Upper Estimation
Z	Reporting Limit Trace Value

* denotes a non-reportable result

Project Name and Number: 1203-004-009-AL - SSFL Area IV Collocated Soil Sampling

Enclosure I

Level III ADR Outliers
(including Manual Review Outliers)

Quality Control Outlier Reports

DE302

Method Blank Outlier Report

Lab Reporting Batch ID: DE302 **Laboratory: LL**

EDD Filename: DE302_v1 **eQAPP Name: CDM_SSFL_120718_Lan**

Method: **8315A**
Matrix: **AQ**

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples
P88886AB242126A	3/29/2012 9:26:00 PM	FORMALDEHYDE	33 ug/L	EB-NBZ-SB-032712 EB-NBZ-SS-032712

The following samples and their listed target analytes were qualified due to contamination reported in this blank

Sample ID	Analyte	Reported Result	Modified Final Result
EB-NBZ-SB-032712(RES)	FORMALDEHYDE	27 ug/L	50U ug/L

Lab Control Spike/Lab Control Spike Duplicate Outlier Report

Lab Reporting Batch ID: DE302 **Laboratory: LL**

EDD Filename: DE302_v1 **eQAPP Name: CDM_SSFL_120718_Lan**

Method: **8015B**
Matrix: **SO**

QC Sample ID (Associated Samples)	*Compound*	*LCS %R*	*LCSD %R*	*%R Limits*	*RPD (Limits)*	*Affected Compounds*	*Flag*
P20901AQ321410A	m-Terphenyl	112	121	64.00-111.00	-	m-Terphenyl	
P20901AY321432A	p-Terphenyl	111	120	69.00-109.00	-	p-Terphenyl	
(SL-038-NBZ-SS-0.0-0.5							
SL-042-NBZ-SS-0.0-0.5							
SL-043-NBZ-SS-0.0-0.5							
SL-045-NBZ-SB-4.0-5.0							J (all detects)
SL-045-NBZ-SS-0.0-0.5							
SL-046-NBZ-SB-4.0-5.0							
SL-046-NBZ-SS-0.0-0.5							
SL-050-NBZ-SS-0.0-0.5							
SL-078-NBZ-SS-0.0-0.5)							

Reporting Limit Outliers

Lab Reporting Batch ID: DE302 **Laboratory: LL**

EDD Filename: DE302_v1 **eQAPP Name: CDM_SSFL_120718_Lan**

Method: **8315A**

Matrix: **AQ**

SampleID	*Analyte*	*Lab Qual*	*Result*	*Reporting Limit*	*RL Type*	*Units*	*Flag*
EB-NBZ-SB-032712	FORMALDEHYDE	J	27	50	PQL	ug/L	J (all detects)

Matrix Spike/Matrix Spike Duplicate Outlier Report

Lab Reporting Batch ID: DE303 **Laboratory: LL**

EDD Filename: DE303_v1 **eQAPP Name: CDM_SSFL_120718_Lan**

***Method:* 8315A**
***Matrix:* SO**

QC Sample ID (Associated Samples)	*Compound*	*MS %R*	*MSD %R*	*%R Limits*	*RPD (Limits)*	*Affected Compounds*	*Flag*
SL-040-NBZ-SB-2.5-3.5 MS (SL-040-NBZ-SB-2.5-3.5)	FORMALDEHYDE	121	-	80.00-120.00	-	FORMALDEHYDE	J (all detects)

Quality Control
Outlier Reports

DE303

Enclosure I

Level III ADR Outliers
(including Manual Review Outliers)

Data Qualifier Summary

Lab Reporting Batch ID: DE303

Laboratory: LL

EDD Filename: DE303_v1

eQAPP Name: CDM_SSFL_120718_Lan

No Data Review Qualifiers Applied.

Attachment II

Overall Data Qualification Summary

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
28-Mar-2012	SL-037-NBZ-SB-3.0-4.0	6599818	N	METHOD	8315A	III

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
28-Mar-2012	SL-040-NBZ-SS-0.0-0.5	6599820	N	3546	1625C	III
28-Mar-2012	SL-040-NBZ-SS-0.0-0.5	6599820	N	3550B	8015B	III
28-Mar-2012	SL-040-NBZ-SS-0.0-0.5	6599820	N	METHOD	8315A	III
28-Mar-2012	SL-040-NBZ-SB-2.5-3.5	6599821	N	3546	1625C	III
28-Mar-2012	SL-040-NBZ-SB-2.5-3.5	6599821	N	3550B	8015B	III
28-Mar-2012	SL-040-NBZ-SB-2.5-3.5	6599821	N	METHOD	8315A	III
28-Mar-2012	SL-040-NBZ-SB-2.5-3.5 MS	6599822	MS	3546	1625C	III
28-Mar-2012	SL-040-NBZ-SB-2.5-3.5 MS	6599822	MS	3550B	8015B	III
28-Mar-2012	SL-040-NBZ-SB-2.5-3.5 MS	6599822	MS	METHOD	8315A	III
28-Mar-2012	SL-040-NBZ-SB-2.5-3.5 MSD	6599823	MSD	3546	1625C	III
28-Mar-2012	SL-040-NBZ-SB-2.5-3.5 MSD	6599823	MSD	3550B	8015B	III
28-Mar-2012	SL-040-NBZ-SB-2.5-3.5 MSD	6599823	MSD	METHOD	8315A	III
28-Mar-2012	DUP-03-NBZ-QC-032812	6599817	FD	3546	1625C	III
28-Mar-2012	DUP-03-NBZ-QC-032812	6599817	FD	3550B	8015B	III
28-Mar-2012	DUP-03-NBZ-QC-032812	6599817	FD	METHOD	8315A	III
28-Mar-2012	SL-036-NBZ-SB-4.0-5.0	6599815	N	3546	1625C	III
28-Mar-2012	SL-036-NBZ-SB-4.0-5.0	6599815	N	3550B	8015B	III
28-Mar-2012	SL-036-NBZ-SB-4.0-5.0	6599815	N	METHOD	8315A	III
28-Mar-2012	SL-036-NBZ-SB-7.5-8.5	6599816	N	3546	1625C	III
28-Mar-2012	SL-036-NBZ-SB-7.5-8.5	6599816	N	3550B	8015B	III
28-Mar-2012	SL-036-NBZ-SB-7.5-8.5	6599816	N	METHOD	8315A	III
28-Mar-2012	SL-039-NBZ-SB-2.0-3.0	6599819	N	3546	1625C	III
28-Mar-2012	SL-039-NBZ-SB-2.0-3.0	6599819	N	3550B	8015B	III
28-Mar-2012	SL-039-NBZ-SB-2.0-3.0	6599819	N	METHOD	8315A	III
28-Mar-2012	SL-037-NBZ-SB-3.0-4.0	6599818	N	3546	1625C	III
28-Mar-2012	SL-037-NBZ-SB-3.0-4.0	6599818	N	3550B	8015B	III

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Attachment I

Sample ID Cross Reference and Data Review Level

SAMPLE DELIVERY GROUP

DE303

Lab Control Spike/Lab Control Spike Duplicate Outlier Report

Lab Reporting Batch ID: DE303 Laboratory: LL

EDD Filename: DE303_v1 eQAPP Name: CDM_SSFL_120718_Lan

Method: 8015B
Matrix: SO

QC Sample ID (Associated Samples)	Compound	LCS %R	LCSD %R	%R Limits	RPD (Limits)	Affected Compounds	Flag
P20957AQ320828A (DUP-03-NBZ-QC-032812 SL -036-NBZ-SB-4.0-5.0 SL -036-NBZ-SB-7.5-8.5 SL -037-NBZ-SB-3.0-4.0 SL -039-NBZ-SB-2.0-3.0 SL -040-NBZ-SB-2.5-3.5 SL- 040-NBZ-SS-0.0-0.5)	p-Terphenyl	111	-	69.00-109.00	-	p-Terphenyl	J (all detects)

Project Name and Number: 1203-004-009-AL - SSFL Area IV Collocated Soil Sampling

SAMPLE DELIVERY GROUP

DE304

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
29-Mar-2012	SL-091-NBZ-SS-0.0-0.5	6599846	N	3546	1625C	III
29-Mar-2012	SL-091-NBZ-SS-0.0-0.5	6599846	N	3550B	8015B	III
29-Mar-2012	SL-091-NBZ-SS-0.0-0.5	6599846	N	METHOD	8315A	III
29-Mar-2012	DUP-05-NBZ-QC-032912	6599854	FD	3546	1625C	III
29-Mar-2012	DUP-05-NBZ-QC-032912	6599854	FD	3550B	8015B	III
29-Mar-2012	DUP-05-NBZ-QC-032912	6599854	FD	METHOD	8315A	III
29-Mar-2012	SL-091-NBZ-SB-4.0-5.0	6599847	N	3546	1625C	III
29-Mar-2012	SL-091-NBZ-SB-4.0-5.0	6599847	N	3550B	8015B	III
29-Mar-2012	SL-091-NBZ-SB-4.0-5.0	6599847	N	METHOD	8315A	III
29-Mar-2012	SL-092-NBZ-SS-0.0-0.5	6599848	N	3546	1625C	III
29-Mar-2012	SL-092-NBZ-SS-0.0-0.5	6599848	N	3550B	8015B	III
29-Mar-2012	SL-092-NBZ-SS-0.0-0.5	6599848	N	METHOD	8315A	III
29-Mar-2012	SL-092-NBZ-SS-0.0-0.5 MS	6599849	MS	3546	1625C	III
29-Mar-2012	SL-092-NBZ-SS-0.0-0.5 MS	6599849	MS	3550B	8015B	III
29-Mar-2012	SL-092-NBZ-SS-0.0-0.5 MS	6599849	MS	METHOD	8315A	III
29-Mar-2012	SL-092-NBZ-SS-0.0-0.5 MSD	6599850	MSD	3546	1625C	III
29-Mar-2012	SL-092-NBZ-SS-0.0-0.5 MSD	6599850	MSD	3550B	8015B	III
29-Mar-2012	SL-092-NBZ-SS-0.0-0.5 MSD	6599850	MSD	METHOD	8315A	III
29-Mar-2012	SL-044-NBZ-SS-0.0-0.5	6599845	N	3546	1625C	III
29-Mar-2012	SL-044-NBZ-SS-0.0-0.5	6599845	N	3550B	8015B	III
29-Mar-2012	SL-044-NBZ-SS-0.0-0.5	6599845	N	METHOD	8315A	III
29-Mar-2012	EB-NBZ-SB-032912	6599855	EB	3510C	8015B	III
29-Mar-2012	EB-NBZ-SB-032912	6599855	EB	3520C	1625C	III
29-Mar-2012	EB-NBZ-SB-032912	6599855	EB	METHOD	8315A	III
29-Mar-2012	EB-NBZ-SS-032912	6599856	EB	3510C	8015B	III
29-Mar-2012	EB-NBZ-SS-032912	6599856	EB	3520C	1625C	III

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
29-Mar-2012	EB-NBZ-SS-032912	6599856	EB	METHOD	8315A	III

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Attachment II

Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: DE304 **Laboratory: LL**

EDD Filename: DE304_v1 **eQAPP Name: CDM_SSFL_120718_Lan**

Method Category: **SVOA**

Method: **8315A** ***Matrix:*** **SO**

Sample ID: SL-044-NBZ-SS-0.0-0.5 *Collected:* 3/29/2012 1:11:00 *Analysis Type:* RES *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
FORMALDEHYDE	1200	J	620	MDL	1500	PQL	ug/Kg	J	Z

* denotes a non-reportable result

Project Name and Number: 1203-004-009-AL - SSFL Area IV Collocated Soil Sampling

Data Qualifier Summary

Lab Reporting Batch ID: DE304 **Laboratory: LL**

EDD Filename: DE304_v1 **eQAPP Name: CDM_SSFL_120718_Lan**

Reason Code Legend

Reason Code	*Description*
S	Surrogate/Tracer Recovery Upper Estimation
Z	Reporting Limit Trace Value

* denotes a non-reportable result

Project Name and Number: 1203-004-009-AL - SSFL Area IV Collocated Soil Sampling

Enclosure I

Level III ADR Outliers
(including Manual Review Outliers)

Quality Control Outlier Reports

DE304

Reporting Limit Outliers

Lab Reporting Batch ID: DE304 **Laboratory: LL**

EDD Filename: DE304_v1 **eQAPP Name: CDM_SSFL_120718_Lan**

Method: **8315A**

Matrix: **SO**

SampleID	*Analyte*	*Lab Qual*	*Result*	*Reporting Limit*	*RL Type*	*Units*	*Flag*
SL-044-NBZ-SS-0.0-0.5	FORMALDEHYDE	J	1200	1500	PQL	ug/Kg	J (all detects)

SAMPLE DELIVERY GROUP

DE305

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
30-Mar-2012	SL-079-NBZ-SS-0.0-0.5	6600769	N	3546	1625C	III
30-Mar-2012	SL-079-NBZ-SS-0.0-0.5	6600769	N	3550B	8015B	III
30-Mar-2012	SL-079-NBZ-SS-0.0-0.5	6600769	N	METHOD	8315A	III

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Attachment II

Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: DE305 **Laboratory: LL**

EDD Filename: DE305 **eQAPP Name: CDM_SSFL_120718_Lan**

No Data Review Qualifiers Applied.

Enclosure I

Level III ADR Outliers
(including Manual Review Outliers)

Quality Control Outlier Reports

DE305

(No Outliers)

SAMPLE DELIVERY GROUP

DE306

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
02-Apr-2012	SL-028-NBZ-SS-0.0-0.5	6605177	N	3546	1625C	IV
02-Apr-2012	SL-028-NBZ-SS-0.0-0.5	6605177	N	3550B	8015B	IV
02-Apr-2012	SL-028-NBZ-SS-0.0-0.5	6605177	N	METHOD	8315A	IV
02-Apr-2012	SL-025-NBZ-SS-0.0-0.5	6605174	N	3546	1625C	IV
02-Apr-2012	SL-025-NBZ-SS-0.0-0.5	6605174	N	3550B	8015B	IV
02-Apr-2012	SL-025-NBZ-SS-0.0-0.5	6605174	N	METHOD	8315A	IV
02-Apr-2012	SL-027-NBZ-SS-0.0-0.5	6605176	N	3546	1625C	IV
02-Apr-2012	SL-027-NBZ-SS-0.0-0.5	6605176	N	3550B	8015B	IV
02-Apr-2012	SL-027-NBZ-SS-0.0-0.5	6605176	N	METHOD	8315A	IV
02-Apr-2012	SL-025-NBZ-SS-0.0-0.5MSD	P605174M241946A	MSD	METHOD	8315A	IV
02-Apr-2012	SL-025-NBZ-SS-0.0-0.5MS	P605174R241937A	MS	METHOD	8315A	IV
02-Apr-2012	SL-026-NBZ-SS-0.0-0.5	6605175	N	3546	1625C	IV
02-Apr-2012	SL-026-NBZ-SS-0.0-0.5	6605175	N	3550B	8015B	IV
02-Apr-2012	SL-026-NBZ-SS-0.0-0.5	6605175	N	METHOD	8315A	IV
03-Apr-2012	SL-031-NBZ-SS-0.0-0.5	6605178	N	3546	1625C	IV
03-Apr-2012	SL-031-NBZ-SS-0.0-0.5	6605178	N	3550B	8015B	IV
03-Apr-2012	SL-031-NBZ-SS-0.0-0.5	6605178	N	METHOD	8315A	IV
03-Apr-2012	SL-033-NBZ-SS-0.0-0.5	6605179	N	3546	1625C	IV
03-Apr-2012	SL-033-NBZ-SS-0.0-0.5	6605179	N	3550B	8015B	IV
03-Apr-2012	SL-033-NBZ-SS-0.0-0.5	6605179	N	METHOD	8315A	IV
03-Apr-2012	SL-034-NBZ-SS-0.0-0.5	6605180	N	3546	1625C	IV
03-Apr-2012	SL-034-NBZ-SS-0.0-0.5	6605180	N	3550B	8015B	IV
03-Apr-2012	SL-034-NBZ-SS-0.0-0.5	6605180	N	METHOD	8315A	IV
03-Apr-2012	SL-032-NBZ-SS-0.0-0.5	6607516	N	3546	1625C	IV
03-Apr-2012	SL-032-NBZ-SS-0.0-0.5	6607516	N	3550B	8015B	IV
03-Apr-2012	SL-032-NBZ-SS-0.0-0.5	6607516	N	METHOD	8315A	IV

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
03-Apr-2012	SL-035-NBZ-SS-0.0-0.5	6607517	N	3546	1625C	IV
03-Apr-2012	SL-035-NBZ-SS-0.0-0.5	6607517	N	3550B	8015B	IV
03-Apr-2012	SL-035-NBZ-SS-0.0-0.5	6607517	N	METHOD	8315A	IV
03-Apr-2012	SL-035-NBZ-SB-2.0-3.0	6607518	N	3546	1625C	IV
03-Apr-2012	SL-035-NBZ-SB-2.0-3.0	6607518	N	3550B	8015B	IV
03-Apr-2012	SL-035-NBZ-SB-2.0-3.0	6607518	N	METHOD	8315A	IV
03-Apr-2012	SL-035-NBZ-SB-2.0-3.0MSD	P607518M261508	MSD	3546	1625C	IV
03-Apr-2012	SL-035-NBZ-SB-2.0-3.0MS	P607518R261449	MS	3546	1625C	IV
04-Apr-2012	SL-020-NBZ-SB-2.5-3.5	6607519	N	3546	1625C	IV
04-Apr-2012	SL-020-NBZ-SB-2.5-3.5	6607519	N	3550B	8015B	IV
04-Apr-2012	SL-020-NBZ-SB-2.5-3.5	6607519	N	METHOD	8315A	IV
04-Apr-2012	EB-NBZ-SB-040412	6607520	EB	3510C	8015B	IV
04-Apr-2012	EB-NBZ-SB-040412	6607520	EB	3520C	1625C	IV
04-Apr-2012	EB-NBZ-SB-040412	6607520	EB	METHOD	8315A	IV
04-Apr-2012	EB-NBZ-SS-040412	6607521	EB	3510C	8015B	IV
04-Apr-2012	EB-NBZ-SS-040412	6607521	EB	3520C	1625C	IV
04-Apr-2012	EB-NBZ-SS-040412	6607521	EB	METHOD	8315A	IV

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Attachment II

Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: DE306 **Laboratory: LL**

EDD Filename: DE306_v1 **eQAPP Name: CDM_SSFL_120718_Lan**

Method Category: **SVOA**

Method: **8315A** ***Matrix:*** **AQ**

Sample ID: EB-NBZ-SB-040412 ***Collected:*** 4/4/2012 2:30:00 PM ***Analysis Type:*** RES ***Dilution:*** 1

Analyte	*Lab Result*	*Lab Qual*	*DL*	*DL Type*	*RL*	*RL Type*	*Units*	*Data Review Qual*	*Reason Code*
FORMALDEHYDE	10	U	10	MDL	50	PQL	ug/L	UJ	S

* denotes a non-reportable result

Project Name and Number: 1203-004-009-AL - SSFL Area IV Collocated Soil Sampling

Data Qualifier Summary

Lab Reporting Batch ID: DE306 **Laboratory: LL**

EDD Filename: DE306_v1 **eQAPP Name: CDM_SSFL_120718_Lan**

Reason Code Legend

Reason Code	*Description*
S	Surrogate/Tracer Recovery Lower Estimation
S	Surrogate/Tracer Recovery Upper Estimation

* denotes a non-reportable result

Enclosure I

Level III ADR Outliers
(including Manual Review Outliers)

Quality Control
Outlier Reports

DE306

Surrogate Outlier Report

Lab Reporting Batch ID: DE306 **Laboratory: LL**

EDD Filename: DE306_v1 **eQAPP Name: CDM_SSFL_120718_Lan**

Method: 1625C
Matrix: AQ

Sample ID (Analysis Type)	Surrogate	Sample % Recovery	% Recovery Limits	Affected Compounds	Flag
EB-NBZ-SB-040412	N-Nitrosodimethylamine-d6	159	50.00-150.00	All Target Analytes	J (all detects)
EB-NBZ-SS-040412	N-Nitrosodimethylamine-d6	155	50.00-150.00	All Target Analytes	J(all detects)

Method: 8015B
Matrix: AQ

Sample ID (Analysis Type)	Surrogate	Sample % Recovery	% Recovery Limits	Affected Compounds	Flag
EB-NBZ-SB-040412	n-Triacontane-d62	146	46.00-100.00	All Target Analytes	J(all detects)
EB-NBZ-SS-040412	n-Triacontane-d62	106	46.00-100.00	All Target Analytes	J(all detects)

Method: 8015B
Matrix: SO

Sample ID (Analysis Type)	Surrogate	Sample % Recovery	% Recovery Limits	Affected Compounds	Flag
SL-035-NBZ-SS-0.0-0.5	n-Triacontane-d62	232	19.00-152.00	All Target Analytes	J(all detects)

Method: 8315A
Matrix: AQ

Sample ID (Analysis Type)	Surrogate	Sample % Recovery	% Recovery Limits	Affected Compounds	Flag
EB-NBZ-SB-040412	Butyraldehyde	11	45.00-145.00	All Target Analytes	J(all detects) UJ(all non-detects)

Enclosure II

Level IV Validation Reports

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Santa Susana Field Laboratory

Collection Date: April 2 through April 4, 2012

LDC Report Date: September 4, 2012

Matrix: Soil/Water

Parameters: N-Nitrosodimethylamine

Validation Level: Level IV

Laboratory: Lancaster Laboratories

Sample Delivery Group (SDG): DE306

Sample Identification

SL-025-NBZ-SS-0.0-0.5
SL-026-NBZ-SS-0.0-0.5
SL-027-NBZ-SS-0.0-0.5
SL-028-NBZ-SS-0.0-0.5
SL-031-NBZ-SS-0.0-0.5
SL-033-NBZ-SS-0.0-0.5
SL-034-NBZ-SS-0.0-0.5
SL-032-NBZ-SS-0.0-0.5
SL-035-NBZ-SS-0.0-0.5
SL-035-NBZ-SB-2.0-3.0
SL-020-NBZ-SB-2.5-3.5
EB-NBZ-SB-040412
EB-NBZ-SS-040412
SL-035-NBZ-SB-2.0-3.0MS
SL-035-NBZ-SB-2.0-3.0MSD

Introduction

This data review covers 13 soil samples and 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625C for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan for Santa Susana Field Laboratory (SSFL), RCRA Facility Investigation, Surficial Media Operable Unit (March 2009, Revision 4) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check is not required for by this method.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 30.0% for N-Nitrosodimethylamine.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

Percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were within the method criteria of less than or equal to 20.0% for N-Nitrosodimethylamine.

The percent difference (%D) of the second source calibration standard were less than or equal to 30.0% for N-Nitrosodimethylamine.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-nitrosodimethylamine was found in the method blanks.

Samples EB-NBZ-SB-040412 and EB-NBZ-SS-040412 identified as equipment blanks. No N-nitrosodimethylamine was found.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Surrogate	%R (Limits)	Compound	Flag	A or P
EB-NBZ-SB-040412	n-Nitrosodimethylamine-d6	159 (50-150)	N-Nitrosodimethylamine	J (all detects)	P
EB-NBZ-SS-040412	n-Nitrosodimethylamine-d6	155 (50-150)	N-Nitrosodimethylamine	J (all detects)	P

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria.

XII. Compound Quantitation and RLs

All compound quantitation and RLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG DE306	All compounds reported below the RL.	J (all detects)	A

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was within validation criteria.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Santa Susana Field Laboratory
N-Nitrosodimethylamine - Data Qualification Summary - SDG DE306

SDG	Sample	Compound	Flag	A or P	Reason (Code)
DE306	EB-NBZ-SB-040412 EB-NBZ-SS-040412	N-Nitrosodimethylamine	J (all detects)	P	Surrogate spikes (%R) (S)
DE306	SL-186-SA7-SB-27.0-28.0 SL-187-SA7-SB-27.5-28.5 SL-188-SA7-SB-18.5-19.5 SL-188-SA7-SB-22.0-23.0 DUP10-SA7-QC-022112 EB-SA7-SB-022212	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and RLs (Z)

Santa Susana Field Laboratory
N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary - SDG DE306

No Sample Data Qualified in this SDG

Santa Susana Field Laboratory
N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG DE306

No Sample Data Qualified in this SDG

LDC #: 28268J2c

VALIDATION COMPLETENESS WORKSHEET

SDG #: DE306

Level IV

Laboratory: Lancaster Laboratories

Date: 9/4/12

Page: 1 of 1

Reviewer: D

2nd Reviewer: A

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/2 - 4/4/12
II.	GC/MS Instrument performance check	N	not required
III.	Initial calibration	A	% RSD ≤ 30
IV.	Continuing calibration/ICV	A	CCV ≤ 20 ICV ≤ 30
V.	Blanks	A	
VI.	Surrogate spikes	SW	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A	
XI.	Target compound identification	A	
XII.	Compound quantitation RL/LOQ/LODs	A	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	A	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	EB = 12, 13

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: SOIL + water

1	SL-025-NBZ-SS-0.0-0.5	11	SL-020-NBZ-SB-2.5-3.5	21	SBLKL F096	31	
2	SL-026-NBZ-SS-0.0-0.5	12	EB-NBZ-SB-040412 W	22	SBLKLD10	32	
3	SL-027-NBZ-SS-0.0-0.5	13	EB-NBZ-SS-040412 W	23	SBLKW1098	33	
4	SL-028-NBZ-SS-0.0-0.5	14	#10 MS	24		34	
5	SL-031-NBZ-SS-0.0-0.5	15	#10 MSD	25		35	
6	SL-033-NBZ-SS-0.0-0.5	16		26		36	
7	SL-034-NBZ-SS-0.0-0.5	17		27		37	
8	SL-032-NBZ-SS-0.0-0.5	18		28		38	
9	SL-035-NBZ-SS-0.0-0.5	19		29		39	
10	SL-035-NBZ-SB-2.0-3.0	20		30		40	

LDC #: 28768 J2C

VALIDATION FINDINGS CHECKLIST

Page: 1 of 1
Reviewer: FT
2nd Reviewer: A

Method: Semivolatiles (~~EPA SW 846 Method 8270C~~) 1625C

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. GC/MS instrument performance check				
Were the DFTPP performance results reviewed and found to be within the specified criteria?			✓	
Were all samples analyzed within the 12 hour clock criteria?			✓	
III. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?			✓	
Was a curve fit used for evaluation?		✓		
Did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?			✓	
Were all percent relative standard deviations (%RSD) ≤ 30% and relative response factors (RRF) ≥ 0.05?	✓			
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	✓			
Were all percent differences (%D) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?			✓	
Were all percent differences (%D) ~~≤ 25%~~ 20 and relative response factors (RRF) ≥ 0.05?	✓			
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed for each matrix and concentration?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Surrogate spikes				
Were all surrogate %R within QC limits?		✓		
If 2 or more base neutral or acid surrogates were outside QC limits, was a reanalysis performed to confirm %R?		✓		
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?			✓	
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.	✓			
Was a MS/MSD analyzed every 20 samples of each matrix?	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?	✓			
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			

Validation Area	Yes	No	NA	Findings/Comments
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?			✓	
Were the performance evaluation (PE) samples within the acceptance limits?			✓	
X. Internal standards				
Were internal standard area counts within -50% or +100% of the associated calibration standard?	✓			
Were retention times within ± 30 seconds from the associated calibration standard?	✓			
XI. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?	✓		✓	
Did compound spectra meet specified EPA "Functional Guidelines" criteria?			✓	
Were chromatogram peaks verified and accounted for?	✓			
XII. Compound quantitation/CRQLs				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	✓		✓	
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Tentatively identified compounds (TICs)				
Were the major ions (> 10 percent relative intensity) in the reference spectrum evaluated in sample spectrum?			✓	
Were relative intensities of the major ions within ± 20% between the sample and the reference spectra?			✓	
Did the raw data indicate that the laboratory performed a library search for all required peaks in the chromatograms (samples and blanks)?			✓	
XIV. System performance				
System performance was found to be acceptable.	✓			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XVI. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target compounds were detected in the field duplicates.			✓	
XVII. Field blanks				
Field blanks were identified in this SDG.	✓			
Target compounds were detected in the field blanks.		✓		

LDC #: 28268J2C

VALIDATION FINDINGS WORKSHEET
Surrogate Recovery

Reviewer: FT
2nd Reviewer: A

METHOD: GC/MS ~~BNA (EPA SW 846 Method 8270C)~~ 1625C

Please see qualification below for all questions answered "N". Not applicable questions are identified as "N/A".

Y (N) N/A Were percent recoveries (%R) for surrogates within QC limits?
Y (N) N/A If 2 or more base neutral or acid surrogates were outside QC limits, was a reanalysis performed to confirm %R?
Y N (N/A) If any %R was less than 10 percent, was a reanalysis performed to confirm %R?

#	Date	Sample ID	Surrogate	%R (Limits)	Qualifications
		12	~~59~~ *	59 (50-150)	J/P det (S)
				( )	
				( )	
		13	*	155 (L)	↓ (S)
				( )	
				( )	
				( )	
			* N-Nitrosodimethylamine-d6		
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	

* QC limits are advisory	QC Limits (Soil)	QC Limits (Water)
S1 (NBZ) = Nitrobenzene-d5	23-120	35-114
S2 (FBP) = 2-Fluorobiphenyl	30-115	43-116
S3 (TPH) = Terphenyl-d14	18-137	33-141
S4 (PHL) = Phenol-d5	24-113	10-94

	QC Limits (Soil)	QC Limits (Water)
S5 (2FP)= 2-Fluorophenol	25-121	21-100
S6 (TBP) = 2,4,6-Tribromophenol	19-122	10-123
S7 (2CP) = 2-Chlorophenol-d4	20-130*	33-110*
S8 (DCB) = 1,2-Dichlorobenzene-d4	20-130*	16-110*

LDC #: 28268J2C

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: FT
2nd Reviewer: A

METHOD: GC/MS ~~BNA (EPA SW-846 Method 8270)~~ 1625C

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$RRF = (A_x)(C_{is})/(A_{is})(C_x)$
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

A_x = Area of compound, A_{is} = Area of associated internal standard
C_x = Concentration of compound, C_{is} = Concentration of internal standard
S = Standard deviation of the RRFs, X = Mean of the RRFs

#	Standard ID	Calibration Date	Compound (Reference Internal Standard)	Reported RRF (25 std)	Recalculated RRF (25 std)	Reported Average RRF (initial)	Recalculated Average RRF (initial)	Reported %RSD	Recalculated %RSD
1	ICAL	3/28/12	~~Phenol~~ N-Nitrosodimethylamine (1st internal standard)	1.033	1.033	1.00	1.00	4	4
			Naphthalene (2nd internal standard)						
			Fluorene (3rd internal standard)						
			Pentachlorophenol (4th internal standard)						
			Bis(2-ethylhexyl)phthalate (5th internal standard)						
			~~Benzo(a)pyrene~~ (6th internal standard)						
2			Phenol (1st internal standard)						
			Naphthalene (2nd internal standard)						
			Fluorene (3rd internal standard)						
			Pentachlorophenol (4th internal standard)						
			Bis(2-ethylhexyl)phthalate (5th internal standard)						
			~~Benzo(a)pyrene~~ (6th internal standard)						
3			Phenol (1st internal standard)						
			Naphthalene (2nd internal standard)						
			Fluorene (3rd internal standard)						
			Pentachlorophenol (4th internal standard)						
			Bis(2-ethylhexyl)phthalate (5th internal standard)						
			Benzo(a)pyrene (6th internal standard)						

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 28268J2C

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Page: 1 of 1
Reviewer: FT
2nd Reviewer:

METHOD: GC/MS ~~BNA (EPA SW 846 Method 8270C)~~ 1625C

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
$RRF = (A_x)(C_{is})/(A_{is})(C_x)$

Where: ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
A_x = Area of compound, A_{is} = Area of associated internal standard
C_x = Concentration of compound, C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference Internal Standard)	Average RRF (initial)	Reported RRF (CC)	Recalculated RRF (CC)	Reported %D	Recalculated %D
1	CCV 14:34	4/10/12	~~Phenol~~ N-Nitrosodimethylamine (1st internal standard)	0.99977	0.96093	0.96093	3.68	3.68
			Naphthalene (2nd internal standard)					
			Fluorene (3rd internal standard)					
	CCV 17:53	↓	~~Pentachlorophenol~~ (4th internal standard) ↓	↓	1.08074	1.08074	8.0984	8.098
			Bis(2-ethylhexyl)phthalate (5th internal standard)					
			Benzo(a)pyrene (6th internal standard)					
2	CCV 22:58	↓	~~Phenol (1st internal standard)~~ ↓	↓	1.02236	1.02236	2.2602	2.2602
			Naphthalene (2nd internal standard)					
	CCV 02:08	4/11/12	~~Fluorene (3rd~~ internal standard) ↓	↓	0.93616	0.93616	6.362	6.362
			Pentachlorophenol (4th internal standard)					
			Bis(2-ethylhexyl)phthalate (5th internal standard)					
	CCV 11:33	4/12/12	~~Benzo(a)pyrene (6th internal standard)~~ ↓	↓	0.97990	0.97990	1.787	1.987
3			Phenol (1st internal standard)					
	CCV 13:33	4/12/12	~~Naphthalene (2nd~~ internal standard) ↓	↓	0.99621	0.99621	0.3551	0.356
			Fluorene (3rd internal standard)					
			Pentachlorophenol (4th internal standard)					
			Bis(2-ethylhexyl)phthalate (5th internal standard)					
			Benzo(a)pyrene (6th internal standard)					

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 28268J2c

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Reviewer: FT
2nd reviewer: A

METHOD: GC/MS ~~Semivolatiles (EPA SW 846 Method 8270)~~ 1625C

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: #1

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
~~Nitrobenzene-d5~~ N-Nitrosodimethylamine-d6	25	25.179	101	101	0
2-Fluorobiphenyl					
Terphenyl-d14					
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
~~1,2-Dichlorobenzene~~-d4					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5					
2-Fluorobiphenyl					
Terphenyl-d14					
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5					
2-Fluorobiphenyl					
Terphenyl-d14					
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

LDC #: 28268J2C

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates Results Verification

Reviewer: FT
2nd Reviewer:

METHOD: GC/MS ~~BNA (EPA SW 846 Method 8270)~~ 1625C

The percent recoveries (%R) and Relative Percent Difference (RPD) of the matrix spike and matrix spike duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SSC - SC)/SA Where: SSC = Spiked sample concentration; SA = Spike added; SC = Sample concentation

RPD = I MSC - MSC I * 2/(MSC + MSDC) MSC = Matrix spike concentration MSDC = Matrix spike duplicate concentration

MS/MSD samples: 14 + 15

Compound	Spike Added (ng/kg)		Sample Concentration (ng/kg)	Spiked Sample Concentration (ng/kg)		Matrix Spike Percent Recovery		Matrix Spike Duplicate Percent Recovery		MS/MSD RPD	
	MS	MSD	------	MS	MSD	Reported	Recalc	Reported	Recalc	Reported	Recalculated
Phenol											
N-Nitroso-di-n-propylamine											
4-Chloro-3-methylphenol											
Acenaphthene											
Pentachlorophenol											
Pyrene											
N-Nitrosodimethyl amine	827.8	827.8	ND	939.5	944.64	114	114	113	113	1	1

Comments: Refer to Matrix Spike/Matrix Spike Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 28268J2C

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Page: 1 of 1
Reviewer: FT
2nd Reviewer: A

METHOD: GC/MS ~~BNA (EPA SW 846 Method 8270)~~ 1625C

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SC/SA Where: SSC = Spike concentration
SA = Spike added

RPD = | LCSC - LCSDC | * 2/(LCSC + LCSDC) LCSC = Laboraotry control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS/LCSD samples: 096LFLC5

Compound	Spike Added (ng/kg)		Spike Concentration (ng/kg)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc	Reported	Recalc	Reported	Recalculated
~~Phenol~~ N-Nitrosodimethylamine	833.33	NA ~~833.33~~	879.83	879.83	106	106	NA			
~~N-Nitroso-di-n-propylamine~~										
4-Chloro-3-methylphenol										
Acenaphthene										
Pentachlorophenol										
~~Pyrene~~										

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 28768 J2C

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: FT
2nd reviewer: A

METHOD: GC/MS ~~BNA (EPA SW 846 Method 8270)~~ 1625C

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(V_t)(DF)(2.0)}{(A_{is})(RRF)(V_o)(V_i)(\%S)}$

A_x	=	Area of the characteristic ion (EICP) for the compound to be measured
A_{is}	=	Area of the characteristic ion (EICP) for the specific internal standard
I_s	=	Amount of internal standard added in nanograms (ng)
V_o	=	Volume or weight of sample extract in milliliters (ml) or grams (g).
V_i	=	Volume of extract injected in microliters (ul)
V_t	=	Volume of the concentrated extract in microliters (ul)
Df	=	Dilution Factor.
%S	=	Percent solids, applicable to soil and solid matrices only.
2.0	=	Factor of 2 to account for GPC cleanup

Example:

Sample I.D. #4 , NDMA

Conc. = $\frac{(5550)(25)(1)(1000)(\quad)}{(64322)(1.0.0)(30)(0.91)}$

= 79 ng/kg

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Santa Susana Field Laboratory

Collection Date: April 2 through April 4, 2012

LDC Report Date: September 4, 2012

Matrix: Soil/Water

Parameters: Terphenyls

Validation Level: Level IV

Laboratory: Lancaster Laboratories

Sample Delivery Group (SDG): DE306

Sample Identification

SL-025-NBZ-SS-0.0-0.5
SL-026-NBZ-SS-0.0-0.5
SL-027-NBZ-SS-0.0-0.5
SL-028-NBZ-SS-0.0-0.5
SL-031-NBZ-SS-0.0-0.5
SL-033-NBZ-SS-0.0-0.5
SL-034-NBZ-SS-0.0-0.5
SL-032-NBZ-SS-0.0-0.5
SL-035-NBZ-SS-0.0-0.5
SL-035-NBZ-SB-2.0-3.0
SL-020-NBZ-SB-2.5-3.5
EB-NBZ-SB-040412
EB-NBZ-SS-040412

Introduction

This data review covers 11 soil samples and 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8015B for Terphenyls.

This review follows the Quality Assurance Project Plan for Santa Susana Field Laboratory (SSFL), RCRA Facility Investigation, Surficial Media Operable Unit (March 2009, Revision 4) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

NJ Presumptive evidence of presence of the compound at an estimated quantity.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration of compounds was performed as required by the method.

The percent relative standard deviations (%RSD) of calibration factors for compounds were less than or equal to 20.0% .

Retention time windows were evaluated and considered technically acceptable.

III. Calibration Verification

Calibration verification was performed at required frequencies. The percent differences (%D) of amounts in continuing standard mixtures were within the 20.0% QC limits.

Retention times (RT) of all compounds in the calibration standards were within QC limits.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No terphenyl contaminants were found in the method blanks.

Samples EB-NBZ-SB-040412 and EB-NBZ-SS-040412 were identified as equipment blanks. No terphenyl contaminants were found.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Surrogate	%R (Limits)	Compound	Flag	A or P
SL-035-NBZ-SS-0.0-0.5	n-Triacontane-d62	232 (19-152)	All TCL compounds	J (all detects)	P
PBLK24100	n-Triacontane-d62	233 (46-100)	All TCL compounds	J (all detects)	P
EB-NBZ-SB-040412	n-Triacontane-d62	146 (46-100)	All TCL compounds	J (all detects)	P
EB-NBZ-SS-040412	n-Triacontane-d62	106 (46-100)	All TCL compounds	J (all detects)	P

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

All target compound identifications were within validation criteria.

IX. Compound Quantitation and RLs

All compound quantitation and RLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG DE306	All compounds reported below the RL.	J (all detects)	A

X. System Performance

The system performance was acceptable.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

Santa Susana Field Laboratory
Terphenyls - Data Qualification Summary - SDG DE306

SDG	Sample	Compound	Flag	A or P	Reason (Code)
DE306	SL-035-NBZ-SS-0.0-0.5 EB-NBZ-SB-040412 EB-NBZ-SS-040412	All TCL compounds	J (all detects)	P	Surrogate spikes (%R) (S)
DE306	SL-025-NBZ-SS-0.0-0.5 SL-026-NBZ-SS-0.0-0.5 SL-027-NBZ-SS-0.0-0.5 SL-028-NBZ-SS-0.0-0.5 SL-031-NBZ-SS-0.0-0.5 SL-033-NBZ-SS-0.0-0.5 SL-034-NBZ-SS-0.0-0.5 SL-032-NBZ-SS-0.0-0.5 SL-035-NBZ-SS-0.0-0.5 SL-035-NBZ-SB-2.0-3.0 SL-020-NBZ-SB-2.5-3.5 EB-NBZ-SB-040412 EB-NBZ-SS-040412	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and RLs (Z)

Santa Susana Field Laboratory
Terphenyls - Laboratory Blank Data Qualification Summary - SDG DE306

No Sample Data Qualified in this SDG

Santa Susana Field Laboratory
Terphenyls - Field Blank Data Qualification Summary - SDG DE306

No Sample Data Qualified in this SDG

LDC #: 28268J41 **VALIDATION COMPLETENESS WORKSHEET** Date: 9/4/12
SDG #: DE306 Level IV Page: 1 of 1
Laboratory: Lancaster Laboratories Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC Terphenyls (EPA SW 846 Method 8015B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A SW	Sampling dates: 4/2 - 4/4/12
II	Initial calibration	A	%D RSD ≤ 20
III.	Calibration verification/RRV	A	CCV ≤ 20
IV.	Blanks	A	
V	Surrogate recovery	SW	
VI.	Matrix spike/Matrix spike duplicates	N	client specified
VII.	Laboratory control samples	A SW	LCS ID
VIII.	Target compound identification	A	
IX.	Compound quantitation/RL/LOQ/LODs	A	
X.	System Performance	A	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	ND	EB = 12, 13

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: SOIL + Water

1 1	SL-025-NBZ-SS-0.0-0.5	11 2	SL-020-NBZ-SB-2.5-3.5	21 1	PBLK04096	31	
2 1	SL-026-NBZ-SS-0.0-0.5	12 3	EB-NBZ-SB-040412 W	22 2	PBLK23102	32	
3 1	SL-027-NBZ-SS-0.0-0.5	13 3	EB-NBZ-SS-040412 W	23	PBLK24100	33	
4 1	SL-028-NBZ-SS-0.0-0.5	14		24		34	
5 1	SL-031-NBZ-SS-0.0-0.5	15		25		35	
6 1	SL-033-NBZ-SS-0.0-0.5	16		26		36	
7 1	SL-034-NBZ-SS-0.0-0.5	17		27		37	
8 2	SL-032-NBZ-SS-0.0-0.5	18		28		38	
9 2	SL-035-NBZ-SS-0.0-0.5	19		29		39	
10 2	SL-035-NBZ-SB-2.0-3.0	20		30		40	

Notes: _____

LDC #: 28208 J4/
SDG #: per cover

VALIDATION FINDINGS CHECKLIST

Reviewer: FT
2nd Reviewer: C

Method: ✓ GC ____ HPLC

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) ≤ 20%?	✓			
Was a curve fit used for evaluation?		✓		
Did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?			✓	
Were the RT windows properly established?	✓			
IV. Continuing calibration				
Was a continuing calibration analyzed daily?	✓			
Were all percent differences (%D) ≤ 20%.0 or percent recoveries 80-120%?	✓			
Were all the retention times within the acceptance windows?	✓			
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed for each matrix and concentration?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Surrogate spikes				
Were all surrogate %R within the QC limits?	✓			
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?			✓	
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.			✓	
Was a MS/MSD analyzed every 20 samples of each matrix?			✓	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?			✓	
Were the performance evaluation (PE) samples within the acceptance limits?			✓	

LDC #: 28268J41
SDG #: per cover

VALIDATION FINDINGS CHECKLIST

Reviewer: FJ
2nd Reviewer: A

Validation Area	Yes	No	NA	Findings/Comments
X. Target compound identification				
Were the retention times of reported detects within the RT windows?			✓	
XI. Compound quantitation/CRQLs				
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XII. System performance				
System performance was found to be acceptable.	✓			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XIV. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target compounds were detected in the field duplicates.			✓	
XV. Field blanks				
Field blanks were identified in this SDG.	✓			
Target compounds were detected in the field blanks.		✓		

LDC #: 78268J41

VALIDATION FINDINDS WORKSHEET
Surrogate Recovery

Page: 1 of 1
Reviewer: FT
2nd Reviewer: C

METHOD: ✓ **GC** __ **HPLC**

Are surrogates required by the method? Yes____ or No____.

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were surrogates spiked into all samples and blanks?

Y N N/A Did all surrogate recoveries (%R) meet the QC limits?

#	Sample ID	Detector/ Column	Surrogate Compound	%R (Limits)	Qualifications
	9	NS	n-Triacontane-d62	232 (19-152)	J/Det (S)
				( )	
				( )	
	PBLK24100	↓	↓	233 (46-100)	↓ (S)
				( )	
				( )	
	12	↓	↓	146 (↓)	↓ (S)
				( )	
				( )	
	13	↓	↓	106 (↓)	↓ (S)
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	

	Surrogate Compound		Surrogate Compound		Surrogate Compound		Surrogate Compound		
A	Chlorobenzene (CBZ)	G	Octacosane	M	Benzo(e)Pyrene	S	1-Chloro-3-Nitrobenzene	Y	Tetrachloro-m- xylene
B	4-Bromofluorobenzene (BFB)	H	Ortho-Terphenyl	N	Terphenyl-D14	T	3,4-Dinitrotoluene		
C	a,a,a-Trifluorotoluene	I	Fluorobenzene (FBZ)	O	Decachlorobiphenyl (DCB)	U	Tripentyltin		
D	Bromochlorobenene	J	n-Triacontane	P	1-methylnaphthalene	V	Tri-n-propyltin		
E	1,4-Dichlorobutane	K	Hexacosane	Q	Dichlorophenyl Acetic Acid (DCAA)	W	Tributyl Phosphate		
F	1,4-Difluorobenzene (DFB)	L	Bromobenzene	R	4-Nitrophenol	X	Triphenyl Phosphate		

LDC #: 28268J41
SDG #: see cover

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: FJ
2nd Reviewer: A

METHOD: GC ✓ HPLC _____

The calibration Factor (CF), average CF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

CF = A/C
average CF = sum of the CF/number of standards
%RSD = 100 * (S/X)

A = Area of compound,
C = Concentration of compound,
S = Standard deviation of the CF
X = Mean of the CFs

#	Standard ID	Calibration Date	Compound	Reported CF (24.773 std)	Recalculated CF (24.773 std)	Reported Average CF (initial)	Recalculated Average CF (initial)	Reported %RSD	Recalculated %RSD
1	ICAL	3/29/12	o-terphenyl	2.02 X10^4	2.02 X10^4	2.08 X10^4	2.08 X10^4	5.9	5.9
				(23.594)	(23.594)				
2	ICAL	4/16/12	↓	2.19X10^4	2.19X10^4	2.18X10^4	2.18X10^4	9.4	9.4
3									
4									

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 28265J4/
SDG #: pw cover

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Page: 1 of 7
Reviewer: EJ
2nd Reviewer: A

METHOD: GC ✓ HPLC ____

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration CF were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. CF - CF)/ave. CF
CF = A/C

Where: ave. CF = initial calibration average CF
CF = continuing calibration CF
A = Area of compound
C = Concentration of compound

#	Standard ID	Calibration Date	Compound	Average CF(ical)/ CCV Conc.	Reported CF/Conc. CCV	Recalculated CF/Conc. CCV	Reported %D	Recalculated %D
1	~~4/6~~ ccv 9:20	4/6/12	o-Terphenyl	99.09	106.92	106.92	7.9	7.9
2	ccv 13:26	4/6/12	↓	↓	97.53	97.53	1.6	1.6
3	ccv 15:00	4/16/12	↓	94.37	90.33	90.33	4.3	4.3
4	ccv 19:04	4/16/12	↓	94.37	91.30	91.30	3.3	3.3

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 28268J4/
SDG #: see cover

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Reviewer: FT
2nd reviewer: A

METHOD: ✓ GC ___ HPLC

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: # 1

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
n-Triacontane-d62	NS	0.331	0.268798	81	81	U

Sample ID:

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	

Sample ID:

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	

LDC #: 28268J41
SDG #: all cases

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample/Laboratory Control Sample Duplicate Results Verification

Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: ✓ GC __HPLC

The percent recoveries (%R) and Relative Percent difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100* (SSC-SC)/SA
RPD = | LCS - LCSD | * 2/(LCS + LCSD)

Where: SSC = Spiked sample concentration
SA = Spike added
LCS = Laboratory control sample percent recovery
SC = Concentration
LCSD = Laboratory control sample duplicate percent recovery

LCS/LCSD samples: LCS04096

Compound	Spike Added (mg/kg)		Spiked Sample Concentration (mg/kg)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline (8015)										
Diesel (8015)										
Benzene (8021B)										
Methane (RSK-175)										
2,4-D (8151)										
Dinoseb (8151)										
Naphthalene (8310)										
Anthracene (8310)										
HMX (8330)										
2,4,6-Trinitrotoluene (8330)										
o-Terphenyl	8.36	NA	8.51	NA	102	102	NA	—		

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 28768J4/
SDG #: [illegible]

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: ✓ GC ___ HPLC

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds within 10% of the reported results?

Concentration= $\frac{(A)(Fv)(Df)}{(RF)(Vs \text{ or } Ws)(\%S/100)}$

A= Area or height of the compound to be measured
Fv= Final Volume of extract
Df= Dilution Factor
RF= Average response factor of the compound in the initial calibration
Vs= Initial volume of the sample
Ws= Initial weight of the sample
%S= Percent Solid

Example:

Sample ID._____ Compound Name _____

Concentration =_____

ND

#	Sample ID	Compound	Reported Concentrations ( )	Recalculated Results Concentrations ( )	Qualifications

Comments: _____

SAMPCALew.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Santa Susana Field Laboratory

Collection Date: April 2 through April 4, 2012

LDC Report Date: September 4, 2012

Matrix: Soil/Water

Parameters: Formaldehyde

Validation Level: Level IV

Laboratory: Lancaster Laboratories

Sample Delivery Group (SDG): DE306

Sample Identification

SL-025-NBZ-SS-0.0-0.5
SL-026-NBZ-SB-0.0-0.5
SL-027-NBZ-SB-0.0-0.5
SL-028-NBZ-SS-0.0-0.5
SL-031-NBZ-SB-0.0-0.5
SL-033-NBZ-SB-0.0-0.5
SL-034-NBZ-SB-0.0-0.5
SL-032-NBZ-SB-0.0-0.5
SL-035-NBZ-SB-0.0-0.5
SL-035-NBZ-SB-2.0-3.0
SL-020-NBZ-SB-2.5-3.5
EB-NBZ-SB-040412
EB-NBZ-SS-040412
SL-025-NBZ-SS-0.0-0.5MS
SL-025-NBZ-SS-0.0-0.5MSD

Introduction

This data review covers 13 soil samples and 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8315A for Formaldehyde.

This review follows the Quality Assurance Project Plan for Santa Susana Field Laboratory (SSFL), RCRA Facility Investigation, Surficial Media Operable Unit (March 2009, Revision 4) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

NJ Presumptive evidence of presence of the compound at an estimated quantity.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration of compounds was performed as required by the method.

The percent relative standard deviations (%RSD) of calibration factors for compounds were less than or equal to 20.0% .

Retention time windows were evaluated and considered technically acceptable.

III. Calibration Verification

Calibration verification was performed at required frequencies. The percent differences (%D) of amounts in continuing standard mixtures were within the 20.0% QC limits.

The percent differences (%D) of the second source calibration standard were less than or equal to 20.0% for all compounds.

Retention times (RT) of all compounds in the calibration standards were within QC limits.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No formaldehyde was found in the method blanks.

Samples EB-NBZ-SB-040412 and EB-NBZ-SS-040412 were identified as equipment blanks. No formaldehyde was found.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Column	Surrogate	%R (Limits)	Compound	Flag	A or P
EB-NBZ-SB-040412	Not specified	Butyraldehyde	11 (45-145)	Formaldehyde	J (all detects) UJ (all non-detects)	P

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

All target compound identifications were within validation criteria.

IX. Compound Quantitation and RLs

All compound quantitation and RLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG DE306	All compounds reported below the RL.	J (all detects)	A

X. System Performance

The system performance was acceptable.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

Santa Susana Field Laboratory
Formaldehyde - Data Qualification Summary - SDG DE306

SDG	Sample	Compound	Flag	A or P	Reason (Code)
DE306	EB-NBZ-SB-040412	Formaldehyde	J (all detects) UJ (all non-detects)	P	Surrogate spikes (%R) (S)
DE306	SL-025-NBZ-SS-0.0-0.5 SL-026-NBZ-SB-0.0-0.5 SL-027-NBZ-SB-0.0-0.5 SL-028-NBZ-SS-0.0-0.5 SL-031-NBZ-SB-0.0-0.5 SL-033-NBZ-SB-0.0-0.5 SL-034-NBZ-SB-0.0-0.5 SL-032-NBZ-SB-0.0-0.5 SL-035-NBZ-SB-0.0-0.5 SL-035-NBZ-SB-2.0-3.0 SL-020-NBZ-SB-2.5-3.5 EB-NBZ-SB-040412 EB-NBZ-SS-040412	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and RLs (Z)

Santa Susana Field Laboratory
Formaldehyde - Laboratory Blank Data Qualification Summary - SDG DE306

No Sample Data Qualified in this SDG

Santa Susana Field Laboratory
Formaldehyde - Field Blank Data Qualification Summary - SDG DE306

No Sample Data Qualified in this SDG

LDC #: 28268A71 **VALIDATION COMPLETENESS WORKSHEET** Date: 9/4/12
SDG #: DE306 Level IV Page: 1 of 1
Laboratory: Lancaster Laboratories Reviewer: F
2nd Reviewer: A

METHOD: HPLC Formaldehyde (EPA SW 846 Method 8315A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/2 - 4/4/12
II	Initial calibration	A	%RSD ≤ 20
III.	Calibration verification/ICV	A	ICV/CCV ≤ 20
IV.	Blanks	A	
V	Surrogate recovery	SW	
VI.	Matrix spike/Matrix spike duplicates	A	
VII.	Laboratory control samples	A	LCS/D
VIII.	Target compound identification	A	
IX.	Compound quantitation/RL/LOQ/LODs	A	
X.	System Performance	A	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	ND	EB = 12, 13

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: soil + water

1	SL-025-NBZ-SS-0.0-0.5	11	SL-020-NBZ-SB-2.5-3.5	21	PBLK05100	31	
2	SL-026-NBZ-SS-0.0-0.5	12	EB-NBZ-SB-040412	22	PBLK01098	32	
3	SL-027-NBZ-SS-0.0-0.5	13	EB-NBZ-SS-040412	23		33	
4	SL-028-NBZ-SS-0.0-0.5	14	#1 MS	24		34	
5	SL-031-NBZ-SS-0.0-0.5	15	#1 MSD	25		35	
6	SL-033-NBZ-SS-0.0-0.5	16		26		36	
7	SL-034-NBZ-SS-0.0-0.5	17		27		37	
8	SL-032-NBZ-SS-0.0-0.5	18		28		38	
9	SL-035-NBZ-SS-0.0-0.5	19		29		39	
10	SL-035-NBZ-SB-2.0-3.0	20		30		40	

Notes:

LDC #: 28268#71
SDG #: per cover

VALIDATION FINDINGS CHECKLIST

Reviewer: FT
2nd Reviewer: [illegible]

Method: ✓ GC _____ HPLC

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) ≤ 20%?	✓			
Was a curve fit used for evaluation?		✓		
Did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?			✓	
Were the RT windows properly established?	✓			
IV. Continuing calibration				
Was a continuing calibration analyzed daily?	✓			
Were all percent differences (%D) ≤ 20%.0 or percent recoveries 80-120%?	✓			
Were all the retention times within the acceptance windows?	✓			
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed for each matrix and concentration?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Surrogate spikes				
Were all surrogate %R within the QC limits?	AA	✓		
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?		✓		
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.	✓			
Was a MS/MSD analyzed every 20 samples of each matrix?	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?	✓			
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?			✓	
Were the performance evaluation (PE) samples within the acceptance limits?			✓	

LDC #: 28268 A71
SDG #: per cover

VALIDATION FINDINGS CHECKLIST

Reviewer: FJ
2nd Reviewer: A

Validation Area	Yes	No	NA	Findings/Comments
X. Target compound identification				
Were the retention times of reported detects within the RT windows?			✓	
XI. Compound quantitation/CRQLs				
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XII. System performance				
System performance was found to be acceptable.	✓			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XIV. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target compounds were detected in the field duplicates.			✓	
XV. Field blanks				
Field blanks were identified in this SDG.	✓			
Target compounds were detected in the field blanks.		✓		

LDC #: 78268J71

VALIDATION FINDINDS WORKSHEET
Surrogate Recovery

Page: 1 of 1
Reviewer: FT
2nd Reviewer: e

METHOD: __ GC __ HPLC

Are surrogates required by the method? Yes____ or No____.

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were surrogates spiked into all samples and blanks?

Y N N/A Did all surrogate recoveries (%R) meet the QC limits?

#	Sample ID	Detector/ Column	Surrogate Compound	%R (Limits)	Qualifications
	12	NS	Butyraldehyde	11 (45-145)	J/UJ/P (S)
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	

	Surrogate Compound		Surrogate Compound		Surrogate Compound		Surrogate Compound		
A	Chlorobenzene (CBZ)	G	Octacosane	M	Benzo(e)Pyrene	S	1-Chloro-3-Nitrobenzene	Y	Tetrachloro-m- xylene
B	4-Bromofluorobenzene (BFB)	H	Ortho-Terphenyl	N	Terphenyl-D14	T	3,4-Dinitrotoluene		
C	a,a,a-Trifluorotoluene	I	Fluorobenzene (FBZ)	O	Decachlorobiphenyl (DCB)	U	Tripentyltin		
D	Bromochlorobenene	J	n-Triacontane	P	1-methylnaphthalene	V	Tri-n-propyltin		
E	1,4-Dichlorobutane	K	Hexacosane	Q	Dichlorophenyl Acetic Acid (DCAA)	W	Tributyl Phosphate		
F	1,4-Difluorobenzene (DFB)	L	Bromobenzene	R	4-Nitrophenol	X	Triphenyl Phosphate		

LDC #: 28268A71
SDG #: see cover

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
Reviewer: F?
2nd Reviewer: [illegible]

METHOD: GC ✓ HPLC ____

The calibration Factor (CF), average CF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

CF = A/C
average CF = sum of the CF/number of standards
%RSD = 100 * (S/X)

A = Area of compound,
C = Concentration of compound,
S = Standard deviation of the CF
X = Mean of the CFs

#	Standard ID	Calibration Date	Compound	Reported 2002.0 CF (std)	Recalculated 2002.0 CF (std)	Reported Average CF (initial)	Recalculated Average CF (initial)	Reported %RSD	Recalculated %RSD
1	ICAL	4/9/12	Formaldehyde	5.96x10⁷	5.96x10⁷	5.95x10⁷	5.95x10⁷	11.0	11.0
2	ICAL	4/11/12	↓	6.48x10⁷	6.48x10⁷	6.75x10⁷	6.75x10⁷	9.0	9.0
3									
4									

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

INICIC 1SB

LDC #: 28268A71
SDG #: per cover

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Page: 1 of 7
Reviewer: EJ
2nd Reviewer: [illegible]

METHOD: GC ✓ HPLC _____

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration CF were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. CF - CF)/ave. CF
CF = A/C

Where: ave. CF = initial calibration average CF
CF = continuing calibration CF
A = Area of compound
C = Concentration of compound

#	Standard ID	Calibration Date	Compound	Average CF(ical)/ CCV Conc.	Reported CF/Conc. CCV	Recalculated CF/Conc. CCV	Reported %D	Recalculated %D
1	CCV 19:56	4/11/12	Formaldehyde	2002.0	1740.88	1740.88	13	13
2								
3								
4								

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 28268T1
SDG #: see cover

METHOD: GC ___ HPLC

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Page: 1 of 1
Reviewer: FT
2nd reviewer:

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: #1

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Butyraldehyde	NS	2000	4397.817	110	110	0
			2			

Sample ID: _____

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	

Sample ID: _____

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	

LDC #: 28268 (77)
SDG #: see cover

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates Results Verification

Page: 1 of 1
Reviewer: FZ
2nd Reviewer: C

METHOD: __ GC __ HPLC

The percent recoveries (%R) and relative percent differences (RPD) of the matrix spike and matrix spike duplicate were recalculated for the compounds identified below using the following calculation:

%Recovery = 100 * (SSC - SC)/SA Where SSC = Spiked sample concentration SA = Spike added SC = Sample concentration

RPD =(({SSCMS - SSCMSD} * 2) / (SSCMS + SSCMSD))*100 MS = Matrix spike MSD = Matrix spike duplicate

MS/MSD samples: 14 + 15

Compound	Spike Added (ug/kg)		Sample Conc. (ug/kg)	Spike Sample Concentration (ug/kg)		Matrix spike Percent Recovery		Matrix Spike Duplicate Percent Recovery		MS/MSD RPD	
	MS	MSD	---	MS	MSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline (8015)											
Diesel (8015)											
Benzene (8021B)											
Methane (RSK-175)											
2,4-D (8151)											
Dinoseb (8151)											
Naphthalene (8310)											
Anthracene (8310)											
HMX (8330)											
2,4,6-Trinitrotoluene (8330)											
Formaldehyde	50 J	50 J	ND	4732.67	5090.77	94	94	101	101	7	7

Comments: Refer to Matrix Spike/Matrix Spike Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 28268J71
SDG #: pw cover

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample/Laboratory Control Sample Duplicate Results Verification

Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: ✓ GC __HPLC

The percent recoveries (%R) and Relative Percent difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100* (SSC-SC)/SA
RPD = I LCS - LCSD I * 2/(LCS + LCSD)

Where: SSC = Spiked sample concentration
SA = Spike added
LCS = Laboratory control sample percent recovery
SC = Concentration
LCSD = Laboratory control sample duplicate percent recovery

LCS/LCSD samples: LCS 05100

Compound	Spike Added (ug/Kg)		Spiked Sample Concentration (ug/Kg)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline (8015)										
Diesel (8015)										
Benzene (8021B)										
Methane (RSK-175)										
2,4-D (8151)										
Dinoseb (8151)										
Naphthalene (8310)										
Anthracene (8310)										
HMX (8330)										
2,4,6-Trinitrotoluene (8330)										
Formaldehyde	5015	NA	4720.07	NA	94	94	NA			

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 28268A71
SDG #: [illegible]

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: ✓ GC __ HPLC

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds within 10% of the reported results?

Concentration= $\frac{(A)(Fv)(Df)}{(RF)(Vs \text{ or } Ws)(\%S/100)}$

A= Area or height of the compound to be measured
Fv= Final Volume of extract
Df= Dilution Factor
RF= Average response factor of the compound in the initial calibration
Vs= Initial volume of the sample
Ws= Initial weight of the sample
%S= Percent Solid

Example:

Sample ID._____ Compound Name _____

Concentration =_____

MD

#	Sample ID	Compound	Reported Concentrations ( )	Recalculated Results Concentrations ( )	Qualifications

Comments: _____

SAMPLE DELIVERY GROUP

DE307

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
04-Apr-2012	SL-020-NBZ-SS-0.0-0.5	6608611	N	3546	1625C	III
04-Apr-2012	SL-020-NBZ-SS-0.0-0.5	6608611	N	3550B	8015B	III
04-Apr-2012	SL-020-NBZ-SS-0.0-0.5	6608611	N	METHOD	8315A	III

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Attachment II

Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: DE307

Laboratory: LL

EDD Filename: DE307_v1

eQAPP Name: CDM_SSFL_120718_Lan

No Data Review Qualifiers Applied.

Enclosure I

Level III ADR Outliers
(including Manual Review Outliers)

Quality Control Outlier Reports

DE307

(No Outliers)

SAMPLE DELIVERY GROUP

DE308

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
09-Apr-2012	SL-001-NBZ-SS-0.0-0.5	6612342	N	3546	1625C	III
09-Apr-2012	SL-001-NBZ-SS-0.0-0.5	6612342	N	3550B	8015B	III
09-Apr-2012	SL-001-NBZ-SS-0.0-0.5	6612342	N	METHOD	8315A	III
10-Apr-2012	DUP-07-NBZ-QC-041012	6612348	FD	3546	1625C	III
10-Apr-2012	DUP-07-NBZ-QC-041012	6612348	FD	3550B	8015B	III
10-Apr-2012	DUP-07-NBZ-QC-041012	6612348	FD	METHOD	8315A	III
10-Apr-2012	SL-009-NBZ-SS-0.0-0.5	6612343	N	3546	1625C	III
10-Apr-2012	SL-009-NBZ-SS-0.0-0.5	6612343	N	3550B	8015B	III
10-Apr-2012	SL-009-NBZ-SS-0.0-0.5	6612343	N	METHOD	8315A	III
10-Apr-2012	SL-009-NBZ-SS-0.0-0.5 MS	6612344	MS	3546	1625C	III
10-Apr-2012	SL-009-NBZ-SS-0.0-0.5 MS	6612344	MS	3550B	8015B	III
10-Apr-2012	SL-009-NBZ-SS-0.0-0.5 MS	6612344	MS	METHOD	8315A	III
10-Apr-2012	SL-009-NBZ-SS-0.0-0.5 MSD	6612345	MSD	3546	1625C	III
10-Apr-2012	SL-009-NBZ-SS-0.0-0.5 MSD	6612345	MSD	3550B	8015B	III
10-Apr-2012	SL-009-NBZ-SS-0.0-0.5 MSD	6612345	MSD	METHOD	8315A	III
10-Apr-2012	SL-009-NBZ-SS-0.0-0.5 RLM	6612346	MS	3550B	8015B	III
10-Apr-2012	SL-009-NBZ-SS-0.0-0.5 RLM	6612346	MS	METHOD	8315A	III

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Attachment II

Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: DE308 **Laboratory: LL**

EDD Filename: PrepDE308_v2 **eQAPP Name: CDM_SSFL_120718_Lan**

Method Category: **SVOA**

Method: **8315A** ***Matrix:*** **SO**

Sample ID: **SL-009-NBZ-SS-0.0-0.5** ***Collected:*** **4/10/2012 9:30:00** ***Analysis Type:*** **RES** ***Dilution:*** **1**

Analyte	*Lab Result*	*Lab Qual*	*DL*	*DL Type*	*RL*	*RL Type*	*Units*	*Data Review Qual*	*Reason Code*
FORMALDEHYDE	680	U	680	MDL	1700	PQL	ug/Kg	J	Z

* denotes a non-reportable result

Project Name and Number: 1203-004-009-AL - SSFL Area IV Collocated Soil Sampling

Data Qualifier Summary

Lab Reporting Batch ID: DE308 **Laboratory: LL**

EDD Filename: PrepDE308_v2 **eQAPP Name: CDM_SSFL_120718_Lan**

Reason Code Legend

Reason Code	*Description*
S	Surrogate/Tracer Recovery Upper Estimation
Z	Reporting Limit Trace Value

* denotes a non-reportable result

Project Name and Number: 1203-004-009-AL - SSFL Area IV Collocated Soil Sampling

Enclosure I

Level III ADR Outliers
(including Manual Review Outliers)

Quality Control Outlier Reports

DE308

Reporting Limit Outliers

Lab Reporting Batch ID: DE308 **Laboratory: LL**

EDD Filename: PrepDE308_v2 **eQAPP Name: CDM_SSFL_120718_Lan**

Method: **8315A**

Matrix: **SO**

SampleID	*Analyte*	*Lab Qual*	*Result*	*Reporting Limit*	*RL Type*	*Units*	*Flag*
SL-009-NBZ-SS-0.0-0.5	FORMALDEHYDE	U	680	1700	PQL	ug/Kg	J (all detects)

SAMPLE DELIVERY GROUP

DE309

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
10-Apr-2012	SL-085-NBZ-SS-0.0-0.5	6615656	N	3546	1625C	III
10-Apr-2012	SL-085-NBZ-SS-0.0-0.5	6615656	N	3550B	8015B	III
10-Apr-2012	SL-085-NBZ-SS-0.0-0.5	6615656	N	METHOD	8315A	III
12-Apr-2012	SL-011-NBZ-SS-0.0-0.5	6615657	N	3546	1625C	III
12-Apr-2012	SL-011-NBZ-SS-0.0-0.5	6615657	N	3550B	8015B	III
12-Apr-2012	SL-011-NBZ-SS-0.0-0.5	6615657	N	METHOD	8315A	III
12-Apr-2012	EB-NBZ-SS-041212	6615658	EB	3510C	8015B	III
12-Apr-2012	EB-NBZ-SS-041212	6615658	EB	3520C	1625C	III
12-Apr-2012	EB-NBZ-SS-041212	6615658	EB	METHOD	8315A	III

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Attachment II

Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: DE309 **Laboratory: LL**

EDD Filename: DE309_v1 **eQAPP Name: CDM_SSFL_120718_Lan**

No Data Review Qualifiers Applied.

Enclosure I

Level III ADR Outliers
(including Manual Review Outliers)

Quality Control Outlier Reports

DE309

(No Outliers)

SAMPLE DELIVERY GROUP

DE310

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
16-Apr-2012	SL-013-NBZ-SS-0.0-0.5	6620874	N	3546	1625C	III
16-Apr-2012	SL-013-NBZ-SS-0.0-0.5	6620874	N	3550B	8015B	III
16-Apr-2012	SL-013-NBZ-SS-0.0-0.5	6620874	N	METHOD	8315A	III
16-Apr-2012	SL-013-NBZ-SS-0.0-0.5MSD	P620874M242323A	MSD	METHOD	8315A	III
16-Apr-2012	SL-013-NBZ-SS-0.0-0.5MSD	P620874M261342	MSD	3546	1625C	III
16-Apr-2012	SL-013-NBZ-SS-0.0-0.5MSD	P620874M322343A	MSD	3550B	8015B	III
16-Apr-2012	SL-013-NBZ-SS-0.0-0.5MS	P620874R242314A	MS	METHOD	8315A	III
16-Apr-2012	SL-013-NBZ-SS-0.0-0.5MS	P620874R261323	MS	3546	1625C	III
16-Apr-2012	SL-013-NBZ-SS-0.0-0.5MS	P620874R322259A	MS	3550B	8015B	III
17-Apr-2012	SL-014-NBZ-SS-0.0-0.5	6620875	N	3546	1625C	III
17-Apr-2012	SL-014-NBZ-SS-0.0-0.5	6620875	N	3550B	8015B	III
17-Apr-2012	SL-014-NBZ-SS-0.0-0.5	6620875	N	METHOD	8315A	III
17-Apr-2012	SL-088-NBZ-SS-0.0-0.5	6620876	N	3546	1625C	III
17-Apr-2012	SL-088-NBZ-SS-0.0-0.5	6620876	N	3550B	8015B	III
17-Apr-2012	SL-088-NBZ-SS-0.0-0.5	6620876	N	METHOD	8315A	III
17-Apr-2012	EB-NBZ-SS-041712	6620878	EB	3510C	8015B	III
17-Apr-2012	EB-NBZ-SS-041712	6620878	EB	3520C	1625C	III
17-Apr-2012	EB-NBZ-SS-041712	6620878	EB	METHOD	8315A	III
17-Apr-2012	EB-NBZ-SB-041712	6620877	EB	3510C	8015B	III
17-Apr-2012	EB-NBZ-SB-041712	6620877	EB	3520C	1625C	III
17-Apr-2012	EB-NBZ-SB-041712	6620877	EB	METHOD	8315A	III

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Attachment II

Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: DE310 **Laboratory: LL**

EDD Filename: DE310 **eQAPP Name: CDM_SSFL_120718_Lan**

Method Category: **SVOA**

Method: **1625C** ***Matrix:*** **SO**

Sample ID: **SL-013-NBZ-SS-0.0-0.5** ***Collected:*** **4/16/2012 10:07:00** ***Analysis Type:*** **RES-BASE/NEUTRAL** ***Dilution:*** **10**

Analyte	*Lab Result*	*Lab Qual*	*DL*	*DL Type*	*RL*	*RL Type*	*Units*	*Data Review Qual*	*Reason Code*
N-NITROSODIMETHYLAMINE	248	U	248	MDL	496	PQL	ng/Kg	UJ	Q

* denotes a non-reportable result

Project Name and Number: 1203-004-009-AL - SSFL Area IV Collocated Soil Sampling

Data Qualifier Summary

Lab Reporting Batch ID: DE310 **Laboratory: LL**

EDD Filename: DE310 **eQAPP Name: CDM_SSFL_120718_Lan**

Reason Code Legend

Reason Code	*Description*
E	Matrix Spike Precision
Q	Matrix Spike Lower Estimation
Q	Matrix Spike Precision
S	Surrogate/Tracer Recovery Upper Estimation

* denotes a non-reportable result

Project Name and Number: 1203-004-009-AL - SSFL Area IV Collocated Soil Sampling

Enclosure I

Level III ADR Outliers
(including Manual Review Outliers)

Quality Control
Outlier Reports

DE310

Matrix Spike/Matrix Spike Duplicate Outlier Report

Lab Reporting Batch ID: DE310 **Laboratory: LL**

EDD Filename: DE310 **eQAPP Name: CDM_SSFL_120718_Lan**

Method: **1625C**
Matrix: **SO**

QC Sample ID (Associated Samples)	*Compound*	*MS %R*	*MSD %R*	*%R Limits*	*RPD (Limits)*	*Affected Compounds*	*Flag*
SL-013-NBZ-SS-0.0-0.5MSD (SL-013-NBZ-SS-0.0-0.5)	N-NITROSODIMETHYLAMINE	-	55	70.00-130.00	31 (30.00)	N-NITROSODIMETHYLAMINE	J (all detects) UJ (all non-detects)

SAMPLE DELIVERY GROUP

DE311

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
17-Apr-2012	SL-090-NBZ-SS-0.0-0.5	6622559	N	3546	1625C	III
17-Apr-2012	SL-090-NBZ-SS-0.0-0.5	6622559	N	3550B	8015B	III
17-Apr-2012	SL-090-NBZ-SS-0.0-0.5	6622559	N	METHOD	8315A	III
18-Apr-2012	SL-008-NBZ-SB-4.0-5.0	6622560	N	3546	1625C	III
18-Apr-2012	SL-008-NBZ-SB-4.0-5.0	6622560	N	3550B	8015B	III
18-Apr-2012	SL-008-NBZ-SB-4.0-5.0	6622560	N	METHOD	8315A	III
18-Apr-2012	SL-081-NBZ-SS-0.0-0.5	6622561	N	3546	1625C	III
18-Apr-2012	SL-081-NBZ-SS-0.0-0.5	6622561	N	3550B	8015B	III
18-Apr-2012	SL-081-NBZ-SS-0.0-0.5	6622561	N	METHOD	8315A	III
18-Apr-2012	SL-082-NBZ-SS-0.0-0.5	6622562	N	3546	1625C	III
18-Apr-2012	SL-082-NBZ-SS-0.0-0.5	6622562	N	3550B	8015B	III
18-Apr-2012	SL-082-NBZ-SS-0.0-0.5	6622562	N	METHOD	8315A	III
18-Apr-2012	SL-082-NBZ-SB-2.5-3.5	6622563	N	3546	1625C	III
18-Apr-2012	SL-082-NBZ-SB-2.5-3.5	6622563	N	3550B	8015B	III
18-Apr-2012	SL-082-NBZ-SB-2.5-3.5	6622563	N	METHOD	8315A	III
18-Apr-2012	SL-083-NBZ-SB-0.0-0.5	6622564	N	3546	1625C	III
18-Apr-2012	SL-083-NBZ-SB-0.0-0.5	6622564	N	3550B	8015B	III
18-Apr-2012	SL-083-NBZ-SB-0.0-0.5	6622564	N	METHOD	8315A	III

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Attachment II

Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: DE311 **Laboratory: LL**

EDD Filename: DE311_v1 **eQAPP Name: CDM_SSFL_120718_Lan**

No Data Review Qualifiers Applied.

Enclosure I

Level III ADR Outliers
(including Manual Review Outliers)

Quality Control Outlier Reports

DE311

(No Outliers)

SAMPLE DELIVERY GROUP

DE312

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
19-Apr-2012	SL-012-NBZ-SS-0.0-0.5	6624301	N	3546	1625C	IV
19-Apr-2012	SL-012-NBZ-SS-0.0-0.5	6624301	N	3550B	8015B	IV
19-Apr-2012	SL-012-NBZ-SS-0.0-0.5	6624301	N	METHOD	8315A	IV
19-Apr-2012	SL-012-NBZ-SS-0.0-0.5MSD	P624301M240127A	MSD	METHOD	8315A	IV
19-Apr-2012	SL-012-NBZ-SS-0.0-0.5MS	P624301R240108A	MS	METHOD	8315A	IV
19-Apr-2012	SL-012-NBZ-SB-0.5-1.5	6624302	N	3546	1625C	III
19-Apr-2012	SL-012-NBZ-SB-0.5-1.5	6624302	N	3550B	8015B	III
19-Apr-2012	SL-012-NBZ-SB-0.5-1.5	6624302	N	METHOD	8315A	III
19-Apr-2012	SL-087-NBZ-SS-0.0-0.5	6624304	N	3546	1625C	IV
19-Apr-2012	SL-087-NBZ-SS-0.0-0.5	6624304	N	3550B	8015B	IV
19-Apr-2012	SL-087-NBZ-SS-0.0-0.5	6624304	N	METHOD	8315A	IV
19-Apr-2012	SL-086-NBZ-SS-0.0-0.5	6624303	N	3546	1625C	IV
19-Apr-2012	SL-086-NBZ-SS-0.0-0.5	6624303	N	3550B	8015B	IV
19-Apr-2012	SL-086-NBZ-SS-0.0-0.5	6624303	N	METHOD	8315A	IV

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Attachment II

Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: DE312 **Laboratory: LL**

EDD Filename: DE312_v1 **eQAPP Name: CDM_SSFL_120718_Lan**

No Data Review Qualifiers Applied.

Enclosure I

Level III ADR Outliers
(including Manual Review Outliers)

Quality Control Outlier Reports

DE312

(No Outliers)

Enclosure II

Level IV Validation Reports

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Santa Susana Field Laboratory
Collection Date:	April 19, 2012
LDC Report Date:	February 26, 2013
Matrix:	Soil
Parameters:	N-Nitrosodimethylamine
Validation Level:	Level IV
Laboratory:	Lancaster Laboratories
Sample Delivery Group (SDG):	DE312

Sample Identification

SL-012-NBZ-SS-0.0-0.5
SL-086-NBZ-SS-0.0-0.5
SL-087-NBZ-SS-0.0-0.5

Introduction

This data review covers 3 soil samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625C for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan for Santa Susana Field Laboratory (SSFL), RCRA Facility Investigation, Surficial Media Operable Unit (March 2009, Revision 4) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check is not required for by this method.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 30.0% for N-Nitrosodimethylamine.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

Percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were within the method criteria of less than or equal to 20.0% for N-Nitrosodimethylamine.

The percent difference (%D) of the second source calibration standard were less than or equal to 30.0% for N-Nitrosodimethylamine.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-nitrosodimethylamine was found in the method blanks.

Sample EB-NBZ-SS-041712 (from SDG DE310) was identified as an equipment blank. No N-nitrosodimethylamine was found with the following exceptions:

Blank ID	Sampling Date	Compound	Concentration	Associated Samples
EB-NBZ-SS-041712	4/17/12	N-Nitrosodimethylamine	2.36 ng/L	All samples in SDG DE312

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. Surrogate recoveries (%R) were not within QC limits for all samples. Since the samples were diluted out, no data were qualified.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria.

XII. Compound Quantitation and RLs

All compound quantitation and RLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG DE312	All compounds reported below the RL.	J (all detects)	A

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was within validation criteria.

Santa Susana Field Laboratory
N-Nitrosodimethylamine - Data Qualification Summary - SDG DE312

SDG	Sample	Compound	Flag	A or P	Reason (Code)
DE312	SL-012-NBZ-SS-0.0-0.5 SL-086-NBZ-SS-0.0-0.5 SL-087-NBZ-SS-0.0-0.5	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and RLs (Z)

Santa Susana Field Laboratory
N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary - SDG DE312

No Sample Data Qualified in this SDG

Santa Susana Field Laboratory
N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG DE312

No Sample Data Qualified in this SDG

LDC #: 29239E2c **VALIDATION COMPLETENESS WORKSHEET** Date: 2/22/13
SDG #: DE312 Level IV Page: 1 of 1
Laboratory: Eurofins Lancaster Laboratories Reviewer: FT
2nd Reviewer: A

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/19/12
II.	GC/MS Instrument performance check	N	not required
III.	Initial calibration	A	%D RSD ≤ 30
IV.	Continuing calibration/ICV	A	ICV ≤ 30 CCV ≤ 20
V.	Blanks	A	
VI.	Surrogate spikes	SW	
VII.	Matrix spike/Matrix spike duplicates	N	client specified
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A	
XI.	Target compound identification	A	
XII.	Compound quantitation/RL/LOQ/LODs	A	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	A	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks SW	ND	EB = EB-NBZ-SS-041712 SDG# DE310

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

	SOIL						
1	SL-012-NBZ-SS-0.0-0.5	11	SBLKAIL	21		31	
2	SL-086-NBZ-SS-0.0-0.5	12		22		32	
3	SL-087-NBZ-SS-0.0-0.5	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

LDC #: 29239E2C

VALIDATION FINDINGS CHECKLIST

Page: 1 of 1
Reviewer: FT
2nd Reviewer: A

Method: Semivolatiles ~~(EPA SW 846 Method 8270C)~~ 1625C

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. GC/MS Instrument performance check				
Were the DFTPP performance results reviewed and found to be within the specified criteria?	✓			
Were all samples analyzed within the 12 hour clock criteria?	✓			
III. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?			✓	
Was a curve fit used for evaluation?			✓	
Did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?			✓	
Were all percent relative standard deviations (%RSD) ≤ 30% and relative response factors (RRF) > 0.05?	✓			
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	✓			
Were all percent differences (%D) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?			✓	
Were all percent differences (%D) ≤ ~~25%~~ 20 and relative response factors (RRF) ≥ 0.05?	✓			
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed for each matrix and concentration?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Surrogate spikes				
Were all surrogate %R within QC limits?	-	✓		
If 2 or more base neutral or acid surrogates were outside QC limits, was a reanalysis performed to confirm %R?			✓	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?			✓	
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.			✓	
Was a MS/MSD analyzed every 20 samples of each matrix?			✓	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			

LDC #: 29239E2C

VALIDATION FINDINGS CHECKLIST

Reviewer: FT
2nd Reviewer: C

Validation Area	Yes	No	NA	Findings/Comments
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?			✓	
Were the performance evaluation (PE) samples within the acceptance limits?			✓	
X. Internal standards				
Were internal standard area counts within -50% or +100% of the associated calibration standard?	✓			
Were retention times within ± 30 seconds from the associated calibration standard?	✓			
XI. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?			✓	
Did compound spectra meet specified EPA "Functional Guidelines" criteria?			✓	
Were chromatogram peaks verified and accounted for?	✓			
XII. Compound quantitation and CRQLs				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?			✓	
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Tentatively identified compounds (TICs)				
Were the major ions (> 10 percent relative intensity) in the reference spectrum evaluated in sample spectrum?			✓	
Were relative intensities of the major ions within ± 20% between the sample and the reference spectra?			✓	
Did the raw data indicate that the laboratory performed a library search for all required peaks in the chromatograms (samples and blanks)?			✓	
XIV. System performance				
System performance was found to be acceptable.	✓			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XVI. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target compounds were detected in the field duplicates.			✓	
XVII. Field blanks				
Field blanks were identified in this SDG.				
Target compounds were detected in the field blanks.				

ftLDC #: 29239E2C

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: FT
2nd Reviewer: A

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

EB = EB - NBZ-SS-041712

Y N N/A Were field blanks identified in this SDG?
Y N N/A Were target compounds detected in the field blanks?

Blank units: ng/L **Associated sample units:** ng/kg
Sampling date: 4/17/12
Field blank type: (circle one) Field Blank / Rinsate / Other: EB Associated Samples: All (ND)

Compound	Blank ID	Sample Identification								
	EB									
N-Nitrosodimethylamine	2-36									
CRQL										

Blank units: _____ **Associated sample units:** _____
Sampling date: _____
Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: _____

Compound	Blank ID	Sample Identification								
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as the phthalates and TICs noted above that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

LDC #: 29239E2c

VALIDATION FINDINGS WORKSHEET

Surrogate Recovery

Page: 1 of 1
Reviewer: FT
2nd Reviewer:

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

Please see qualification below for all questions answered "N". Not applicable questions are identified as "N/A".

Y [✓ N] N/A Were percent recoveries (%R) for surrogates within QC limits?

Y N [✓ N/A] If 2 or more base neutral or acid surrogates were outside QC limits, was a reanalysis performed to confirm %R?

Y N [✓ N/A] If any %R was less than 10 percent, was a reanalysis performed to confirm %R?

#	Date	Sample ID	Surrogate	%R (Limits)	Qualifications
		All	surrogate	outside limit)	no qual 10X DL
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	

* QC limits are advisory	QC Limits (Soil)	QC Limits (Water)		QC Limits (Soil)	QC Limits (Water)
S1 (NBZ) = Nitrobenzene-d5	23-120	35-114	S5 (2FP)= 2-Fluorophenol	25-121	21-100
S2 (FBP) = 2-Fluorobiphenyl	30-115	43-116	S6 (TBP) = 2,4,6-Tribromophenol	19-122	10-123
S3 (TPH) = Terphenyl-d14	18-137	33-141	S7 (2CP) = 2-Chlorophenol-d4	20-130*	33-110*
S4 (PHL) = Phenol-d5	24-113	10-94	S8 (DCB) = 1,2-Dichlorobenzene-d4	20-130*	16-110*

LDC #: 29239E2e

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: FT
2nd Reviewer: [illegible]

METHOD: GC/MS BNA ~~(EPA SW 846 Method 8270)~~ 1625C

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

RRF = $(A_x)(C_{is})/(A_{is})(C_x)$
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

A_x = Area of compound,
C_x = Concentration of compound,
S = Standard deviation of the RRFs,

A_{is} = Area of associated internal standard
C_{is} = Concentration of internal standard
X = Mean of the RRFs

#	Standard ID	Calibration Date	Compound (Reference Internal Standard)	Reported RRF (25 std)	Recalculated RRF (25 std)	Reported Average RRF (initial)	Recalculated Average RRF (initial)	Reported %RSD	Recalculated %RSD
1	ICAL1	3/28/12	~~Phenol~~ NDMA (1st internal standard)	1.033	1.033	1.00	1.00	4	4
			~~Naphthalene (2nd internal standard)~~						
			Fluorene (3rd internal standard)						
			Pentachlorophenol (4th internal standard)						
			Bis(2-ethylhexyl)phthalate (5th internal standard)						
			~~Benzo(a)pyrene~~ (6th internal standard)						
2			Phenol (1st internal standard)						
			Naphthalene (2nd internal standard)						
			Fluorene (3rd internal standard)						
			Pentachlorophenol (4th internal standard)						
			Bis(2-ethylhexyl)phthalate (5th internal standard)						
			Benzo(a)pyrene (6th internal standard)						
3			Phenol (1st internal standard)						
			Naphthalene (2nd internal standard)						
			Fluorene (3rd internal standard)						
			Pentachlorophenol (4th internal standard)						
			Bis(2-ethylhexyl)phthalate (5th internal standard)						
			Benzo(a)pyrene (6th internal standard)						

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 29239E2C

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: FT
2nd Reviewer: R

METHOD: GC/MS BNA (~~EPA SW 846 Method 8270C~~) NDMA 1625C

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
$RRF = (A_x)(C_{is})/(A_{is})(C_x)$

Where: ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
A_x = Area of compound, A_{is} = Area of associated internal standard
C_x = Concentration of compound, C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference Internal Standard)	Average RRF (initial)	Reported RRF (CC)	Recalculated RRF (CC)	Reported %D	Recalculated %D
1	CCV 11:16	4/27/12	~~Phenol (1st internal standard)~~ NDMA	1.0 (0.99777)	1.02476	1.02476	2.49948	2.49
			~~Naphthalene (2nd internal standard)~~					
			Fluorene (3rd internal standard)					
			Pentachlorophenol (4th internal standard)					
			Bis(2-ethylhexyl)phthalate (5th internal standard)					
			~~Benzo(a)pyrene (6th internal standard)~~					
2	CCV 1226	4/27/12	~~Phenol (1st internal standard)~~ NDMA	↓	0.93811	0.93811	6.16661	6.166
			Naphthalene (2nd internal standard)					
			Fluorene (3rd internal standard)					
			Pentachlorophenol (4th internal standard)					
			Bis(2-ethylhexyl)phthalate (5th internal standard)					
			~~Benzo(a)pyrene (6th internal standard)~~					
3	CCV 15:54	4/28/12	~~Phenol (1st internal standard)~~ NDMA	↓	↓	0.90548	~~0.90548~~ FT 9.43084	9.43
			Naphthalene (2nd internal standard)					
			Fluorene (3rd internal standard)					
			Pentachlorophenol (4th internal standard)					
			Bis(2-ethylhexyl)phthalate (5th internal standard)					
			Benzo(a)pyrene (6th internal standard)					

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 29239E2C

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Page: 1 of 1
Reviewer: FT
2nd reviewer:

METHOD: GC/MS Semivolatiles ~~(EPA SW-846 Method 8270)~~ 1625C

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: #1 10X

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
~~Nitrobenzene-d5~~ NDMA-D6	250	42.614	170	170	0
2-Fluorobiphenyl					
Terphenyl-d14					
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
~~1,2-Dichlorobenzene-d4~~					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5					
2-Fluorobiphenyl					
Terphenyl-d14					
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5					
2-Fluorobiphenyl					
Terphenyl-d14					
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

LDC #: 29239E2c

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Page: 1 of 1
Reviewer: FT
2nd Reviewer: A

METHOD: GC/MS BNA (~~EPA SW 846 Method 8270~~) 1625C

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SC/SA Where: SSC = Spike concentration
SA = Spike added

RPD = I LCSC - LCSDC I * 2/(LCSC + LCSDC) LCSC = Laboraotry control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS/LCSD samples: LCS 1

Compound	Spike Added (ng/kg)		Spike Concentration (ng/kg)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalculated
Phenol										
N-Nitroso-di-n-propylamine										
4-Chloro-3-methylphenol										
Acenaphthene										
Pentachlorophenol										
Pyrene										
N-Nitrosodimethylamine	833.33	NA	865.72	NA	104	104	NA			

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 29239E2c

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: FT
2nd reviewer: A

METHOD: GC/MS BNA (~~EPA SW 846 Method 8270~~) 1625C

Y N ~~N/A~~ Were all reported results recalculated and verified for all level IV samples?
Y N ~~N/A~~ Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(V_t)(DF)(2.0)}{(A_{is})(RRF)(V_o)(V_i)(\%S)}$

A_x	=	Area of the characteristic ion (EICP) for the compound to be measured
A_{is}	=	Area of the characteristic ion (EICP) for the specific internal standard
I_s	=	Amount of internal standard added in nanograms (ng)
V_o	=	Volume or weight of sample extract in milliliters (ml) or grams (g).
V_i	=	Volume of extract injected in microliters (ul)
V_t	=	Volume of the concentrated extract in microliters (ul)
Df	=	Dilution Factor.
%S	=	Percent solids, applicable to soil and solid matrices only.
2.0	=	Factor of 2 to account for GPC cleanup

Example:

Sample I.D. _____, _____:

Conc. = $\frac{(\quad)(\quad)(\quad)(\quad)(\quad)}{(\quad)(\quad)(\quad)(\quad)(\quad)}$

= ND

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Santa Susana Field Laboratory
Collection Date:	April 19, 2012
LDC Report Date:	February 26, 2013
Matrix:	Soil
Parameters:	Terphenyls
Validation Level:	Level IV
Laboratory:	Eurofins Lancaster Laboratories
Sample Delivery Group (SDG):	DE312

Sample Identification

SL-012-NBZ-SS-0.0-0.5
SL-086-NBZ-SS-0.0-0.5
SL-087-NBZ-SS-0.0-0.5

Introduction

This data review covers 3 soil samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8015B for Terphenyls.

This review follows the Quality Assurance Project Plan for Santa Susana Field Laboratory (SSFL), RCRA Facility Investigation, Surficial Media Operable Unit (March 2009, Revision 4) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

NJ Presumptive evidence of presence of the compound at an estimated quantity.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration of compounds was performed as required by the method.

The percent relative standard deviations (%RSD) of calibration factors for compounds were less than or equal to 20.0%.

Retention time windows were evaluated and considered technically acceptable.

III. Calibration Verification

Calibration verification was performed at required frequencies. The percent differences (%D) of amounts in continuing standard mixtures were within the 20.0% QC limits.

The percent differences (%D) of the second source calibration standard were less than or equal to 20.0% for all compounds.

Retention times (RT) of all compounds in the calibration standards were within QC limits.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No terphenyl contaminants were found in the method blanks.

Sample EB-NBZ-SS-041712 (from SDG DE310) was identified as an equipment blank. No terphenyl contaminants were found.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Surrogate	%R (Limits)	Compound	Flag	A or P
SL-012-NBZ-SS-0.0-0.5	n-Triacontane-d62	158 (19-152)	All TCL compounds	J (all detects)	P

Santa Susana Field Laboratory
Terphenyls - Data Qualification Summary - SDG DE312

SDG	Sample	Compound	Flag	A or P	Reason (Code)
DE312	SL-012-NBZ-SS-0.0-0.5	All TCL compounds	J (all detects)	P	Surrogate spikes (%R) (S)
DE312	SL-012-NBZ-SS-0.0-0.5 SL-086-NBZ-SS-0.0-0.5 SL-087-NBZ-SS-0.0-0.5	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and RLs (Z)

Santa Susana Field Laboratory
Terphenyls - Laboratory Blank Data Qualification Summary - SDG DE312

No Sample Data Qualified in this SDG

Santa Susana Field Laboratory
Terphenyls - Field Blank Data Qualification Summary - SDG DE312

No Sample Data Qualified in this SDG

LDC #: 29239E41 **VALIDATION COMPLETENESS WORKSHEET** Date: 2/22/13
SDG #: DE312 Level IV Page: 1 of 1
Laboratory: Eurofins Lancaster Laboratories Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC Terphenyls (EPA SW 846 Method 8015B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/19/12
II	Initial calibration	A	% RSD ≤ 20
III.	Calibration verification/ICV	A	ICV/CCV ≤ 20
IV.	Blanks	A	
V	Surrogate recovery	SW	
VI.	Matrix spike/Matrix spike duplicates	N	client specified
VII.	Laboratory control samples	A	LCS
VIII.	Target compound identification	A	
IX.	Compound quantitation/RL/LOQ/LODs	A	
X.	System Performance	A	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	ND	EB = EB - NBZ - SS - 041712 SDG # DE310

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: soil

1	SL-012-NBZ-SS-0.0-0.5	11	~~PBLK021115~~	21		31	
2	SL-086-NBZ-SS-0.0-0.5	12	PBLK151116	22		32	
3	SL-087-NBZ-SS-0.0-0.5	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

DC #: 29239E41
SDG #: per owner

VALIDATION FINDINGS CHECKLIST

Page: 1 of 2
Reviewer: FT
2nd Reviewer: C

Method: ✓ GC _____ HPLC

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) ≤ 20%?	✓			
Was a curve fit used for evaluation?		✓		
Did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?			✓	
Were the RT windows properly established?	✓			
IV. Continuing calibration				
Was a continuing calibration analyzed daily?	✓			
Were all percent differences (%D) ≤ 20%.0 or percent recoveries 80-120%?	✓			
Were all the retention times within the acceptance windows?	✓			
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed for each matrix and concentration?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Surrogate spikes				
Were all surrogate %R within the QC limits?	✓			
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?			✓	
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.			✓	
Was a MS/MSD analyzed every 20 samples of each matrix?			✓	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?			✓	
Were the performance evaluation (PE) samples within the acceptance limits?			✓	

LDC #: 29239E41
SDG #: all cover

VALIDATION FINDINGS CHECKLIST

Reviewer: FJ
2nd Reviewer: A

Validation Area	Yes	No	NA	Findings/Comments
X. Target compound identification				
Were the retention times of reported detects within the RT windows?			✓	
XI. Compound quantitation/CRQLs				
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XII. System performance				
System performance was found to be acceptable.	✓			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XIV. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target compounds were detected in the field duplicates.			✓	
XV. Field blanks				
Field blanks were identified in this SDG.		✓		
Target compounds were detected in the field blanks.			✓	

LDC #: 29239E4/

VALIDATION FINDINDS WORKSHEET
Surrogate Recovery

Page: 1 of 1
Reviewer: FT
2nd Reviewer: A

METHOD: ~~GC~~ __ GC __ HPLC

Are surrogates required by the method? Yes____ or No____.

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were surrogates spiked into all samples and blanks?

Y N N/A Did all surrogate recoveries (%R) meet the QC limits?

code = "S"

#	Sample ID	Detector/ Column	Surrogate Compound	%R (Limits)	Qualifications
	1	NS	n-Triacontane	158 (19-152)	J/Pdet
			-d62	( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	

	Surrogate Compound		Surrogate Compound		Surrogate Compound		Surrogate Compound		
A	Chlorobenzene (CBZ)	G	Octacosane	M	Benzo(e)Pyrene	S	1-Chloro-3-Nitrobenzene	Y	Tetrachloro-m- xylene
B	4-Bromofluorobenzene (BFB)	H	Ortho-Terphenyl	N	Terphenyl-D14	T	3,4-Dinitrotoluene		
C	a,a,a-Trifluorotoluene	I	Fluorobenzene (FBZ)	O	Decachlorobiphenyl (DCB)	U	Tripentyltin		
D	Bromochlorobenene	J	n-Triacontane	P	1-methylnaphthalene	V	Tri-n-propyltin		
E	1,4-Dichlorobutane	K	Hexacosane	Q	Dichlorophenyl Acetic Acid (DCAA)	W	Tributyl Phosphate		
F	1,4-Difluorobenzene (DFB)	L	Bromobenzene	R	4-Nitrophenol	X	Triphenyl Phosphate		

LDC #: 29239E4/
SDG #: [illegible]

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
Reviewer: FJ
2nd Reviewer: [illegible]

METHOD: GC ✓ HPLC ____

The calibration Factor (CF), average CF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

CF = A/C
average CF = sum of the CF/number of standards
%RSD = 100 * (S/X)

A = Area of compound,
C = Concentration of compound,
S = Standard deviation of the CF
X = Mean of the CFs

#	Standard ID	Calibration Date	Compound	Reported 23.594 CF (std)	Recalculated 23.594 CF (std)	Reported Average CF (initial)	Recalculated Average CF (initial)	Reported %RSD	Recalculated %RSD
1	ICAL	4/16/12	o-Terphenyl	2.19×10^4	2.19×10^4	2.18×10^4	2.18×10^4	9.4	9.4
2									
3									
4									

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 29239 E4.1
SDG #: pw cover

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Page: 1 of 7
Reviewer: EJ
2nd Reviewer: [illegible]

METHOD: GC ✓ HPLC ____

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration CF were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. CF - CF)/ave. CF
CF = A/C

Where: ave. CF = initial calibration average CF
CF = continuing calibration CF
A = Area of compound
C = Concentration of compound

#	Standard ID	Calibration Date	Compound	Average CF(Ical)/ CCV Conc.	Reported CF/Conc. CCV	Recalculated CF/Conc. CCV	Reported %D	Recalculated %D
1	ccv 10:18	4/27/12	o-Terphenyl	23.59	23.52	23.52	0.3	0.3
	ccv 14:38	↓	↓	↓	24.25	24.25	2.8	2.8
2								
	ccv 18:32	↓	↓	↓	24.75	24.75	4.9	4.9
3								
4								

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 47657G1
SDG #: see cover

METHOD: ✓ GC ___ HPLC

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Reviewer: FT
2nd reviewer: CA

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: #1

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
n-Tridecane-d62	NS	0.33195	0.52448	158	158	0

Sample ID: _____

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	

Sample ID: _____

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	

LDC #: 29239E41
SDG #: all cores

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample/Laboratory Control Sample Duplicate Results Verification

Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: ✓ GC __HPLC

The percent recoveries (%R) and Relative Percent difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100* (SSC-SC)/SA
RPD = I LCS - LCSD I * 2/(LCS + LCSD)

Where: SSC = Spiked sample concentration
SA = Spike added
LCS = Laboratory control sample percent recovery
SC = Concentration
LCSD = Laboratory control sample duplicate percent recovery

LCS/LCSD samples: LCS

Compound	Spike Added (mg/kg)		Spiked Sample Concentration (mg/kg)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline (8015)										
Diesel (8015)										
Benzene (8021B)										
Methane (RSK-175)										
2,4-D (8151)										
Dinoseb (8151)										
Naphthalene (8310)										
Anthracene (8310)										
HMX (8330)										
2,4,6-Trinitrotoluene (8330)										
o-Terphenyl	8.36	NA	7.9	NA	94	94	NA			

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 29239E41
SDG #: [illegible]

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: ✓ GC ___ HPLC

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds within 10% of the reported results?

Concentration= (A)(Fv)(Df) / (RF)(Vs or Ws)(%S/100)

A= Area or height of the compound to be measured
Fv= Final Volume of extract
Df= Dilution Factor
RF= Average response factor of the compound in the initial calibration
Vs= Initial volume of the sample
Ws= Initial weight of the sample
%S= Percent Solid

Example:

Sample ID._____ Compound Name _____

Concentration =_____

ND

#	Sample ID	Compound	Reported Concentrations ( )	Recalculated Results Concentrations ( )	Qualifications

Comments: _____

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Santa Susana Field Laboratory
Collection Date:	April 19, 2012
LDC Report Date:	February 26, 2013
Matrix:	Soil
Parameters:	Formaldehyde
Validation Level:	Level IV
Laboratory:	Eurofins Lancaster Laboratories
Sample Delivery Group (SDG):	DE312

Sample Identification

SL-012-NBZ-SS-0.0-0.5
SL-086-NBZ-SS-0.0-0.5
SL-087-NBZ-SS-0.0-0.5
SL-012-NBZ-SS-0.0-0.5MS
SL-012-NBZ-SS-0.0-0.5MSD

Introduction

This data review covers 5 soil samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8315A for Formaldehyde.

This review follows the Quality Assurance Project Plan for Santa Susana Field Laboratory (SSFL), RCRA Facility Investigation, Surficial Media Operable Unit (March 2009, Revision 4) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

NJ Presumptive evidence of presence of the compound at an estimated quantity.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration of compounds was performed as required by the method.

The percent relative standard deviations (%RSD) of calibration factors for compounds were less than or equal to 20.0%.

Retention time windows were evaluated and considered technically acceptable.

III. Calibration Verification

Calibration verification was performed at required frequencies. The percent differences (%D) of amounts in continuing standard mixtures were within the 20.0% QC limits.

The percent differences (%D) of the second source calibration standard were less than or equal to 20.0% for all compounds.

Retention times (RT) of all compounds in the calibration standards were within QC limits.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No formaldehyde was found in the method blanks.

Sample EB-NBZ-SS-041712 (from SDG DE310) was identified as an equipment blank. No formaldehyde was found.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

Santa Susana Field Laboratory
Formaldehyde - Data Qualification Summary - SDG DE312

SDG	Sample	Compound	Flag	A or P	Reason (Code)
DE312	SL-012-NBZ-SS-0.0-0.5 SL-086-NBZ-SS-0.0-0.5 SL-087-NBZ-SS-0.0-0.5	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and RLs (Z)

Santa Susana Field Laboratory
Formaldehyde - Laboratory Blank Data Qualification Summary - SDG DE312

No Sample Data Qualified in this SDG

Santa Susana Field Laboratory
Formaldehyde - Field Blank Data Qualification Summary - SDG DE312

No Sample Data Qualified in this SDG

LDC #: 29239E71 **VALIDATION COMPLETENESS WORKSHEET** Date: 2/22/13

SDG #: DE312 Level IV Page: 1 of 1

Laboratory: Eurofins Lancaster Laboratories Reviewer: D

2nd Reviewer: A

METHOD: HPLC Formaldehyde (EPA SW 846 Method 8315A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/19/12
II	Initial calibration	A	% RSD ≤ 20
III.	Calibration verification/ICV	A	ICV/CCV ≤ 20
IV.	Blanks	A	
V	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	A	
VII.	Laboratory control samples	A	LCS
VIII.	Target compound identification	A	
IX.	Compound quantitation/RL/LOQ/LODs	A	
X.	System Performance	A	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	ND	EB = EB-NBZ-SS-041712 SDG# DE310

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: SOIL

1	SL-012-NBZ-SS-0.0-0.5	11	PBLK021115	21		31	
2	SL-086-NBZ-SS-0.0-0.5	12		22		32	
3	SL-087-NBZ-SS-0.0-0.5	13		23		33	
4	SL-012-NBZ-SS-0.0-0.5MS	14		24		34	
5	SL-012-NBZ-SS-0.0-0.5MSD	15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

LDC #: 29239E71
SDG #: per cover

VALIDATION FINDINGS CHECKLIST

Reviewer: FI
2nd Reviewer: A

Method: GC ✓ HPLC

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) ≤ 20%?	✓			
Was a curve fit used for evaluation?		✓		
Did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?			✓	
Were the RT windows properly established?		✓		
IV. Continuing calibration				
Was a continuing calibration analyzed daily?	✓			
Were all percent differences (%D) ≤ 20%.0 or percent recoveries 80-120%?	✓			
Were all the retention times within the acceptance windows?	✓			
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed for each matrix and concentration?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Surrogate spikes				
Were all surrogate %R within the QC limits?	✓			
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?			✓	
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.	✓			
Was a MS/MSD analyzed every 20 samples of each matrix?	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?	✓			
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?			✓	
Were the performance evaluation (PE) samples within the acceptance limits?			✓	

LDC #: 29239E71
SDG #: per cover

VALIDATION FINDINGS CHECKLIST

Reviewer: FJ
2nd Reviewer: A

Validation Area	Yes	No	NA	Findings/Comments
X. Target compound identification				
Were the retention times of reported detects within the RT windows?			✓	
XI. Compound quantitation/CRQLs				
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XII. System performance				
System performance was found to be acceptable.	✓			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XIV. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target compounds were detected in the field duplicates.			✓	
XV. Field blanks				
Field blanks were identified in this SDG.		✓		
Target compounds were detected in the field blanks.			✓	

LDC #: 29239E71
SDG #: [illegible]

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
Reviewer: FP
2nd Reviewer: [illegible]

METHOD: GC_____HPLC ✓

The calibration Factor (CF), average CF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

CF = A/C
average CF = sum of the CF/number of standards
%RSD = 100 * (S/X)

A = Area of compound,
C = Concentration of compound,
S = Standard deviation of the CF
X = Mean of the CFs

#	Standard ID	Calibration Date	Compound	Reported	Recalculated	Reported	Recalculated	Reported	Recalculated
				2002 CF (std)	2002 CF (std)	Average CF (initial)	Average CF (initial)	%RSD	%RSD
1	ICAL	4/26/12	Formaldehyde	6.46X10^{1}	6.46X10^{1}	5.99X10^{1}	5.99X10^{1}	6.1	6.1
2									
3									
4									

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 29239E71
SDG #: w cover

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: EJ
2nd Reviewer: [illegible]

METHOD: GC_____HPLC ✓

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration CF were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. CF - CF)/ave. CF
CF = A/C

Where: ave. CF = initial calibration average CF
CF = continuing calibration CF
A = Area of compound
C = Concentration of compound

#	Standard ID	Calibration Date	Compound	Average CF(ical)/ CCV Conc.	Reported CF/Conc. CCV	Recalculated CF/Conc. CCV	Reported %D	Recalculated %D
1	CCV 1:17	4/27/12	Formaldehyde	2002.0	1919.25	1919.25	4.1	4.1
2								
3								
4								

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 47237E11
SDG #: see cover

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Reviewer: FT
2nd reviewer: [signature]

METHOD: __ GC / HPLC

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: #1

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Butyraldehyde	NS	3990	3912.764893	98	98	0

Sample ID: _____

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	

Sample ID: _____

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	

LDC #: 47237C11
SDG #: see cover

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates Results Verification

Reviewer: FZ
2nd Reviewer: SK

METHOD: __ GC __HPLC

The percent recoveries (%R) and relative percent differences (RPD) of the matrix spike and matrix spike duplicate were recalculated for the compounds identified below using the following calculation:

%Recovery = 100 * (SSC - SC)/SA Where SSC = Spiked sample concentration SC = Sample concentration
SA = Spike added
RPD =(({SSCMS - SSCMSD} * 2) / (SSCMS + SSCMSD))*100 MS = Matrix spike MSD = Matrix spike duplicate

MS/MSD samples: 4 & 5

Compound	Spike Added (ug/kg)		Sample Conc. (ug/kg)	Spike Sample Concentration (ug/kg)		Matrix spike Percent Recovery		Matrix Spike Duplicate Percent Recovery		MS/MSD RPD	
	MS	MSD	---	MS	MSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline (8015)											
Diesel (8015)											
Benzene (8021B)											
Methane (RSK-175)											
2,4-D (8151)											
Dinoseb (8151)											
Naphthalene (8310)											
Anthracene (8310)											
HMX (8330)											
2,4,6-Trinitrotoluene (8330)											
Formaldehyde	5025	5025	ND	4829.54	4703.54	96	96	94	94	3	3

Comments: Refer to Matrix Spike/Matrix Spike Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 29239E71
SDG #: all cover

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample/Laboratory Control Sample Duplicate Results Verification

Page: 1 of 1
Reviewer: FD
2nd Reviewer: [illegible]

METHOD: __ GC ✓ HPLC

The percent recoveries (%R) and Relative Percent difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100* (SSC-SC)/SA
RPD = | LCS - LCSD | * 2/(LCS + LCSD)

Where: SSC = Spiked sample concentration
SA = Spike added
LCS = Laboratory control sample percent recovery
SC = Concentration
LCSD = Laboratory control sample duplicate percent recovery

LCS/LCSD samples: LCS

Compound	Spike Added (ug/kg)		Spiked Sample Concentration (ug/kg)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline (8015)										
Diesel (8015)										
Benzene (8021B)										
Methane (RSK-175)										
2,4-D (8151)										
Dinoseb (8151)										
Naphthalene (8310)										
Anthracene (8310)										
HMX (8330)										
2,4,6-Trinitrotoluene (8330)										
Formaldehyde	5025	NA	4754.58	NA	95	95	NA			

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 29239E71
SDG #: pu power

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: __ GC / HPLC

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds within 10% of the reported results?

Concentration= $\frac{(A)(Fv)(Df)}{(RF)(Vs \text{ or } Ws)(\%S/100)}$

A= Area or height of the compound to be measured
Fv= Final Volume of extract
Df= Dilution Factor
RF= Average response factor of the compound in the initial calibration
Vs= Initial volume of the sample
Ws= Initial weight of the sample
%S= Percent Solid

Example:

Sample ID._____ Compound Name _____

Concentration =_____

#	Sample ID	Compound	Reported Concentrations ( )	Recalculated Results Concentrations ( )	Qualifications

Comments: _____

SAMPCALew.wpd

SAMPLE DELIVERY GROUP

DE313

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
19-Apr-2012	SL-017-NBZ-SS-0.0-0.5	6625144	N	3546	1625C	III
19-Apr-2012	SL-017-NBZ-SS-0.0-0.5	6625144	N	3550B	8015B	III
19-Apr-2012	SL-017-NBZ-SS-0.0-0.5	6625144	N	METHOD	8315A	III
20-Apr-2012	SL-080-NBZ-SS-0.0-0.5	6625147	N	3546	1625C	III
20-Apr-2012	SL-080-NBZ-SS-0.0-0.5	6625147	N	3550B	8015B	III
20-Apr-2012	SL-080-NBZ-SS-0.0-0.5	6625147	N	METHOD	8315A	III
20-Apr-2012	SL-018-NBZ-SS-0.0-0.5	6625146	N	3546	1625C	III
20-Apr-2012	SL-018-NBZ-SS-0.0-0.5	6625146	N	3550B	8015B	III
20-Apr-2012	SL-018-NBZ-SS-0.0-0.5	6625146	N	METHOD	8315A	III
20-Apr-2012	SL-089-NBZ-SS-0.0-0.5	6625148	N	3546	1625C	III
20-Apr-2012	SL-089-NBZ-SS-0.0-0.5	6625148	N	3550B	8015B	III
20-Apr-2012	SL-089-NBZ-SS-0.0-0.5	6625148	N	METHOD	8315A	III
20-Apr-2012	SL-016-NBZ-SS-0.0-0.5	6625145	N	3546	1625C	III
20-Apr-2012	SL-016-NBZ-SS-0.0-0.5	6625145	N	3550B	8015B	III
20-Apr-2012	SL-016-NBZ-SS-0.0-0.5	6625145	N	METHOD	8315A	III

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Attachment II

Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: DE313 **Laboratory: LL**

EDD Filename: DE313_v1 **eQAPP Name: CDM_SSFL_120718_Lan**

No Data Review Qualifiers Applied.

Enclosure I

Level III ADR Outliers
(including Manual Review Outliers)

Quality Control Outlier Reports

DE313

(No Outliers)

SAMPLE DELIVERY GROUP

DX159

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
12-Mar-2012	SL-003-NBZ-SS-0.0-0.5	6577293	N	METHOD	1613B	III
12-Mar-2012	SL-003-NBZ-SB-4.0-5.0	6577294	N	METHOD	1613B	III
12-Mar-2012	SL-002-NBZ-SS-0.0-0.5	6577290	N	METHOD	1613B	III
12-Mar-2012	SL-002-NBZ-SB-4.0-5.0	6577291	N	METHOD	1613B	III
12-Mar-2012	SL-002-NBZ-SB-7.5-8.5	6577292	N	METHOD	1613B	III
12-Mar-2012	SL-010-NBZ-SB-4.0-5.0	6577297	N	METHOD	1613B	III
12-Mar-2012	SL-007-NBZ-SB-4.0-5.0	6577295	N	METHOD	1613B	III
12-Mar-2012	SL-007-NBZ-SB-9.0-10.0	6577296	N	METHOD	1613B	III
13-Mar-2012	SL-006-NBZ-SB-3.0-4.0	6577299	N	METHOD	1613B	III
13-Mar-2012	SL-005-NBZ-SB-4.0-5.0	6577298	N	METHOD	1613B	III
13-Mar-2012	SL-015-NBZ-SS-0.0-0.5	6577300	N	METHOD	1613B	III
13-Mar-2012	SL-021-NBZ-SS-0.0-0.5	6577301	N	METHOD	1613B	III
13-Mar-2012	SL-021-NBZ-SB-4.0-5.0	6577302	N	METHOD	1613B	III

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation
N = Normal Sample
FD = Field Duplicate
TB = Trip Blank
FB = Field Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Attachment II

Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: DX159 **Laboratory: LL**

EDD Filename: DX159_v1. **eQAPP Name: CDM_SSFL_120718_Lan**

Method Category: SVOA

Method: 1613B **Matrix: SO**

Sample ID: SL-002-NBZ-SB-4.0-5.0 *Collected:* 3/12/2012 11:30:00 *Analysis Type:* RES *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,6,7,8-HPCDD	0.354	JB	0.0227	MDL	5.32	PQL	ng/Kg	U	B
1,2,3,4,6,7,8-HPCDF	0.125	JB	0.00903	MDL	5.32	PQL	ng/Kg	U	B
1,2,3,4,7,8,9-HPCDF	0.0444	JBQ	0.0128	MDL	5.32	PQL	ng/Kg	U	B
1,2,3,4,7,8-HXCDF	0.0439	JBQ	0.0109	MDL	5.32	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDD	0.0775	JB	0.0212	MDL	5.32	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDF	0.0238	JBQ	0.0112	MDL	5.32	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDD	0.0455	JBQ	0.0201	MDL	5.32	PQL	ng/Kg	U	B
1,2,3,7,8-PECDF	0.0429	JB	0.0163	MDL	5.32	PQL	ng/Kg	U	B
2,3,4,6,7,8-HXCDF	0.0553	JBQ	0.0104	MDL	5.32	PQL	ng/Kg	U	B
2,3,4,7,8-PECDF	0.0775	JB	0.0148	MDL	5.32	PQL	ng/Kg	U	B
OCDD	0.743	JB	0.0258	MDL	10.6	PQL	ng/Kg	U	B
OCDF	0.131	JBQ	0.0281	MDL	10.6	PQL	ng/Kg	U	B

Sample ID: SL-002-NBZ-SB-7.5-8.5 *Collected:* 3/12/2012 11:40:00 *Analysis Type:* RES *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,6,7,8-HPCDD	0.354	JBQ	0.0237	MDL	5.44	PQL	ng/Kg	U	B
1,2,3,4,6,7,8-HPCDF	0.127	JB	0.00893	MDL	5.44	PQL	ng/Kg	U	B
1,2,3,4,7,8,9-HPCDF	0.0336	JBQ	0.0138	MDL	5.44	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.0340	JBQ	0.0215	MDL	5.44	PQL	ng/Kg	U	B
1,2,3,4,7,8-HXCDF	0.0382	JB	0.0112	MDL	5.44	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDD	0.0471	JBQ	0.0236	MDL	5.44	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDF	0.0303	JB	0.0103	MDL	5.44	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDD	0.0804	JB	0.0224	MDL	5.44	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDF	0.0413	JBQ	0.0124	MDL	5.44	PQL	ng/Kg	U	B
1,2,3,7,8-PECDD	0.0302	JBQ	0.0280	MDL	5.44	PQL	ng/Kg	U	B
1,2,3,7,8-PECDF	0.0750	JBQ	0.0146	MDL	5.44	PQL	ng/Kg	U	B
2,3,4,6,7,8-HXCDF	0.0296	JBQ	0.0103	MDL	5.44	PQL	ng/Kg	U	B
2,3,4,7,8-PECDF	0.0778	JBQ	0.0133	MDL	5.44	PQL	ng/Kg	U	B
2,3,7,8-TCDD	0.0321	JBQ	0.0267	MDL	1.09	PQL	ng/Kg	U	B
2,3,7,8-TCDF	0.0319	JB	0.0275	MDL	1.09	PQL	ng/Kg	U	B
OCDD	0.982	JB	0.0271	MDL	10.9	PQL	ng/Kg	U	B
OCDF	0.141	JB	0.0219	MDL	10.9	PQL	ng/Kg	U	B

* denotes a non-reportable result

Project Name and Number: 1203-004-009-AL - SSFL Area IV Collocated Soil Sampling

Data Qualifier Summary

Lab Reporting Batch ID: DX159 **Laboratory: LL**

EDD Filename: DX159_v1. **eQAPP Name: CDM_SSFL_120718_Lan**

Method Category: SVOA

Method: 1613B **Matrix: SO**

Sample ID: SL-002-NBZ-SS-0.0-0.5 *Collected:* 3/12/2012 11:15:00 *Analysis Type:* RES *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,6,7,8-HPCDD	1.63	JB	0.0353	MDL	5.15	PQL	ng/Kg	U	B
1,2,3,4,6,7,8-HPCDF	0.473	JB	0.0151	MDL	5.15	PQL	ng/Kg	U	B
1,2,3,4,7,8,9-HPCDF	0.0695	JB	0.0207	MDL	5.15	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.0587	JB	0.0363	MDL	5.15	PQL	ng/Kg	U	B
1,2,3,4,7,8-HXCDF	0.544	JB	0.0308	MDL	5.15	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDD	0.298	JB	0.0371	MDL	5.15	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDF	0.390	JB	0.0303	MDL	5.15	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDD	0.365	JB	0.0372	MDL	5.15	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDF	0.132	JB	0.0304	MDL	5.15	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDD	0.0604	JBQ	0.0372	MDL	5.15	PQL	ng/Kg	U	B
1,2,3,7,8-PECDF	3.84	JB	0.0520	MDL	5.15	PQL	ng/Kg	J	Z
2,3,4,6,7,8-HXCDF	0.122	JBQ	0.0291	MDL	5.15	PQL	ng/Kg	U	B
2,3,4,7,8-PECDF	0.400	JB	0.0476	MDL	5.15	PQL	ng/Kg	J	Z
2,3,7,8-TCDF	0.608	JB	0.117	MDL	1.03	PQL	ng/Kg	J	Z
OCDD	10.1	JB	0.0244	MDL	10.3	PQL	ng/Kg	J	Z
OCDF	0.751	JB	0.0277	MDL	10.3	PQL	ng/Kg	J	Z

Sample ID: SL-003-NBZ-SB-4.0-5.0 *Collected:* 3/12/2012 9:50:00 *Analysis Type:* RES *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,6,7,8-HPCDD	0.258	JBQ	0.0179	MDL	5.21	PQL	ng/Kg	U	B
1,2,3,4,6,7,8-HPCDF	0.0769	JBQ	0.00840	MDL	5.21	PQL	ng/Kg	U	B
1,2,3,4,7,8,9-HPCDF	0.0399	JBQ	0.0129	MDL	5.21	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.0514	JB	0.0205	MDL	5.21	PQL	ng/Kg	U	B
1,2,3,4,7,8-HXCDF	0.0954	JB	0.0124	MDL	5.21	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDD	0.0387	JBQ	0.0224	MDL	5.21	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDF	0.0731	JBQ	0.0116	MDL	5.21	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDD	0.0880	JBQ	0.0201	MDL	5.21	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDF	0.0466	JBQ	0.0109	MDL	5.21	PQL	ng/Kg	U	B
1,2,3,7,8-PECDD	0.111	JBQ	0.0276	MDL	5.21	PQL	ng/Kg	U	B
1,2,3,7,8-PECDF	0.136	JBQ	0.0116	MDL	5.21	PQL	ng/Kg	U	B
2,3,4,6,7,8-HXCDF	0.0503	JBQ	0.00935	MDL	5.21	PQL	ng/Kg	U	B
2,3,4,7,8-PECDF	0.123	JB	0.0108	MDL	5.21	PQL	ng/Kg	U	B
2,3,7,8-TCDD	0.0281	JBQ	0.0244	MDL	1.04	PQL	ng/Kg	U	B

* denotes a non-reportable result

Project Name and Number: 1203-004-009-AL - SSFL Area IV Collocated Soil Sampling

Data Qualifier Summary

Lab Reporting Batch ID: DX159 **Laboratory: LL**

EDD Filename: DX159_v1. **eQAPP Name: CDM_SSFL_120718_Lan**

Method Category: SVOA

Method: 1613B **Matrix: SO**

Sample ID: SL-003-NBZ-SB-4.0-5.0 *Collected:* 3/12/2012 9:50:00 *Analysis Type:* RES *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
2,3,7,8-TCDF	0.0386	JBQ	0.0169	MDL	1.04	PQL	ng/Kg	U	B
OCDD	0.555	JB	0.0218	MDL	10.4	PQL	ng/Kg	U	B
OCDF	0.153	JB	0.0232	MDL	10.4	PQL	ng/Kg	U	B

Sample ID: SL-003-NBZ-SS-0.0-0.5 *Collected:* 3/12/2012 8:50:00 *Analysis Type:* RES *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,6,7,8-HPCDD	1.36	JB	0.0276	MDL	5.21	PQL	ng/Kg	U	B
1,2,3,4,6,7,8-HPCDF	0.379	JBQ	0.0132	MDL	5.21	PQL	ng/Kg	U	B
1,2,3,4,7,8,9-HPCDF	0.0656	JBQ	0.0215	MDL	5.21	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.0672	JB	0.0275	MDL	5.21	PQL	ng/Kg	U	B
1,2,3,4,7,8-HXCDF	0.156	JBQ	0.0182	MDL	5.21	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDD	0.128	JB	0.0290	MDL	5.21	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDF	0.0807	JB	0.0162	MDL	5.21	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDD	0.106	JBQ	0.0282	MDL	5.21	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDF	0.0589	JB	0.0186	MDL	5.21	PQL	ng/Kg	U	B
1,2,3,7,8-PECDD	0.0837	JB	0.0295	MDL	5.21	PQL	ng/Kg	U	B
1,2,3,7,8-PECDF	0.207	JB	0.0200	MDL	5.21	PQL	ng/Kg	J	Z
2,3,4,6,7,8-HXCDF	0.0844	JBQ	0.0172	MDL	5.21	PQL	ng/Kg	U	B
2,3,4,7,8-PECDF	0.101	JBQ	0.0194	MDL	5.21	PQL	ng/Kg	U	B
2,3,7,8-TCDD	0.0296	JB	0.0256	MDL	1.04	PQL	ng/Kg	U	B
2,3,7,8-TCDF	0.0979	JB	0.0292	MDL	1.04	PQL	ng/Kg	U	B
OCDD	9.41	JB	0.0245	MDL	10.4	PQL	ng/Kg	J	Z
OCDF	0.624	JB	0.0268	MDL	10.4	PQL	ng/Kg	U	B

Sample ID: SL-005-NBZ-SB-4.0-5.0 *Collected:* 3/13/2012 10:25:00 *Analysis Type:* RES *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,6,7,8-HPCDD	0.340	JB	0.0235	MDL	5.42	PQL	ng/Kg	U	B
1,2,3,4,6,7,8-HPCDF	0.129	JB	0.00847	MDL	5.42	PQL	ng/Kg	U	B
1,2,3,4,7,8,9-HPCDF	0.0524	JBQ	0.0173	MDL	5.42	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.0621	JB	0.0221	MDL	5.42	PQL	ng/Kg	U	B
1,2,3,4,7,8-HXCDF	0.103	JB	0.0132	MDL	5.42	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDD	0.124	JB	0.0242	MDL	5.42	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDF	0.0799	JB	0.0119	MDL	5.42	PQL	ng/Kg	U	B

* denotes a non-reportable result

Project Name and Number: 1203-004-009-AL - SSFL Area IV Collocated Soil Sampling

Data Qualifier Summary

Lab Reporting Batch ID: DX159 **Laboratory: LL**

EDD Filename: DX159_v1. **eQAPP Name: CDM_SSFL_120718_Lan**

Method Category: SVOA

Method: 1613B **Matrix: SO**

Sample ID: SL-005-NBZ-SB-4.0-5.0 *Collected:* 3/13/2012 10:25:00 *Analysis Type:* RES *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,7,8,9-HXCDD	0.0983	JBQ	0.0223	MDL	5.42	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDF	0.110	JB	0.0143	MDL	5.42	PQL	ng/Kg	U	B
1,2,3,7,8-PECDD	0.138	JB	0.0231	MDL	5.42	PQL	ng/Kg	U	B
1,2,3,7,8-PECDF	0.152	JB	0.0131	MDL	5.42	PQL	ng/Kg	U	B
2,3,4,6,7,8-HXCDF	0.0865	JB	0.0120	MDL	5.42	PQL	ng/Kg	U	B
2,3,4,7,8-PECDF	0.164	JBQ	0.0129	MDL	5.42	PQL	ng/Kg	U	B
2,3,7,8-TCDD	0.0398	JBQ	0.0231	MDL	1.08	PQL	ng/Kg	U	B
2,3,7,8-TCDF	0.0291	JB	0.0210	MDL	1.08	PQL	ng/Kg	U	B
OCDD	0.633	JBQ	0.0245	MDL	10.8	PQL	ng/Kg	U	B
OCDF	0.221	JBQ	0.0349	MDL	10.8	PQL	ng/Kg	U	B

Sample ID: SL-006-NBZ-SB-3.0-4.0 *Collected:* 3/13/2012 9:00:00 *Analysis Type:* RES *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,6,7,8-HPCDD	0.254	JB	0.0217	MDL	5.36	PQL	ng/Kg	U	B
1,2,3,4,6,7,8-HPCDF	0.0943	JB	0.00815	MDL	5.36	PQL	ng/Kg	U	B
1,2,3,4,7,8,9-HPCDF	0.0404	JB	0.0146	MDL	5.36	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.0260	JBQ	0.0177	MDL	5.36	PQL	ng/Kg	U	B
1,2,3,4,7,8-HXCDF	0.0428	JBQ	0.0102	MDL	5.36	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDD	0.0410	JBQ	0.0193	MDL	5.36	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDF	0.0203	JBQ	0.00901	MDL	5.36	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDD	0.0502	JBQ	0.0185	MDL	5.36	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDF	0.0366	JB	0.0112	MDL	5.36	PQL	ng/Kg	U	B
1,2,3,7,8-PECDD	0.0291	JBQ	0.0280	MDL	5.36	PQL	ng/Kg	U	B
1,2,3,7,8-PECDF	0.0216	JB	0.0137	MDL	5.36	PQL	ng/Kg	U	B
2,3,4,6,7,8-HXCDF	0.0357	JBQ	0.00912	MDL	5.36	PQL	ng/Kg	U	B
2,3,4,7,8-PECDF	0.0624	JBQ	0.0130	MDL	5.36	PQL	ng/Kg	U	B
2,3,7,8-TCDD	0.0264	JBQ	0.0227	MDL	1.07	PQL	ng/Kg	U	B
2,3,7,8-TCDF	0.0313	JB	0.0214	MDL	1.07	PQL	ng/Kg	U	B
OCDD	0.571	JB	0.0280	MDL	10.7	PQL	ng/Kg	U	B
OCDF	0.176	JBQ	0.0225	MDL	10.7	PQL	ng/Kg	U	B

* denotes a non-reportable result

Data Qualifier Summary

Lab Reporting Batch ID: DX159 **Laboratory: LL**

EDD Filename: DX159_v1. **eQAPP Name: CDM_SSFL_120718_Lan**

Method Category: SVOA

Method: 1613B **Matrix: SO**

Sample ID: SL-007-NBZ-SB-4.0-5.0 *Collected:* 3/12/2012 3:50:00 *Analysis Type:* RES *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,6,7,8-HPCDD	0.310	JBQ	0.0233	MDL	5.43	PQL	ng/Kg	U	B
1,2,3,4,6,7,8-HPCDF	0.0708	JB	0.00804	MDL	5.43	PQL	ng/Kg	U	B
1,2,3,4,7,8-HXCDF	0.0301	JBQ	0.0112	MDL	5.43	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDD	0.0394	JB	0.0205	MDL	5.43	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDF	0.0359	JBQ	0.0109	MDL	5.43	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDD	0.0710	JB	0.0184	MDL	5.43	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDF	0.0308	JBQ	0.0122	MDL	5.43	PQL	ng/Kg	U	B
1,2,3,7,8-PECDD	0.0448	JBQ	0.0259	MDL	5.43	PQL	ng/Kg	U	B
1,2,3,7,8-PECDF	0.0384	JBQ	0.0128	MDL	5.43	PQL	ng/Kg	U	B
2,3,4,6,7,8-HXCDF	0.0498	JB	0.0107	MDL	5.43	PQL	ng/Kg	U	B
2,3,4,7,8-PECDF	0.0835	JBQ	0.0126	MDL	5.43	PQL	ng/Kg	U	B
2,3,7,8-TCDF	0.0279	JB	0.0196	MDL	1.09	PQL	ng/Kg	U	B
OCDD	0.590	JB	0.0272	MDL	10.9	PQL	ng/Kg	U	B
OCDF	0.231	JB	0.0286	MDL	10.9	PQL	ng/Kg	U	B

Sample ID: SL-007-NBZ-SB-9.0-10.0 *Collected:* 3/12/2012 4:00:00 *Analysis Type:* RES *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,6,7,8-HPCDD	0.316	JBQ	0.0229	MDL	5.46	PQL	ng/Kg	U	B
1,2,3,4,6,7,8-HPCDF	0.0763	JB	0.00713	MDL	5.46	PQL	ng/Kg	U	B
1,2,3,4,7,8,9-HPCDF	0.0183	JBQ	0.0134	MDL	5.46	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.0236	JBQ	0.0192	MDL	5.46	PQL	ng/Kg	U	B
1,2,3,4,7,8-HXCDF	0.0398	JBQ	0.0106	MDL	5.46	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDD	0.0391	JB	0.0206	MDL	5.46	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDF	0.0257	JBQ	0.00976	MDL	5.46	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDD	0.0498	JBQ	0.0202	MDL	5.46	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDF	0.0556	JBQ	0.0116	MDL	5.46	PQL	ng/Kg	U	B
1,2,3,7,8-PECDF	0.0412	JBQ	0.0133	MDL	5.46	PQL	ng/Kg	U	B
2,3,4,6,7,8-HXCDF	0.0240	JBQ	0.00998	MDL	5.46	PQL	ng/Kg	U	B
2,3,4,7,8-PECDF	0.0772	JB	0.0124	MDL	5.46	PQL	ng/Kg	U	B
OCDD	0.753	JB	0.0243	MDL	10.9	PQL	ng/Kg	U	B
OCDF	0.163	JB	0.0251	MDL	10.9	PQL	ng/Kg	U	B

* denotes a non-reportable result

Data Qualifier Summary

Lab Reporting Batch ID: DX159 **Laboratory: LL**

EDD Filename: DX159_v1. **eQAPP Name: CDM_SSFL_120718_Lan**

Method Category: SVOA

Method: 1613B **Matrix: SO**

Sample ID: SL-010-NBZ-SB-4.0-5.0 *Collected:* 3/12/2012 2:26:00 *Analysis Type:* RES *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,6,7,8-HPCDD	0.325	JB	0.0220	MDL	5.22	PQL	ng/Kg	U	B
1,2,3,4,6,7,8-HPCDF	0.101	JBQ	0.00758	MDL	5.22	PQL	ng/Kg	U	B
1,2,3,4,7,8,9-HPCDF	0.0405	JBQ	0.0149	MDL	5.22	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.0596	JBQ	0.0176	MDL	5.22	PQL	ng/Kg	U	B
1,2,3,4,7,8-HXCDF	0.0614	JBQ	0.0102	MDL	5.22	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDD	0.0420	JBQ	0.0190	MDL	5.22	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDF	0.0765	JBQ	0.00961	MDL	5.22	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDF	0.0650	JBQ	0.0110	MDL	5.22	PQL	ng/Kg	U	B
1,2,3,7,8-PECDD	0.109	JBQ	0.0237	MDL	5.22	PQL	ng/Kg	U	B
1,2,3,7,8-PECDF	0.111	JB	0.0129	MDL	5.22	PQL	ng/Kg	U	B
2,3,4,6,7,8-HXCDF	0.0768	JBQ	0.00961	MDL	5.22	PQL	ng/Kg	U	B
2,3,4,7,8-PECDF	0.121	JB	0.0123	MDL	5.22	PQL	ng/Kg	U	B
2,3,7,8-TCDF	0.0442	JBQ	0.0219	MDL	1.04	PQL	ng/Kg	U	B
OCDD	0.678	JB	0.0225	MDL	10.4	PQL	ng/Kg	U	B
OCDF	0.119	JB	0.0306	MDL	10.4	PQL	ng/Kg	U	B

Sample ID: SL-015-NBZ-SS-0.0-0.5 *Collected:* 3/13/2012 11:30:00 *Analysis Type:* RES *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,6,7,8-HPCDD	2.88	JB	0.0303	MDL	5.01	PQL	ng/Kg	J	Z
1,2,3,4,6,7,8-HPCDF	0.414	JB	0.0109	MDL	5.01	PQL	ng/Kg	U	B
1,2,3,4,7,8,9-HPCDF	0.0985	JBQ	0.0237	MDL	5.01	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.0677	JBQ	0.0271	MDL	5.01	PQL	ng/Kg	U	B
1,2,3,4,7,8-HXCDF	0.117	JBQ	0.0196	MDL	5.01	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDD	0.167	JB	0.0295	MDL	5.01	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDF	0.0632	JBQ	0.0175	MDL	5.01	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDD	0.173	JBQ	0.0272	MDL	5.01	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDF	0.0481	JBQ	0.0220	MDL	5.01	PQL	ng/Kg	U	B
1,2,3,7,8-PECDF	0.0925	JBQ	0.0182	MDL	5.01	PQL	ng/Kg	U	B
2,3,4,6,7,8-HXCDF	0.0736	JBQ	0.0179	MDL	5.01	PQL	ng/Kg	U	B
2,3,4,7,8-PECDF	0.0785	JBQ	0.0181	MDL	5.01	PQL	ng/Kg	U	B
2,3,7,8-TCDD	0.0338	JBQ	0.0227	MDL	1.00	PQL	ng/Kg	U	B
2,3,7,8-TCDF	0.0420	JBQ	0.0339	MDL	1.00	PQL	ng/Kg	U	B
OCDF	0.826	JB	0.0395	MDL	10.0	PQL	ng/Kg	J	Z

* denotes a non-reportable result

Project Name and Number: 1203-004-009-AL - SSFL Area IV Collocated Soil Sampling

Data Qualifier Summary

Lab Reporting Batch ID: DX159 **Laboratory: LL**

EDD Filename: DX159_v1. **eQAPP Name: CDM_SSFL_120718_Lan**

Method Category: SVOA

Method: 1613B **Matrix: SO**

Sample ID: SL-021-NBZ-SB-4.0-5.0 *Collected:* 3/13/2012 3:45:00 *Analysis Type:* RES *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,6,7,8-HPCDD	0.259	JB	0.0171	MDL	5.07	PQL	ng/Kg	U	B
1,2,3,4,6,7,8-HPCDF	0.101	JB	0.00708	MDL	5.07	PQL	ng/Kg	U	B
1,2,3,4,7,8,9-HPCDF	0.0302	JBQ	0.0130	MDL	5.07	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.0326	JBQ	0.0153	MDL	5.07	PQL	ng/Kg	U	B
1,2,3,4,7,8-HXCDF	0.0494	JBQ	0.00947	MDL	5.07	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDD	0.0434	JBQ	0.0156	MDL	5.07	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDF	0.0556	JB	0.00864	MDL	5.07	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDD	0.0420	JBQ	0.0153	MDL	5.07	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDF	0.0245	JBQ	0.0104	MDL	5.07	PQL	ng/Kg	U	B
1,2,3,7,8-PECDD	0.0518	JB	0.0213	MDL	5.07	PQL	ng/Kg	U	B
1,2,3,7,8-PECDF	0.106	JB	0.0110	MDL	5.07	PQL	ng/Kg	U	B
2,3,4,6,7,8-HXCDF	0.0368	JBQ	0.00905	MDL	5.07	PQL	ng/Kg	U	B
2,3,4,7,8-PECDF	0.114	JBQ	0.0105	MDL	5.07	PQL	ng/Kg	U	B
2,3,7,8-TCDD	0.0374	JBQ	0.0197	MDL	1.01	PQL	ng/Kg	U	B
OCDD	0.576	JB	0.0248	MDL	10.1	PQL	ng/Kg	U	B
OCDF	0.168	JB	0.0237	MDL	10.1	PQL	ng/Kg	U	B

Sample ID: SL-021-NBZ-SS-0.0-0.5 *Collected:* 3/13/2012 3:30:00 *Analysis Type:* RES *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,6,7,8-HPCDD	2.43	JB	0.0358	MDL	5.11	PQL	ng/Kg	J	Z
1,2,3,4,6,7,8-HPCDF	0.593	JB	0.0127	MDL	5.11	PQL	ng/Kg	J	Z
1,2,3,4,7,8,9-HPCDF	0.0794	JB	0.0220	MDL	5.11	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.0843	JBQ	0.0276	MDL	5.11	PQL	ng/Kg	U	B
1,2,3,4,7,8-HXCDF	0.0992	JB	0.0184	MDL	5.11	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDD	0.128	JB	0.0299	MDL	5.11	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDF	0.0715	JBQ	0.0180	MDL	5.11	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDD	0.184	JB	0.0287	MDL	5.11	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDD	0.0611	JBQ	0.0249	MDL	5.11	PQL	ng/Kg	U	B
1,2,3,7,8-PECDF	0.0875	JB	0.0195	MDL	5.11	PQL	ng/Kg	U	B
2,3,4,6,7,8-HXCDF	0.0895	JB	0.0177	MDL	5.11	PQL	ng/Kg	U	B
2,3,4,7,8-PECDF	0.107	JBQ	0.0186	MDL	5.11	PQL	ng/Kg	U	B
2,3,7,8-TCDF	0.0573	JBQ	0.0279	MDL	1.02	PQL	ng/Kg	U	B
OCDF	1.27	JB	0.0353	MDL	10.2	PQL	ng/Kg	J	Z

* denotes a non-reportable result

Project Name and Number: 1203-004-009-AL - SSFL Area IV Collocated Soil Sampling

Data Qualifier Summary

Lab Reporting Batch ID: DX159 **Laboratory: LL**

EDD Filename: DX159_v1. **eQAPP Name: CDM_SSFL_120718_Lan**

* denotes a non-reportable result

Project Name and Number: 1203-004-009-AL - SSFL Area IV Collocated Soil Sampling

Data Qualifier Summary

Lab Reporting Batch ID: DX159 **Laboratory: LL**

EDD Filename: DX159_v1. **eQAPP Name: CDM_SSFL_120718_Lan**

Reason Code Legend

Reason Code	*Description*
B	Method Blank Contamination
Z	Reporting Limit Trace Value

* denotes a non-reportable result

Enclosure I

Level III ADR Outliers
(including Manual Review Outliers)

Quality Control
Outlier Reports

DX159

Method Blank Outlier Report

Lab Reporting Batch ID: DX159 **Laboratory: LL**

EDD Filename: DX159_v1. **eQAPP Name: CDM_SSFL_120718_Lan**

Method: 1613B
Matrix: SO

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples
BLK0770B370105	3/20/2012 1:05:00 AM	1,2,3,4,6,7,8-HPCDD	0.357 ng/Kg	SL-002-NBZ-SB-4.0-5.0
		1,2,3,4,6,7,8-HPCDF	0.113 ng/Kg	SL-002-NBZ-SB-7.5-8.5
		1,2,3,4,7,8,9-HPCDF	0.0388 ng/Kg	SL-002-NBZ-SS-0.0-0.5
		1,2,3,4,7,8-HxCDD	0.0320 ng/Kg	SL-003-NBZ-SB-4.0-5.0
		1,2,3,4,7,8-HXCDF	0.0427 ng/Kg	SL-003-NBZ-SS-0.0-0.5
		1,2,3,6,7,8-HXCDD	0.0336 ng/Kg	SL-005-NBZ-SB-4.0-5.0
		1,2,3,6,7,8-HXCDF	0.0334 ng/Kg	SL-006-NBZ-SB-3.0-4.0
		1,2,3,7,8,9-HXCDD	0.0362 ng/Kg	SL-007-NBZ-SB-4.0-5.0
		1,2,3,7,8,9-HXCDF	0.0258 ng/Kg	SL-007-NBZ-SB-9.0-10.0
		1,2,3,7,8-PECDD	0.0531 ng/Kg	SL-010-NBZ-SB-4.0-5.0
		1,2,3,7,8-PECDF	0.0381 ng/Kg	SL-015-NBZ-SS-0.0-0.5
		2,3,4,6,7,8-HXCDF	0.0429 ng/Kg	SL-021-NBZ-SB-4.0-5.0
		2,3,4,7,8-PECDF	0.0452 ng/Kg	SL-021-NBZ-SS-0.0-0.5
		2,3,7,8-TCDD	0.0271 ng/Kg	
		2,3,7,8-TCDF	0.0304 ng/Kg	
		OCDD	1.25 ng/Kg	
		OCDF	0.149 ng/Kg	

The following samples and their listed target analytes were qualified due to contamination reported in this blank

Sample ID	Analyte	Reported Result	Modified Final Result
SL-002-NBZ-SB-4.0-5.0(RES)	1,2,3,4,6,7,8-HPCDD	0.354 ng/Kg	0.354U ng/Kg
SL-002-NBZ-SB-4.0-5.0(RES)	1,2,3,4,6,7,8-HPCDF	0.125 ng/Kg	0.125U ng/Kg
SL-002-NBZ-SB-4.0-5.0(RES)	1,2,3,4,7,8,9-HPCDF	0.0444 ng/Kg	0.0444U ng/Kg
SL-002-NBZ-SB-4.0-5.0(RES)	1,2,3,4,7,8-HXCDF	0.0439 ng/Kg	0.0439U ng/Kg
SL-002-NBZ-SB-4.0-5.0(RES)	1,2,3,6,7,8-HXCDD	0.0775 ng/Kg	0.0775U ng/Kg
SL-002-NBZ-SB-4.0-5.0(RES)	1,2,3,6,7,8-HXCDF	0.0238 ng/Kg	0.0238U ng/Kg
SL-002-NBZ-SB-4.0-5.0(RES)	1,2,3,7,8,9-HXCDD	0.0455 ng/Kg	0.0455U ng/Kg
SL-002-NBZ-SB-4.0-5.0(RES)	1,2,3,7,8-PECDF	0.0429 ng/Kg	0.0429U ng/Kg
SL-002-NBZ-SB-4.0-5.0(RES)	2,3,4,6,7,8-HXCDF	0.0553 ng/Kg	0.0553U ng/Kg
SL-002-NBZ-SB-4.0-5.0(RES)	2,3,4,7,8-PECDF	0.0775 ng/Kg	0.0775U ng/Kg
SL-002-NBZ-SB-4.0-5.0(RES)	OCDD	0.743 ng/Kg	0.743U ng/Kg
SL-002-NBZ-SB-4.0-5.0(RES)	OCDF	0.131 ng/Kg	0.131U ng/Kg
SL-002-NBZ-SB-7.5-8.5(RES)	1,2,3,4,6,7,8-HPCDD	0.354 ng/Kg	0.354U ng/Kg
SL-002-NBZ-SB-7.5-8.5(RES)	1,2,3,4,6,7,8-HPCDF	0.127 ng/Kg	0.127U ng/Kg
SL-002-NBZ-SB-7.5-8.5(RES)	1,2,3,4,7,8,9-HPCDF	0.0336 ng/Kg	0.0336U ng/Kg
SL-002-NBZ-SB-7.5-8.5(RES)	1,2,3,4,7,8-HxCDD	0.0340 ng/Kg	0.0340U ng/Kg
SL-002-NBZ-SB-7.5-8.5(RES)	1,2,3,4,7,8-HXCDF	0.0382 ng/Kg	0.0382U ng/Kg
SL-002-NBZ-SB-7.5-8.5(RES)	1,2,3,6,7,8-HXCDD	0.0471 ng/Kg	0.0471U ng/Kg
SL-002-NBZ-SB-7.5-8.5(RES)	1,2,3,6,7,8-HXCDF	0.0303 ng/Kg	0.0303U ng/Kg
SL-002-NBZ-SB-7.5-8.5(RES)	1,2,3,7,8,9-HXCDD	0.0804 ng/Kg	0.0804U ng/Kg
SL-002-NBZ-SB-7.5-8.5(RES)	1,2,3,7,8,9-HXCDF	0.0413 ng/Kg	0.0413U ng/Kg
SL-002-NBZ-SB-7.5-8.5(RES)	1,2,3,7,8-PECDD	0.0302 ng/Kg	0.0302U ng/Kg
SL-002-NBZ-SB-7.5-8.5(RES)	1,2,3,7,8-PECDF	0.0750 ng/Kg	0.0750U ng/Kg
SL-002-NBZ-SB-7.5-8.5(RES)	2,3,4,6,7,8-HXCDF	0.0296 ng/Kg	0.0296U ng/Kg
SL-002-NBZ-SB-7.5-8.5(RES)	2,3,4,7,8-PECDF	0.0778 ng/Kg	0.0778U ng/Kg
SL-002-NBZ-SB-7.5-8.5(RES)	2,3,7,8-TCDD	0.0321 ng/Kg	0.0321U ng/Kg
SL-002-NBZ-SB-7.5-8.5(RES)	2,3,7,8-TCDF	0.0319 ng/Kg	0.0319U ng/Kg
SL-002-NBZ-SB-7.5-8.5(RES)	OCDD	0.982 ng/Kg	0.982U ng/Kg
SL-002-NBZ-SB-7.5-8.5(RES)	OCDF	0.141 ng/Kg	0.141U ng/Kg

Method Blank Outlier Report

Lab Reporting Batch ID: DX159 **Laboratory: LL**

EDD Filename: DX159_v1. **eQAPP Name: CDM_SSFL_120718_Lan**

Method: 1613B
Matrix: SO

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples

The following samples and their listed target analytes were qualified due to contamination reported in this blank

Sample ID	Analyte	Reported Result	Modified Final Result
SL-002-NBZ-SS-0.0-0.5(RES)	1,2,3,4,6,7,8-HPCDD	1.63 ng/Kg	1.63U ng/Kg
SL-002-NBZ-SS-0.0-0.5(RES)	1,2,3,4,6,7,8-HPCDF	0.473 ng/Kg	0.473U ng/Kg
SL-002-NBZ-SS-0.0-0.5(RES)	1,2,3,4,7,8,9-HPCDF	0.0695 ng/Kg	0.0695U ng/Kg
SL-002-NBZ-SS-0.0-0.5(RES)	1,2,3,4,7,8-HxCDD	0.0587 ng/Kg	0.0587U ng/Kg
SL-002-NBZ-SS-0.0-0.5(RES)	1,2,3,7,8-PECDD	0.0604 ng/Kg	0.0604U ng/Kg
SL-002-NBZ-SS-0.0-0.5(RES)	2,3,4,6,7,8-HXCDF	0.122 ng/Kg	0.122U ng/Kg
SL-003-NBZ-SB-4.0-5.0(RES)	1,2,3,4,6,7,8-HPCDD	0.258 ng/Kg	0.258U ng/Kg
SL-003-NBZ-SB-4.0-5.0(RES)	1,2,3,4,6,7,8-HPCDF	0.0769 ng/Kg	0.0769U ng/Kg
SL-003-NBZ-SB-4.0-5.0(RES)	1,2,3,4,7,8,9-HPCDF	0.0399 ng/Kg	0.0399U ng/Kg
SL-003-NBZ-SB-4.0-5.0(RES)	1,2,3,4,7,8-HxCDD	0.0514 ng/Kg	0.0514U ng/Kg
SL-003-NBZ-SB-4.0-5.0(RES)	1,2,3,4,7,8-HXCDF	0.0954 ng/Kg	0.0954U ng/Kg
SL-003-NBZ-SB-4.0-5.0(RES)	1,2,3,6,7,8-HXCDD	0.0387 ng/Kg	0.0387U ng/Kg
SL-003-NBZ-SB-4.0-5.0(RES)	1,2,3,6,7,8-HXCDF	0.0731 ng/Kg	0.0731U ng/Kg
SL-003-NBZ-SB-4.0-5.0(RES)	1,2,3,7,8,9-HXCDD	0.0880 ng/Kg	0.0880U ng/Kg
SL-003-NBZ-SB-4.0-5.0(RES)	1,2,3,7,8,9-HXCDF	0.0466 ng/Kg	0.0466U ng/Kg
SL-003-NBZ-SB-4.0-5.0(RES)	1,2,3,7,8-PECDD	0.111 ng/Kg	0.111U ng/Kg
SL-003-NBZ-SB-4.0-5.0(RES)	1,2,3,7,8-PECDF	0.136 ng/Kg	0.136U ng/Kg
SL-003-NBZ-SB-4.0-5.0(RES)	2,3,4,6,7,8-HXCDF	0.0503 ng/Kg	0.0503U ng/Kg
SL-003-NBZ-SB-4.0-5.0(RES)	2,3,4,7,8-PECDF	0.123 ng/Kg	0.123U ng/Kg
SL-003-NBZ-SB-4.0-5.0(RES)	2,3,7,8-TCDD	0.0281 ng/Kg	0.0281U ng/Kg
SL-003-NBZ-SB-4.0-5.0(RES)	2,3,7,8-TCDF	0.0386 ng/Kg	0.0386U ng/Kg
SL-003-NBZ-SB-4.0-5.0(RES)	OCDD	0.555 ng/Kg	0.555U ng/Kg
SL-003-NBZ-SB-4.0-5.0(RES)	OCDF	0.153 ng/Kg	0.153U ng/Kg
SL-003-NBZ-SS-0.0-0.5(RES)	1,2,3,4,6,7,8-HPCDD	1.36 ng/Kg	1.36U ng/Kg
SL-003-NBZ-SS-0.0-0.5(RES)	1,2,3,4,6,7,8-HPCDF	0.379 ng/Kg	0.379U ng/Kg
SL-003-NBZ-SS-0.0-0.5(RES)	1,2,3,4,7,8,9-HPCDF	0.0656 ng/Kg	0.0656U ng/Kg
SL-003-NBZ-SS-0.0-0.5(RES)	1,2,3,4,7,8-HxCDD	0.0672 ng/Kg	0.0672U ng/Kg
SL-003-NBZ-SS-0.0-0.5(RES)	1,2,3,4,7,8-HXCDF	0.156 ng/Kg	0.156U ng/Kg
SL-003-NBZ-SS-0.0-0.5(RES)	1,2,3,6,7,8-HXCDD	0.128 ng/Kg	0.128U ng/Kg
SL-003-NBZ-SS-0.0-0.5(RES)	1,2,3,6,7,8-HXCDF	0.0807 ng/Kg	0.0807U ng/Kg
SL-003-NBZ-SS-0.0-0.5(RES)	1,2,3,7,8,9-HXCDD	0.106 ng/Kg	0.106U ng/Kg
SL-003-NBZ-SS-0.0-0.5(RES)	1,2,3,7,8,9-HXCDF	0.0589 ng/Kg	0.0589U ng/Kg
SL-003-NBZ-SS-0.0-0.5(RES)	1,2,3,7,8-PECDD	0.0837 ng/Kg	0.0837U ng/Kg
SL-003-NBZ-SS-0.0-0.5(RES)	2,3,4,6,7,8-HXCDF	0.0844 ng/Kg	0.0844U ng/Kg
SL-003-NBZ-SS-0.0-0.5(RES)	2,3,4,7,8-PECDF	0.101 ng/Kg	0.101U ng/Kg
SL-003-NBZ-SS-0.0-0.5(RES)	2,3,7,8-TCDD	0.0296 ng/Kg	0.0296U ng/Kg
SL-003-NBZ-SS-0.0-0.5(RES)	2,3,7,8-TCDF	0.0979 ng/Kg	0.0979U ng/Kg
SL-003-NBZ-SS-0.0-0.5(RES)	OCDF	0.624 ng/Kg	0.624U ng/Kg
SL-005-NBZ-SB-4.0-5.0(RES)	1,2,3,4,6,7,8-HPCDD	0.340 ng/Kg	0.340U ng/Kg
SL-005-NBZ-SB-4.0-5.0(RES)	1,2,3,4,6,7,8-HPCDF	0.129 ng/Kg	0.129U ng/Kg

Method Blank Outlier Report

Lab Reporting Batch ID: DX159 **Laboratory: LL**

EDD Filename: DX159_v1. **eQAPP Name: CDM_SSFL_120718_Lan**

Method: **1613B**
Matrix: **SO**

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples

The following samples and their listed target analytes were qualified due to contamination reported in this blank

Sample ID	Analyte	Reported Result	Modified Final Result
SL-005-NBZ-SB-4.0-5.0(RES)	1,2,3,4,7,8,9-HPCDF	0.0524 ng/Kg	0.0524U ng/Kg
SL-005-NBZ-SB-4.0-5.0(RES)	1,2,3,4,7,8-HxCDD	0.0621 ng/Kg	0.0621U ng/Kg
SL-005-NBZ-SB-4.0-5.0(RES)	1,2,3,4,7,8-HXCDF	0.103 ng/Kg	0.103U ng/Kg
SL-005-NBZ-SB-4.0-5.0(RES)	1,2,3,6,7,8-HXCDD	0.124 ng/Kg	0.124U ng/Kg
SL-005-NBZ-SB-4.0-5.0(RES)	1,2,3,6,7,8-HXCDF	0.0799 ng/Kg	0.0799U ng/Kg
SL-005-NBZ-SB-4.0-5.0(RES)	1,2,3,7,8,9-HXCDD	0.0983 ng/Kg	0.0983U ng/Kg
SL-005-NBZ-SB-4.0-5.0(RES)	1,2,3,7,8,9-HXCDF	0.110 ng/Kg	0.110U ng/Kg
SL-005-NBZ-SB-4.0-5.0(RES)	1,2,3,7,8-PECDD	0.138 ng/Kg	0.138U ng/Kg
SL-005-NBZ-SB-4.0-5.0(RES)	1,2,3,7,8-PECDF	0.152 ng/Kg	0.152U ng/Kg
SL-005-NBZ-SB-4.0-5.0(RES)	2,3,4,6,7,8-HXCDF	0.0865 ng/Kg	0.0865U ng/Kg
SL-005-NBZ-SB-4.0-5.0(RES)	2,3,4,7,8-PECDF	0.164 ng/Kg	0.164U ng/Kg
SL-005-NBZ-SB-4.0-5.0(RES)	2,3,7,8-TCDD	0.0398 ng/Kg	0.0398U ng/Kg
SL-005-NBZ-SB-4.0-5.0(RES)	2,3,7,8-TCDF	0.0291 ng/Kg	0.0291U ng/Kg
SL-005-NBZ-SB-4.0-5.0(RES)	OCDD	0.633 ng/Kg	0.633U ng/Kg
SL-005-NBZ-SB-4.0-5.0(RES)	OCDF	0.221 ng/Kg	0.221U ng/Kg
SL-006-NBZ-SB-3.0-4.0(RES)	1,2,3,4,6,7,8-HPCDD	0.254 ng/Kg	0.254U ng/Kg
SL-006-NBZ-SB-3.0-4.0(RES)	1,2,3,4,6,7,8-HPCDF	0.0943 ng/Kg	0.0943U ng/Kg
SL-006-NBZ-SB-3.0-4.0(RES)	1,2,3,4,7,8,9-HPCDF	0.0404 ng/Kg	0.0404U ng/Kg
SL-006-NBZ-SB-3.0-4.0(RES)	1,2,3,4,7,8-HxCDD	0.0260 ng/Kg	0.0260U ng/Kg
SL-006-NBZ-SB-3.0-4.0(RES)	1,2,3,4,7,8-HXCDF	0.0428 ng/Kg	0.0428U ng/Kg
SL-006-NBZ-SB-3.0-4.0(RES)	1,2,3,6,7,8-HXCDD	0.0410 ng/Kg	0.0410U ng/Kg
SL-006-NBZ-SB-3.0-4.0(RES)	1,2,3,6,7,8-HXCDF	0.0203 ng/Kg	0.0203U ng/Kg
SL-006-NBZ-SB-3.0-4.0(RES)	1,2,3,7,8,9-HXCDD	0.0502 ng/Kg	0.0502U ng/Kg
SL-006-NBZ-SB-3.0-4.0(RES)	1,2,3,7,8,9-HXCDF	0.0366 ng/Kg	0.0366U ng/Kg
SL-006-NBZ-SB-3.0-4.0(RES)	1,2,3,7,8-PECDD	0.0291 ng/Kg	0.0291U ng/Kg
SL-006-NBZ-SB-3.0-4.0(RES)	1,2,3,7,8-PECDF	0.0216 ng/Kg	0.0216U ng/Kg
SL-006-NBZ-SB-3.0-4.0(RES)	2,3,4,6,7,8-HXCDF	0.0357 ng/Kg	0.0357U ng/Kg
SL-006-NBZ-SB-3.0-4.0(RES)	2,3,4,7,8-PECDF	0.0624 ng/Kg	0.0624U ng/Kg
SL-006-NBZ-SB-3.0-4.0(RES)	2,3,7,8-TCDD	0.0264 ng/Kg	0.0264U ng/Kg
SL-006-NBZ-SB-3.0-4.0(RES)	2,3,7,8-TCDF	0.0313 ng/Kg	0.0313U ng/Kg
SL-006-NBZ-SB-3.0-4.0(RES)	OCDD	0.571 ng/Kg	0.571U ng/Kg
SL-006-NBZ-SB-3.0-4.0(RES)	OCDF	0.176 ng/Kg	0.176U ng/Kg
SL-007-NBZ-SB-4.0-5.0(RES)	1,2,3,4,6,7,8-HPCDD	0.310 ng/Kg	0.310U ng/Kg
SL-007-NBZ-SB-4.0-5.0(RES)	1,2,3,4,6,7,8-HPCDF	0.0708 ng/Kg	0.0708U ng/Kg
SL-007-NBZ-SB-4.0-5.0(RES)	1,2,3,4,7,8-HXCDF	0.0301 ng/Kg	0.0301U ng/Kg
SL-007-NBZ-SB-4.0-5.0(RES)	1,2,3,6,7,8-HXCDD	0.0394 ng/Kg	0.0394U ng/Kg
SL-007-NBZ-SB-4.0-5.0(RES)	1,2,3,6,7,8-HXCDF	0.0359 ng/Kg	0.0359U ng/Kg
SL-007-NBZ-SB-4.0-5.0(RES)	1,2,3,7,8,9-HXCDD	0.0710 ng/Kg	0.0710U ng/Kg
SL-007-NBZ-SB-4.0-5.0(RES)	1,2,3,7,8,9-HXCDF	0.0308 ng/Kg	0.0308U ng/Kg
SL-007-NBZ-SB-4.0-5.0(RES)	1,2,3,7,8-PECDD	0.0448 ng/Kg	0.0448U ng/Kg

Method Blank Outlier Report

Lab Reporting Batch ID: DX159 **Laboratory: LL**

EDD Filename: DX159_v1. **eQAPP Name: CDM_SSFL_120718_Lan**

Method: **1613B**
Matrix: **SO**

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples

The following samples and their listed target analytes were qualified due to contamination reported in this blank

Sample ID	Analyte	Reported Result	Modified Final Result
SL-007-NBZ-SB-4.0-5.0(RES)	1,2,3,7,8-PECDF	0.0384 ng/Kg	0.0384U ng/Kg
SL-007-NBZ-SB-4.0-5.0(RES)	2,3,4,6,7,8-HXCDF	0.0498 ng/Kg	0.0498U ng/Kg
SL-007-NBZ-SB-4.0-5.0(RES)	2,3,4,7,8-PECDF	0.0835 ng/Kg	0.0835U ng/Kg
SL-007-NBZ-SB-4.0-5.0(RES)	2,3,7,8-TCDF	0.0279 ng/Kg	0.0279U ng/Kg
SL-007-NBZ-SB-4.0-5.0(RES)	OCDD	0.590 ng/Kg	0.590U ng/Kg
SL-007-NBZ-SB-4.0-5.0(RES)	OCDF	0.231 ng/Kg	0.231U ng/Kg
SL-007-NBZ-SB-9.0-10.0(RES)	1,2,3,4,6,7,8-HPCDD	0.316 ng/Kg	0.316U ng/Kg
SL-007-NBZ-SB-9.0-10.0(RES)	1,2,3,4,6,7,8-HPCDF	0.0763 ng/Kg	0.0763U ng/Kg
SL-007-NBZ-SB-9.0-10.0(RES)	1,2,3,4,7,8,9-HPCDF	0.0183 ng/Kg	0.0183U ng/Kg
SL-007-NBZ-SB-9.0-10.0(RES)	1,2,3,4,7,8-HxCDD	0.0236 ng/Kg	0.0236U ng/Kg
SL-007-NBZ-SB-9.0-10.0(RES)	1,2,3,4,7,8-HXCDF	0.0398 ng/Kg	0.0398U ng/Kg
SL-007-NBZ-SB-9.0-10.0(RES)	1,2,3,6,7,8-HXCDD	0.0391 ng/Kg	0.0391U ng/Kg
SL-007-NBZ-SB-9.0-10.0(RES)	1,2,3,6,7,8-HXCDF	0.0257 ng/Kg	0.0257U ng/Kg
SL-007-NBZ-SB-9.0-10.0(RES)	1,2,3,7,8,9-HXCDD	0.0498 ng/Kg	0.0498U ng/Kg
SL-007-NBZ-SB-9.0-10.0(RES)	1,2,3,7,8,9-HXCDF	0.0556 ng/Kg	0.0556U ng/Kg
SL-007-NBZ-SB-9.0-10.0(RES)	1,2,3,7,8-PECDF	0.0412 ng/Kg	0.0412U ng/Kg
SL-007-NBZ-SB-9.0-10.0(RES)	2,3,4,6,7,8-HXCDF	0.0240 ng/Kg	0.0240U ng/Kg
SL-007-NBZ-SB-9.0-10.0(RES)	2,3,4,7,8-PECDF	0.0772 ng/Kg	0.0772U ng/Kg
SL-007-NBZ-SB-9.0-10.0(RES)	OCDD	0.753 ng/Kg	0.753U ng/Kg
SL-007-NBZ-SB-9.0-10.0(RES)	OCDF	0.163 ng/Kg	0.163U ng/Kg
SL-010-NBZ-SB-4.0-5.0(RES)	1,2,3,4,6,7,8-HPCDD	0.325 ng/Kg	0.325U ng/Kg
SL-010-NBZ-SB-4.0-5.0(RES)	1,2,3,4,6,7,8-HPCDF	0.101 ng/Kg	0.101U ng/Kg
SL-010-NBZ-SB-4.0-5.0(RES)	1,2,3,4,7,8,9-HPCDF	0.0405 ng/Kg	0.0405U ng/Kg
SL-010-NBZ-SB-4.0-5.0(RES)	1,2,3,4,7,8-HxCDD	0.0596 ng/Kg	0.0596U ng/Kg
SL-010-NBZ-SB-4.0-5.0(RES)	1,2,3,4,7,8-HXCDF	0.0614 ng/Kg	0.0614U ng/Kg
SL-010-NBZ-SB-4.0-5.0(RES)	1,2,3,6,7,8-HXCDD	0.0420 ng/Kg	0.0420U ng/Kg
SL-010-NBZ-SB-4.0-5.0(RES)	1,2,3,6,7,8-HXCDF	0.0765 ng/Kg	0.0765U ng/Kg
SL-010-NBZ-SB-4.0-5.0(RES)	1,2,3,7,8,9-HXCDF	0.0650 ng/Kg	0.0650U ng/Kg
SL-010-NBZ-SB-4.0-5.0(RES)	1,2,3,7,8-PECDD	0.109 ng/Kg	0.109U ng/Kg
SL-010-NBZ-SB-4.0-5.0(RES)	1,2,3,7,8-PECDF	0.111 ng/Kg	0.111U ng/Kg
SL-010-NBZ-SB-4.0-5.0(RES)	2,3,4,6,7,8-HXCDF	0.0768 ng/Kg	0.0768U ng/Kg
SL-010-NBZ-SB-4.0-5.0(RES)	2,3,4,7,8-PECDF	0.121 ng/Kg	0.121U ng/Kg
SL-010-NBZ-SB-4.0-5.0(RES)	2,3,7,8-TCDF	0.0442 ng/Kg	0.0442U ng/Kg
SL-010-NBZ-SB-4.0-5.0(RES)	OCDD	0.678 ng/Kg	0.678U ng/Kg
SL-010-NBZ-SB-4.0-5.0(RES)	OCDF	0.119 ng/Kg	0.119U ng/Kg
SL-015-NBZ-SS-0.0-0.5(RES)	1,2,3,4,6,7,8-HPCDF	0.414 ng/Kg	0.414U ng/Kg
SL-015-NBZ-SS-0.0-0.5(RES)	1,2,3,4,7,8,9-HPCDF	0.0985 ng/Kg	0.0985U ng/Kg
SL-015-NBZ-SS-0.0-0.5(RES)	1,2,3,4,7,8-HxCDD	0.0677 ng/Kg	0.0677U ng/Kg
SL-015-NBZ-SS-0.0-0.5(RES)	1,2,3,4,7,8-HXCDF	0.117 ng/Kg	0.117U ng/Kg
SL-015-NBZ-SS-0.0-0.5(RES)	1,2,3,6,7,8-HXCDD	0.167 ng/Kg	0.167U ng/Kg

Method Blank Outlier Report

Lab Reporting Batch ID: DX159 **Laboratory: LL**

EDD Filename: DX159_v1. **eQAPP Name: CDM_SSFL_120718_Lan**

Method: **1613B**
Matrix: **SO**

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples

The following samples and their listed target analytes were qualified due to contamination reported in this blank

Sample ID	Analyte	Reported Result	Modified Final Result
SL-015-NBZ-SS-0.0-0.5(RES)	1,2,3,6,7,8-HXCDF	0.0632 ng/Kg	0.0632U ng/Kg
SL-015-NBZ-SS-0.0-0.5(RES)	1,2,3,7,8,9-HXCDD	0.173 ng/Kg	0.173U ng/Kg
SL-015-NBZ-SS-0.0-0.5(RES)	1,2,3,7,8,9-HXCDF	0.0481 ng/Kg	0.0481U ng/Kg
SL-015-NBZ-SS-0.0-0.5(RES)	1,2,3,7,8-PECDF	0.0925 ng/Kg	0.0925U ng/Kg
SL-015-NBZ-SS-0.0-0.5(RES)	2,3,4,6,7,8-HXCDF	0.0736 ng/Kg	0.0736U ng/Kg
SL-015-NBZ-SS-0.0-0.5(RES)	2,3,4,7,8-PECDF	0.0785 ng/Kg	0.0785U ng/Kg
SL-015-NBZ-SS-0.0-0.5(RES)	2,3,7,8-TCDD	0.0338 ng/Kg	0.0338U ng/Kg
SL-015-NBZ-SS-0.0-0.5(RES)	2,3,7,8-TCDF	0.0420 ng/Kg	0.0420U ng/Kg
SL-021-NBZ-SB-4.0-5.0(RES)	1,2,3,4,6,7,8-HPCDD	0.259 ng/Kg	0.259U ng/Kg
SL-021-NBZ-SB-4.0-5.0(RES)	1,2,3,4,6,7,8-HPCDF	0.101 ng/Kg	0.101U ng/Kg
SL-021-NBZ-SB-4.0-5.0(RES)	1,2,3,4,7,8,9-HPCDF	0.0302 ng/Kg	0.0302U ng/Kg
SL-021-NBZ-SB-4.0-5.0(RES)	1,2,3,4,7,8-HxCDD	0.0326 ng/Kg	0.0326U ng/Kg
SL-021-NBZ-SB-4.0-5.0(RES)	1,2,3,4,7,8-HXCDF	0.0494 ng/Kg	0.0494U ng/Kg
SL-021-NBZ-SB-4.0-5.0(RES)	1,2,3,6,7,8-HXCDD	0.0434 ng/Kg	0.0434U ng/Kg
SL-021-NBZ-SB-4.0-5.0(RES)	1,2,3,6,7,8-HXCDF	0.0556 ng/Kg	0.0556U ng/Kg
SL-021-NBZ-SB-4.0-5.0(RES)	1,2,3,7,8,9-HXCDD	0.0420 ng/Kg	0.0420U ng/Kg
SL-021-NBZ-SB-4.0-5.0(RES)	1,2,3,7,8,9-HXCDF	0.0245 ng/Kg	0.0245U ng/Kg
SL-021-NBZ-SB-4.0-5.0(RES)	1,2,3,7,8-PECDD	0.0518 ng/Kg	0.0518U ng/Kg
SL-021-NBZ-SB-4.0-5.0(RES)	1,2,3,7,8-PECDF	0.106 ng/Kg	0.106U ng/Kg
SL-021-NBZ-SB-4.0-5.0(RES)	2,3,4,6,7,8-HXCDF	0.0368 ng/Kg	0.0368U ng/Kg
SL-021-NBZ-SB-4.0-5.0(RES)	2,3,4,7,8-PECDF	0.114 ng/Kg	0.114U ng/Kg
SL-021-NBZ-SB-4.0-5.0(RES)	2,3,7,8-TCDD	0.0374 ng/Kg	0.0374U ng/Kg
SL-021-NBZ-SB-4.0-5.0(RES)	OCDD	0.576 ng/Kg	0.576U ng/Kg
SL-021-NBZ-SB-4.0-5.0(RES)	OCDF	0.168 ng/Kg	0.168U ng/Kg
SL-021-NBZ-SS-0.0-0.5(RES)	1,2,3,4,7,8,9-HPCDF	0.0794 ng/Kg	0.0794U ng/Kg
SL-021-NBZ-SS-0.0-0.5(RES)	1,2,3,4,7,8-HxCDD	0.0843 ng/Kg	0.0843U ng/Kg
SL-021-NBZ-SS-0.0-0.5(RES)	1,2,3,4,7,8-HXCDF	0.0992 ng/Kg	0.0992U ng/Kg
SL-021-NBZ-SS-0.0-0.5(RES)	1,2,3,6,7,8-HXCDD	0.128 ng/Kg	0.128U ng/Kg
SL-021-NBZ-SS-0.0-0.5(RES)	1,2,3,6,7,8-HXCDF	0.0715 ng/Kg	0.0715U ng/Kg
SL-021-NBZ-SS-0.0-0.5(RES)	1,2,3,7,8-PECDD	0.0611 ng/Kg	0.0611U ng/Kg
SL-021-NBZ-SS-0.0-0.5(RES)	1,2,3,7,8-PECDF	0.0875 ng/Kg	0.0875U ng/Kg
SL-021-NBZ-SS-0.0-0.5(RES)	2,3,4,6,7,8-HXCDF	0.0895 ng/Kg	0.0895U ng/Kg
SL-021-NBZ-SS-0.0-0.5(RES)	2,3,4,7,8-PECDF	0.107 ng/Kg	0.107U ng/Kg
SL-021-NBZ-SS-0.0-0.5(RES)	2,3,7,8-TCDF	0.0573 ng/Kg	0.0573U ng/Kg

Reporting Limit Outliers

Lab Reporting Batch ID: DX159 **Laboratory: LL**

EDD Filename: DX159_v1. **eQAPP Name: CDM_SSFL_120718_Lan**

Method: 1613B
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-002-NBZ-SB-4.0-5.0	1,2,3,4,6,7,8-HPCDD	JB	0.354	5.32	PQL	ng/Kg	
	1,2,3,4,6,7,8-HPCDF	JB	0.125	5.32	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JBQ	0.0444	5.32	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JBQ	0.0439	5.32	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	JB	0.0775	5.32	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JBQ	0.0238	5.32	PQL	ng/Kg	J (all detects)
	1,2,3,7,8,9-HXCDD	JBQ	0.0455	5.32	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JB	0.0429	5.32	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JBQ	0.0553	5.32	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JB	0.0775	5.32	PQL	ng/Kg	
	OCDD	JB	0.743	10.6	PQL	ng/Kg	
	OCDF	JBQ	0.131	10.6	PQL	ng/Kg	
SL-002-NBZ-SB-7.5-8.5	1,2,3,4,6,7,8-HPCDD	JBQ	0.354	5.44	PQL	ng/Kg	
	1,2,3,4,6,7,8-HPCDF	JB	0.127	5.44	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JBQ	0.0336	5.44	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JBQ	0.0340	5.44	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JB	0.0382	5.44	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	JBQ	0.0471	5.44	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JB	0.0303	5.44	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDD	JB	0.0804	5.44	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	JBQ	0.0413	5.44	PQL	ng/Kg	J (all detects)
	1,2,3,7,8-PECDD	JBQ	0.0302	5.44	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JBQ	0.0750	5.44	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JBQ	0.0296	5.44	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JBQ	0.0778	5.44	PQL	ng/Kg	
	2,3,7,8-TCDD	JBQ	0.0321	1.09	PQL	ng/Kg	
	2,3,7,8-TCDF	JB	0.0319	1.09	PQL	ng/Kg	
	OCDD	JB	0.982	10.9	PQL	ng/Kg	
	OCDF	JB	0.141	10.9	PQL	ng/Kg	
SL-002-NBZ-SS-0.0-0.5	1,2,3,4,6,7,8-HPCDD	JB	1.63	5.15	PQL	ng/Kg	
	1,2,3,4,6,7,8-HPCDF	JB	0.473	5.15	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JB	0.0695	5.15	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JB	0.0587	5.15	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JB	0.544	5.15	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	JB	0.298	5.15	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JB	0.390	5.15	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDD	JB	0.365	5.15	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	JB	0.132	5.15	PQL	ng/Kg	J (all detects)
	1,2,3,7,8-PECDD	JBQ	0.0604	5.15	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JB	3.84	5.15	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JBQ	0.122	5.15	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JB	0.400	5.15	PQL	ng/Kg	
	2,3,7,8-TCDF	JB	0.608	1.03	PQL	ng/Kg	
	OCDD	JB	10.1	10.3	PQL	ng/Kg	
	OCDF	JB	0.751	10.3	PQL	ng/Kg	

Reporting Limit Outliers

Lab Reporting Batch ID: DX159 **Laboratory: LL**

EDD Filename: DX159_v1. **eQAPP Name: CDM_SSFL_120718_Lan**

Method: 1613B

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-003-NBZ-SB-4.0-5.0	1,2,3,4,6,7,8-HPCDD	JBQ	0.258	5.21	PQL	ng/Kg	
	1,2,3,4,6,7,8-HPCDF	JBQ	0.0769	5.21	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JBQ	0.0399	5.21	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JB	0.0514	5.21	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JB	0.0954	5.21	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	JBQ	0.0387	5.21	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JBQ	0.0731	5.21	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDD	JBQ	0.0880	5.21	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	JBQ	0.0466	5.21	PQL	ng/Kg	J (all detects)
	1,2,3,7,8-PECDD	JBQ	0.111	5.21	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JBQ	0.136	5.21	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JBQ	0.0503	5.21	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JB	0.123	5.21	PQL	ng/Kg	
	2,3,7,8-TCDD	JBQ	0.0281	1.04	PQL	ng/Kg	
	2,3,7,8-TCDF	JBQ	0.0386	1.04	PQL	ng/Kg	
	OCDD	JB	0.555	10.4	PQL	ng/Kg	
	OCDF	JB	0.153	10.4	PQL	ng/Kg	
SL-003-NBZ-SS-0.0-0.5	1,2,3,4,6,7,8-HPCDD	JB	1.36	5.21	PQL	ng/Kg	
	1,2,3,4,6,7,8-HPCDF	JBQ	0.379	5.21	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JBQ	0.0656	5.21	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JB	0.0672	5.21	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JBQ	0.156	5.21	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	JB	0.128	5.21	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JB	0.0807	5.21	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDD	JBQ	0.106	5.21	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	JB	0.0589	5.21	PQL	ng/Kg	J (all detects)
	1,2,3,7,8-PECDD	JB	0.0837	5.21	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JB	0.207	5.21	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JBQ	0.0844	5.21	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JBQ	0.101	5.21	PQL	ng/Kg	
	2,3,7,8-TCDD	JB	0.0296	1.04	PQL	ng/Kg	
	2,3,7,8-TCDF	JB	0.0979	1.04	PQL	ng/Kg	
	OCDD	JB	9.41	10.4	PQL	ng/Kg	
	OCDF	JB	0.624	10.4	PQL	ng/Kg	
SL-005-NBZ-SB-4.0-5.0	1,2,3,4,6,7,8-HPCDD	JB	0.340	5.42	PQL	ng/Kg	
	1,2,3,4,6,7,8-HPCDF	JB	0.129	5.42	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JBQ	0.0524	5.42	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JB	0.0621	5.42	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JB	0.103	5.42	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	JB	0.124	5.42	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JB	0.0799	5.42	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDD	JBQ	0.0983	5.42	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	JB	0.110	5.42	PQL	ng/Kg	J (all detects)
	1,2,3,7,8-PECDD	JB	0.138	5.42	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JB	0.152	5.42	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JB	0.0865	5.42	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JBQ	0.164	5.42	PQL	ng/Kg	
	2,3,7,8-TCDD	JBQ	0.0398	1.08	PQL	ng/Kg	
	2,3,7,8-TCDF	JB	0.0291	1.08	PQL	ng/Kg	
	OCDD	JBQ	0.633	10.8	PQL	ng/Kg	
	OCDF	JBQ	0.221	10.8	PQL	ng/Kg	

Reporting Limit Outliers

Lab Reporting Batch ID: DX159 **Laboratory: LL**

EDD Filename: DX159_v1. **eQAPP Name: CDM_SSFL_120718_Lan**

Method: 1613B

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-006-NBZ-SB-3.0-4.0	1,2,3,4,6,7,8-HPCDD	JB	0.254	5.36	PQL	ng/Kg	
	1,2,3,4,6,7,8-HPCDF	JB	0.0943	5.36	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JB	0.0404	5.36	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JBQ	0.0260	5.36	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JBQ	0.0428	5.36	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	JBQ	0.0410	5.36	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JBQ	0.0203	5.36	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDD	JBQ	0.0502	5.36	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	JB	0.0366	5.36	PQL	ng/Kg	J (all detects)
	1,2,3,7,8-PECDD	JBQ	0.0291	5.36	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JB	0.0216	5.36	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JBQ	0.0357	5.36	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JBQ	0.0624	5.36	PQL	ng/Kg	
	2,3,7,8-TCDD	JBQ	0.0264	1.07	PQL	ng/Kg	
	2,3,7,8-TCDF	JB	0.0313	1.07	PQL	ng/Kg	
	OCDD	JB	0.571	10.7	PQL	ng/Kg	
	OCDF	JBQ	0.176	10.7	PQL	ng/Kg	
SL-007-NBZ-SB-4.0-5.0	1,2,3,4,6,7,8-HPCDD	JBQ	0.310	5.43	PQL	ng/Kg	
	1,2,3,4,6,7,8-HPCDF	JB	0.0708	5.43	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JBQ	0.0301	5.43	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	JB	0.0394	5.43	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JBQ	0.0359	5.43	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDD	JB	0.0710	5.43	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	JBQ	0.0308	5.43	PQL	ng/Kg	
	1,2,3,7,8-PECDD	JBQ	0.0448	5.43	PQL	ng/Kg	J (all detects)
	1,2,3,7,8-PECDF	JBQ	0.0384	5.43	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JB	0.0498	5.43	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JBQ	0.0835	5.43	PQL	ng/Kg	
	2,3,7,8-TCDF	JB	0.0279	1.09	PQL	ng/Kg	
	OCDD	JB	0.590	10.9	PQL	ng/Kg	
	OCDF	JB	0.231	10.9	PQL	ng/Kg	
SL-007-NBZ-SB-9.0-10.0	1,2,3,4,6,7,8-HPCDD	JBQ	0.316	5.46	PQL	ng/Kg	
	1,2,3,4,6,7,8-HPCDF	JB	0.0763	5.46	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JBQ	0.0183	5.46	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JBQ	0.0236	5.46	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JBQ	0.0398	5.46	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	JB	0.0391	5.46	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JBQ	0.0257	5.46	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDD	JBQ	0.0498	5.46	PQL	ng/Kg	J (all detects)
	1,2,3,7,8,9-HXCDF	JBQ	0.0556	5.46	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JBQ	0.0412	5.46	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JBQ	0.0240	5.46	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JB	0.0772	5.46	PQL	ng/Kg	
	OCDD	JB	0.753	10.9	PQL	ng/Kg	
	OCDF	JB	0.163	10.9	PQL	ng/Kg	

Reporting Limit Outliers

Lab Reporting Batch ID: DX159 **Laboratory: LL**

EDD Filename: DX159_v1. **eQAPP Name: CDM_SSFL_120718_Lan**

Method: 1613B

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-010-NBZ-SB-4.0-5.0	1,2,3,4,6,7,8-HPCDD	JB	0.325	5.22	PQL	ng/Kg	
	1,2,3,4,6,7,8-HPCDF	JBQ	0.101	5.22	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JBQ	0.0405	5.22	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JBQ	0.0596	5.22	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JBQ	0.0614	5.22	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	JBQ	0.0420	5.22	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JBQ	0.0765	5.22	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	JBQ	0.0650	5.22	PQL	ng/Kg	J (all detects)
	1,2,3,7,8-PECDD	JBQ	0.109	5.22	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JB	0.111	5.22	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JBQ	0.0768	5.22	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JB	0.121	5.22	PQL	ng/Kg	
	2,3,7,8-TCDF	JBQ	0.0442	1.04	PQL	ng/Kg	
	OCDD	JB	0.678	10.4	PQL	ng/Kg	
	OCDF	JB	0.119	10.4	PQL	ng/Kg	
SL-015-NBZ-SS-0.0-0.5	1,2,3,4,6,7,8-HPCDD	JB	2.88	5.01	PQL	ng/Kg	
	1,2,3,4,6,7,8-HPCDF	JB	0.414	5.01	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JBQ	0.0985	5.01	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JBQ	0.0677	5.01	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JBQ	0.117	5.01	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	JB	0.167	5.01	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JBQ	0.0632	5.01	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDD	JBQ	0.173	5.01	PQL	ng/Kg	J (all detects)
	1,2,3,7,8,9-HXCDF	JBQ	0.0481	5.01	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JBQ	0.0925	5.01	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JBQ	0.0736	5.01	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JBQ	0.0785	5.01	PQL	ng/Kg	
	2,3,7,8-TCDD	JBQ	0.0338	1.00	PQL	ng/Kg	
	2,3,7,8-TCDF	JBQ	0.0420	1.00	PQL	ng/Kg	
	OCDF	JB	0.826	10.0	PQL	ng/Kg	
SL-021-NBZ-SB-4.0-5.0	1,2,3,4,6,7,8-HPCDD	JB	0.259	5.07	PQL	ng/Kg	
	1,2,3,4,6,7,8-HPCDF	JB	0.101	5.07	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JBQ	0.0302	5.07	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JBQ	0.0326	5.07	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JBQ	0.0494	5.07	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	JBQ	0.0434	5.07	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JB	0.0556	5.07	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDD	JBQ	0.0420	5.07	PQL	ng/Kg	J (all detects)
	1,2,3,7,8,9-HXCDF	JBQ	0.0245	5.07	PQL	ng/Kg	
	1,2,3,7,8-PECDD	JB	0.0518	5.07	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JB	0.106	5.07	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JBQ	0.0368	5.07	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JBQ	0.114	5.07	PQL	ng/Kg	
	2,3,7,8-TCDD	JBQ	0.0374	1.01	PQL	ng/Kg	
	OCDD	JB	0.576	10.1	PQL	ng/Kg	
	OCDF	JB	0.168	10.1	PQL	ng/Kg	

Reporting Limit Outliers

Lab Reporting Batch ID: DX159 **Laboratory: LL**

EDD Filename: DX159_v1. **eQAPP Name: CDM_SSFL_120718_Lan**

Method: 1613B

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-021-NBZ-SS-0.0-0.5	1,2,3,4,6,7,8-HPCDD	JB	2.43	5.11	PQL	ng/Kg	J (all detects)
	1,2,3,4,6,7,8-HPCDF	JB	0.593	5.11	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JB	0.0794	5.11	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JBQ	0.0843	5.11	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JB	0.0992	5.11	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	JB	0.128	5.11	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JBQ	0.0715	5.11	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDD	JB	0.184	5.11	PQL	ng/Kg	
	1,2,3,7,8-PECDD	JBQ	0.0611	5.11	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JB	0.0875	5.11	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JB	0.0895	5.11	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JBQ	0.107	5.11	PQL	ng/Kg	
	2,3,7,8-TCDF	JBQ	0.0573	1.02	PQL	ng/Kg	
	OCDF	JB	1.27	10.2	PQL	ng/Kg	

SAMPLE DELIVERY GROUP

DX160

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
13-Mar-2012	SL-019-NBZ-SS-0.0-0.5	6580735	N	METHOD	1613B	III
13-Mar-2012	SL-019-NBZ-SB-3.0-4.0	6580734	N	METHOD	1613B	III
14-Mar-2012	SL-022-NBZ-SS-0.0-0.5	6580740	N	METHOD	1613B	III
14-Mar-2012	SL-022-NBZ-SB-4.0-5.0	6580736	N	METHOD	1613B	III
14-Mar-2012	SL-022-NBZ-SB-9.0-10.0	6580737	N	METHOD	1613B	III
14-Mar-2012	SL-024-NBZ-SS-0.0-0.5	6580742	N	METHOD	1613B	III
14-Mar-2012	SL-023-NBZ-SS-0.0-0.5	6580741	N	METHOD	1613B	III
14-Mar-2012	SL-023-NBZ-SB-4.0-5.0	6580738	N	METHOD	1613B	III
14-Mar-2012	SL-023-NBZ-SB-8.5-9.5	6580739	N	METHOD	1613B	III
14-Mar-2012	SL-030-NBZ-SS-0.0-0.5	6580743	N	METHOD	1613B	III
15-Mar-2012	SL-029-NBZ-SS-0.0-0.5	6580744	N	METHOD	1613B	III
15-Mar-2012	SL-058-NBZ-SS-0.0-0.5	6580746	N	METHOD	1613B	III
15-Mar-2012	SL-052-NBZ-SS-0.0-0.5	6580745	N	METHOD	1613B	III
15-Mar-2012	EB-NBZ-SS-031512	6580748	EB	METHOD	1613B	III
15-Mar-2012	EB-NBZ-SB-031512	6580747	EB	METHOD	1613B	III

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Attachment II

Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: DX160 **Laboratory: LL**

EDD Filename: PrepDX160_v1 **eQAPP Name: CDM_SSFL_120718_Lan**

Method Category: SVOA

Method: 1613B **Matrix:** AQ

Sample ID: EB-NBZ-SB-031512 *Collected:* 3/15/2012 3:00:00 *Analysis Type:* RES *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,6,7,8-HPCDD	2.82	JB	0.154	MDL	9.91	PQL	pg/L	U	B
1,2,3,4,6,7,8-HPCDF	1.29	JB	0.0904	MDL	9.91	PQL	pg/L	U	B
1,2,3,4,7,8,9-HPCDF	0.342	JB	0.101	MDL	9.91	PQL	pg/L	U	B
1,2,3,4,7,8-HxCDD	0.287	JBQ	0.142	MDL	9.91	PQL	pg/L	U	B
1,2,3,4,7,8-HXCDF	0.377	JBQ	0.0918	MDL	9.91	PQL	pg/L	U	B
1,2,3,6,7,8-HXCDD	0.292	JB	0.155	MDL	9.91	PQL	pg/L	U	B
1,2,3,6,7,8-HXCDF	0.361	JBQ	0.0984	MDL	9.91	PQL	pg/L	U	B
1,2,3,7,8,9-HXCDD	0.534	JBQ	0.144	MDL	9.91	PQL	pg/L	U	B
1,2,3,7,8,9-HXCDF	0.305	JBQ	0.0932	MDL	9.91	PQL	pg/L	U	B
1,2,3,7,8-PECDD	0.235	JBQ	0.204	MDL	9.91	PQL	pg/L	U	B
1,2,3,7,8-PECDF	0.271	JBQ	0.127	MDL	9.91	PQL	pg/L	U	B
2,3,4,6,7,8-HXCDF	0.501	JBQ	0.0843	MDL	9.91	PQL	pg/L	U	B
2,3,4,7,8-PECDF	0.607	JB	0.119	MDL	9.91	PQL	pg/L	U	B
2,3,7,8-TCDF	0.219	JB	0.187	MDL	1.98	PQL	pg/L	U	B
OCDD	4.27	JB	0.135	MDL	19.8	PQL	pg/L	U	B
OCDF	1.37	JB	0.174	MDL	19.8	PQL	pg/L	U	B

Sample ID: EB-NBZ-SS-031512 *Collected:* 3/15/2012 2:30:00 *Analysis Type:* RES *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,6,7,8-HPCDD	3.53	JB	0.221	MDL	9.85	PQL	pg/L	U	B
1,2,3,4,6,7,8-HPCDF	1.76	JBQ	0.102	MDL	9.85	PQL	pg/L	U	B
1,2,3,4,7,8,9-HPCDF	0.424	JB	0.115	MDL	9.85	PQL	pg/L	U	B
1,2,3,4,7,8-HxCDD	0.313	JBQ	0.199	MDL	9.85	PQL	pg/L	U	B
1,2,3,4,7,8-HXCDF	0.472	JB	0.124	MDL	9.85	PQL	pg/L	U	B
1,2,3,6,7,8-HXCDD	0.543	JBQ	0.220	MDL	9.85	PQL	pg/L	U	B
1,2,3,6,7,8-HXCDF	0.595	JBQ	0.122	MDL	9.85	PQL	pg/L	U	B
1,2,3,7,8,9-HXCDD	0.503	JB	0.214	MDL	9.85	PQL	pg/L	U	B
1,2,3,7,8,9-HXCDF	0.416	JBQ	0.124	MDL	9.85	PQL	pg/L	U	B
1,2,3,7,8-PECDD	0.354	JBQ	0.305	MDL	9.85	PQL	pg/L	U	B
2,3,4,6,7,8-HXCDF	0.512	JB	0.108	MDL	9.85	PQL	pg/L	U	B
2,3,4,7,8-PECDF	0.494	JBQ	0.164	MDL	9.85	PQL	pg/L	U	B
2,3,7,8-TCDD	0.289	JQ	0.279	MDL	1.97	PQL	pg/L	J	Z
2,3,7,8-TCDF	0.371	JB	0.231	MDL	1.97	PQL	pg/L	U	B

* denotes a non-reportable result

Project Name and Number: 1203-004-009-AL - SSFL Area IV Collocated Soil Sampling

Data Qualifier Summary

Lab Reporting Batch ID: DX160 **Laboratory: LL**

EDD Filename: PrepDX160_v1 **eQAPP Name: CDM_SSFL_120718_Lan**

Method Category: SVOA

Method: 1613B **Matrix: AQ**

Sample ID: EB-NBZ-SS-031512 *Collected:* 3/15/2012 2:30:00 *Analysis Type:* RES *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
OCDD	6.23	JB	0.248	MDL	19.7	PQL	pg/L	U	B
OCDF	1.67	JBQ	0.266	MDL	19.7	PQL	pg/L	U	B

Method Category: SVOA

Method: 1613B **Matrix: SO**

Sample ID: SL-019-NBZ-SB-3.0-4.0 *Collected:* 3/13/2012 2:35:00 *Analysis Type:* RES *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,6,7,8-HPCDD	0.270	JB	0.0184	MDL	5.23	PQL	ng/Kg	U	B
1,2,3,4,6,7,8-HPCDF	0.152	JB	0.00605	MDL	5.23	PQL	ng/Kg	U	B
1,2,3,4,7,8,9-HPCDF	0.0466	JBQ	0.0130	MDL	5.23	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.0436	JB	0.0145	MDL	5.23	PQL	ng/Kg	U	B
1,2,3,4,7,8-HXCDF	0.0774	JB	0.0130	MDL	5.23	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDD	0.0482	JBQ	0.0150	MDL	5.23	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDF	0.0529	JBQ	0.0106	MDL	5.23	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDD	0.0588	JB	0.0151	MDL	5.23	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDF	0.0531	JB	0.0155	MDL	5.23	PQL	ng/Kg	U	B
1,2,3,7,8-PECDD	0.0489	JB	0.0211	MDL	5.23	PQL	ng/Kg	U	B
1,2,3,7,8-PECDF	0.0400	JB	0.0119	MDL	5.23	PQL	ng/Kg	U	B
2,3,4,6,7,8-HXCDF	0.0681	JBQ	0.0110	MDL	5.23	PQL	ng/Kg	U	B
2,3,4,7,8-PECDF	0.0712	JB	0.0127	MDL	5.23	PQL	ng/Kg	U	B
2,3,7,8-TCDF	0.0267	JQ	0.0196	MDL	1.05	PQL	ng/Kg	J	Z
OCDD	0.519	JB	0.0123	MDL	10.5	PQL	ng/Kg	U	B
OCDF	0.234	JB	0.0285	MDL	10.5	PQL	ng/Kg	U	B

Sample ID: SL-019-NBZ-SS-0.0-0.5 *Collected:* 3/13/2012 1:50:00 *Analysis Type:* RES *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,6,7,8-HPCDF	1.09	JB	0.0101	MDL	5.02	PQL	ng/Kg	J	Z
1,2,3,4,7,8,9-HPCDF	0.134	JBQ	0.0203	MDL	5.02	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.123	JB	0.0199	MDL	5.02	PQL	ng/Kg	U	B
1,2,3,4,7,8-HXCDF	0.200	JB	0.0183	MDL	5.02	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDD	0.264	JBQ	0.0205	MDL	5.02	PQL	ng/Kg	J	Z

* denotes a non-reportable result

Project Name and Number: 1203-004-009-AL - SSFL Area IV Collocated Soil Sampling

Data Qualifier Summary

Lab Reporting Batch ID: DX160 **Laboratory: LL**

EDD Filename: PrepDX160_v1 **eQAPP Name: CDM_SSFL_120718_Lan**

Method Category: SVOA

Method: 1613B **Matrix: SO**

Sample ID: **SL-019-NBZ-SS-0.0-0.5** *Collected:* **3/13/2012 1:50:00** *Analysis Type:* **RES** *Dilution:* **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,6,7,8-HXCDF	0.140	JBQ	0.0157	MDL	5.02	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDD	0.261	JB	0.0202	MDL	5.02	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDF	0.0547	JB	0.0216	MDL	5.02	PQL	ng/Kg	U	B
1,2,3,7,8-PECDD	0.0650	JBQ	0.0206	MDL	5.02	PQL	ng/Kg	U	B
1,2,3,7,8-PECDF	0.165	JB	0.0203	MDL	5.02	PQL	ng/Kg	J	Z
2,3,4,6,7,8-HXCDF	0.194	JBQ	0.0165	MDL	5.02	PQL	ng/Kg	U	B
2,3,4,7,8-PECDF	0.148	JBQ	0.0218	MDL	5.02	PQL	ng/Kg	U	B
2,3,7,8-TCDF	0.171	J	0.0358	MDL	1.00	PQL	ng/Kg	J	Z
OCDF	1.90	JB	0.0250	MDL	10.0	PQL	ng/Kg	J	Z

Sample ID: **SL-022-NBZ-SB-4.0-5.0** *Collected:* **3/14/2012 10:10:00** *Analysis Type:* **RES** *Dilution:* **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,6,7,8-HPCDD	0.345	JBQ	0.0203	MDL	5.11	PQL	ng/Kg	U	B
1,2,3,4,6,7,8-HPCDF	0.190	JB	0.00714	MDL	5.11	PQL	ng/Kg	U	B
1,2,3,4,7,8,9-HPCDF	0.0393	JB	0.0128	MDL	5.11	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.0182	JBQ	0.0145	MDL	5.11	PQL	ng/Kg	U	B
1,2,3,4,7,8-HXCDF	0.0447	JB	0.0129	MDL	5.11	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDD	0.0317	JB	0.0160	MDL	5.11	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDF	0.0393	JBQ	0.0117	MDL	5.11	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDD	0.0471	JBQ	0.0152	MDL	5.11	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDF	0.0337	JBQ	0.0149	MDL	5.11	PQL	ng/Kg	U	B
1,2,3,7,8-PECDD	0.0364	JBQ	0.0216	MDL	5.11	PQL	ng/Kg	U	B
1,2,3,7,8-PECDF	0.0278	JBQ	0.0142	MDL	5.11	PQL	ng/Kg	U	B
2,3,4,6,7,8-HXCDF	0.0596	JBQ	0.0119	MDL	5.11	PQL	ng/Kg	U	B
2,3,4,7,8-PECDF	0.0798	JBQ	0.0138	MDL	5.11	PQL	ng/Kg	U	B
2,3,7,8-TCDF	0.0364	JQ	0.0177	MDL	1.02	PQL	ng/Kg	J	Z
OCDD	0.935	JB	0.0131	MDL	10.2	PQL	ng/Kg	U	B
OCDF	0.178	JB	0.0239	MDL	10.2	PQL	ng/Kg	U	B

Sample ID: **SL-022-NBZ-SB-9.0-10.0** *Collected:* **3/14/2012 10:20:00** *Analysis Type:* **RES** *Dilution:* **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,6,7,8-HPCDD	0.333	JB	0.0155	MDL	5.23	PQL	ng/Kg	U	B
1,2,3,4,6,7,8-HPCDF	0.158	JB	0.00529	MDL	5.23	PQL	ng/Kg	U	B

* denotes a non-reportable result

Project Name and Number: 1203-004-009-AL - SSFL Area IV Collocated Soil Sampling

Data Qualifier Summary

Lab Reporting Batch ID: DX160 **Laboratory: LL**

EDD Filename: PrepDX160_v1 **eQAPP Name: CDM_SSFL_120718_Lan**

Method Category: SVOA

Method: 1613B **Matrix: SO**

Sample ID: SL-022-NBZ-SB-9.0-10.0 *Collected:* 3/14/2012 10:20:00 *Analysis Type:* RES *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,7,8,9-HPCDF	0.0711	JB	0.0107	MDL	5.23	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.0359	JBQ	0.0135	MDL	5.23	PQL	ng/Kg	U	B
1,2,3,4,7,8-HXCDF	0.0681	JB	0.0100	MDL	5.23	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDD	0.0386	JBQ	0.0137	MDL	5.23	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDF	0.0515	JBQ	0.00920	MDL	5.23	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDD	0.0416	JBQ	0.0134	MDL	5.23	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDF	0.0355	JB	0.0122	MDL	5.23	PQL	ng/Kg	U	B
1,2,3,7,8-PECDD	0.0401	JBQ	0.0152	MDL	5.23	PQL	ng/Kg	U	B
1,2,3,7,8-PECDF	0.0202	JB	0.0110	MDL	5.23	PQL	ng/Kg	U	B
2,3,4,6,7,8-HXCDF	0.0669	JB	0.00994	MDL	5.23	PQL	ng/Kg	U	B
2,3,4,7,8-PECDF	0.0577	JBQ	0.0118	MDL	5.23	PQL	ng/Kg	U	B
2,3,7,8-TCDF	0.0249	JQ	0.0145	MDL	1.05	PQL	ng/Kg	J	Z
OCDD	0.577	JBQ	0.0126	MDL	10.5	PQL	ng/Kg	U	B
OCDF	0.224	JB	0.0243	MDL	10.5	PQL	ng/Kg	U	B

Sample ID: SL-022-NBZ-SS-0.0-0.5 *Collected:* 3/14/2012 9:03:00 *Analysis Type:* RES *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,6,7,8-HPCDF	1.21	JB	0.0140	MDL	5.21	PQL	ng/Kg	J	Z
1,2,3,4,7,8,9-HPCDF	0.113	JB	0.0216	MDL	5.21	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.166	JB	0.0220	MDL	5.21	PQL	ng/Kg	J	Z
1,2,3,4,7,8-HXCDF	0.247	JB	0.0147	MDL	5.21	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDD	0.383	JBQ	0.0241	MDL	5.21	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDF	0.157	JB	0.0143	MDL	5.21	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDD	0.339	JBQ	0.0224	MDL	5.21	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDF	0.0390	JQ	0.0160	MDL	5.21	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDD	0.145	J	0.0209	MDL	5.21	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDF	0.199	J	0.0195	MDL	5.21	PQL	ng/Kg	J	Z
2,3,4,6,7,8-HXCDF	0.157	JB	0.0136	MDL	5.21	PQL	ng/Kg	U	B
2,3,4,7,8-PECDF	0.142	JB	0.0201	MDL	5.21	PQL	ng/Kg	U	B
2,3,7,8-TCDF	0.0958	J	0.0268	MDL	1.04	PQL	ng/Kg	J	Z
OCDF	2.27	JB	0.0186	MDL	10.4	PQL	ng/Kg	J	Z

* denotes a non-reportable result

Project Name and Number: 1203-004-009-AL - SSFL Area IV Collocated Soil Sampling

Data Qualifier Summary

Lab Reporting Batch ID: DX160 **Laboratory: LL**

EDD Filename: PrepDX160_v1 **eQAPP Name: CDM_SSFL_120718_Lan**

Method Category: SVOA

Method: 1613B **Matrix: SO**

Sample ID: SL-023-NBZ-SB-4.0-5.0 *Collected:* 3/14/2012 12:45:00 *Analysis Type:* RES *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,6,7,8-HPCDD	0.284	JBQ	0.0147	MDL	5.03	PQL	ng/Kg	U	B
1,2,3,4,6,7,8-HPCDF	0.135	JB	0.00578	MDL	5.03	PQL	ng/Kg	U	B
1,2,3,4,7,8,9-HPCDF	0.0544	JBQ	0.0106	MDL	5.03	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.0387	JB	0.0122	MDL	5.03	PQL	ng/Kg	U	B
1,2,3,4,7,8-HXCDF	0.0758	JB	0.0100	MDL	5.03	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDD	0.0458	JBQ	0.0138	MDL	5.03	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDF	0.0498	JB	0.00836	MDL	5.03	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDD	0.0464	JBQ	0.0131	MDL	5.03	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDF	0.0446	JBQ	0.0112	MDL	5.03	PQL	ng/Kg	U	B
1,2,3,7,8-PECDD	0.0643	JBQ	0.0162	MDL	5.03	PQL	ng/Kg	U	B
1,2,3,7,8-PECDF	0.0867	JB	0.00980	MDL	5.03	PQL	ng/Kg	U	B
2,3,4,6,7,8-HXCDF	0.0784	JB	0.00857	MDL	5.03	PQL	ng/Kg	U	B
2,3,4,7,8-PECDF	0.0777	JBQ	0.0102	MDL	5.03	PQL	ng/Kg	U	B
2,3,7,8-TCDD	0.0219	JB	0.0149	MDL	1.01	PQL	ng/Kg	U	B
2,3,7,8-TCDF	0.0286	JQ	0.0146	MDL	1.01	PQL	ng/Kg	J	Z
OCDD	0.539	JB	0.0117	MDL	10.1	PQL	ng/Kg	U	B
OCDF	0.229	JBQ	0.0202	MDL	10.1	PQL	ng/Kg	U	B

Sample ID: SL-023-NBZ-SB-8.5-9.5 *Collected:* 3/14/2012 12:55:00 *Analysis Type:* RES *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,6,7,8-HPCDD	0.278	JB	0.0176	MDL	5.12	PQL	ng/Kg	U	B
1,2,3,4,6,7,8-HPCDF	0.169	JB	0.00577	MDL	5.12	PQL	ng/Kg	U	B
1,2,3,4,7,8,9-HPCDF	0.0357	JBQ	0.0126	MDL	5.12	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.0547	JBQ	0.0131	MDL	5.12	PQL	ng/Kg	U	B
1,2,3,4,7,8-HXCDF	0.0936	JB	0.0107	MDL	5.12	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDD	0.0753	JBQ	0.0130	MDL	5.12	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDF	0.0727	JB	0.00986	MDL	5.12	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDD	0.0653	JBQ	0.0129	MDL	5.12	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDF	0.0752	JB	0.0125	MDL	5.12	PQL	ng/Kg	U	B
1,2,3,7,8-PECDD	0.0767	JBQ	0.0164	MDL	5.12	PQL	ng/Kg	U	B
1,2,3,7,8-PECDF	0.104	JBQ	0.0109	MDL	5.12	PQL	ng/Kg	U	B
2,3,4,6,7,8-HXCDF	0.0765	JBQ	0.0101	MDL	5.12	PQL	ng/Kg	U	B
2,3,4,7,8-PECDF	0.129	JBQ	0.0111	MDL	5.12	PQL	ng/Kg	U	B

* denotes a non-reportable result

Project Name and Number: 1203-004-009-AL - SSFL Area IV Collocated Soil Sampling

Data Qualifier Summary

Lab Reporting Batch ID: DX160 **Laboratory: LL**

EDD Filename: PrepDX160_v1 **eQAPP Name: CDM_SSFL_120718_Lan**

Method Category: SVOA

Method: 1613B **Matrix: SO**

Sample ID: **SL-023-NBZ-SB-8.5-9.5** ***Collected:*** **3/14/2012 12:55:00** ***Analysis Type:*** **RES** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
2,3,7,8-TCDF	0.0188	J	0.0146	MDL	1.02	PQL	ng/Kg	J	Z
OCDD	0.427	JB	0.00997	MDL	10.2	PQL	ng/Kg	U	B
OCDF	0.233	JB	0.0247	MDL	10.2	PQL	ng/Kg	U	B

Sample ID: **SL-023-NBZ-SS-0.0-0.5** ***Collected:*** **3/14/2012 11:38:00** ***Analysis Type:*** **RES** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,7,8,9-HPCDF	0.945	JB	0.0387	MDL	5.13	PQL	ng/Kg	J	Z
1,2,3,4,7,8-HxCDD	1.04	JB	0.0366	MDL	5.13	PQL	ng/Kg	J	Z
1,2,3,4,7,8-HXCDF	0.693	JB	0.0311	MDL	5.13	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDD	2.81	JB	0.0381	MDL	5.13	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDF	0.552	JB	0.0308	MDL	5.13	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDD	1.84	JB	0.0392	MDL	5.13	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDF	0.0716	JB	0.0335	MDL	5.13	PQL	ng/Kg	U	B
1,2,3,7,8-PECDD	0.567	JB	0.0394	MDL	5.13	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDF	0.510	JB	0.0324	MDL	5.13	PQL	ng/Kg	J	Z
2,3,4,6,7,8-HXCDF	0.719	JB	0.0281	MDL	5.13	PQL	ng/Kg	J	Z
2,3,4,7,8-PECDF	0.212	JB	0.0299	MDL	5.13	PQL	ng/Kg	U	B
2,3,7,8-TCDD	0.0391	JBQ	0.0219	MDL	1.03	PQL	ng/Kg	U	B
2,3,7,8-TCDF	0.232	J	0.0407	MDL	1.03	PQL	ng/Kg	J	Z

Sample ID: **SL-024-NBZ-SS-0.0-0.5** ***Collected:*** **3/14/2012 10:50:00** ***Analysis Type:*** **RES** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,6,7,8-HPCDD	2.27	JB	0.0202	MDL	5.15	PQL	ng/Kg	J	Z
1,2,3,4,6,7,8-HPCDF	0.452	JB	0.0140	MDL	5.15	PQL	ng/Kg	U	B
1,2,3,4,7,8,9-HPCDF	0.107	JB	0.0248	MDL	5.15	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.112	JBQ	0.0186	MDL	5.15	PQL	ng/Kg	U	B
1,2,3,4,7,8-HXCDF	0.0935	JBQ	0.0137	MDL	5.15	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDD	0.134	JB	0.0202	MDL	5.15	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDF	0.0969	JB	0.0124	MDL	5.15	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDD	0.125	JBQ	0.0197	MDL	5.15	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDF	0.0674	JBQ	0.0168	MDL	5.15	PQL	ng/Kg	U	B
1,2,3,7,8-PECDD	0.120	JB	0.0190	MDL	5.15	PQL	ng/Kg	U	B
1,2,3,7,8-PECDF	0.108	JB	0.0123	MDL	5.15	PQL	ng/Kg	U	B

* denotes a non-reportable result

Project Name and Number: 1203-004-009-AL - SSFL Area IV Collocated Soil Sampling

Data Qualifier Summary

Lab Reporting Batch ID: DX160 **Laboratory: LL**

EDD Filename: PrepDX160_v1 **eQAPP Name: CDM_SSFL_120718_Lan**

Method Category: SVOA

Method: 1613B **Matrix: SO**

Sample ID: **SL-024-NBZ-SS-0.0-0.5** ***Collected:*** **3/14/2012 10:50:00** ***Analysis Type:*** **RES** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
2,3,4,6,7,8-HXCDF	0.106	JBQ	0.0122	MDL	5.15	PQL	ng/Kg	U	B
2,3,4,7,8-PECDF	0.132	JB	0.0126	MDL	5.15	PQL	ng/Kg	U	B
2,3,7,8-TCDD	0.0269	JBQ	0.0136	MDL	1.03	PQL	ng/Kg	U	B
2,3,7,8-TCDF	0.0276	J	0.0182	MDL	1.03	PQL	ng/Kg	J	Z
OCDF	0.688	JB	0.0245	MDL	10.3	PQL	ng/Kg	U	B

Sample ID: **SL-029-NBZ-SS-0.0-0.5** ***Collected:*** **3/15/2012 9:00:00** ***Analysis Type:*** **RES** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,6,7,8-HPCDF	3.17	JB	0.0155	MDL	5.05	PQL	ng/Kg	J	Z
1,2,3,4,7,8,9-HPCDF	0.364	JB	0.0240	MDL	5.05	PQL	ng/Kg	J	Z
1,2,3,4,7,8-HxCDD	0.245	JBQ	0.0242	MDL	5.05	PQL	ng/Kg	J	Z
1,2,3,4,7,8-HXCDF	1.09	JB	0.0270	MDL	5.05	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDD	0.755	JB	0.0258	MDL	5.05	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDF	0.312	JB	0.0232	MDL	5.05	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDD	0.501	JB	0.0239	MDL	5.05	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDF	0.123	JB	0.0260	MDL	5.05	PQL	ng/Kg	U	B
1,2,3,7,8-PECDD	0.197	JBQ	0.0259	MDL	5.05	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDF	0.797	JB	0.0301	MDL	5.05	PQL	ng/Kg	J	Z
2,3,4,6,7,8-HXCDF	0.381	JB	0.0214	MDL	5.05	PQL	ng/Kg	J	Z
2,3,4,7,8-PECDF	0.531	JB	0.0303	MDL	5.05	PQL	ng/Kg	J	Z
2,3,7,8-TCDD	0.0285	JB	0.0158	MDL	1.01	PQL	ng/Kg	U	B
2,3,7,8-TCDF	0.396	J	0.0427	MDL	1.01	PQL	ng/Kg	J	Z
OCDF	6.03	JB	0.0233	MDL	10.1	PQL	ng/Kg	J	Z

Sample ID: **SL-030-NBZ-SS-0.0-0.5** ***Collected:*** **3/14/2012 3:00:00** ***Analysis Type:*** **RES** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,6,7,8-HPCDF	3.71	JB	0.0164	MDL	5.05	PQL	ng/Kg	J	Z
1,2,3,4,7,8,9-HPCDF	0.375	JBQ	0.0277	MDL	5.05	PQL	ng/Kg	J	Z
1,2,3,4,7,8-HxCDD	0.247	JB	0.0225	MDL	5.05	PQL	ng/Kg	J	Z
1,2,3,4,7,8-HXCDF	0.794	JB	0.0210	MDL	5.05	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDD	0.772	JB	0.0252	MDL	5.05	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDF	0.342	JB	0.0195	MDL	5.05	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDD	0.462	JB	0.0233	MDL	5.05	PQL	ng/Kg	J	Z

* denotes a non-reportable result

Project Name and Number: 1203-004-009-AL - SSFL Area IV Collocated Soil Sampling

Data Qualifier Summary

Lab Reporting Batch ID: DX160 **Laboratory: LL**

EDD Filename: PrepDX160_v1 **eQAPP Name: CDM_SSFL_120718_Lan**

Method Category: SVOA

Method: 1613B **Matrix: SO**

Sample ID:*SL-030-NBZ-SS-0.0-0.5** ***Collected: 3/14/2012 3:00:00 ***Analysis Type:*** RES ***Dilution:*** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,7,8,9-HXCDF	0.0853	JB	0.0229	MDL	5.05	PQL	ng/Kg	U	B
1,2,3,7,8-PECDD	0.179	JB	0.0264	MDL	5.05	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDF	1.09	JB	0.0266	MDL	5.05	PQL	ng/Kg	J	Z
2,3,4,6,7,8-HXCDF	0.377	JB	0.0191	MDL	5.05	PQL	ng/Kg	J	Z
2,3,4,7,8-PECDF	0.518	JB	0.0264	MDL	5.05	PQL	ng/Kg	J	Z
2,3,7,8-TCDF	0.310	J	0.0312	MDL	1.01	PQL	ng/Kg	J	Z
OCDF	7.46	JB	0.0217	MDL	10.1	PQL	ng/Kg	J	Z

Sample ID:*SL-052-NBZ-SS-0.0-0.5** ***Collected: 3/15/2012 12:05:00 ***Analysis Type:*** RES ***Dilution:*** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,7,8,9-HPCDF	0.535	JB	0.0324	MDL	4.97	PQL	ng/Kg	J	Z
1,2,3,4,7,8-HxCDD	0.380	JB	0.0215	MDL	4.97	PQL	ng/Kg	J	Z
1,2,3,4,7,8-HXCDF	0.808	JB	0.0237	MDL	4.97	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDD	1.27	JB	0.0249	MDL	4.97	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDF	0.516	JB	0.0205	MDL	4.97	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDD	1.31	JB	0.0229	MDL	4.97	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDF	0.198	JBQ	0.0283	MDL	4.97	PQL	ng/Kg	U	B
1,2,3,7,8-PECDD	0.477	JB	0.0346	MDL	4.97	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDF	1.31	JB	0.0290	MDL	4.97	PQL	ng/Kg	J	Z
2,3,4,6,7,8-HXCDF	0.434	JB	0.0203	MDL	4.97	PQL	ng/Kg	J	Z
2,3,4,7,8-PECDF	0.743	JB	0.0285	MDL	4.97	PQL	ng/Kg	J	Z
2,3,7,8-TCDD	0.0719	JBQ	0.0221	MDL	0.993	PQL	ng/Kg	U	B

Sample ID:*SL-058-NBZ-SS-0.0-0.5** ***Collected: 3/15/2012 11:30:00 ***Analysis Type:*** RES ***Dilution:*** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,6,7,8-HPCDD	0.297	JB	0.0147	MDL	5.16	PQL	ng/Kg	U	B
1,2,3,4,6,7,8-HPCDF	0.174	JB	0.0103	MDL	5.16	PQL	ng/Kg	U	B
1,2,3,4,7,8,9-HPCDF	0.0334	JBQ	0.0164	MDL	5.16	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.0281	JBQ	0.0132	MDL	5.16	PQL	ng/Kg	U	B
1,2,3,4,7,8-HXCDF	0.0649	JBQ	0.0105	MDL	5.16	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDD	0.0470	JBQ	0.0142	MDL	5.16	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDF	0.0484	JBQ	0.00992	MDL	5.16	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDD	0.0505	JB	0.0132	MDL	5.16	PQL	ng/Kg	U	B

* denotes a non-reportable result

Project Name and Number: 1203-004-009-AL - SSFL Area IV Collocated Soil Sampling

Data Qualifier Summary

Lab Reporting Batch ID: DX160 **Laboratory: LL**

EDD Filename: PrepDX160_v1 **eQAPP Name: CDM_SSFL_120718_Lan**

Method Category: SVOA

Method: 1613B *Matrix:* SO

Sample ID: SL-058-NBZ-SS-0.0-0.5 *Collected:* 3/15/2012 11:30:00 *Analysis Type:* RES *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,7,8,9-HXCDF	0.0427	JBQ	0.0125	MDL	5.16	PQL	ng/Kg	U	B
1,2,3,7,8-PECDD	0.0314	JBQ	0.0169	MDL	5.16	PQL	ng/Kg	U	B
1,2,3,7,8-PECDF	0.0473	JBQ	0.0108	MDL	5.16	PQL	ng/Kg	U	B
2,3,4,6,7,8-HXCDF	0.0606	JBQ	0.00971	MDL	5.16	PQL	ng/Kg	U	B
2,3,4,7,8-PECDF	0.0502	JBQ	0.0108	MDL	5.16	PQL	ng/Kg	U	B
2,3,7,8-TCDD	0.0142	JBQ	0.0141	MDL	1.03	PQL	ng/Kg	U	B
2,3,7,8-TCDF	0.0148	J	0.0148	MDL	1.03	PQL	ng/Kg	J	Z
OCDD	0.645	JB	0.0129	MDL	10.3	PQL	ng/Kg	U	B
OCDF	0.161	JB	0.0190	MDL	10.3	PQL	ng/Kg	U	B

* denotes a non-reportable result

Data Qualifier Summary

Lab Reporting Batch ID: DX160 **Laboratory: LL**

EDD Filename: PrepDX160_v1 **eQAPP Name: CDM_SSFL_120718_Lan**

Reason Code Legend

Reason Code	*Description*
B	Method Blank Contamination
Z	Reporting Limit Trace Value

* denotes a non-reportable result

Enclosure I

Level III ADR Outliers
(including Manual Review Outliers)

Quality Control
Outlier Reports

DX160

Method Blank Outlier Report

Lab Reporting Batch ID: DX160 **Laboratory: LL**

EDD Filename: PrepDX160_v1 **eQAPP Name: CDM_SSFL_120718_Lan**

Method: 1613B
Matrix: AQ

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples
BLK0830B372354	3/26/2012 11:54:00 PM	1,2,3,4,6,7,8-HPCDD	3.73 pg/L	EB-NBZ-SB-031512
		1,2,3,4,6,7,8-HPCDF	1.70 pg/L	EB-NBZ-SS-031512
		1,2,3,4,7,8,9-HPCDF	0.578 pg/L	
		1,2,3,4,7,8-HxCDD	0.305 pg/L	
		1,2,3,4,7,8-HXCDF	0.545 pg/L	
		1,2,3,6,7,8-HXCDD	0.887 pg/L	
		1,2,3,6,7,8-HXCDF	0.426 pg/L	
		1,2,3,7,8,9-HXCDD	0.597 pg/L	
		1,2,3,7,8,9-HXCDF	0.526 pg/L	
		1,2,3,7,8-PECDD	0.425 pg/L	
		1,2,3,7,8-PECDF	0.502 pg/L	
		2,3,4,6,7,8-HXCDF	0.521 pg/L	
		2,3,4,7,8-PECDF	0.418 pg/L	
		2,3,7,8-TCDF	0.392 pg/L	
		OCDD	6.73 pg/L	
		OCDF	1.47 pg/L	

The following samples and their listed target analytes were qualified due to contamination reported in this blank

Sample ID	Analyte	Reported Result	Modified Final Result
EB-NBZ-SB-031512(RES)	1,2,3,4,6,7,8-HPCDD	2.82 pg/L	2.82U pg/L
EB-NBZ-SB-031512(RES)	1,2,3,4,6,7,8-HPCDF	1.29 pg/L	1.29U pg/L
EB-NBZ-SB-031512(RES)	1,2,3,4,7,8,9-HPCDF	0.342 pg/L	0.342U pg/L
EB-NBZ-SB-031512(RES)	1,2,3,4,7,8-HxCDD	0.287 pg/L	0.287U pg/L
EB-NBZ-SB-031512(RES)	1,2,3,4,7,8-HXCDF	0.377 pg/L	0.377U pg/L
EB-NBZ-SB-031512(RES)	1,2,3,6,7,8-HXCDD	0.292 pg/L	0.292U pg/L
EB-NBZ-SB-031512(RES)	1,2,3,6,7,8-HXCDF	0.361 pg/L	0.361U pg/L
EB-NBZ-SB-031512(RES)	1,2,3,7,8,9-HXCDD	0.534 pg/L	0.534U pg/L
EB-NBZ-SB-031512(RES)	1,2,3,7,8,9-HXCDF	0.305 pg/L	0.305U pg/L
EB-NBZ-SB-031512(RES)	1,2,3,7,8-PECDD	0.235 pg/L	0.235U pg/L
EB-NBZ-SB-031512(RES)	1,2,3,7,8-PECDF	0.271 pg/L	0.271U pg/L
EB-NBZ-SB-031512(RES)	2,3,4,6,7,8-HXCDF	0.501 pg/L	0.501U pg/L
EB-NBZ-SB-031512(RES)	2,3,4,7,8-PECDF	0.607 pg/L	0.607U pg/L
EB-NBZ-SB-031512(RES)	2,3,7,8-TCDF	0.219 pg/L	0.219U pg/L
EB-NBZ-SB-031512(RES)	OCDD	4.27 pg/L	4.27U pg/L
EB-NBZ-SB-031512(RES)	OCDF	1.37 pg/L	1.37U pg/L
EB-NBZ-SS-031512(RES)	1,2,3,4,6,7,8-HPCDD	3.53 pg/L	3.53U pg/L
EB-NBZ-SS-031512(RES)	1,2,3,4,6,7,8-HPCDF	1.76 pg/L	1.76U pg/L
EB-NBZ-SS-031512(RES)	1,2,3,4,7,8,9-HPCDF	0.424 pg/L	0.424U pg/L
EB-NBZ-SS-031512(RES)	1,2,3,4,7,8-HxCDD	0.313 pg/L	0.313U pg/L
EB-NBZ-SS-031512(RES)	1,2,3,4,7,8-HXCDF	0.472 pg/L	0.472U pg/L
EB-NBZ-SS-031512(RES)	1,2,3,6,7,8-HXCDD	0.543 pg/L	0.543U pg/L
EB-NBZ-SS-031512(RES)	1,2,3,6,7,8-HXCDF	0.595 pg/L	0.595U pg/L
EB-NBZ-SS-031512(RES)	1,2,3,7,8,9-HXCDD	0.503 pg/L	0.503U pg/L
EB-NBZ-SS-031512(RES)	1,2,3,7,8,9-HXCDF	0.416 pg/L	0.416U pg/L
EB-NBZ-SS-031512(RES)	1,2,3,7,8-PECDD	0.354 pg/L	0.354U pg/L
EB-NBZ-SS-031512(RES)	2,3,4,6,7,8-HXCDF	0.512 pg/L	0.512U pg/L
EB-NBZ-SS-031512(RES)	2,3,4,7,8-PECDF	0.494 pg/L	0.494U pg/L
EB-NBZ-SS-031512(RES)	2,3,7,8-TCDF	0.371 pg/L	0.371U pg/L

Project Name and Number: 1203-004-009-AL - SSFL Area IV Collocated Soil Sampling

Method Blank Outlier Report

Lab Reporting Batch ID: DX160 **Laboratory: LL**

EDD Filename: PrepDX160_v1 **eQAPP Name: CDM_SSFL_120718_Lan**

Method: **1613B**
Matrix: **AQ**

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples

The following samples and their listed target analytes were qualified due to contamination reported in this blank

Sample ID	Analyte	Reported Result	Modified Final Result
EB-NBZ-SS-031512(RES)	OCDD	6.23 pg/L	6.23U pg/L
EB-NBZ-SS-031512(RES)	OCDF	1.67 pg/L	1.67U pg/L

Method: **1613B**
Matrix: **SO**

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples
BLK0870B371454	3/30/2012 2:54:00 PM	2,3,7,8-TCDF	0.0471 ng/Kg	SL-019-NBZ-SB-3.0-4.0 SL-019-NBZ-SS-0.0-0.5 SL-022-NBZ-SB-4.0-5.0 SL-022-NBZ-SB-9.0-10.0 SL-023-NBZ-SB-4.0-5.0 SL-023-NBZ-SB-8.5-9.5 SL-023-NBZ-SS-0.0-0.5 SL-024-NBZ-SS-0.0-0.5 SL-029-NBZ-SS-0.0-0.5 SL-030-NBZ-SS-0.0-0.5 SL-052-NBZ-SS-0.0-0.5 SL-058-NBZ-SS-0.0-0.5
BLK0870B371830	3/28/2012 6:30:00 PM	1,2,3,4,6,7,8-HPCDD 1,2,3,4,6,7,8-HPCDF 1,2,3,4,7,8,9-HPCDF 1,2,3,4,7,8-HxCDD 1,2,3,4,7,8-HXCDF 1,2,3,6,7,8-HXCDD 1,2,3,6,7,8-HXCDF 1,2,3,7,8,9-HXCDD 1,2,3,7,8,9-HXCDF 1,2,3,7,8-PECDD 1,2,3,7,8-PECDF 2,3,4,6,7,8-HXCDF 2,3,4,7,8-PECDF 2,3,7,8-TCDD OCDD OCDF	0.290 ng/Kg 0.196 ng/Kg 0.0431 ng/Kg 0.0369 ng/Kg 0.0629 ng/Kg 0.0442 ng/Kg 0.0353 ng/Kg 0.0499 ng/Kg 0.0627 ng/Kg 0.0268 ng/Kg 0.0251 ng/Kg 0.0731 ng/Kg 0.0600 ng/Kg 0.0251 ng/Kg 0.932 ng/Kg 0.240 ng/Kg	SL-019-NBZ-SB-3.0-4.0 SL-019-NBZ-SS-0.0-0.5 SL-022-NBZ-SB-4.0-5.0 SL-022-NBZ-SB-9.0-10.0 SL-023-NBZ-SB-4.0-5.0 SL-023-NBZ-SB-8.5-9.5 SL-023-NBZ-SS-0.0-0.5 SL-024-NBZ-SS-0.0-0.5 SL-029-NBZ-SS-0.0-0.5 SL-030-NBZ-SS-0.0-0.5 SL-052-NBZ-SS-0.0-0.5 SL-058-NBZ-SS-0.0-0.5
BLK0890B371818	3/30/2012 6:18:00 PM	1,2,3,4,6,7,8-HPCDD 1,2,3,4,6,7,8-HPCDF 1,2,3,4,7,8,9-HPCDF 1,2,3,4,7,8-HxCDD 1,2,3,4,7,8-HXCDF 1,2,3,6,7,8-HXCDD 1,2,3,6,7,8-HXCDF 1,2,3,7,8,9-HXCDD 2,3,4,6,7,8-HXCDF 2,3,4,7,8-PECDF 2,3,7,8-TCDD OCDD OCDF	0.266 ng/Kg 0.0992 ng/Kg 0.0489 ng/Kg 0.0274 ng/Kg 0.0430 ng/Kg 0.0499 ng/Kg 0.0457 ng/Kg 0.0288 ng/Kg 0.0515 ng/Kg 0.0673 ng/Kg 0.0304 ng/Kg 0.447 ng/Kg 0.184 ng/Kg	SL-022-NBZ-SS-0.0-0.5

The following samples and their listed target analytes were qualified due to contamination reported in this blank

Sample ID	Analyte	Reported Result	Modified Final Result
SL-019-NBZ-SB-3.0-4.0(RES)	1,2,3,4,6,7,8-HPCDD	0.270 ng/Kg	0.270U ng/Kg
SL-019-NBZ-SB-3.0-4.0(RES)	1,2,3,4,6,7,8-HPCDF	0.152 ng/Kg	0.152U ng/Kg

Method Blank Outlier Report

Lab Reporting Batch ID: DX160 **Laboratory: LL**

EDD Filename: PrepDX160_v1 **eQAPP Name: CDM_SSFL_120718_Lan**

Method: **1613B**
Matrix: **SO**

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples

The following samples and their listed target analytes were qualified due to contamination reported in this blank

Sample ID	Analyte	Reported Result	Modified Final Result
SL-019-NBZ-SB-3.0-4.0(RES)	1,2,3,4,7,8,9-HPCDF	0.0466 ng/Kg	0.0466U ng/Kg
SL-019-NBZ-SB-3.0-4.0(RES)	1,2,3,4,7,8-HxCDD	0.0436 ng/Kg	0.0436U ng/Kg
SL-019-NBZ-SB-3.0-4.0(RES)	1,2,3,4,7,8-HXCDF	0.0774 ng/Kg	0.0774U ng/Kg
SL-019-NBZ-SB-3.0-4.0(RES)	1,2,3,6,7,8-HXCDD	0.0482 ng/Kg	0.0482U ng/Kg
SL-019-NBZ-SB-3.0-4.0(RES)	1,2,3,6,7,8-HXCDF	0.0529 ng/Kg	0.0529U ng/Kg
SL-019-NBZ-SB-3.0-4.0(RES)	1,2,3,7,8,9-HXCDD	0.0588 ng/Kg	0.0588U ng/Kg
SL-019-NBZ-SB-3.0-4.0(RES)	1,2,3,7,8,9-HXCDF	0.0531 ng/Kg	0.0531U ng/Kg
SL-019-NBZ-SB-3.0-4.0(RES)	1,2,3,7,8-PECDD	0.0489 ng/Kg	0.0489U ng/Kg
SL-019-NBZ-SB-3.0-4.0(RES)	1,2,3,7,8-PECDF	0.0400 ng/Kg	0.0400U ng/Kg
SL-019-NBZ-SB-3.0-4.0(RES)	2,3,4,6,7,8-HXCDF	0.0681 ng/Kg	0.0681U ng/Kg
SL-019-NBZ-SB-3.0-4.0(RES)	2,3,4,7,8-PECDF	0.0712 ng/Kg	0.0712U ng/Kg
SL-019-NBZ-SB-3.0-4.0(RES)	OCDD	0.519 ng/Kg	0.519U ng/Kg
SL-019-NBZ-SB-3.0-4.0(RES)	OCDF	0.234 ng/Kg	0.234U ng/Kg
SL-019-NBZ-SS-0.0-0.5(RES)	1,2,3,4,7,8,9-HPCDF	0.134 ng/Kg	0.134U ng/Kg
SL-019-NBZ-SS-0.0-0.5(RES)	1,2,3,4,7,8-HxCDD	0.123 ng/Kg	0.123U ng/Kg
SL-019-NBZ-SS-0.0-0.5(RES)	1,2,3,4,7,8-HXCDF	0.200 ng/Kg	0.200U ng/Kg
SL-019-NBZ-SS-0.0-0.5(RES)	1,2,3,6,7,8-HXCDF	0.140 ng/Kg	0.140U ng/Kg
SL-019-NBZ-SS-0.0-0.5(RES)	1,2,3,7,8,9-HXCDF	0.0547 ng/Kg	0.0547U ng/Kg
SL-019-NBZ-SS-0.0-0.5(RES)	1,2,3,7,8-PECDD	0.0650 ng/Kg	0.0650U ng/Kg
SL-019-NBZ-SS-0.0-0.5(RES)	2,3,4,6,7,8-HXCDF	0.194 ng/Kg	0.194U ng/Kg
SL-019-NBZ-SS-0.0-0.5(RES)	2,3,4,7,8-PECDF	0.148 ng/Kg	0.148U ng/Kg
SL-022-NBZ-SB-4.0-5.0(RES)	1,2,3,4,6,7,8-HPCDD	0.345 ng/Kg	0.345U ng/Kg
SL-022-NBZ-SB-4.0-5.0(RES)	1,2,3,4,6,7,8-HPCDF	0.190 ng/Kg	0.190U ng/Kg
SL-022-NBZ-SB-4.0-5.0(RES)	1,2,3,4,7,8,9-HPCDF	0.0393 ng/Kg	0.0393U ng/Kg
SL-022-NBZ-SB-4.0-5.0(RES)	1,2,3,4,7,8-HxCDD	0.0182 ng/Kg	0.0182U ng/Kg
SL-022-NBZ-SB-4.0-5.0(RES)	1,2,3,4,7,8-HXCDF	0.0447 ng/Kg	0.0447U ng/Kg
SL-022-NBZ-SB-4.0-5.0(RES)	1,2,3,6,7,8-HXCDD	0.0317 ng/Kg	0.0317U ng/Kg
SL-022-NBZ-SB-4.0-5.0(RES)	1,2,3,6,7,8-HXCDF	0.0393 ng/Kg	0.0393U ng/Kg
SL-022-NBZ-SB-4.0-5.0(RES)	1,2,3,7,8,9-HXCDD	0.0471 ng/Kg	0.0471U ng/Kg
SL-022-NBZ-SB-4.0-5.0(RES)	1,2,3,7,8,9-HXCDF	0.0337 ng/Kg	0.0337U ng/Kg
SL-022-NBZ-SB-4.0-5.0(RES)	1,2,3,7,8-PECDD	0.0364 ng/Kg	0.0364U ng/Kg
SL-022-NBZ-SB-4.0-5.0(RES)	1,2,3,7,8-PECDF	0.0278 ng/Kg	0.0278U ng/Kg
SL-022-NBZ-SB-4.0-5.0(RES)	2,3,4,6,7,8-HXCDF	0.0596 ng/Kg	0.0596U ng/Kg
SL-022-NBZ-SB-4.0-5.0(RES)	2,3,4,7,8-PECDF	0.0798 ng/Kg	0.0798U ng/Kg
SL-022-NBZ-SB-4.0-5.0(RES)	OCDD	0.935 ng/Kg	0.935U ng/Kg
SL-022-NBZ-SB-4.0-5.0(RES)	OCDF	0.178 ng/Kg	0.178U ng/Kg
SL-022-NBZ-SB-9.0-10.0(RES)	1,2,3,4,6,7,8-HPCDD	0.333 ng/Kg	0.333U ng/Kg
SL-022-NBZ-SB-9.0-10.0(RES)	1,2,3,4,6,7,8-HPCDF	0.158 ng/Kg	0.158U ng/Kg
SL-022-NBZ-SB-9.0-10.0(RES)	1,2,3,4,7,8,9-HPCDF	0.0711 ng/Kg	0.0711U ng/Kg
SL-022-NBZ-SB-9.0-10.0(RES)	1,2,3,4,7,8-HxCDD	0.0359 ng/Kg	0.0359U ng/Kg

Method Blank Outlier Report

Lab Reporting Batch ID: DX160 **Laboratory: LL**

EDD Filename: PrepDX160_v1 **eQAPP Name: CDM_SSFL_120718_Lan**

Method: **1613B**
Matrix: **SO**

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples

The following samples and their listed target analytes were qualified due to contamination reported in this blank

Sample ID	Analyte	Reported Result	Modified Final Result
SL-022-NBZ-SB-9.0-10.0(RES)	1,2,3,4,7,8-HXCDF	0.0681 ng/Kg	0.0681U ng/Kg
SL-022-NBZ-SB-9.0-10.0(RES)	1,2,3,6,7,8-HXCDD	0.0386 ng/Kg	0.0386U ng/Kg
SL-022-NBZ-SB-9.0-10.0(RES)	1,2,3,6,7,8-HXCDF	0.0515 ng/Kg	0.0515U ng/Kg
SL-022-NBZ-SB-9.0-10.0(RES)	1,2,3,7,8,9-HXCDD	0.0416 ng/Kg	0.0416U ng/Kg
SL-022-NBZ-SB-9.0-10.0(RES)	1,2,3,7,8,9-HXCDF	0.0355 ng/Kg	0.0355U ng/Kg
SL-022-NBZ-SB-9.0-10.0(RES)	1,2,3,7,8-PECDD	0.0401 ng/Kg	0.0401U ng/Kg
SL-022-NBZ-SB-9.0-10.0(RES)	1,2,3,7,8-PECDF	0.0202 ng/Kg	0.0202U ng/Kg
SL-022-NBZ-SB-9.0-10.0(RES)	2,3,4,6,7,8-HXCDF	0.0669 ng/Kg	0.0669U ng/Kg
SL-022-NBZ-SB-9.0-10.0(RES)	2,3,4,7,8-PECDF	0.0577 ng/Kg	0.0577U ng/Kg
SL-022-NBZ-SB-9.0-10.0(RES)	OCDD	0.577 ng/Kg	0.577U ng/Kg
SL-022-NBZ-SB-9.0-10.0(RES)	OCDF	0.224 ng/Kg	0.224U ng/Kg
SL-022-NBZ-SS-0.0-0.5(RES)	1,2,3,4,7,8,9-HPCDF	0.113 ng/Kg	0.113U ng/Kg
SL-022-NBZ-SS-0.0-0.5(RES)	1,2,3,6,7,8-HXCDF	0.157 ng/Kg	0.157U ng/Kg
SL-022-NBZ-SS-0.0-0.5(RES)	2,3,4,6,7,8-HXCDF	0.157 ng/Kg	0.157U ng/Kg
SL-022-NBZ-SS-0.0-0.5(RES)	2,3,4,7,8-PECDF	0.142 ng/Kg	0.142U ng/Kg
SL-023-NBZ-SB-4.0-5.0(RES)	1,2,3,4,6,7,8-HPCDD	0.284 ng/Kg	0.284U ng/Kg
SL-023-NBZ-SB-4.0-5.0(RES)	1,2,3,4,6,7,8-HPCDF	0.135 ng/Kg	0.135U ng/Kg
SL-023-NBZ-SB-4.0-5.0(RES)	1,2,3,4,7,8,9-HPCDF	0.0544 ng/Kg	0.0544U ng/Kg
SL-023-NBZ-SB-4.0-5.0(RES)	1,2,3,4,7,8-HxCDD	0.0387 ng/Kg	0.0387U ng/Kg
SL-023-NBZ-SB-4.0-5.0(RES)	1,2,3,4,7,8-HXCDF	0.0758 ng/Kg	0.0758U ng/Kg
SL-023-NBZ-SB-4.0-5.0(RES)	1,2,3,6,7,8-HXCDD	0.0458 ng/Kg	0.0458U ng/Kg
SL-023-NBZ-SB-4.0-5.0(RES)	1,2,3,6,7,8-HXCDF	0.0498 ng/Kg	0.0498U ng/Kg
SL-023-NBZ-SB-4.0-5.0(RES)	1,2,3,7,8,9-HXCDD	0.0464 ng/Kg	0.0464U ng/Kg
SL-023-NBZ-SB-4.0-5.0(RES)	1,2,3,7,8,9-HXCDF	0.0446 ng/Kg	0.0446U ng/Kg
SL-023-NBZ-SB-4.0-5.0(RES)	1,2,3,7,8-PECDD	0.0643 ng/Kg	0.0643U ng/Kg
SL-023-NBZ-SB-4.0-5.0(RES)	1,2,3,7,8-PECDF	0.0867 ng/Kg	0.0867U ng/Kg
SL-023-NBZ-SB-4.0-5.0(RES)	2,3,4,6,7,8-HXCDF	0.0784 ng/Kg	0.0784U ng/Kg
SL-023-NBZ-SB-4.0-5.0(RES)	2,3,4,7,8-PECDF	0.0777 ng/Kg	0.0777U ng/Kg
SL-023-NBZ-SB-4.0-5.0(RES)	2,3,7,8-TCDD	0.0219 ng/Kg	0.0219U ng/Kg
SL-023-NBZ-SB-4.0-5.0(RES)	OCDD	0.539 ng/Kg	0.539U ng/Kg
SL-023-NBZ-SB-4.0-5.0(RES)	OCDF	0.229 ng/Kg	0.229U ng/Kg
SL-023-NBZ-SB-8.5-9.5(RES)	1,2,3,4,6,7,8-HPCDD	0.278 ng/Kg	0.278U ng/Kg
SL-023-NBZ-SB-8.5-9.5(RES)	1,2,3,4,6,7,8-HPCDF	0.169 ng/Kg	0.169U ng/Kg
SL-023-NBZ-SB-8.5-9.5(RES)	1,2,3,4,7,8,9-HPCDF	0.0357 ng/Kg	0.0357U ng/Kg
SL-023-NBZ-SB-8.5-9.5(RES)	1,2,3,4,7,8-HxCDD	0.0547 ng/Kg	0.0547U ng/Kg
SL-023-NBZ-SB-8.5-9.5(RES)	1,2,3,4,7,8-HXCDF	0.0936 ng/Kg	0.0936U ng/Kg
SL-023-NBZ-SB-8.5-9.5(RES)	1,2,3,6,7,8-HXCDD	0.0753 ng/Kg	0.0753U ng/Kg
SL-023-NBZ-SB-8.5-9.5(RES)	1,2,3,6,7,8-HXCDF	0.0727 ng/Kg	0.0727U ng/Kg
SL-023-NBZ-SB-8.5-9.5(RES)	1,2,3,7,8,9-HXCDD	0.0653 ng/Kg	0.0653U ng/Kg
SL-023-NBZ-SB-8.5-9.5(RES)	1,2,3,7,8,9-HXCDF	0.0752 ng/Kg	0.0752U ng/Kg

Method Blank Outlier Report

Lab Reporting Batch ID: DX160 **Laboratory: LL**

EDD Filename: PrepDX160_v1 **eQAPP Name: CDM_SSFL_120718_Lan**

Method: **1613B**
Matrix: **SO**

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples

The following samples and their listed target analytes were qualified due to contamination reported in this blank

Sample ID	Analyte	Reported Result	Modified Final Result
SL-023-NBZ-SB-8.5-9.5(RES)	1,2,3,7,8-PECDD	0.0767 ng/Kg	0.0767U ng/Kg
SL-023-NBZ-SB-8.5-9.5(RES)	1,2,3,7,8-PECDF	0.104 ng/Kg	0.104U ng/Kg
SL-023-NBZ-SB-8.5-9.5(RES)	2,3,4,6,7,8-HXCDF	0.0765 ng/Kg	0.0765U ng/Kg
SL-023-NBZ-SB-8.5-9.5(RES)	2,3,4,7,8-PECDF	0.129 ng/Kg	0.129U ng/Kg
SL-023-NBZ-SB-8.5-9.5(RES)	OCDD	0.427 ng/Kg	0.427U ng/Kg
SL-023-NBZ-SB-8.5-9.5(RES)	OCDF	0.233 ng/Kg	0.233U ng/Kg
SL-023-NBZ-SS-0.0-0.5(RES)	1,2,3,7,8,9-HXCDF	0.0716 ng/Kg	0.0716U ng/Kg
SL-023-NBZ-SS-0.0-0.5(RES)	2,3,4,7,8-PECDF	0.212 ng/Kg	0.212U ng/Kg
SL-023-NBZ-SS-0.0-0.5(RES)	2,3,7,8-TCDD	0.0391 ng/Kg	0.0391U ng/Kg
SL-024-NBZ-SS-0.0-0.5(RES)	1,2,3,4,6,7,8-HPCDF	0.452 ng/Kg	0.452U ng/Kg
SL-024-NBZ-SS-0.0-0.5(RES)	1,2,3,4,7,8,9-HPCDF	0.107 ng/Kg	0.107U ng/Kg
SL-024-NBZ-SS-0.0-0.5(RES)	1,2,3,4,7,8-HxCDD	0.112 ng/Kg	0.112U ng/Kg
SL-024-NBZ-SS-0.0-0.5(RES)	1,2,3,4,7,8-HXCDF	0.0935 ng/Kg	0.0935U ng/Kg
SL-024-NBZ-SS-0.0-0.5(RES)	1,2,3,6,7,8-HXCDD	0.134 ng/Kg	0.134U ng/Kg
SL-024-NBZ-SS-0.0-0.5(RES)	1,2,3,6,7,8-HXCDF	0.0969 ng/Kg	0.0969U ng/Kg
SL-024-NBZ-SS-0.0-0.5(RES)	1,2,3,7,8,9-HXCDD	0.125 ng/Kg	0.125U ng/Kg
SL-024-NBZ-SS-0.0-0.5(RES)	1,2,3,7,8,9-HXCDF	0.0674 ng/Kg	0.0674U ng/Kg
SL-024-NBZ-SS-0.0-0.5(RES)	1,2,3,7,8-PECDD	0.120 ng/Kg	0.120U ng/Kg
SL-024-NBZ-SS-0.0-0.5(RES)	1,2,3,7,8-PECDF	0.108 ng/Kg	0.108U ng/Kg
SL-024-NBZ-SS-0.0-0.5(RES)	2,3,4,6,7,8-HXCDF	0.106 ng/Kg	0.106U ng/Kg
SL-024-NBZ-SS-0.0-0.5(RES)	2,3,4,7,8-PECDF	0.132 ng/Kg	0.132U ng/Kg
SL-024-NBZ-SS-0.0-0.5(RES)	2,3,7,8-TCDD	0.0269 ng/Kg	0.0269U ng/Kg
SL-024-NBZ-SS-0.0-0.5(RES)	OCDF	0.688 ng/Kg	0.688U ng/Kg
SL-029-NBZ-SS-0.0-0.5(RES)	1,2,3,7,8,9-HXCDF	0.123 ng/Kg	0.123U ng/Kg
SL-029-NBZ-SS-0.0-0.5(RES)	2,3,7,8-TCDD	0.0285 ng/Kg	0.0285U ng/Kg
SL-030-NBZ-SS-0.0-0.5(RES)	1,2,3,7,8,9-HXCDF	0.0853 ng/Kg	0.0853U ng/Kg
SL-052-NBZ-SS-0.0-0.5(RES)	1,2,3,7,8,9-HXCDF	0.198 ng/Kg	0.198U ng/Kg
SL-052-NBZ-SS-0.0-0.5(RES)	2,3,7,8-TCDD	0.0719 ng/Kg	0.0719U ng/Kg
SL-058-NBZ-SS-0.0-0.5(RES)	1,2,3,4,6,7,8-HPCDD	0.297 ng/Kg	0.297U ng/Kg
SL-058-NBZ-SS-0.0-0.5(RES)	1,2,3,4,6,7,8-HPCDF	0.174 ng/Kg	0.174U ng/Kg
SL-058-NBZ-SS-0.0-0.5(RES)	1,2,3,4,7,8,9-HPCDF	0.0334 ng/Kg	0.0334U ng/Kg
SL-058-NBZ-SS-0.0-0.5(RES)	1,2,3,4,7,8-HxCDD	0.0281 ng/Kg	0.0281U ng/Kg
SL-058-NBZ-SS-0.0-0.5(RES)	1,2,3,4,7,8-HXCDF	0.0649 ng/Kg	0.0649U ng/Kg
SL-058-NBZ-SS-0.0-0.5(RES)	1,2,3,6,7,8-HXCDD	0.0470 ng/Kg	0.0470U ng/Kg
SL-058-NBZ-SS-0.0-0.5(RES)	1,2,3,6,7,8-HXCDF	0.0484 ng/Kg	0.0484U ng/Kg
SL-058-NBZ-SS-0.0-0.5(RES)	1,2,3,7,8,9-HXCDD	0.0505 ng/Kg	0.0505U ng/Kg
SL-058-NBZ-SS-0.0-0.5(RES)	1,2,3,7,8,9-HXCDF	0.0427 ng/Kg	0.0427U ng/Kg
SL-058-NBZ-SS-0.0-0.5(RES)	1,2,3,7,8-PECDD	0.0314 ng/Kg	0.0314U ng/Kg
SL-058-NBZ-SS-0.0-0.5(RES)	1,2,3,7,8-PECDF	0.0473 ng/Kg	0.0473U ng/Kg
SL-058-NBZ-SS-0.0-0.5(RES)	2,3,4,6,7,8-HXCDF	0.0606 ng/Kg	0.0606U ng/Kg

Method Blank Outlier Report

Lab Reporting Batch ID: DX160 **Laboratory: LL**

EDD Filename: PrepDX160_v1 **eQAPP Name: CDM_SSFL_120718_Lan**

Method: **1613B**
Matrix: **SO**

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples

The following samples and their listed target analytes were qualified due to contamination reported in this blank

Sample ID	Analyte	Reported Result	Modified Final Result
SL-058-NBZ-SS-0.0-0.5(RES)	2,3,4,7,8-PECDF	0.0502 ng/Kg	0.0502U ng/Kg
SL-058-NBZ-SS-0.0-0.5(RES)	2,3,7,8-TCDD	0.0142 ng/Kg	0.0142U ng/Kg
SL-058-NBZ-SS-0.0-0.5(RES)	OCDD	0.645 ng/Kg	0.645U ng/Kg
SL-058-NBZ-SS-0.0-0.5(RES)	OCDF	0.161 ng/Kg	0.161U ng/Kg

Reporting Limit Outliers

Lab Reporting Batch ID: DX160 **Laboratory: LL**

EDD Filename: DX160_v1. **eQAPP Name: CDM_SSFL_120718_Lan**

Method: 1613B
Matrix: AQ

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
EB-NBZ-SB-031512	1,2,3,4,6,7,8-HPCDD	JB	2.82	9.91	PQL	pg/L	J (all detects)
	1,2,3,4,6,7,8-HPCDF	JB	1.29	9.91	PQL	pg/L	
	1,2,3,4,7,8,9-HPCDF	JB	0.342	9.91	PQL	pg/L	
	1,2,3,4,7,8-HxCDD	JBQ	0.287	9.91	PQL	pg/L	
	1,2,3,4,7,8-HXCDF	JBQ	0.377	9.91	PQL	pg/L	
	1,2,3,6,7,8-HXCDD	JB	0.292	9.91	PQL	pg/L	
	1,2,3,6,7,8-HXCDF	JBQ	0.361	9.91	PQL	pg/L	
	1,2,3,7,8,9-HXCDD	JBQ	0.534	9.91	PQL	pg/L	
	1,2,3,7,8,9-HXCDF	JBQ	0.305	9.91	PQL	pg/L	
	1,2,3,7,8-PECDD	JBQ	0.235	9.91	PQL	pg/L	
	1,2,3,7,8-PECDF	JBQ	0.271	9.91	PQL	pg/L	
	2,3,4,6,7,8-HXCDF	JBQ	0.501	9.91	PQL	pg/L	
	2,3,4,7,8-PECDF	JB	0.607	9.91	PQL	pg/L	
	2,3,7,8-TCDF	JB	0.219	1.98	PQL	pg/L	
	OCDD	JB	4.27	19.8	PQL	pg/L	
	OCDF	JB	1.37	19.8	PQL	pg/L	
EB-NBZ-SS-031512	1,2,3,4,6,7,8-HPCDD	JB	3.53	9.85	PQL	pg/L	J (all detects)
	1,2,3,4,6,7,8-HPCDF	JBQ	1.76	9.85	PQL	pg/L	
	1,2,3,4,7,8,9-HPCDF	JB	0.424	9.85	PQL	pg/L	
	1,2,3,4,7,8-HxCDD	JBQ	0.313	9.85	PQL	pg/L	
	1,2,3,4,7,8-HXCDF	JB	0.472	9.85	PQL	pg/L	
	1,2,3,6,7,8-HXCDD	JBQ	0.543	9.85	PQL	pg/L	
	1,2,3,6,7,8-HXCDF	JBQ	0.595	9.85	PQL	pg/L	
	1,2,3,7,8,9-HXCDD	JB	0.503	9.85	PQL	pg/L	
	1,2,3,7,8,9-HXCDF	JBQ	0.416	9.85	PQL	pg/L	
	1,2,3,7,8-PECDD	JBQ	0.354	9.85	PQL	pg/L	
	2,3,4,6,7,8-HXCDF	JB	0.512	9.85	PQL	pg/L	
	2,3,4,7,8-PECDF	JBQ	0.494	9.85	PQL	pg/L	
	2,3,7,8-TCDD	JQ	0.289	1.97	PQL	pg/L	
	2,3,7,8-TCDF	JB	0.371	1.97	PQL	pg/L	
	OCDD	JB	6.23	19.7	PQL	pg/L	
	OCDF	JBQ	1.67	19.7	PQL	pg/L	

Method: 1613B
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-019-NBZ-SB-3.0-4.0	1,2,3,4,6,7,8-HPCDD	JB	0.270	5.23	PQL	ng/Kg	J (all detects)
	1,2,3,4,6,7,8-HPCDF	JB	0.152	5.23	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JBQ	0.0466	5.23	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JB	0.0436	5.23	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JB	0.0774	5.23	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	JBQ	0.0482	5.23	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JBQ	0.0529	5.23	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDD	JB	0.0588	5.23	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	JB	0.0531	5.23	PQL	ng/Kg	
	1,2,3,7,8-PECDD	JB	0.0489	5.23	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JB	0.0400	5.23	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JBQ	0.0681	5.23	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JB	0.0712	5.23	PQL	ng/Kg	
	2,3,7,8-TCDF	JQ	0.0267	1.05	PQL	ng/Kg	
	OCDD	JB	0.519	10.5	PQL	ng/Kg	
	OCDF	JB	0.234	10.5	PQL	ng/Kg	

Reporting Limit Outliers

Lab Reporting Batch ID: DX160 **Laboratory: LL**

EDD Filename: DX160_v1. **eQAPP Name: CDM_SSFL_120718_Lan**

Method: 1613B

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-019-NBZ-SS-0.0-0.5	1,2,3,4,6,7,8-HPCDF	JB	1.09	5.02	PQL	ng/Kg	J (all detects)
	1,2,3,4,7,8,9-HPCDF	JBQ	0.134	5.02	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JB	0.123	5.02	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JB	0.200	5.02	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	JBQ	0.264	5.02	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JBQ	0.140	5.02	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDD	JB	0.261	5.02	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	JB	0.0547	5.02	PQL	ng/Kg	
	1,2,3,7,8-PECDD	JBQ	0.0650	5.02	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JB	0.165	5.02	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JBQ	0.194	5.02	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JBQ	0.148	5.02	PQL	ng/Kg	
	2,3,7,8-TCDF	J	0.171	1.00	PQL	ng/Kg	
	OCDF	JB	1.90	10.0	PQL	ng/Kg	
SL-022-NBZ-SB-4.0-5.0	1,2,3,4,6,7,8-HPCDD	JBQ	0.345	5.11	PQL	ng/Kg	J (all detects)
	1,2,3,4,6,7,8-HPCDF	JB	0.190	5.11	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JB	0.0393	5.11	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JBQ	0.0182	5.11	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JB	0.0447	5.11	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	JB	0.0317	5.11	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JBQ	0.0393	5.11	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDD	JBQ	0.0471	5.11	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	JBQ	0.0337	5.11	PQL	ng/Kg	
	1,2,3,7,8-PECDD	JBQ	0.0364	5.11	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JBQ	0.0278	5.11	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JBQ	0.0596	5.11	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JBQ	0.0798	5.11	PQL	ng/Kg	
	2,3,7,8-TCDF	JQ	0.0364	1.02	PQL	ng/Kg	
	OCDD	JB	0.935	10.2	PQL	ng/Kg	
	OCDF	JB	0.178	10.2	PQL	ng/Kg	
SL-022-NBZ-SB-9.0-10.0	1,2,3,4,6,7,8-HPCDD	JB	0.333	5.23	PQL	ng/Kg	J (all detects)
	1,2,3,4,6,7,8-HPCDF	JB	0.158	5.23	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JB	0.0711	5.23	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JBQ	0.0359	5.23	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JB	0.0681	5.23	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	JBQ	0.0386	5.23	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JBQ	0.0515	5.23	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDD	JBQ	0.0416	5.23	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	JB	0.0355	5.23	PQL	ng/Kg	
	1,2,3,7,8-PECDD	JBQ	0.0401	5.23	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JB	0.0202	5.23	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JB	0.0669	5.23	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JBQ	0.0577	5.23	PQL	ng/Kg	
	2,3,7,8-TCDF	JQ	0.0249	1.05	PQL	ng/Kg	
	OCDD	JBQ	0.577	10.5	PQL	ng/Kg	
	OCDF	JB	0.224	10.5	PQL	ng/Kg	

Reporting Limit Outliers

Lab Reporting Batch ID: DX160 **Laboratory: LL**

EDD Filename: DX160_v1. **eQAPP Name: CDM_SSFL_120718_Lan**

Method: 1613B

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-022-NBZ-SS-0.0-0.5	1,2,3,4,6,7,8-HPCDF	JB	1.21	5.21	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JB	0.113	5.21	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JB	0.166	5.21	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JB	0.247	5.21	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	JBQ	0.383	5.21	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JB	0.157	5.21	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDD	JBQ	0.339	5.21	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	JQ	0.0390	5.21	PQL	ng/Kg	J (all detects)
	1,2,3,7,8-PECDD	J	0.145	5.21	PQL	ng/Kg	
	1,2,3,7,8-PECDF	J	0.199	5.21	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JB	0.157	5.21	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JB	0.142	5.21	PQL	ng/Kg	
	2,3,7,8-TCDF	J	0.0958	1.04	PQL	ng/Kg	
	OCDF	JB	2.27	10.4	PQL	ng/Kg	
SL-023-NBZ-SB-4.0-5.0	1,2,3,4,6,7,8-HPCDD	JBQ	0.284	5.03	PQL	ng/Kg	
	1,2,3,4,6,7,8-HPCDF	JB	0.135	5.03	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JBQ	0.0544	5.03	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JB	0.0387	5.03	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JB	0.0758	5.03	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	JBQ	0.0458	5.03	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JB	0.0498	5.03	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDD	JBQ	0.0464	5.03	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	JBQ	0.0446	5.03	PQL	ng/Kg	J (all detects)
	1,2,3,7,8-PECDD	JBQ	0.0643	5.03	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JB	0.0867	5.03	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JB	0.0784	5.03	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JBQ	0.0777	5.03	PQL	ng/Kg	
	2,3,7,8-TCDD	JB	0.0219	1.01	PQL	ng/Kg	
	2,3,7,8-TCDF	JQ	0.0286	1.01	PQL	ng/Kg	
	OCDD	JB	0.539	10.1	PQL	ng/Kg	
	OCDF	JBQ	0.229	10.1	PQL	ng/Kg	
SL-023-NBZ-SB-8.5-9.5	1,2,3,4,6,7,8-HPCDD	JB	0.278	5.12	PQL	ng/Kg	
	1,2,3,4,6,7,8-HPCDF	JB	0.169	5.12	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JBQ	0.0357	5.12	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JBQ	0.0547	5.12	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JB	0.0936	5.12	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	JBQ	0.0753	5.12	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JB	0.0727	5.12	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDD	JBQ	0.0653	5.12	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	JB	0.0752	5.12	PQL	ng/Kg	J (all detects)
	1,2,3,7,8-PECDD	JBQ	0.0767	5.12	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JBQ	0.104	5.12	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JBQ	0.0765	5.12	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JBQ	0.129	5.12	PQL	ng/Kg	
	2,3,7,8-TCDF	J	0.0188	1.02	PQL	ng/Kg	
	OCDD	JB	0.427	10.2	PQL	ng/Kg	
	OCDF	JB	0.233	10.2	PQL	ng/Kg	

Reporting Limit Outliers

Lab Reporting Batch ID: DX160 **Laboratory: LL**

EDD Filename: DX160_v1. **eQAPP Name: CDM_SSFL_120718_Lan**

Method: 1613B
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-023-NBZ-SS-0.0-0.5	1,2,3,4,7,8,9-HPCDF	JB	0.945	5.13	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JB	1.04	5.13	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JB	0.693	5.13	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	JB	2.81	5.13	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JB	0.552	5.13	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDD	JB	1.84	5.13	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	JB	0.0716	5.13	PQL	ng/Kg	J (all detects)
	1,2,3,7,8-PECDD	JB	0.567	5.13	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JB	0.510	5.13	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JB	0.719	5.13	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JB	0.212	5.13	PQL	ng/Kg	
	2,3,7,8-TCDD	JBQ	0.0391	1.03	PQL	ng/Kg	
	2,3,7,8-TCDF	J	0.232	1.03	PQL	ng/Kg	
SL-024-NBZ-SS-0.0-0.5	1,2,3,4,6,7,8-HPCDD	JB	2.27	5.15	PQL	ng/Kg	
	1,2,3,4,6,7,8-HPCDF	JB	0.452	5.15	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JB	0.107	5.15	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JBQ	0.112	5.15	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JBQ	0.0935	5.15	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	JB	0.134	5.15	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JB	0.0969	5.15	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDD	JBQ	0.125	5.15	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	JBQ	0.0674	5.15	PQL	ng/Kg	J (all detects)
	1,2,3,7,8-PECDD	JB	0.120	5.15	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JB	0.108	5.15	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JBQ	0.106	5.15	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JB	0.132	5.15	PQL	ng/Kg	
	2,3,7,8-TCDD	JBQ	0.0269	1.03	PQL	ng/Kg	
	2,3,7,8-TCDF	J	0.0276	1.03	PQL	ng/Kg	
	OCDF	JB	0.688	10.3	PQL	ng/Kg	
SL-029-NBZ-SS-0.0-0.5	1,2,3,4,6,7,8-HPCDF	JB	3.17	5.05	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JB	0.364	5.05	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JBQ	0.245	5.05	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JB	1.09	5.05	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	JB	0.755	5.05	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JB	0.312	5.05	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDD	JB	0.501	5.05	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	JB	0.123	5.05	PQL	ng/Kg	J (all detects)
	1,2,3,7,8-PECDD	JBQ	0.197	5.05	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JB	0.797	5.05	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JB	0.381	5.05	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JB	0.531	5.05	PQL	ng/Kg	
	2,3,7,8-TCDD	JB	0.0285	1.01	PQL	ng/Kg	
	2,3,7,8-TCDF	J	0.396	1.01	PQL	ng/Kg	
	OCDF	JB	6.03	10.1	PQL	ng/Kg	
SL-030-NBZ-SS-0.0-0.5	1,2,3,4,6,7,8-HPCDF	JB	3.71	5.05	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JBQ	0.375	5.05	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JB	0.247	5.05	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JB	0.794	5.05	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	JB	0.772	5.05	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JB	0.342	5.05	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDD	JB	0.462	5.05	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	JB	0.0853	5.05	PQL	ng/Kg	J (all detects)
	1,2,3,7,8-PECDD	JB	0.179	5.05	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JB	1.09	5.05	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JB	0.377	5.05	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JB	0.518	5.05	PQL	ng/Kg	
	2,3,7,8-TCDF	J	0.310	1.01	PQL	ng/Kg	
	OCDF	JB	7.46	10.1	PQL	ng/Kg	

Reporting Limit Outliers

Lab Reporting Batch ID: DX160 **Laboratory: LL**

EDD Filename: DX160_v1. **eQAPP Name: CDM_SSFL_120718_Lan**

Method: 1613B

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-052-NBZ-SS-0.0-0.5	1,2,3,4,7,8,9-HPCDF	JB	0.535	4.97	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JB	0.380	4.97	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JB	0.808	4.97	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	JB	1.27	4.97	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JB	0.516	4.97	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDD	JB	1.31	4.97	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	JBQ	0.198	4.97	PQL	ng/Kg	J (all detects)
	1,2,3,7,8-PECDD	JB	0.477	4.97	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JB	1.31	4.97	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JB	0.434	4.97	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JB	0.743	4.97	PQL	ng/Kg	
	2,3,7,8-TCDD	JBQ	0.0719	0.993	PQL	ng/Kg	
SL-058-NBZ-SS-0.0-0.5	1,2,3,4,6,7,8-HPCDD	JB	0.297	5.16	PQL	ng/Kg	
	1,2,3,4,6,7,8-HPCDF	JB	0.174	5.16	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JBQ	0.0334	5.16	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JBQ	0.0281	5.16	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JBQ	0.0649	5.16	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	JBQ	0.0470	5.16	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JBQ	0.0484	5.16	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDD	JB	0.0505	5.16	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	JBQ	0.0427	5.16	PQL	ng/Kg	J (all detects)
	1,2,3,7,8-PECDD	JBQ	0.0314	5.16	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JBQ	0.0473	5.16	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JBQ	0.0606	5.16	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JBQ	0.0502	5.16	PQL	ng/Kg	
	2,3,7,8-TCDD	JBQ	0.0142	1.03	PQL	ng/Kg	
	2,3,7,8-TCDF	J	0.0148	1.03	PQL	ng/Kg	
	OCDD	JB	0.645	10.3	PQL	ng/Kg	
	OCDF	JB	0.161	10.3	PQL	ng/Kg	

SAMPLE DELIVERY GROUP

DX161

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
15-Mar-2012	SL-053-NBZ-SS-0.0-0.5	6582509	N	METHOD	1613B	III
15-Mar-2012	SL-053-NBZ-SB-3.5-4.5	6582510	N	METHOD	1613B	III
15-Mar-2012	SL-056-NBZ-SS-0.0-0.5	6582511	N	METHOD	1613B	III
15-Mar-2012	SL-056-NBZ-SB-3.0-4.0	6582512	N	METHOD	1613B	III
16-Mar-2012	SL-068-NBZ-SB-2.5-3.5	6582514	N	METHOD	1613B	III
16-Mar-2012	SL-068-NBZ-SB-2.5-3.5 MS	6582515	MS	METHOD	1613B	III
16-Mar-2012	SL-068-NBZ-SB-2.5-3.5 MSD	6582516	MSD	METHOD	1613B	III
16-Mar-2012	SL-068-NBZ-SB-2.5-3.5MSD	P582514M370619	MSD	METHOD	1613B	III
16-Mar-2012	SL-068-NBZ-SB-2.5-3.5MS	P582514R370523	MS	METHOD	1613B	III
16-Mar-2012	SL-067-NBZ-SB-1.5-2.5	6582513	N	METHOD	1613B	III
16-Mar-2012	DUP-01-NBZ-QC-031612	6582518	FD	METHOD	1613B	III
16-Mar-2012	SL-072-NBZ-SB-4.0-5.0	6582517	N	METHOD	1613B	III
19-Mar-2012	SL-071-NBZ-SB-4.0-5.0	6587633	N	METHOD	1613B	III
19-Mar-2012	SL-074-NBZ-SB-0.5-1.5	6587636	N	METHOD	1613B	III
19-Mar-2012	SL-073-NBZ-SB-9.0-10.0	6587635	N	METHOD	1613B	III
19-Mar-2012	SL-073-NBZ-SB-4.0-5.0	6587634	N	METHOD	1613B	III
20-Mar-2012	SL-075-NBZ-SS-0.0-0.5	6587639	N	METHOD	1613B	III
20-Mar-2012	SL-076-NBZ-SS-0.0-0.5	6587640	N	METHOD	1613B	III
20-Mar-2012	SL-077-NBZ-SS-0.0-0.5	6587641	N	METHOD	1613B	III
20-Mar-2012	SL-077-NBZ-SB-2.5-3.5	6587642	N	METHOD	1613B	III
20-Mar-2012	SL-069-NBZ-SB-3.0-4.0	6587637	N	METHOD	1613B	III
20-Mar-2012	SL-070-NBZ-SS-0.0-0.5	6587638	N	METHOD	1613B	III
21-Mar-2012	SL-066-NBZ-SB-2.0-3.0	6587644	N	METHOD	1613B	III
21-Mar-2012	SL-065-NBZ-SB-1.0-2.0	6587643	N	METHOD	1613B	III
21-Mar-2012	EB-NBZ-SS-032112	6587645	EB	METHOD	1613B	III

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Attachment II

Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: DX161 **Laboratory:** LL

EDD Filename: DX161_v1. **eQAPP Name:** CDM_SSFL_120718_Lan

Method Category: SVOA **Method:** 1613B **Matrix:** AQ

Sample ID: EB-NBZ-SS-032112 ***Collected:*** 3/21/2012 3:00:00 ***Analysis Type:*** RES ***Dilution:*** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,6,7,8-HPCDD	3.73	JB	0.278	MDL	9.50	PQL	pg/L	U	B
1,2,3,4,6,7,8-HPCDF	1.55	JB	0.131	MDL	9.50	PQL	pg/L	U	B
1,2,3,4,7,8,9-HPCDF	0.411	JBQ	0.157	MDL	9.50	PQL	pg/L	U	B
1,2,3,4,7,8-HXCDF	0.720	JBQ	0.160	MDL	9.50	PQL	pg/L	U	B
1,2,3,6,7,8-HXCDD	0.522	JB	0.220	MDL	9.50	PQL	pg/L	U	B
1,2,3,6,7,8-HXCDF	0.530	JBQ	0.165	MDL	9.50	PQL	pg/L	U	B
1,2,3,7,8,9-HXCDD	0.557	JBQ	0.212	MDL	9.50	PQL	pg/L	U	B
1,2,3,7,8,9-HXCDF	0.333	JB	0.163	MDL	9.50	PQL	pg/L	U	B
1,2,3,7,8-PECDD	0.415	JBQ	0.347	MDL	9.50	PQL	pg/L	U	B
1,2,3,7,8-PECDF	0.447	JBQ	0.199	MDL	9.50	PQL	pg/L	U	B
2,3,4,6,7,8-HXCDF	0.382	JB	0.139	MDL	9.50	PQL	pg/L	U	B
2,3,4,7,8-PECDF	0.541	JBQ	0.169	MDL	9.50	PQL	pg/L	U	B
OCDD	6.15	JB	0.233	MDL	19.0	PQL	pg/L	U	B
OCDF	1.72	JB	0.292	MDL	19.0	PQL	pg/L	U	B

Method Category: SVOA **Method:** 1613B **Matrix:** SO

Sample ID: DUP-01-NBZ-QC-031612 ***Collected:*** 3/16/2012 11:45:00 ***Analysis Type:*** RES ***Dilution:*** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,6,7,8-HPCDD	0.265	JB	0.0165	MDL	5.33	PQL	ng/Kg	U	B
1,2,3,4,6,7,8-HPCDF	0.150	JB	0.00874	MDL	5.33	PQL	ng/Kg	U	B
1,2,3,4,7,8,9-HPCDF	0.0920	JBQ	0.0170	MDL	5.33	PQL	ng/Kg	UJ	B, FD
1,2,3,4,7,8-HxCDD	0.118	JB	0.0187	MDL	5.33	PQL	ng/Kg	U	B
1,2,3,4,7,8-HXCDF	0.210	JBQ	0.0156	MDL	5.33	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDD	0.151	JB	0.0200	MDL	5.33	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDF	0.163	JBQ	0.0129	MDL	5.33	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDD	0.155	JB	0.0202	MDL	5.33	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDF	0.156	JB	0.0190	MDL	5.33	PQL	ng/Kg	U	B
1,2,3,7,8-PECDD	0.252	JQ	0.0269	MDL	5.33	PQL	ng/Kg	J	FD
1,2,3,7,8-PECDF	0.283	JB	0.0152	MDL	5.33	PQL	ng/Kg	J	FD
2,3,4,6,7,8-HXCDF	0.139	JB	0.0136	MDL	5.33	PQL	ng/Kg	U	B
2,3,4,7,8-PECDF	0.290	JB	0.0162	MDL	5.33	PQL	ng/Kg	UJ	FD

* denotes a non-reportable result

Project Name and Number: 1203-004-009-AL - SSFL Area IV Collocated Soil Sampling

Data Qualifier Summary

Lab Reporting Batch ID: DX161 Laboratory: LL

EDD Filename: DX161_v1. eQAPP Name: CDM_SSFL_120718_Lan

Method Category: SVOA

Method: 1613B **Matrix:** SO

Sample ID: DUP-01-NBZ-QC-031612 ***Collected:*** 3/16/2012 11:45:00 ***Analysis Type:*** RES ***Dilution:*** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
2,3,7,8-TCDD	0.0911	JB	0.0299	MDL	1.07	PQL	ng/Kg	U	B
2,3,7,8-TCDF	0.0556	JB	0.0271	MDL	1.07	PQL	ng/Kg	U	B
OCDD	0.462	JB	0.0154	MDL	10.7	PQL	ng/Kg	U	B
OCDF	0.161	JB	0.0245	MDL	10.7	PQL	ng/Kg	U	B

Sample ID: SL-053-NBZ-SB-3.5-4.5 ***Collected:*** 3/15/2012 3:00:00 ***Analysis Type:*** RES ***Dilution:*** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,6,7,8-HPCDD	0.788	JB	0.0245	MDL	5.15	PQL	ng/Kg	U	B
1,2,3,4,6,7,8-HPCDF	0.109	JB	0.00990	MDL	5.15	PQL	ng/Kg	U	B
1,2,3,4,7,8,9-HPCDF	0.0497	JBQ	0.0178	MDL	5.15	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.0564	JBQ	0.0213	MDL	5.15	PQL	ng/Kg	U	B
1,2,3,4,7,8-HXCDF	0.0782	JBQ	0.0173	MDL	5.15	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDD	0.0440	JBQ	0.0219	MDL	5.15	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDF	0.0540	JBQ	0.0151	MDL	5.15	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDD	0.0761	JB	0.0216	MDL	5.15	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDF	0.0811	JBQ	0.0178	MDL	5.15	PQL	ng/Kg	U	B
1,2,3,7,8-PECDD	0.0470	J	0.0370	MDL	5.15	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDF	0.0982	JBQ	0.0195	MDL	5.15	PQL	ng/Kg	U	B
2,3,4,6,7,8-HXCDF	0.0407	JBQ	0.0150	MDL	5.15	PQL	ng/Kg	U	B
2,3,4,7,8-PECDF	0.0920	JB	0.0192	MDL	5.15	PQL	ng/Kg	U	B
OCDD	3.98	JB	0.0169	MDL	10.3	PQL	ng/Kg	J	Z
OCDF	0.197	JB	0.0279	MDL	10.3	PQL	ng/Kg	U	B

Sample ID: SL-053-NBZ-SS-0.0-0.5 ***Collected:*** 3/15/2012 2:20:00 ***Analysis Type:*** RES ***Dilution:*** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,7,8,9-HPCDF	0.912	JB	0.0291	MDL	5.04	PQL	ng/Kg	J	Z
1,2,3,4,7,8-HxCDD	0.314	JB	0.0227	MDL	5.04	PQL	ng/Kg	J	Z
1,2,3,4,7,8-HXCDF	2.40	JB	0.0280	MDL	5.04	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDD	1.14	JB	0.0242	MDL	5.04	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDF	1.45	JB	0.0251	MDL	5.04	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDD	0.721	JB	0.0238	MDL	5.04	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDD	0.307	J	0.0323	MDL	5.04	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDF	3.06	JB	0.0430	MDL	5.04	PQL	ng/Kg	J	Z

* denotes a non-reportable result

Project Name and Number: 1203-004-009-AL - SSFL Area IV Collocated Soil Sampling

Data Qualifier Summary

Lab Reporting Batch ID: DX161 **Laboratory:** LL

EDD Filename: DX161_v1. **eQAPP Name:** CDM_SSFL_120718_Lan

Method Category: SVOA

Method: 1613B **Matrix:** SO

Sample ID: SL-053-NBZ-SS-0.0-0.5 ***Collected:*** 3/15/2012 2:20:00 ***Analysis Type:*** RES ***Dilution:*** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
2,3,4,6,7,8-HXCDF	0.828	JB	0.0252	MDL	5.04	PQL	ng/Kg	J	Z
2,3,4,7,8-PECDF	3.22	JB	0.0424	MDL	5.04	PQL	ng/Kg	J	Z
2,3,7,8-TCDD	0.198	JB	0.0258	MDL	1.01	PQL	ng/Kg	U	B

Sample ID: SL-056-NBZ-SB-3.0-4.0 ***Collected:*** 3/15/2012 3:50:00 ***Analysis Type:*** RES ***Dilution:*** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,6,7,8-HPCDD	0.475	JB	0.0240	MDL	6.10	PQL	ng/Kg	U	B
1,2,3,4,6,7,8-HPCDF	0.179	JB	0.0111	MDL	6.10	PQL	ng/Kg	U	B
1,2,3,4,7,8,9-HPCDF	0.0840	JBQ	0.0196	MDL	6.10	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.0661	JBQ	0.0234	MDL	6.10	PQL	ng/Kg	U	B
1,2,3,4,7,8-HXCDF	0.178	JB	0.0187	MDL	6.10	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDD	0.127	JBQ	0.0260	MDL	6.10	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDF	0.123	JB	0.0162	MDL	6.10	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDD	0.132	JBQ	0.0239	MDL	6.10	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDF	0.145	JB	0.0193	MDL	6.10	PQL	ng/Kg	U	B
1,2,3,7,8-PECDD	0.159	JQ	0.0317	MDL	6.10	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDF	0.197	JBQ	0.0206	MDL	6.10	PQL	ng/Kg	U	B
2,3,4,6,7,8-HXCDF	0.101	JBQ	0.0157	MDL	6.10	PQL	ng/Kg	U	B
2,3,4,7,8-PECDF	0.208	JBQ	0.0206	MDL	6.10	PQL	ng/Kg	U	B
2,3,7,8-TCDD	0.0638	JBQ	0.0330	MDL	1.22	PQL	ng/Kg	U	B
2,3,7,8-TCDF	0.0555	JBQ	0.0371	MDL	1.22	PQL	ng/Kg	U	B
OCDD	2.43	JB	0.0186	MDL	12.2	PQL	ng/Kg	J	Z
OCDF	0.266	JBQ	0.0293	MDL	12.2	PQL	ng/Kg	U	B

Sample ID: SL-056-NBZ-SS-0.0-0.5 ***Collected:*** 3/15/2012 3:35:00 ***Analysis Type:*** RES ***Dilution:*** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,6,7,8-HPCDF	6.42	JB	0.0196	MDL	6.45	PQL	ng/Kg	J	Z
1,2,3,4,7,8,9-HPCDF	0.961	JB	0.0302	MDL	6.45	PQL	ng/Kg	J	Z
1,2,3,4,7,8-HxCDD	0.511	JB	0.0361	MDL	6.45	PQL	ng/Kg	J	Z
1,2,3,4,7,8-HXCDF	3.41	JB	0.0402	MDL	6.45	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDD	1.48	JB	0.0364	MDL	6.45	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDF	1.84	JB	0.0372	MDL	6.45	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDD	1.25	JB	0.0366	MDL	6.45	PQL	ng/Kg	J	Z

* denotes a non-reportable result

Project Name and Number: 1203-004-009-AL - SSFL Area IV Collocated Soil Sampling

Data Qualifier Summary

Lab Reporting Batch ID: DX161 **Laboratory: LL**

EDD Filename: DX161_v1. **eQAPP Name: CDM_SSFL_120718_Lan**

Method Category: SVOA

Method: 1613B **Matrix: SO**

Sample ID: SL-056-NBZ-SS-0.0-0.5 **Collected:** 3/15/2012 3:35:00 **Analysis Type:** RES **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,7,8-PECDD	0.432	J	0.0453	MDL	6.45	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDF	4.63	JB	0.0579	MDL	6.45	PQL	ng/Kg	J	Z
2,3,4,6,7,8-HXCDF	1.08	JB	0.0369	MDL	6.45	PQL	ng/Kg	J	Z
2,3,4,7,8-PECDF	4.70	JB	0.0587	MDL	6.45	PQL	ng/Kg	J	Z
2,3,7,8-TCDD	0.133	JB	0.0354	MDL	1.29	PQL	ng/Kg	U	B

Sample ID: SL-065-NBZ-SB-1.0-2.0 **Collected:** 3/21/2012 10:55:00 **Analysis Type:** RES **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,6,7,8-HPCDD	1.33	JB	0.0208	MDL	5.26	PQL	ng/Kg	U	B
1,2,3,4,6,7,8-HPCDF	0.534	JB	0.00870	MDL	5.26	PQL	ng/Kg	J	Z
1,2,3,4,7,8,9-HPCDF	0.212	JBQ	0.0155	MDL	5.26	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.192	JB	0.0179	MDL	5.26	PQL	ng/Kg	U	B
1,2,3,4,7,8-HXCDF	0.408	JB	0.0160	MDL	5.26	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDD	0.288	JB	0.0180	MDL	5.26	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDF	0.220	JB	0.0139	MDL	5.26	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDD	0.392	JB	0.0181	MDL	5.26	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDF	0.193	JB	0.0185	MDL	5.26	PQL	ng/Kg	U	B
1,2,3,7,8-PECDD	0.200	JB	0.0195	MDL	5.26	PQL	ng/Kg	U	B
1,2,3,7,8-PECDF	0.309	JB	0.0171	MDL	5.26	PQL	ng/Kg	J	Z
2,3,4,6,7,8-HXCDF	0.238	JB	0.0150	MDL	5.26	PQL	ng/Kg	U	B
2,3,4,7,8-PECDF	0.445	JB	0.0174	MDL	5.26	PQL	ng/Kg	J	Z
2,3,7,8-TCDD	0.0370	JB	0.0172	MDL	1.05	PQL	ng/Kg	U	B
2,3,7,8-TCDF	0.0989	JB	0.0323	MDL	1.05	PQL	ng/Kg	U	B
OCDD	8.53	JB	0.0103	MDL	10.5	PQL	ng/Kg	J	Z
OCDF	1.08	JB	0.0190	MDL	10.5	PQL	ng/Kg	J	Z

Sample ID: SL-066-NBZ-SB-2.0-3.0 **Collected:** 3/21/2012 9:30:00 **Analysis Type:** RES **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,6,7,8-HPCDD	0.336	JBQ	0.0174	MDL	5.14	PQL	ng/Kg	U	B
1,2,3,4,6,7,8-HPCDF	0.113	JBQ	0.00566	MDL	5.14	PQL	ng/Kg	U	B
1,2,3,4,7,8,9-HPCDF	0.0284	JBQ	0.0107	MDL	5.14	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.0206	JB	0.0118	MDL	5.14	PQL	ng/Kg	U	B
1,2,3,4,7,8-HXCDF	0.0654	JB	0.00957	MDL	5.14	PQL	ng/Kg	U	B

* denotes a non-reportable result

Project Name and Number: 1203-004-009-AL - SSFL Area IV Collocated Soil Sampling

Data Qualifier Summary

Lab Reporting Batch ID: DX161 **Laboratory:** LL

EDD Filename: DX161_v1. **eQAPP Name:** CDM_SSFL_120718_Lan

Method Category: SVOA

Method: 1613B **Matrix:** SO

Sample ID: SL-066-NBZ-SB-2.0-3.0 ***Collected:*** 3/21/2012 9:30:00 ***Analysis Type:*** RES ***Dilution:*** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,6,7,8-HXCDD	0.0649	JBQ	0.0122	MDL	5.14	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDF	0.0473	JBQ	0.00885	MDL	5.14	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDD	0.0591	JB	0.0117	MDL	5.14	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDF	0.0539	JB	0.0115	MDL	5.14	PQL	ng/Kg	U	B
1,2,3,7,8-PECDD	0.0604	JBQ	0.0162	MDL	5.14	PQL	ng/Kg	U	B
1,2,3,7,8-PECDF	0.0515	JBQ	0.0111	MDL	5.14	PQL	ng/Kg	U	B
2,3,4,6,7,8-HXCDF	0.0508	JB	0.00926	MDL	5.14	PQL	ng/Kg	U	B
2,3,4,7,8-PECDF	0.0582	JB	0.0115	MDL	5.14	PQL	ng/Kg	U	B
2,3,7,8-TCDD	0.0164	JBQ	0.0148	MDL	1.03	PQL	ng/Kg	U	B
2,3,7,8-TCDF	0.0166	JBQ	0.0157	MDL	1.03	PQL	ng/Kg	U	B
OCDD	0.824	JB	0.0114	MDL	10.3	PQL	ng/Kg	U	B
OCDF	0.185	JB	0.0207	MDL	10.3	PQL	ng/Kg	U	B

Sample ID: SL-067-NBZ-SB-1.5-2.5 ***Collected:*** 3/16/2012 11:45:00 ***Analysis Type:*** RES ***Dilution:*** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,6,7,8-HPCDD	0.320	JBQ	0.0165	MDL	5.35	PQL	ng/Kg	U	B
1,2,3,4,6,7,8-HPCDF	0.110	JB	0.00866	MDL	5.35	PQL	ng/Kg	U	B
1,2,3,4,7,8,9-HPCDF	0.0482	JBQ	0.0136	MDL	5.35	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.0244	JBQ	0.0172	MDL	5.35	PQL	ng/Kg	U	B
1,2,3,4,7,8-HXCDF	0.0477	JB	0.0113	MDL	5.35	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDD	0.0697	JB	0.0174	MDL	5.35	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDF	0.0538	JB	0.0106	MDL	5.35	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDD	0.0446	JB	0.0172	MDL	5.35	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDF	0.0649	JB	0.0127	MDL	5.35	PQL	ng/Kg	U	B
1,2,3,7,8-PECDD	0.0728	JQ	0.0219	MDL	5.35	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDF	0.0621	JBQ	0.0134	MDL	5.35	PQL	ng/Kg	U	B
2,3,4,6,7,8-HXCDF	0.0415	JB	0.0103	MDL	5.35	PQL	ng/Kg	U	B
2,3,4,7,8-PECDF	0.0830	JB	0.0139	MDL	5.35	PQL	ng/Kg	U	B
OCDD	0.823	JB	0.0135	MDL	10.7	PQL	ng/Kg	U	B
OCDF	0.136	JB	0.0177	MDL	10.7	PQL	ng/Kg	U	B

* denotes a non-reportable result

Project Name and Number: 1203-004-009-AL - SSFL Area IV Collocated Soil Sampling

Data Qualifier Summary

Lab Reporting Batch ID: DX161 **Laboratory: LL**

EDD Filename: DX161_v1. **eQAPP Name: CDM_SSFL_120718_Lan**

Method Category: SVOA

Method: 1613B **Matrix:** SO

Sample ID: **SL-068-NBZ-SB-2.5-3.5** ***Collected:*** **3/16/2012 10:15:00** ***Analysis Type:*** **RES** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,6,7,8-HPCDD	0.342	JB	0.0179	MDL	5.43	PQL	ng/Kg	U	B
1,2,3,4,6,7,8-HPCDF	0.110	JB	0.00734	MDL	5.43	PQL	ng/Kg	U	B
1,2,3,4,7,8,9-HPCDF	0.0242	JBQ	0.0127	MDL	5.43	PQL	ng/Kg	UJ	B, FD
1,2,3,4,7,8-HxCDD	0.0799	JBQ	0.0180	MDL	5.43	PQL	ng/Kg	U	B
1,2,3,4,7,8-HXCDF	0.147	JBQ	0.0134	MDL	5.43	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDD	0.114	JBQ	0.0194	MDL	5.43	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDF	0.0979	JB	0.0114	MDL	5.43	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDD	0.115	JB	0.0180	MDL	5.43	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDF	0.118	JB	0.0150	MDL	5.43	PQL	ng/Kg	U	B
1,2,3,7,8-PECDD	0.148	J	0.0242	MDL	5.43	PQL	ng/Kg	J	FD
1,2,3,7,8-PECDF	0.155	JB	0.0137	MDL	5.43	PQL	ng/Kg	UJ	B, FD
2,3,4,6,7,8-HXCDF	0.108	JBQ	0.0119	MDL	5.43	PQL	ng/Kg	U	B
2,3,4,7,8-PECDF	0.149	JB	0.0142	MDL	5.43	PQL	ng/Kg	UJ	B, FD
2,3,7,8-TCDD	0.0599	JB	0.0291	MDL	1.09	PQL	ng/Kg	U	B
2,3,7,8-TCDF	0.0577	JB	0.0228	MDL	1.09	PQL	ng/Kg	U	B
OCDD	0.563	JB	0.0149	MDL	10.9	PQL	ng/Kg	U	B
OCDF	0.189	JB	0.0211	MDL	10.9	PQL	ng/Kg	U	B

Sample ID: **SL-069-NBZ-SB-3.0-4.0** ***Collected:*** **3/20/2012 2:30:00** ***Analysis Type:*** **RES** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,6,7,8-HPCDD	0.665	JB	0.0171	MDL	5.21	PQL	ng/Kg	U	B
1,2,3,4,6,7,8-HPCDF	0.192	JB	0.00651	MDL	5.21	PQL	ng/Kg	U	B
1,2,3,4,7,8,9-HPCDF	0.151	JB	0.0132	MDL	5.21	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.177	JBQ	0.0155	MDL	5.21	PQL	ng/Kg	U	B
1,2,3,4,7,8-HXCDF	0.185	JB	0.0122	MDL	5.21	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDD	0.206	JBQ	0.0171	MDL	5.21	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDF	0.169	JBQ	0.0103	MDL	5.21	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDD	0.210	JB	0.0162	MDL	5.21	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDF	0.177	JB	0.0136	MDL	5.21	PQL	ng/Kg	U	B
1,2,3,7,8-PECDD	0.217	JB	0.0183	MDL	5.21	PQL	ng/Kg	U	B
1,2,3,7,8-PECDF	0.221	JB	0.0111	MDL	5.21	PQL	ng/Kg	U	B
2,3,4,6,7,8-HXCDF	0.157	JB	0.0111	MDL	5.21	PQL	ng/Kg	U	B
2,3,4,7,8-PECDF	0.220	JB	0.0120	MDL	5.21	PQL	ng/Kg	U	B

* denotes a non-reportable result

Project Name and Number: 1203-004-009-AL - SSFL Area IV Collocated Soil Sampling

Data Qualifier Summary

Lab Reporting Batch ID: DX161 Laboratory: LL

EDD Filename: DX161_v1. eQAPP Name: CDM_SSFL_120718_Lan

Method Category: SVOA

Method: 1613B **Matrix:** SO

Sample ID: **SL-069-NBZ-SB-3.0-4.0** ***Collected:*** **3/20/2012 2:30:00** ***Analysis Type:*** **RES** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
2,3,7,8-TCDD	0.0509	JBQ	0.0182	MDL	1.04	PQL	ng/Kg	U	B
OCDD	8.68	JB	0.0143	MDL	10.4	PQL	ng/Kg	J	Z
OCDF	0.437	JB	0.0214	MDL	10.4	PQL	ng/Kg	U	B

Sample ID: **SL-070-NBZ-SS-0.0-0.5** ***Collected:*** **3/20/2012 3:25:00** ***Analysis Type:*** **RES** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,7,8-HxCDD	0.648	JB	0.0375	MDL	5.67	PQL	ng/Kg	J	Z
1,2,3,4,7,8-HXCDF	1.51	JB	0.0326	MDL	5.67	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDD	5.48	JB	0.0392	MDL	5.67	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDF	1.33	JB	0.0291	MDL	5.67	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDD	1.17	JB	0.0377	MDL	5.67	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDF	0.348	JB	0.0388	MDL	5.67	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDD	0.145	JB	0.0269	MDL	5.67	PQL	ng/Kg	U	B
1,2,3,7,8-PECDF	1.01	JB	0.0211	MDL	5.67	PQL	ng/Kg	J	Z
2,3,4,6,7,8-HXCDF	2.14	JB	0.0306	MDL	5.67	PQL	ng/Kg	J	Z
2,3,4,7,8-PECDF	0.300	JB	0.0231	MDL	5.67	PQL	ng/Kg	U	B
2,3,7,8-TCDD	0.0545	JBQ	0.0197	MDL	1.13	PQL	ng/Kg	U	B
2,3,7,8-TCDF	0.0944	JBQ	0.0328	MDL	1.13	PQL	ng/Kg	U	B

Sample ID: **SL-071-NBZ-SB-4.0-5.0** ***Collected:*** **3/19/2012 9:35:00** ***Analysis Type:*** **RES** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,6,7,8-HPCDD	0.316	JB	0.0157	MDL	5.13	PQL	ng/Kg	U	B
1,2,3,4,6,7,8-HPCDF	0.0902	JB	0.00735	MDL	5.13	PQL	ng/Kg	U	B
1,2,3,4,7,8,9-HPCDF	0.0442	JBQ	0.0119	MDL	5.13	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.0420	JBQ	0.0144	MDL	5.13	PQL	ng/Kg	U	B
1,2,3,4,7,8-HXCDF	0.0638	JB	0.00994	MDL	5.13	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDD	0.0659	JBQ	0.0152	MDL	5.13	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDF	0.0644	JB	0.00942	MDL	5.13	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDD	0.0660	JB	0.0145	MDL	5.13	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDF	0.0463	JBQ	0.0120	MDL	5.13	PQL	ng/Kg	U	B
1,2,3,7,8-PECDD	0.0588	JBQ	0.0192	MDL	5.13	PQL	ng/Kg	U	B
1,2,3,7,8-PECDF	0.0918	JB	0.0115	MDL	5.13	PQL	ng/Kg	U	B
2,3,4,6,7,8-HXCDF	0.0414	JB	0.00963	MDL	5.13	PQL	ng/Kg	U	B

* denotes a non-reportable result

Project Name and Number: 1203-004-009-AL - SSFL Area IV Collocated Soil Sampling

Data Qualifier Summary

Lab Reporting Batch ID: DX161 **Laboratory:** LL

EDD Filename: DX161_v1. **eQAPP Name:** CDM_SSFL_120718_Lan

Method Category: SVOA

Method: 1613B **Matrix:** SO

Sample ID: SL-071-NBZ-SB-4.0-5.0 ***Collected:*** 3/19/2012 9:35:00 ***Analysis Type:*** RES ***Dilution:*** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
2,3,4,7,8-PECDF	0.0881	JB	0.0114	MDL	5.13	PQL	ng/Kg	U	B
2,3,7,8-TCDD	0.0286	JB	0.0172	MDL	1.03	PQL	ng/Kg	U	B
2,3,7,8-TCDF	0.0272	JB	0.0185	MDL	1.03	PQL	ng/Kg	U	B
OCDD	0.661	JB	0.0133	MDL	10.3	PQL	ng/Kg	U	B
OCDF	0.128	JB	0.0204	MDL	10.3	PQL	ng/Kg	U	B

Sample ID: SL-072-NBZ-SB-4.0-5.0 ***Collected:*** 3/16/2012 2:45:00 ***Analysis Type:*** RES ***Dilution:*** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,6,7,8-HPCDD	0.436	JB	0.0162	MDL	5.44	PQL	ng/Kg	U	B
1,2,3,4,6,7,8-HPCDF	0.212	JB	0.00744	MDL	5.44	PQL	ng/Kg	U	B
1,2,3,4,7,8,9-HPCDF	0.184	JB	0.0142	MDL	5.44	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.215	JB	0.0147	MDL	5.44	PQL	ng/Kg	J	Z
1,2,3,4,7,8-HXCDF	0.314	JB	0.0142	MDL	5.44	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDD	0.238	JB	0.0159	MDL	5.44	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDF	0.287	JB	0.0120	MDL	5.44	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDD	0.260	JB	0.0147	MDL	5.44	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDF	0.278	JBQ	0.0156	MDL	5.44	PQL	ng/Kg	U	B
1,2,3,7,8-PECDD	0.348	J	0.0230	MDL	5.44	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDF	0.428	JB	0.0134	MDL	5.44	PQL	ng/Kg	J	Z
2,3,4,6,7,8-HXCDF	0.229	JB	0.0127	MDL	5.44	PQL	ng/Kg	J	Z
2,3,4,7,8-PECDF	0.371	JB	0.0134	MDL	5.44	PQL	ng/Kg	U	B
2,3,7,8-TCDD	0.0875	JB	0.0250	MDL	1.09	PQL	ng/Kg	U	B
2,3,7,8-TCDF	0.0865	JB	0.0222	MDL	1.09	PQL	ng/Kg	U	B
OCDD	0.833	JB	0.0139	MDL	10.9	PQL	ng/Kg	U	B
OCDF	0.376	JB	0.0209	MDL	10.9	PQL	ng/Kg	U	B

Sample ID: SL-073-NBZ-SB-4.0-5.0 ***Collected:*** 3/19/2012 2:40:00 ***Analysis Type:*** RES ***Dilution:*** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,6,7,8-HPCDD	0.257	JB	0.0181	MDL	5.41	PQL	ng/Kg	U	B
1,2,3,4,6,7,8-HPCDF	0.0946	JB	0.00670	MDL	5.41	PQL	ng/Kg	U	B
1,2,3,4,7,8,9-HPCDF	0.0372	JBQ	0.0123	MDL	5.41	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.0211	JBQ	0.0160	MDL	5.41	PQL	ng/Kg	U	B
1,2,3,4,7,8-HXCDF	0.0465	JBQ	0.0103	MDL	5.41	PQL	ng/Kg	U	B

* denotes a non-reportable result

Project Name and Number: 1203-004-009-AL - SSFL Area IV Collocated Soil Sampling

Data Qualifier Summary

Lab Reporting Batch ID: DX161 Laboratory: LL

EDD Filename: DX161_v1. eQAPP Name: CDM_SSFL_120718_Lan

Method Category: SVOA

Method: 1613B **Matrix:** SO

Sample ID: SL-073-NBZ-SB-4.0-5.0 ***Collected:*** 3/19/2012 2:40:00 ***Analysis Type:*** RES ***Dilution:*** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,6,7,8-HXCDD	0.0666	JBQ	0.0166	MDL	5.41	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDD	0.0539	JBQ	0.0168	MDL	5.41	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDF	0.0428	JBQ	0.0115	MDL	5.41	PQL	ng/Kg	U	B
1,2,3,7,8-PECDF	0.0275	JBQ	0.0106	MDL	5.41	PQL	ng/Kg	U	B
2,3,4,6,7,8-HXCDF	0.0300	JBQ	0.00951	MDL	5.41	PQL	ng/Kg	U	B
2,3,4,7,8-PECDF	0.0728	JB	0.0107	MDL	5.41	PQL	ng/Kg	U	B
2,3,7,8-TCDD	0.0275	JBQ	0.0166	MDL	1.08	PQL	ng/Kg	U	B
OCDD	0.568	JB	0.0137	MDL	10.8	PQL	ng/Kg	U	B
OCDF	0.152	JBQ	0.0208	MDL	10.8	PQL	ng/Kg	U	B

Sample ID: SL-073-NBZ-SB-9.0-10.0 ***Collected:*** 3/19/2012 1:40:00 ***Analysis Type:*** RES ***Dilution:*** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,6,7,8-HPCDD	0.254	JB	0.0164	MDL	5.33	PQL	ng/Kg	U	B
1,2,3,4,6,7,8-HPCDF	0.0752	JB	0.00602	MDL	5.33	PQL	ng/Kg	U	B
1,2,3,4,7,8,9-HPCDF	0.0391	JB	0.0128	MDL	5.33	PQL	ng/Kg	U	B
1,2,3,4,7,8-HXCDF	0.0371	JBQ	0.00952	MDL	5.33	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDD	0.0461	JBQ	0.0140	MDL	5.33	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDF	0.0330	JB	0.00755	MDL	5.33	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDD	0.0431	JBQ	0.0139	MDL	5.33	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDF	0.0337	JBQ	0.0116	MDL	5.33	PQL	ng/Kg	U	B
1,2,3,7,8-PECDF	0.0440	JBQ	0.00941	MDL	5.33	PQL	ng/Kg	U	B
2,3,4,6,7,8-HXCDF	0.0301	JB	0.00821	MDL	5.33	PQL	ng/Kg	U	B
2,3,4,7,8-PECDF	0.0663	JBQ	0.0101	MDL	5.33	PQL	ng/Kg	U	B
2,3,7,8-TCDF	0.0254	JBQ	0.0152	MDL	1.07	PQL	ng/Kg	U	B
OCDD	0.496	JB	0.0120	MDL	10.7	PQL	ng/Kg	U	B
OCDF	0.119	JB	0.0209	MDL	10.7	PQL	ng/Kg	U	B

Sample ID: SL-074-NBZ-SB-0.5-1.5 ***Collected:*** 3/19/2012 10:55:00 ***Analysis Type:*** RES ***Dilution:*** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,6,7,8-HPCDD	0.336	JBQ	0.0237	MDL	5.13	PQL	ng/Kg	U	B
1,2,3,4,6,7,8-HPCDF	0.0655	JB	0.00942	MDL	5.13	PQL	ng/Kg	U	B
1,2,3,4,7,8,9-HPCDF	0.0419	JBQ	0.0157	MDL	5.13	PQL	ng/Kg	U	B
1,2,3,4,7,8-HXCDF	0.0247	JBQ	0.0138	MDL	5.13	PQL	ng/Kg	U	B

* denotes a non-reportable result

Project Name and Number: 1203-004-009-AL - SSFL Area IV Collocated Soil Sampling

Data Qualifier Summary

Lab Reporting Batch ID: DX161 **Laboratory:** LL

EDD Filename: DX161_v1. **eQAPP Name:** CDM_SSFL_120718_Lan

Method Category: SVOA

Method: 1613B **Matrix:** SO

Sample ID: **SL-074-NBZ-SB-0.5-1.5** ***Collected:*** **3/19/2012 10:55:00** ***Analysis Type:*** **RES** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,6,7,8-HXCDD	0.0977	JBQ	0.0227	MDL	5.13	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDD	0.279	JB	0.0231	MDL	5.13	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDF	0.0456	JB	0.0157	MDL	5.13	PQL	ng/Kg	U	B
1,2,3,7,8-PECDD	0.0564	JQ	0.0323	MDL	5.13	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDF	0.0279	JB	0.0186	MDL	5.13	PQL	ng/Kg	U	B
2,3,4,6,7,8-HXCDF	0.0289	JBQ	0.0125	MDL	5.13	PQL	ng/Kg	U	B
2,3,4,7,8-PECDF	0.0698	JBQ	0.0179	MDL	5.13	PQL	ng/Kg	U	B
OCDD	0.538	JB	0.0170	MDL	10.3	PQL	ng/Kg	U	B
OCDF	0.153	JB	0.0281	MDL	10.3	PQL	ng/Kg	U	B

Sample ID: **SL-075-NBZ-SS-0.0-0.5** ***Collected:*** **3/20/2012 9:00:00** ***Analysis Type:*** **RES** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,6,7,8-HPCDF	2.04	JB	0.0142	MDL	5.43	PQL	ng/Kg	J	Z
1,2,3,4,7,8,9-HPCDF	0.144	JB	0.0228	MDL	5.43	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.219	JB	0.0266	MDL	5.43	PQL	ng/Kg	U	B
1,2,3,4,7,8-HXCDF	0.390	JBQ	0.0206	MDL	5.43	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDD	0.503	JB	0.0290	MDL	5.43	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDF	0.224	JB	0.0182	MDL	5.43	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDD	0.329	JBQ	0.0274	MDL	5.43	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDF	0.0679	JB	0.0226	MDL	5.43	PQL	ng/Kg	U	B
1,2,3,7,8-PECDD	0.0956	JBQ	0.0282	MDL	5.43	PQL	ng/Kg	U	B
1,2,3,7,8-PECDF	0.922	JB	0.0289	MDL	5.43	PQL	ng/Kg	J	Z
2,3,4,6,7,8-HXCDF	0.206	JB	0.0180	MDL	5.43	PQL	ng/Kg	U	B
2,3,4,7,8-PECDF	0.291	JB	0.0283	MDL	5.43	PQL	ng/Kg	U	B
2,3,7,8-TCDD	0.0273	JBQ	0.0217	MDL	1.09	PQL	ng/Kg	U	B
2,3,7,8-TCDF	0.161	JB	0.0402	MDL	1.09	PQL	ng/Kg	U	B
OCDF	6.08	JB	0.0234	MDL	10.9	PQL	ng/Kg	J	Z

Sample ID: **SL-076-NBZ-SS-0.0-0.5** ***Collected:*** **3/20/2012 9:35:00** ***Analysis Type:*** **RES** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,6,7,8-HPCDF	2.90	JB	0.0213	MDL	5.69	PQL	ng/Kg	J	Z
1,2,3,4,7,8,9-HPCDF	0.214	JB	0.0372	MDL	5.69	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.273	JB	0.0254	MDL	5.69	PQL	ng/Kg	J	Z

* denotes a non-reportable result

Project Name and Number: 1203-004-009-AL - SSFL Area IV Collocated Soil Sampling

Data Qualifier Summary

Lab Reporting Batch ID: DX161 Laboratory: LL

EDD Filename: DX161_v1. eQAPP Name: CDM_SSFL_120718_Lan

Method Category: SVOA

Method: 1613B **Matrix:** SO

Sample ID: SL-076-NBZ-SS-0.0-0.5 ***Collected:*** 3/20/2012 9:35:00 ***Analysis Type:*** RES ***Dilution:*** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,7,8-HXCDF	0.544	JB	0.0245	MDL	5.69	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDD	0.727	JB	0.0286	MDL	5.69	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDF	0.340	JB	0.0227	MDL	5.69	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDD	0.485	JB	0.0266	MDL	5.69	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDF	0.113	JB	0.0290	MDL	5.69	PQL	ng/Kg	U	B
1,2,3,7,8-PECDD	0.261	JB	0.0318	MDL	5.69	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDF	1.15	JB	0.0299	MDL	5.69	PQL	ng/Kg	J	Z
2,3,4,6,7,8-HXCDF	0.299	JB	0.0233	MDL	5.69	PQL	ng/Kg	J	Z
2,3,4,7,8-PECDF	0.605	JB	0.0320	MDL	5.69	PQL	ng/Kg	J	Z
2,3,7,8-TCDD	0.0584	JB	0.0221	MDL	1.14	PQL	ng/Kg	U	B
2,3,7,8-TCDF	0.272	JB	0.0487	MDL	1.14	PQL	ng/Kg	J	Z
OCDF	9.40	JB	0.0228	MDL	11.4	PQL	ng/Kg	J	Z

Sample ID: SL-077-NBZ-SB-2.5-3.5 ***Collected:*** 3/20/2012 10:50:00 ***Analysis Type:*** RES ***Dilution:*** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,6,7,8-HPCDD	1.20	JBQ	0.0263	MDL	5.29	PQL	ng/Kg	U	B
1,2,3,4,6,7,8-HPCDF	0.295	JB	0.00981	MDL	5.29	PQL	ng/Kg	U	B
1,2,3,4,7,8,9-HPCDF	0.0571	JB	0.0193	MDL	5.29	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.0273	JB	0.0198	MDL	5.29	PQL	ng/Kg	U	B
1,2,3,4,7,8-HXCDF	0.0950	JB	0.0152	MDL	5.29	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDD	0.0798	JBQ	0.0203	MDL	5.29	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDF	0.0486	JBQ	0.0140	MDL	5.29	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDD	0.0657	JB	0.0200	MDL	5.29	PQL	ng/Kg	U	B
1,2,3,7,8-PECDD	0.0414	JBQ	0.0208	MDL	5.29	PQL	ng/Kg	U	B
1,2,3,7,8-PECDF	0.166	JB	0.0152	MDL	5.29	PQL	ng/Kg	U	B
2,3,4,6,7,8-HXCDF	0.0450	JB	0.0145	MDL	5.29	PQL	ng/Kg	U	B
2,3,4,7,8-PECDF	0.0733	JB	0.0160	MDL	5.29	PQL	ng/Kg	U	B
2,3,7,8-TCDD	0.0272	JBQ	0.0203	MDL	1.06	PQL	ng/Kg	U	B
OCDF	0.823	JB	0.0281	MDL	10.6	PQL	ng/Kg	J	Z

Sample ID: SL-077-NBZ-SS-0.0-0.5 ***Collected:*** 3/20/2012 10:20:00 ***Analysis Type:*** RES ***Dilution:*** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,6,7,8-HPCDF	4.71	JB	0.0166	MDL	5.76	PQL	ng/Kg	J	Z

* denotes a non-reportable result

Project Name and Number: 1203-004-009-AL - SSFL Area IV Collocated Soil Sampling

Data Qualifier Summary

Lab Reporting Batch ID: DX161 **Laboratory:** LL

EDD Filename: DX161_v1. **eQAPP Name:** CDM_SSFL_120718_Lan

Method Category: SVOA

Method: 1613B **Matrix:** SO

Sample ID: SL-077-NBZ-SS-0.0-0.5 ***Collected:*** 3/20/2012 10:20:00 ***Analysis Type:*** RES ***Dilution:*** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,7,8,9-HPCDF	0.415	JB	0.0322	MDL	5.76	PQL	ng/Kg	J	Z
1,2,3,4,7,8-HxCDD	0.378	JB	0.0290	MDL	5.76	PQL	ng/Kg	J	Z
1,2,3,4,7,8-HXCDF	0.892	JB	0.0273	MDL	5.76	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDD	0.937	JB	0.0310	MDL	5.76	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDF	0.517	JB	0.0231	MDL	5.76	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDD	0.705	JB	0.0284	MDL	5.76	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDF	0.176	JB	0.0315	MDL	5.76	PQL	ng/Kg	U	B
1,2,3,7,8-PECDD	0.278	JB	0.0336	MDL	5.76	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDF	1.55	JB	0.0357	MDL	5.76	PQL	ng/Kg	J	Z
2,3,4,6,7,8-HXCDF	0.589	JB	0.0249	MDL	5.76	PQL	ng/Kg	J	Z
2,3,4,7,8-PECDF	0.960	JB	0.0376	MDL	5.76	PQL	ng/Kg	J	Z
2,3,7,8-TCDD	0.0762	JB	0.0236	MDL	1.15	PQL	ng/Kg	U	B
2,3,7,8-TCDF	0.584	JB	0.0679	MDL	1.15	PQL	ng/Kg	J	Z

* denotes a non-reportable result

Project Name and Number: 1203-004-009-AL - SSFL Area IV Collocated Soil Sampling

Data Qualifier Summary

Lab Reporting Batch ID: DX161 **Laboratory: LL**

EDD Filename: DX161_v1. **eQAPP Name: CDM_SSFL_120718_Lan**

Reason Code Legend

Reason Code	*Description*
B	Method Blank Contamination
FD	Field Duplicate Precision
Z	Reporting Limit Trace Value

* denotes a non-reportable result

Project Name and Number: 1203-004-009-AL - SSFL Area IV Collocated Soil Sampling

Enclosure I

Level III ADR Outliers
(including Manual Review Outliers)

Quality Control
Outlier Reports

DX161

Method Blank Outlier Report

Lab Reporting Batch ID: DX161 **Laboratory: LL**

EDD Filename: DX161_v1. **eQAPP Name: CDM_SSFL_120718_Lan**

Method: 1613B
Matrix: AQ

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples
BLK0830B372354	3/26/2012 11:54:00 PM	1,2,3,4,6,7,8-HPCDD	3.73 pg/L	EB-NBZ-SS-032112
		1,2,3,4,6,7,8-HPCDF	1.70 pg/L	
		1,2,3,4,7,8,9-HPCDF	0.578 pg/L	
		1,2,3,4,7,8-HxCDD	0.305 pg/L	
		1,2,3,4,7,8-HXCDF	0.545 pg/L	
		1,2,3,6,7,8-HXCDD	0.887 pg/L	
		1,2,3,6,7,8-HXCDF	0.426 pg/L	
		1,2,3,7,8,9-HXCDD	0.597 pg/L	
		1,2,3,7,8,9-HXCDF	0.526 pg/L	
		1,2,3,7,8-PECDD	0.425 pg/L	
		1,2,3,7,8-PECDF	0.502 pg/L	
		2,3,4,6,7,8-HXCDF	0.521 pg/L	
		2,3,4,7,8-PECDF	0.418 pg/L	
		2,3,7,8-TCDF	0.392 pg/L	
		OCDD	6.73 pg/L	
		OCDF	1.47 pg/L	

The following samples and their listed target analytes were qualified due to contamination reported in this blank

Sample ID	Analyte	Reported Result	Modified Final Result
EB-NBZ-SS-032112(RES)	1,2,3,4,6,7,8-HPCDD	3.73 pg/L	3.73U pg/L
EB-NBZ-SS-032112(RES)	1,2,3,4,6,7,8-HPCDF	1.55 pg/L	1.55U pg/L
EB-NBZ-SS-032112(RES)	1,2,3,4,7,8,9-HPCDF	0.411 pg/L	0.411U pg/L
EB-NBZ-SS-032112(RES)	1,2,3,4,7,8-HXCDF	0.720 pg/L	0.720U pg/L
EB-NBZ-SS-032112(RES)	1,2,3,6,7,8-HXCDD	0.522 pg/L	0.522U pg/L
EB-NBZ-SS-032112(RES)	1,2,3,6,7,8-HXCDF	0.530 pg/L	0.530U pg/L
EB-NBZ-SS-032112(RES)	1,2,3,7,8,9-HXCDD	0.557 pg/L	0.557U pg/L
EB-NBZ-SS-032112(RES)	1,2,3,7,8,9-HXCDF	0.333 pg/L	0.333U pg/L
EB-NBZ-SS-032112(RES)	1,2,3,7,8-PECDD	0.415 pg/L	0.415U pg/L
EB-NBZ-SS-032112(RES)	1,2,3,7,8-PECDF	0.447 pg/L	0.447U pg/L
EB-NBZ-SS-032112(RES)	2,3,4,6,7,8-HXCDF	0.382 pg/L	0.382U pg/L
EB-NBZ-SS-032112(RES)	2,3,4,7,8-PECDF	0.541 pg/L	0.541U pg/L
EB-NBZ-SS-032112(RES)	OCDD	6.15 pg/L	6.15U pg/L
EB-NBZ-SS-032112(RES)	OCDF	1.72 pg/L	1.72U pg/L

Method: 1613B
Matrix: SO

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples
BLK0810B371847	3/22/2012 6:47:00 PM	1,2,3,4,6,7,8-HPCDD	0.270 ng/Kg	DUP-01-NBZ-QC-031612
		1,2,3,4,6,7,8-HPCDF	0.113 ng/Kg	SL-053-NBZ-SB-3.5-4.5
		1,2,3,4,7,8,9-HPCDF	0.0630 ng/Kg	SL-053-NBZ-SS-0.0-0.5
		1,2,3,4,7,8-HxCDD	0.0387 ng/Kg	SL-056-NBZ-SB-3.0-4.0
		1,2,3,4,7,8-HXCDF	0.0386 ng/Kg	SL-056-NBZ-SS-0.0-0.5
		1,2,3,6,7,8-HXCDD	0.0857 ng/Kg	SL-067-NBZ-SB-1.5-2.5
		1,2,3,6,7,8-HXCDF	0.0509 ng/Kg	SL-068-NBZ-SB-2.5-3.5
		1,2,3,7,8,9-HXCDD	0.0355 ng/Kg	SL-072-NBZ-SB-4.0-5.0
		1,2,3,7,8,9-HXCDF	0.0742 ng/Kg	
		1,2,3,7,8-PECDF	0.0473 ng/Kg	
		2,3,4,6,7,8-HXCDF	0.0445 ng/Kg	
		2,3,4,7,8-PECDF	0.0971 ng/Kg	
		2,3,7,8-TCDD	0.0482 ng/Kg	
		2,3,7,8-TCDF	0.0415 ng/Kg	
		OCDD	0.350 ng/Kg	
		OCDF	0.147 ng/Kg	

Method Blank Outlier Report

Lab Reporting Batch ID: DX161 **Laboratory: LL**

EDD Filename: DX161_v1. **eQAPP Name: CDM_SSFL_120718_Lan**

Method: 1613B
Matrix: SO

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples
BLK0880B370247	3/30/2012 2:47:00 AM	1,2,3,4,6,7,8-HPCDD	0.281 ng/Kg	SL-065-NBZ-SB-1.0-2.0
		1,2,3,4,6,7,8-HPCDF	0.0794 ng/Kg	SL-066-NBZ-SB-2.0-3.0
		1,2,3,4,7,8,9-HPCDF	0.0468 ng/Kg	SL-069-NBZ-SB-3.0-4.0
		1,2,3,4,7,8-HxCDD	0.0486 ng/Kg	SL-070-NBZ-SS-0.0-0.5
		1,2,3,4,7,8-HXCDF	0.0440 ng/Kg	SL-071-NBZ-SB-4.0-5.0
		1,2,3,6,7,8-HXCDD	0.0445 ng/Kg	SL-073-NBZ-SB-4.0-5.0
		1,2,3,6,7,8-HXCDF	0.0441 ng/Kg	SL-073-NBZ-SB-9.0-10.0
		1,2,3,7,8,9-HXCDD	0.0582 ng/Kg	SL-075-NBZ-SS-0.0-0.5
		1,2,3,7,8,9-HXCDF	0.0487 ng/Kg	SL-076-NBZ-SS-0.0-0.5
		1,2,3,7,8-PECDD	0.0457 ng/Kg	SL-077-NBZ-SB-2.5-3.5
		1,2,3,7,8-PECDF	0.0446 ng/Kg	SL-077-NBZ-SS-0.0-0.5
		2,3,4,6,7,8-HXCDF	0.0505 ng/Kg	
		2,3,4,7,8-PECDF	0.0652 ng/Kg	
		2,3,7,8-TCDD	0.0203 ng/Kg	
		2,3,7,8-TCDF	0.0434 ng/Kg	
		OCDD	0.389 ng/Kg	
		OCDF	0.147 ng/Kg	
BLK0970B371831	4/9/2012 6:31:00 PM	1,2,3,4,6,7,8-HPCDD	0.325 ng/Kg	SL-074-NBZ-SB-0.5-1.5
		1,2,3,4,6,7,8-HPCDF	0.0852 ng/Kg	
		1,2,3,4,7,8,9-HPCDF	0.0714 ng/Kg	
		1,2,3,4,7,8-HxCDD	0.0341 ng/Kg	
		1,2,3,4,7,8-HXCDF	0.0368 ng/Kg	
		1,2,3,6,7,8-HXCDD	0.0590 ng/Kg	
		1,2,3,6,7,8-HXCDF	0.0359 ng/Kg	
		1,2,3,7,8,9-HXCDD	0.0673 ng/Kg	
		1,2,3,7,8,9-HXCDF	0.0266 ng/Kg	
		1,2,3,7,8-PECDF	0.0426 ng/Kg	
		2,3,4,6,7,8-HXCDF	0.0494 ng/Kg	
		2,3,4,7,8-PECDF	0.0632 ng/Kg	
		2,3,7,8-TCDD	0.0465 ng/Kg	
		OCDD	0.480 ng/Kg	
		OCDF	0.161 ng/Kg	

The following samples and their listed target analytes were qualified due to contamination reported in this blank

Sample ID	Analyte	Reported Result	Modified Final Result
DUP-01-NBZ-QC-031612(RES)	1,2,3,4,6,7,8-HPCDD	0.265 ng/Kg	0.265U ng/Kg
DUP-01-NBZ-QC-031612(RES)	1,2,3,4,6,7,8-HPCDF	0.150 ng/Kg	0.150U ng/Kg
DUP-01-NBZ-QC-031612(RES)	1,2,3,4,7,8,9-HPCDF	0.0920 ng/Kg	0.0920U ng/Kg
DUP-01-NBZ-QC-031612(RES)	1,2,3,4,7,8-HxCDD	0.118 ng/Kg	0.118U ng/Kg
DUP-01-NBZ-QC-031612(RES)	1,2,3,6,7,8-HXCDD	0.151 ng/Kg	0.151U ng/Kg
DUP-01-NBZ-QC-031612(RES)	1,2,3,6,7,8-HXCDF	0.163 ng/Kg	0.163U ng/Kg
DUP-01-NBZ-QC-031612(RES)	1,2,3,7,8,9-HXCDD	0.155 ng/Kg	0.155U ng/Kg
DUP-01-NBZ-QC-031612(RES)	1,2,3,7,8,9-HXCDF	0.156 ng/Kg	0.156U ng/Kg
DUP-01-NBZ-QC-031612(RES)	2,3,4,6,7,8-HXCDF	0.139 ng/Kg	0.139U ng/Kg
DUP-01-NBZ-QC-031612(RES)	2,3,4,7,8-PECDF	0.290 ng/Kg	0.290U ng/Kg
DUP-01-NBZ-QC-031612(RES)	2,3,7,8-TCDD	0.0911 ng/Kg	0.0911U ng/Kg
DUP-01-NBZ-QC-031612(RES)	2,3,7,8-TCDF	0.0556 ng/Kg	0.0556U ng/Kg
DUP-01-NBZ-QC-031612(RES)	OCDD	0.462 ng/Kg	0.462U ng/Kg
DUP-01-NBZ-QC-031612(RES)	OCDF	0.161 ng/Kg	0.161U ng/Kg
SL-053-NBZ-SB-3.5-4.5(RES)	1,2,3,4,6,7,8-HPCDD	0.788 ng/Kg	0.788U ng/Kg
SL-053-NBZ-SB-3.5-4.5(RES)	1,2,3,4,6,7,8-HPCDF	0.109 ng/Kg	0.109U ng/Kg
SL-053-NBZ-SB-3.5-4.5(RES)	1,2,3,4,7,8,9-HPCDF	0.0497 ng/Kg	0.0497U ng/Kg
SL-053-NBZ-SB-3.5-4.5(RES)	1,2,3,4,7,8-HxCDD	0.0564 ng/Kg	0.0564U ng/Kg
SL-053-NBZ-SB-3.5-4.5(RES)	1,2,3,4,7,8-HXCDF	0.0782 ng/Kg	0.0782U ng/Kg

Method Blank Outlier Report

Lab Reporting Batch ID: DX161 **Laboratory: LL**

EDD Filename: DX161_v1. **eQAPP Name: CDM_SSFL_120718_Lan**

Method: **1613B**
Matrix: **SO**

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples

The following samples and their listed target analytes were qualified due to contamination reported in this blank

Sample ID	Analyte	Reported Result	Modified Final Result
SL-053-NBZ-SB-3.5-4.5(RES)	1,2,3,6,7,8-HXCDD	0.0440 ng/Kg	0.0440U ng/Kg
SL-053-NBZ-SB-3.5-4.5(RES)	1,2,3,6,7,8-HXCDF	0.0540 ng/Kg	0.0540U ng/Kg
SL-053-NBZ-SB-3.5-4.5(RES)	1,2,3,7,8,9-HXCDD	0.0761 ng/Kg	0.0761U ng/Kg
SL-053-NBZ-SB-3.5-4.5(RES)	1,2,3,7,8,9-HXCDF	0.0811 ng/Kg	0.0811U ng/Kg
SL-053-NBZ-SB-3.5-4.5(RES)	1,2,3,7,8-PECDF	0.0982 ng/Kg	0.0982U ng/Kg
SL-053-NBZ-SB-3.5-4.5(RES)	2,3,4,6,7,8-HXCDF	0.0407 ng/Kg	0.0407U ng/Kg
SL-053-NBZ-SB-3.5-4.5(RES)	2,3,4,7,8-PECDF	0.0920 ng/Kg	0.0920U ng/Kg
SL-053-NBZ-SB-3.5-4.5(RES)	OCDF	0.197 ng/Kg	0.197U ng/Kg
SL-053-NBZ-SS-0.0-0.5(RES)	2,3,7,8-TCDD	0.198 ng/Kg	0.198U ng/Kg
SL-056-NBZ-SB-3.0-4.0(RES)	1,2,3,4,6,7,8-HPCDD	0.475 ng/Kg	0.475U ng/Kg
SL-056-NBZ-SB-3.0-4.0(RES)	1,2,3,4,6,7,8-HPCDF	0.179 ng/Kg	0.179U ng/Kg
SL-056-NBZ-SB-3.0-4.0(RES)	1,2,3,4,7,8,9-HPCDF	0.0840 ng/Kg	0.0840U ng/Kg
SL-056-NBZ-SB-3.0-4.0(RES)	1,2,3,4,7,8-HxCDD	0.0661 ng/Kg	0.0661U ng/Kg
SL-056-NBZ-SB-3.0-4.0(RES)	1,2,3,4,7,8-HXCDF	0.178 ng/Kg	0.178U ng/Kg
SL-056-NBZ-SB-3.0-4.0(RES)	1,2,3,6,7,8-HXCDD	0.127 ng/Kg	0.127U ng/Kg
SL-056-NBZ-SB-3.0-4.0(RES)	1,2,3,6,7,8-HXCDF	0.123 ng/Kg	0.123U ng/Kg
SL-056-NBZ-SB-3.0-4.0(RES)	1,2,3,7,8,9-HXCDD	0.132 ng/Kg	0.132U ng/Kg
SL-056-NBZ-SB-3.0-4.0(RES)	1,2,3,7,8,9-HXCDF	0.145 ng/Kg	0.145U ng/Kg
SL-056-NBZ-SB-3.0-4.0(RES)	1,2,3,7,8-PECDF	0.197 ng/Kg	0.197U ng/Kg
SL-056-NBZ-SB-3.0-4.0(RES)	2,3,4,6,7,8-HXCDF	0.101 ng/Kg	0.101U ng/Kg
SL-056-NBZ-SB-3.0-4.0(RES)	2,3,4,7,8-PECDF	0.208 ng/Kg	0.208U ng/Kg
SL-056-NBZ-SB-3.0-4.0(RES)	2,3,7,8-TCDD	0.0638 ng/Kg	0.0638U ng/Kg
SL-056-NBZ-SB-3.0-4.0(RES)	2,3,7,8-TCDF	0.0555 ng/Kg	0.0555U ng/Kg
SL-056-NBZ-SB-3.0-4.0(RES)	OCDF	0.266 ng/Kg	0.266U ng/Kg
SL-056-NBZ-SS-0.0-0.5(RES)	2,3,7,8-TCDD	0.133 ng/Kg	0.133U ng/Kg
SL-065-NBZ-SB-1.0-2.0(RES)	1,2,3,4,6,7,8-HPCDD	1.33 ng/Kg	1.33U ng/Kg
SL-065-NBZ-SB-1.0-2.0(RES)	1,2,3,4,7,8,9-HPCDF	0.212 ng/Kg	0.212U ng/Kg
SL-065-NBZ-SB-1.0-2.0(RES)	1,2,3,4,7,8-HxCDD	0.192 ng/Kg	0.192U ng/Kg
SL-065-NBZ-SB-1.0-2.0(RES)	1,2,3,6,7,8-HXCDF	0.220 ng/Kg	0.220U ng/Kg
SL-065-NBZ-SB-1.0-2.0(RES)	1,2,3,7,8,9-HXCDF	0.193 ng/Kg	0.193U ng/Kg
SL-065-NBZ-SB-1.0-2.0(RES)	1,2,3,7,8-PECDD	0.200 ng/Kg	0.200U ng/Kg
SL-065-NBZ-SB-1.0-2.0(RES)	2,3,4,6,7,8-HXCDF	0.238 ng/Kg	0.238U ng/Kg
SL-065-NBZ-SB-1.0-2.0(RES)	2,3,7,8-TCDD	0.0370 ng/Kg	0.0370U ng/Kg
SL-065-NBZ-SB-1.0-2.0(RES)	2,3,7,8-TCDF	0.0989 ng/Kg	0.0989U ng/Kg
SL-066-NBZ-SB-2.0-3.0(RES)	1,2,3,4,6,7,8-HPCDD	0.336 ng/Kg	0.336U ng/Kg
SL-066-NBZ-SB-2.0-3.0(RES)	1,2,3,4,6,7,8-HPCDF	0.113 ng/Kg	0.113U ng/Kg
SL-066-NBZ-SB-2.0-3.0(RES)	1,2,3,4,7,8,9-HPCDF	0.0284 ng/Kg	0.0284U ng/Kg
SL-066-NBZ-SB-2.0-3.0(RES)	1,2,3,4,7,8-HxCDD	0.0206 ng/Kg	0.0206U ng/Kg
SL-066-NBZ-SB-2.0-3.0(RES)	1,2,3,4,7,8-HXCDF	0.0654 ng/Kg	0.0654U ng/Kg
SL-066-NBZ-SB-2.0-3.0(RES)	1,2,3,6,7,8-HXCDD	0.0649 ng/Kg	0.0649U ng/Kg

Method Blank Outlier Report

Lab Reporting Batch ID: DX161 **Laboratory: LL**

EDD Filename: DX161_v1. **eQAPP Name: CDM_SSFL_120718_Lan**

Method: **1613B**
Matrix: **SO**

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples

The following samples and their listed target analytes were qualified due to contamination reported in this blank

Sample ID	Analyte	Reported Result	Modified Final Result
SL-066-NBZ-SB-2.0-3.0(RES)	1,2,3,6,7,8-HXCDF	0.0473 ng/Kg	0.0473U ng/Kg
SL-066-NBZ-SB-2.0-3.0(RES)	1,2,3,7,8,9-HXCDD	0.0591 ng/Kg	0.0591U ng/Kg
SL-066-NBZ-SB-2.0-3.0(RES)	1,2,3,7,8,9-HXCDF	0.0539 ng/Kg	0.0539U ng/Kg
SL-066-NBZ-SB-2.0-3.0(RES)	1,2,3,7,8-PECDD	0.0604 ng/Kg	0.0604U ng/Kg
SL-066-NBZ-SB-2.0-3.0(RES)	1,2,3,7,8-PECDF	0.0515 ng/Kg	0.0515U ng/Kg
SL-066-NBZ-SB-2.0-3.0(RES)	2,3,4,6,7,8-HXCDF	0.0508 ng/Kg	0.0508U ng/Kg
SL-066-NBZ-SB-2.0-3.0(RES)	2,3,4,7,8-PECDF	0.0582 ng/Kg	0.0582U ng/Kg
SL-066-NBZ-SB-2.0-3.0(RES)	2,3,7,8-TCDD	0.0164 ng/Kg	0.0164U ng/Kg
SL-066-NBZ-SB-2.0-3.0(RES)	2,3,7,8-TCDF	0.0166 ng/Kg	0.0166U ng/Kg
SL-066-NBZ-SB-2.0-3.0(RES)	OCDD	0.824 ng/Kg	0.824U ng/Kg
SL-066-NBZ-SB-2.0-3.0(RES)	OCDF	0.185 ng/Kg	0.185U ng/Kg
SL-067-NBZ-SB-1.5-2.5(RES)	1,2,3,4,6,7,8-HPCDD	0.320 ng/Kg	0.320U ng/Kg
SL-067-NBZ-SB-1.5-2.5(RES)	1,2,3,4,6,7,8-HPCDF	0.110 ng/Kg	0.110U ng/Kg
SL-067-NBZ-SB-1.5-2.5(RES)	1,2,3,4,7,8,9-HPCDF	0.0482 ng/Kg	0.0482U ng/Kg
SL-067-NBZ-SB-1.5-2.5(RES)	1,2,3,4,7,8-HxCDD	0.0244 ng/Kg	0.0244U ng/Kg
SL-067-NBZ-SB-1.5-2.5(RES)	1,2,3,4,7,8-HXCDF	0.0477 ng/Kg	0.0477U ng/Kg
SL-067-NBZ-SB-1.5-2.5(RES)	1,2,3,6,7,8-HXCDD	0.0697 ng/Kg	0.0697U ng/Kg
SL-067-NBZ-SB-1.5-2.5(RES)	1,2,3,6,7,8-HXCDF	0.0538 ng/Kg	0.0538U ng/Kg
SL-067-NBZ-SB-1.5-2.5(RES)	1,2,3,7,8,9-HXCDD	0.0446 ng/Kg	0.0446U ng/Kg
SL-067-NBZ-SB-1.5-2.5(RES)	1,2,3,7,8,9-HXCDF	0.0649 ng/Kg	0.0649U ng/Kg
SL-067-NBZ-SB-1.5-2.5(RES)	1,2,3,7,8-PECDF	0.0621 ng/Kg	0.0621U ng/Kg
SL-067-NBZ-SB-1.5-2.5(RES)	2,3,4,6,7,8-HXCDF	0.0415 ng/Kg	0.0415U ng/Kg
SL-067-NBZ-SB-1.5-2.5(RES)	2,3,4,7,8-PECDF	0.0830 ng/Kg	0.0830U ng/Kg
SL-067-NBZ-SB-1.5-2.5(RES)	OCDD	0.823 ng/Kg	0.823U ng/Kg
SL-067-NBZ-SB-1.5-2.5(RES)	OCDF	0.136 ng/Kg	0.136U ng/Kg
SL-068-NBZ-SB-2.5-3.5(RES)	1,2,3,4,6,7,8-HPCDD	0.342 ng/Kg	0.342U ng/Kg
SL-068-NBZ-SB-2.5-3.5(RES)	1,2,3,4,6,7,8-HPCDF	0.110 ng/Kg	0.110U ng/Kg
SL-068-NBZ-SB-2.5-3.5(RES)	1,2,3,4,7,8,9-HPCDF	0.0242 ng/Kg	0.0242U ng/Kg
SL-068-NBZ-SB-2.5-3.5(RES)	1,2,3,4,7,8-HxCDD	0.0799 ng/Kg	0.0799U ng/Kg
SL-068-NBZ-SB-2.5-3.5(RES)	1,2,3,4,7,8-HXCDF	0.147 ng/Kg	0.147U ng/Kg
SL-068-NBZ-SB-2.5-3.5(RES)	1,2,3,6,7,8-HXCDD	0.114 ng/Kg	0.114U ng/Kg
SL-068-NBZ-SB-2.5-3.5(RES)	1,2,3,6,7,8-HXCDF	0.0979 ng/Kg	0.0979U ng/Kg
SL-068-NBZ-SB-2.5-3.5(RES)	1,2,3,7,8,9-HXCDD	0.115 ng/Kg	0.115U ng/Kg
SL-068-NBZ-SB-2.5-3.5(RES)	1,2,3,7,8,9-HXCDF	0.118 ng/Kg	0.118U ng/Kg
SL-068-NBZ-SB-2.5-3.5(RES)	1,2,3,7,8-PECDF	0.155 ng/Kg	0.155U ng/Kg
SL-068-NBZ-SB-2.5-3.5(RES)	2,3,4,6,7,8-HXCDF	0.108 ng/Kg	0.108U ng/Kg
SL-068-NBZ-SB-2.5-3.5(RES)	2,3,4,7,8-PECDF	0.149 ng/Kg	0.149U ng/Kg
SL-068-NBZ-SB-2.5-3.5(RES)	2,3,7,8-TCDD	0.0599 ng/Kg	0.0599U ng/Kg
SL-068-NBZ-SB-2.5-3.5(RES)	2,3,7,8-TCDF	0.0577 ng/Kg	0.0577U ng/Kg
SL-068-NBZ-SB-2.5-3.5(RES)	OCDD	0.563 ng/Kg	0.563U ng/Kg

Method Blank Outlier Report

Lab Reporting Batch ID: DX161 **Laboratory: LL**

EDD Filename: DX161_v1. **eQAPP Name: CDM_SSFL_120718_Lan**

Method: 1613B
Matrix: SO

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples

The following samples and their listed target analytes were qualified due to contamination reported in this blank

Sample ID	Analyte	Reported Result	Modified Final Result
SL-068-NBZ-SB-2.5-3.5(RES)	OCDF	0.189 ng/Kg	0.189U ng/Kg
SL-069-NBZ-SB-3.0-4.0(RES)	1,2,3,4,6,7,8-HPCDD	0.665 ng/Kg	0.665U ng/Kg
SL-069-NBZ-SB-3.0-4.0(RES)	1,2,3,4,6,7,8-HPCDF	0.192 ng/Kg	0.192U ng/Kg
SL-069-NBZ-SB-3.0-4.0(RES)	1,2,3,4,7,8,9-HPCDF	0.151 ng/Kg	0.151U ng/Kg
SL-069-NBZ-SB-3.0-4.0(RES)	1,2,3,4,7,8-HxCDD	0.177 ng/Kg	0.177U ng/Kg
SL-069-NBZ-SB-3.0-4.0(RES)	1,2,3,4,7,8-HXCDF	0.185 ng/Kg	0.185U ng/Kg
SL-069-NBZ-SB-3.0-4.0(RES)	1,2,3,6,7,8-HXCDD	0.206 ng/Kg	0.206U ng/Kg
SL-069-NBZ-SB-3.0-4.0(RES)	1,2,3,6,7,8-HXCDF	0.169 ng/Kg	0.169U ng/Kg
SL-069-NBZ-SB-3.0-4.0(RES)	1,2,3,7,8,9-HXCDD	0.210 ng/Kg	0.210U ng/Kg
SL-069-NBZ-SB-3.0-4.0(RES)	1,2,3,7,8,9-HXCDF	0.177 ng/Kg	0.177U ng/Kg
SL-069-NBZ-SB-3.0-4.0(RES)	1,2,3,7,8-PECDD	0.217 ng/Kg	0.217U ng/Kg
SL-069-NBZ-SB-3.0-4.0(RES)	1,2,3,7,8-PECDF	0.221 ng/Kg	0.221U ng/Kg
SL-069-NBZ-SB-3.0-4.0(RES)	2,3,4,6,7,8-HXCDF	0.157 ng/Kg	0.157U ng/Kg
SL-069-NBZ-SB-3.0-4.0(RES)	2,3,4,7,8-PECDF	0.220 ng/Kg	0.220U ng/Kg
SL-069-NBZ-SB-3.0-4.0(RES)	2,3,7,8-TCDD	0.0509 ng/Kg	0.0509U ng/Kg
SL-069-NBZ-SB-3.0-4.0(RES)	OCDF	0.437 ng/Kg	0.437U ng/Kg
SL-070-NBZ-SS-0.0-0.5(RES)	1,2,3,7,8-PECDD	0.145 ng/Kg	0.145U ng/Kg
SL-070-NBZ-SS-0.0-0.5(RES)	2,3,4,7,8-PECDF	0.300 ng/Kg	0.300U ng/Kg
SL-070-NBZ-SS-0.0-0.5(RES)	2,3,7,8-TCDD	0.0545 ng/Kg	0.0545U ng/Kg
SL-070-NBZ-SS-0.0-0.5(RES)	2,3,7,8-TCDF	0.0944 ng/Kg	0.0944U ng/Kg
SL-071-NBZ-SB-4.0-5.0(RES)	1,2,3,4,6,7,8-HPCDD	0.316 ng/Kg	0.316U ng/Kg
SL-071-NBZ-SB-4.0-5.0(RES)	1,2,3,4,6,7,8-HPCDF	0.0902 ng/Kg	0.0902U ng/Kg
SL-071-NBZ-SB-4.0-5.0(RES)	1,2,3,4,7,8,9-HPCDF	0.0442 ng/Kg	0.0442U ng/Kg
SL-071-NBZ-SB-4.0-5.0(RES)	1,2,3,4,7,8-HxCDD	0.0420 ng/Kg	0.0420U ng/Kg
SL-071-NBZ-SB-4.0-5.0(RES)	1,2,3,4,7,8-HXCDF	0.0638 ng/Kg	0.0638U ng/Kg
SL-071-NBZ-SB-4.0-5.0(RES)	1,2,3,6,7,8-HXCDD	0.0659 ng/Kg	0.0659U ng/Kg
SL-071-NBZ-SB-4.0-5.0(RES)	1,2,3,6,7,8-HXCDF	0.0644 ng/Kg	0.0644U ng/Kg
SL-071-NBZ-SB-4.0-5.0(RES)	1,2,3,7,8,9-HXCDD	0.0660 ng/Kg	0.0660U ng/Kg
SL-071-NBZ-SB-4.0-5.0(RES)	1,2,3,7,8,9-HXCDF	0.0463 ng/Kg	0.0463U ng/Kg
SL-071-NBZ-SB-4.0-5.0(RES)	1,2,3,7,8-PECDD	0.0588 ng/Kg	0.0588U ng/Kg
SL-071-NBZ-SB-4.0-5.0(RES)	1,2,3,7,8-PECDF	0.0918 ng/Kg	0.0918U ng/Kg
SL-071-NBZ-SB-4.0-5.0(RES)	2,3,4,6,7,8-HXCDF	0.0414 ng/Kg	0.0414U ng/Kg
SL-071-NBZ-SB-4.0-5.0(RES)	2,3,4,7,8-PECDF	0.0881 ng/Kg	0.0881U ng/Kg
SL-071-NBZ-SB-4.0-5.0(RES)	2,3,7,8-TCDD	0.0286 ng/Kg	0.0286U ng/Kg
SL-071-NBZ-SB-4.0-5.0(RES)	2,3,7,8-TCDF	0.0272 ng/Kg	0.0272U ng/Kg
SL-071-NBZ-SB-4.0-5.0(RES)	OCDD	0.661 ng/Kg	0.661U ng/Kg
SL-071-NBZ-SB-4.0-5.0(RES)	OCDF	0.128 ng/Kg	0.128U ng/Kg
SL-072-NBZ-SB-4.0-5.0(RES)	1,2,3,4,6,7,8-HPCDD	0.436 ng/Kg	0.436U ng/Kg
SL-072-NBZ-SB-4.0-5.0(RES)	1,2,3,4,6,7,8-HPCDF	0.212 ng/Kg	0.212U ng/Kg
SL-072-NBZ-SB-4.0-5.0(RES)	1,2,3,4,7,8,9-HPCDF	0.184 ng/Kg	0.184U ng/Kg

Method Blank Outlier Report

Lab Reporting Batch ID: DX161 **Laboratory: LL**

EDD Filename: DX161_v1. **eQAPP Name: CDM_SSFL_120718_Lan**

Method: **1613B**
Matrix: **SO**

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples

The following samples and their listed target analytes were qualified due to contamination reported in this blank

Sample ID	Analyte	Reported Result	Modified Final Result
SL-072-NBZ-SB-4.0-5.0(RES)	1,2,3,6,7,8-HXCDD	0.238 ng/Kg	0.238U ng/Kg
SL-072-NBZ-SB-4.0-5.0(RES)	1,2,3,7,8,9-HXCDF	0.278 ng/Kg	0.278U ng/Kg
SL-072-NBZ-SB-4.0-5.0(RES)	2,3,4,7,8-PECDF	0.371 ng/Kg	0.371U ng/Kg
SL-072-NBZ-SB-4.0-5.0(RES)	2,3,7,8-TCDD	0.0875 ng/Kg	0.0875U ng/Kg
SL-072-NBZ-SB-4.0-5.0(RES)	2,3,7,8-TCDF	0.0865 ng/Kg	0.0865U ng/Kg
SL-072-NBZ-SB-4.0-5.0(RES)	OCDD	0.833 ng/Kg	0.833U ng/Kg
SL-072-NBZ-SB-4.0-5.0(RES)	OCDF	0.376 ng/Kg	0.376U ng/Kg
SL-073-NBZ-SB-4.0-5.0(RES)	1,2,3,4,6,7,8-HPCDD	0.257 ng/Kg	0.257U ng/Kg
SL-073-NBZ-SB-4.0-5.0(RES)	1,2,3,4,6,7,8-HPCDF	0.0946 ng/Kg	0.0946U ng/Kg
SL-073-NBZ-SB-4.0-5.0(RES)	1,2,3,4,7,8,9-HPCDF	0.0372 ng/Kg	0.0372U ng/Kg
SL-073-NBZ-SB-4.0-5.0(RES)	1,2,3,4,7,8-HxCDD	0.0211 ng/Kg	0.0211U ng/Kg
SL-073-NBZ-SB-4.0-5.0(RES)	1,2,3,4,7,8-HXCDF	0.0465 ng/Kg	0.0465U ng/Kg
SL-073-NBZ-SB-4.0-5.0(RES)	1,2,3,6,7,8-HXCDD	0.0666 ng/Kg	0.0666U ng/Kg
SL-073-NBZ-SB-4.0-5.0(RES)	1,2,3,7,8,9-HXCDD	0.0539 ng/Kg	0.0539U ng/Kg
SL-073-NBZ-SB-4.0-5.0(RES)	1,2,3,7,8,9-HXCDF	0.0428 ng/Kg	0.0428U ng/Kg
SL-073-NBZ-SB-4.0-5.0(RES)	1,2,3,7,8-PECDF	0.0275 ng/Kg	0.0275U ng/Kg
SL-073-NBZ-SB-4.0-5.0(RES)	2,3,4,6,7,8-HXCDF	0.0300 ng/Kg	0.0300U ng/Kg
SL-073-NBZ-SB-4.0-5.0(RES)	2,3,4,7,8-PECDF	0.0728 ng/Kg	0.0728U ng/Kg
SL-073-NBZ-SB-4.0-5.0(RES)	2,3,7,8-TCDD	0.0275 ng/Kg	0.0275U ng/Kg
SL-073-NBZ-SB-4.0-5.0(RES)	OCDD	0.568 ng/Kg	0.568U ng/Kg
SL-073-NBZ-SB-4.0-5.0(RES)	OCDF	0.152 ng/Kg	0.152U ng/Kg
SL-073-NBZ-SB-9.0-10.0(RES)	1,2,3,4,6,7,8-HPCDD	0.254 ng/Kg	0.254U ng/Kg
SL-073-NBZ-SB-9.0-10.0(RES)	1,2,3,4,6,7,8-HPCDF	0.0752 ng/Kg	0.0752U ng/Kg
SL-073-NBZ-SB-9.0-10.0(RES)	1,2,3,4,7,8,9-HPCDF	0.0391 ng/Kg	0.0391U ng/Kg
SL-073-NBZ-SB-9.0-10.0(RES)	1,2,3,4,7,8-HXCDF	0.0371 ng/Kg	0.0371U ng/Kg
SL-073-NBZ-SB-9.0-10.0(RES)	1,2,3,6,7,8-HXCDD	0.0461 ng/Kg	0.0461U ng/Kg
SL-073-NBZ-SB-9.0-10.0(RES)	1,2,3,6,7,8-HXCDF	0.0330 ng/Kg	0.0330U ng/Kg
SL-073-NBZ-SB-9.0-10.0(RES)	1,2,3,7,8,9-HXCDD	0.0431 ng/Kg	0.0431U ng/Kg
SL-073-NBZ-SB-9.0-10.0(RES)	1,2,3,7,8,9-HXCDF	0.0337 ng/Kg	0.0337U ng/Kg
SL-073-NBZ-SB-9.0-10.0(RES)	1,2,3,7,8-PECDF	0.0440 ng/Kg	0.0440U ng/Kg
SL-073-NBZ-SB-9.0-10.0(RES)	2,3,4,6,7,8-HXCDF	0.0301 ng/Kg	0.0301U ng/Kg
SL-073-NBZ-SB-9.0-10.0(RES)	2,3,4,7,8-PECDF	0.0663 ng/Kg	0.0663U ng/Kg
SL-073-NBZ-SB-9.0-10.0(RES)	2,3,7,8-TCDF	0.0254 ng/Kg	0.0254U ng/Kg
SL-073-NBZ-SB-9.0-10.0(RES)	OCDD	0.496 ng/Kg	0.496U ng/Kg
SL-073-NBZ-SB-9.0-10.0(RES)	OCDF	0.119 ng/Kg	0.119U ng/Kg
SL-074-NBZ-SB-0.5-1.5(RES)	1,2,3,4,6,7,8-HPCDD	0.336 ng/Kg	0.336U ng/Kg
SL-074-NBZ-SB-0.5-1.5(RES)	1,2,3,4,6,7,8-HPCDF	0.0655 ng/Kg	0.0655U ng/Kg
SL-074-NBZ-SB-0.5-1.5(RES)	1,2,3,4,7,8,9-HPCDF	0.0419 ng/Kg	0.0419U ng/Kg
SL-074-NBZ-SB-0.5-1.5(RES)	1,2,3,4,7,8-HXCDF	0.0247 ng/Kg	0.0247U ng/Kg
SL-074-NBZ-SB-0.5-1.5(RES)	1,2,3,6,7,8-HXCDD	0.0977 ng/Kg	0.0977U ng/Kg

Method Blank Outlier Report

Lab Reporting Batch ID: DX161 **Laboratory: LL**

EDD Filename: DX161_v1. **eQAPP Name: CDM_SSFL_120718_Lan**

Method: 1613B
Matrix: SO

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples

The following samples and their listed target analytes were qualified due to contamination reported in this blank

Sample ID	Analyte	Reported Result	Modified Final Result
SL-074-NBZ-SB-0.5-1.5(RES)	1,2,3,7,8,9-HXCDD	0.279 ng/Kg	0.279U ng/Kg
SL-074-NBZ-SB-0.5-1.5(RES)	1,2,3,7,8,9-HXCDF	0.0456 ng/Kg	0.0456U ng/Kg
SL-074-NBZ-SB-0.5-1.5(RES)	1,2,3,7,8-PECDF	0.0279 ng/Kg	0.0279U ng/Kg
SL-074-NBZ-SB-0.5-1.5(RES)	2,3,4,6,7,8-HXCDF	0.0289 ng/Kg	0.0289U ng/Kg
SL-074-NBZ-SB-0.5-1.5(RES)	2,3,4,7,8-PECDF	0.0698 ng/Kg	0.0698U ng/Kg
SL-074-NBZ-SB-0.5-1.5(RES)	OCDD	0.538 ng/Kg	0.538U ng/Kg
SL-074-NBZ-SB-0.5-1.5(RES)	OCDF	0.153 ng/Kg	0.153U ng/Kg
SL-075-NBZ-SS-0.0-0.5(RES)	1,2,3,4,7,8,9-HPCDF	0.144 ng/Kg	0.144U ng/Kg
SL-075-NBZ-SS-0.0-0.5(RES)	1,2,3,4,7,8-HxCDD	0.219 ng/Kg	0.219U ng/Kg
SL-075-NBZ-SS-0.0-0.5(RES)	1,2,3,7,8,9-HXCDF	0.0679 ng/Kg	0.0679U ng/Kg
SL-075-NBZ-SS-0.0-0.5(RES)	1,2,3,7,8-PECDD	0.0956 ng/Kg	0.0956U ng/Kg
SL-075-NBZ-SS-0.0-0.5(RES)	2,3,4,6,7,8-HXCDF	0.206 ng/Kg	0.206U ng/Kg
SL-075-NBZ-SS-0.0-0.5(RES)	2,3,4,7,8-PECDF	0.291 ng/Kg	0.291U ng/Kg
SL-075-NBZ-SS-0.0-0.5(RES)	2,3,7,8-TCDD	0.0273 ng/Kg	0.0273U ng/Kg
SL-075-NBZ-SS-0.0-0.5(RES)	2,3,7,8-TCDF	0.161 ng/Kg	0.161U ng/Kg
SL-076-NBZ-SS-0.0-0.5(RES)	1,2,3,4,7,8,9-HPCDF	0.214 ng/Kg	0.214U ng/Kg
SL-076-NBZ-SS-0.0-0.5(RES)	1,2,3,7,8,9-HXCDF	0.113 ng/Kg	0.113U ng/Kg
SL-076-NBZ-SS-0.0-0.5(RES)	2,3,7,8-TCDD	0.0584 ng/Kg	0.0584U ng/Kg
SL-077-NBZ-SB-2.5-3.5(RES)	1,2,3,4,6,7,8-HPCDD	1.20 ng/Kg	1.20U ng/Kg
SL-077-NBZ-SB-2.5-3.5(RES)	1,2,3,4,6,7,8-HPCDF	0.295 ng/Kg	0.295U ng/Kg
SL-077-NBZ-SB-2.5-3.5(RES)	1,2,3,4,7,8,9-HPCDF	0.0571 ng/Kg	0.0571U ng/Kg
SL-077-NBZ-SB-2.5-3.5(RES)	1,2,3,4,7,8-HxCDD	0.0273 ng/Kg	0.0273U ng/Kg
SL-077-NBZ-SB-2.5-3.5(RES)	1,2,3,4,7,8-HXCDF	0.0950 ng/Kg	0.0950U ng/Kg
SL-077-NBZ-SB-2.5-3.5(RES)	1,2,3,6,7,8-HXCDD	0.0798 ng/Kg	0.0798U ng/Kg
SL-077-NBZ-SB-2.5-3.5(RES)	1,2,3,6,7,8-HXCDF	0.0486 ng/Kg	0.0486U ng/Kg
SL-077-NBZ-SB-2.5-3.5(RES)	1,2,3,7,8,9-HXCDD	0.0657 ng/Kg	0.0657U ng/Kg
SL-077-NBZ-SB-2.5-3.5(RES)	1,2,3,7,8-PECDD	0.0414 ng/Kg	0.0414U ng/Kg
SL-077-NBZ-SB-2.5-3.5(RES)	1,2,3,7,8-PECDF	0.166 ng/Kg	0.166U ng/Kg
SL-077-NBZ-SB-2.5-3.5(RES)	2,3,4,6,7,8-HXCDF	0.0450 ng/Kg	0.0450U ng/Kg
SL-077-NBZ-SB-2.5-3.5(RES)	2,3,4,7,8-PECDF	0.0733 ng/Kg	0.0733U ng/Kg
SL-077-NBZ-SB-2.5-3.5(RES)	2,3,7,8-TCDD	0.0272 ng/Kg	0.0272U ng/Kg
SL-077-NBZ-SS-0.0-0.5(RES)	1,2,3,7,8,9-HXCDF	0.176 ng/Kg	0.176U ng/Kg
SL-077-NBZ-SS-0.0-0.5(RES)	2,3,7,8-TCDD	0.0762 ng/Kg	0.0762U ng/Kg

Field Duplicate RPD Report

Lab Reporting Batch ID: DX161 **Laboratory: LL**

EDD Filename: DX161_v1. **eQAPP Name: CDM_SSFL_120718_Lan**

Method: 160.3M
Matrix: SO

Analyte	Concentration (%)		Sample RPD	eQAPP RPD	Flag
	SL-068-NBZ-SB-2.5-3.5	DUP-01-NBZ-QC-031612			
MOISTURE	8.7	8.5	2		No Qualifiers Applied

Method: 1613B
Matrix: SO

Analyte	Concentration (ng/Kg)		Sample RPD	eQAPP RPD	Flag
	SL-068-NBZ-SB-2.5-3.5	DUP-01-NBZ-QC-031612			
1,2,3,4,6,7,8-HPCDD	0.342	0.265	25	50.00	
1,2,3,4,6,7,8-HPCDF	0.110	0.150	31	50.00	
1,2,3,4,7,8-HxCDD	0.0799	0.118	39	50.00	
1,2,3,4,7,8-HXCDF	0.147	0.210	35	50.00	
1,2,3,6,7,8-HXCDD	0.114	0.151	28	50.00	
1,2,3,6,7,8-HXCDF	0.0979	0.163	50	50.00	
1,2,3,7,8,9-HXCDD	0.115	0.155	30	50.00	No Qualifiers Applied
1,2,3,7,8,9-HXCDF	0.118	0.156	28	50.00	
2,3,4,6,7,8-HXCDF	0.108	0.139	25	50.00	
2,3,7,8-TCDD	0.0599	0.0911	41	50.00	
2,3,7,8-TCDF	0.0577	0.0556	4	50.00	
OCDD	0.563	0.462	20	50.00	
OCDF	0.189	0.161	16	50.00	
1,2,3,4,7,8,9-HPCDF	0.0242	0.0920	117	50.00	
1,2,3,7,8-PECDD	0.148	0.252	52	50.00	J(all detects)
1,2,3,7,8-PECDF	0.155	0.283	58	50.00	
2,3,4,7,8-PECDF	0.149	0.290	64	50.00	

Project Name and Number: 1203-004-009-AL - SSFL Area IV Collocated Soil Sampling

Reporting Limit Outliers

Lab Reporting Batch ID: DX161 **Laboratory: LL**

EDD Filename: DX161_v1. **eQAPP Name: CDM_SSFL_120718_Lan**

Method: 1613B
Matrix: AQ

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
EB-NBZ-SS-032112	1,2,3,4,6,7,8-HPCDD	JB	3.73	9.50	PQL	pg/L	J (all detects)
	1,2,3,4,6,7,8-HPCDF	JB	1.55	9.50	PQL	pg/L	
	1,2,3,4,7,8,9-HPCDF	JBQ	0.411	9.50	PQL	pg/L	
	1,2,3,4,7,8-HXCDF	JBQ	0.720	9.50	PQL	pg/L	
	1,2,3,6,7,8-HXCDD	JB	0.522	9.50	PQL	pg/L	
	1,2,3,6,7,8-HXCDF	JBQ	0.530	9.50	PQL	pg/L	
	1,2,3,7,8,9-HXCDD	JBQ	0.557	9.50	PQL	pg/L	
	1,2,3,7,8,9-HXCDF	JB	0.333	9.50	PQL	pg/L	
	1,2,3,7,8-PECDD	JBQ	0.415	9.50	PQL	pg/L	
	1,2,3,7,8-PECDF	JBQ	0.447	9.50	PQL	pg/L	
	2,3,4,6,7,8-HXCDF	JB	0.382	9.50	PQL	pg/L	
	2,3,4,7,8-PECDF	JBQ	0.541	9.50	PQL	pg/L	
	OCDD	JB	6.15	19.0	PQL	pg/L	
	OCDF	JB	1.72	19.0	PQL	pg/L	

Method: 1613B
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
DUP-01-NBZ-QC-031612	1,2,3,4,6,7,8-HPCDD	JB	0.265	5.33	PQL	ng/Kg	J (all detects)
	1,2,3,4,6,7,8-HPCDF	JB	0.150	5.33	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JBQ	0.0920	5.33	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JB	0.118	5.33	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JBQ	0.210	5.33	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	JB	0.151	5.33	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JBQ	0.163	5.33	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDD	JB	0.155	5.33	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	JB	0.156	5.33	PQL	ng/Kg	
	1,2,3,7,8-PECDD	JQ	0.252	5.33	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JB	0.283	5.33	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JB	0.139	5.33	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JB	0.290	5.33	PQL	ng/Kg	
	2,3,7,8-TCDD	JB	0.0911	1.07	PQL	ng/Kg	
	2,3,7,8-TCDF	JB	0.0556	1.07	PQL	ng/Kg	
	OCDD	JB	0.462	10.7	PQL	ng/Kg	
	OCDF	JB	0.161	10.7	PQL	ng/Kg	
SL-053-NBZ-SB-3.5-4.5	1,2,3,4,6,7,8-HPCDD	JB	0.788	5.15	PQL	ng/Kg	J (all detects)
	1,2,3,4,6,7,8-HPCDF	JB	0.109	5.15	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JBQ	0.0497	5.15	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JBQ	0.0564	5.15	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JBQ	0.0782	5.15	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	JBQ	0.0440	5.15	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JBQ	0.0540	5.15	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDD	JB	0.0761	5.15	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	JBQ	0.0811	5.15	PQL	ng/Kg	
	1,2,3,7,8-PECDD	J	0.0470	5.15	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JBQ	0.0982	5.15	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JBQ	0.0407	5.15	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JB	0.0920	5.15	PQL	ng/Kg	
	OCDD	JB	3.98	10.3	PQL	ng/Kg	
	OCDF	JB	0.197	10.3	PQL	ng/Kg	

Reporting Limit Outliers

Lab Reporting Batch ID: DX161 **Laboratory: LL**

EDD Filename: DX161_v1. **eQAPP Name: CDM_SSFL_120718_Lan**

Method: 1613B

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-053-NBZ-SS-0.0-0.5	1,2,3,4,7,8,9-HPCDF	JB	0.912	5.04	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JB	0.314	5.04	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JB	2.40	5.04	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	JB	1.14	5.04	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JB	1.45	5.04	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDD	JB	0.721	5.04	PQL	ng/Kg	J (all detects)
	1,2,3,7,8-PECDD	J	0.307	5.04	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JB	3.06	5.04	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JB	0.828	5.04	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JB	3.22	5.04	PQL	ng/Kg	
	2,3,7,8-TCDD	JB	0.198	1.01	PQL	ng/Kg	
SL-056-NBZ-SB-3.0-4.0	1,2,3,4,6,7,8-HPCDD	JB	0.475	6.10	PQL	ng/Kg	
	1,2,3,4,6,7,8-HPCDF	JB	0.179	6.10	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JBQ	0.0840	6.10	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JBQ	0.0661	6.10	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JB	0.178	6.10	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	JBQ	0.127	6.10	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JB	0.123	6.10	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDD	JBQ	0.132	6.10	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	JB	0.145	6.10	PQL	ng/Kg	J (all detects)
	1,2,3,7,8-PECDD	JQ	0.159	6.10	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JBQ	0.197	6.10	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JBQ	0.101	6.10	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JBQ	0.208	6.10	PQL	ng/Kg	
	2,3,7,8-TCDD	JBQ	0.0638	1.22	PQL	ng/Kg	
	2,3,7,8-TCDF	JBQ	0.0555	1.22	PQL	ng/Kg	
	OCDD	JB	2.43	12.2	PQL	ng/Kg	
	OCDF	JBQ	0.266	12.2	PQL	ng/Kg	
SL-056-NBZ-SS-0.0-0.5	1,2,3,4,6,7,8-HPCDF	JB	6.42	6.45	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JB	0.961	6.45	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JB	0.511	6.45	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JB	3.41	6.45	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	JB	1.48	6.45	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JB	1.84	6.45	PQL	ng/Kg	J (all detects)
	1,2,3,7,8,9-HXCDD	JB	1.25	6.45	PQL	ng/Kg	
	1,2,3,7,8-PECDD	J	0.432	6.45	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JB	4.63	6.45	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JB	1.08	6.45	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JB	4.70	6.45	PQL	ng/Kg	
	2,3,7,8-TCDD	JB	0.133	1.29	PQL	ng/Kg	
SL-065-NBZ-SB-1.0-2.0	1,2,3,4,6,7,8-HPCDD	JB	1.33	5.26	PQL	ng/Kg	
	1,2,3,4,6,7,8-HPCDF	JB	0.534	5.26	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JBQ	0.212	5.26	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JB	0.192	5.26	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JB	0.408	5.26	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	JB	0.288	5.26	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JB	0.220	5.26	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDD	JB	0.392	5.26	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	JB	0.193	5.26	PQL	ng/Kg	J (all detects)
	1,2,3,7,8-PECDD	JB	0.200	5.26	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JB	0.309	5.26	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JB	0.238	5.26	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JB	0.445	5.26	PQL	ng/Kg	
	2,3,7,8-TCDD	JB	0.0370	1.05	PQL	ng/Kg	
	2,3,7,8-TCDF	JB	0.0989	1.05	PQL	ng/Kg	
	OCDD	JB	8.53	10.5	PQL	ng/Kg	
	OCDF	JB	1.08	10.5	PQL	ng/Kg	

Reporting Limit Outliers

Lab Reporting Batch ID: DX161 **Laboratory: LL**

EDD Filename: DX161_v1. **eQAPP Name: CDM_SSFL_120718_Lan**

Method: 1613B

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-066-NBZ-SB-2.0-3.0	1,2,3,4,6,7,8-HPCDD	JBQ	0.336	5.14	PQL	ng/Kg	
	1,2,3,4,6,7,8-HPCDF	JBQ	0.113	5.14	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JBQ	0.0284	5.14	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JB	0.0206	5.14	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JB	0.0654	5.14	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	JBQ	0.0649	5.14	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JBQ	0.0473	5.14	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDD	JB	0.0591	5.14	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	JB	0.0539	5.14	PQL	ng/Kg	J (all detects)
	1,2,3,7,8-PECDD	JBQ	0.0604	5.14	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JBQ	0.0515	5.14	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JB	0.0508	5.14	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JB	0.0582	5.14	PQL	ng/Kg	
	2,3,7,8-TCDD	JBQ	0.0164	1.03	PQL	ng/Kg	
	2,3,7,8-TCDF	JBQ	0.0166	1.03	PQL	ng/Kg	
	OCDD	JB	0.824	10.3	PQL	ng/Kg	
	OCDF	JB	0.185	10.3	PQL	ng/Kg	
SL-067-NBZ-SB-1.5-2.5	1,2,3,4,6,7,8-HPCDD	JBQ	0.320	5.35	PQL	ng/Kg	
	1,2,3,4,6,7,8-HPCDF	JB	0.110	5.35	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JBQ	0.0482	5.35	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JBQ	0.0244	5.35	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JB	0.0477	5.35	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	JB	0.0697	5.35	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JB	0.0538	5.35	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDD	JB	0.0446	5.35	PQL	ng/Kg	J (all detects)
	1,2,3,7,8,9-HXCDF	JB	0.0649	5.35	PQL	ng/Kg	
	1,2,3,7,8-PECDD	JQ	0.0728	5.35	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JBQ	0.0621	5.35	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JB	0.0415	5.35	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JB	0.0830	5.35	PQL	ng/Kg	
	OCDD	JB	0.823	10.7	PQL	ng/Kg	
	OCDF	JB	0.136	10.7	PQL	ng/Kg	
SL-068-NBZ-SB-2.5-3.5	1,2,3,4,6,7,8-HPCDD	JB	0.342	5.43	PQL	ng/Kg	
	1,2,3,4,6,7,8-HPCDF	JB	0.110	5.43	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JBQ	0.0242	5.43	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JBQ	0.0799	5.43	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JBQ	0.147	5.43	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	JBQ	0.114	5.43	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JB	0.0979	5.43	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDD	JB	0.115	5.43	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	JB	0.118	5.43	PQL	ng/Kg	J (all detects)
	1,2,3,7,8-PECDD	J	0.148	5.43	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JB	0.155	5.43	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JBQ	0.108	5.43	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JB	0.149	5.43	PQL	ng/Kg	
	2,3,7,8-TCDD	JB	0.0599	1.09	PQL	ng/Kg	
	2,3,7,8-TCDF	JB	0.0577	1.09	PQL	ng/Kg	
	OCDD	JB	0.563	10.9	PQL	ng/Kg	
	OCDF	JB	0.189	10.9	PQL	ng/Kg	

Reporting Limit Outliers

Lab Reporting Batch ID: DX161 **Laboratory: LL**

EDD Filename: DX161_v1. **eQAPP Name: CDM_SSFL_120718_Lan**

Method: 1613B

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-069-NBZ-SB-3.0-4.0	1,2,3,4,6,7,8-HPCDD	JB	0.665	5.21	PQL	ng/Kg	J (all detects)
	1,2,3,4,6,7,8-HPCDF	JB	0.192	5.21	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JB	0.151	5.21	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JBQ	0.177	5.21	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JB	0.185	5.21	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	JBQ	0.206	5.21	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JBQ	0.169	5.21	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDD	JB	0.210	5.21	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	JB	0.177	5.21	PQL	ng/Kg	
	1,2,3,7,8-PECDD	JB	0.217	5.21	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JB	0.221	5.21	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JB	0.157	5.21	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JB	0.220	5.21	PQL	ng/Kg	
	2,3,7,8-TCDD	JBQ	0.0509	1.04	PQL	ng/Kg	
	OCDD	JB	8.68	10.4	PQL	ng/Kg	
	OCDF	JB	0.437	10.4	PQL	ng/Kg	
SL-070-NBZ-SS-0.0-0.5	1,2,3,4,7,8-HxCDD	JB	0.648	5.67	PQL	ng/Kg	J (all detects)
	1,2,3,4,7,8-HXCDF	JB	1.51	5.67	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	JB	5.48	5.67	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JB	1.33	5.67	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDD	JB	1.17	5.67	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	JB	0.348	5.67	PQL	ng/Kg	
	1,2,3,7,8-PECDD	JB	0.145	5.67	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JB	1.01	5.67	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JB	2.14	5.67	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JB	0.300	5.67	PQL	ng/Kg	
	2,3,7,8-TCDD	JBQ	0.0545	1.13	PQL	ng/Kg	
	2,3,7,8-TCDF	JBQ	0.0944	1.13	PQL	ng/Kg	
SL-071-NBZ-SB-4.0-5.0	1,2,3,4,6,7,8-HPCDD	JB	0.316	5.13	PQL	ng/Kg	J (all detects)
	1,2,3,4,6,7,8-HPCDF	JB	0.0902	5.13	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JBQ	0.0442	5.13	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JBQ	0.0420	5.13	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JB	0.0638	5.13	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	JBQ	0.0659	5.13	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JB	0.0644	5.13	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDD	JB	0.0660	5.13	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	JBQ	0.0463	5.13	PQL	ng/Kg	
	1,2,3,7,8-PECDD	JBQ	0.0588	5.13	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JB	0.0918	5.13	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JB	0.0414	5.13	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JB	0.0881	5.13	PQL	ng/Kg	
	2,3,7,8-TCDD	JB	0.0286	1.03	PQL	ng/Kg	
	2,3,7,8-TCDF	JB	0.0272	1.03	PQL	ng/Kg	
	OCDD	JB	0.661	10.3	PQL	ng/Kg	
	OCDF	JB	0.128	10.3	PQL	ng/Kg	

Reporting Limit Outliers

Lab Reporting Batch ID: DX161 **Laboratory: LL**

EDD Filename: DX161_v1. **eQAPP Name: CDM_SSFL_120718_Lan**

Method: 1613B

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-072-NBZ-SB-4.0-5.0	1,2,3,4,6,7,8-HPCDD	JB	0.436	5.44	PQL	ng/Kg	
	1,2,3,4,6,7,8-HPCDF	JB	0.212	5.44	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JB	0.184	5.44	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JB	0.215	5.44	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JB	0.314	5.44	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	JB	0.238	5.44	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JB	0.287	5.44	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDD	JB	0.260	5.44	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	JBQ	0.278	5.44	PQL	ng/Kg	J (all detects)
	1,2,3,7,8-PECDD	J	0.348	5.44	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JB	0.428	5.44	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JB	0.229	5.44	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JB	0.371	5.44	PQL	ng/Kg	
	2,3,7,8-TCDD	JB	0.0875	1.09	PQL	ng/Kg	
	2,3,7,8-TCDF	JB	0.0865	1.09	PQL	ng/Kg	
	OCDD	JB	0.833	10.9	PQL	ng/Kg	
	OCDF	JB	0.376	10.9	PQL	ng/Kg	
SL-073-NBZ-SB-4.0-5.0	1,2,3,4,6,7,8-HPCDD	JB	0.257	5.41	PQL	ng/Kg	
	1,2,3,4,6,7,8-HPCDF	JB	0.0946	5.41	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JBQ	0.0372	5.41	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JBQ	0.0211	5.41	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JBQ	0.0465	5.41	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	JBQ	0.0666	5.41	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDD	JBQ	0.0539	5.41	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	JBQ	0.0428	5.41	PQL	ng/Kg	J (all detects)
	1,2,3,7,8-PECDF	JBQ	0.0275	5.41	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JBQ	0.0300	5.41	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JB	0.0728	5.41	PQL	ng/Kg	
	2,3,7,8-TCDD	JBQ	0.0275	1.08	PQL	ng/Kg	
	OCDD	JB	0.568	10.8	PQL	ng/Kg	
	OCDF	JBQ	0.152	10.8	PQL	ng/Kg	
SL-073-NBZ-SB-9.0-10.0	1,2,3,4,6,7,8-HPCDD	JB	0.254	5.33	PQL	ng/Kg	
	1,2,3,4,6,7,8-HPCDF	JB	0.0752	5.33	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JB	0.0391	5.33	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JBQ	0.0371	5.33	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	JBQ	0.0461	5.33	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JB	0.0330	5.33	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDD	JBQ	0.0431	5.33	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	JBQ	0.0337	5.33	PQL	ng/Kg	J (all detects)
	1,2,3,7,8-PECDF	JBQ	0.0440	5.33	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JB	0.0301	5.33	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JBQ	0.0663	5.33	PQL	ng/Kg	
	2,3,7,8-TCDF	JBQ	0.0254	1.07	PQL	ng/Kg	
	OCDD	JB	0.496	10.7	PQL	ng/Kg	
	OCDF	JB	0.119	10.7	PQL	ng/Kg	
SL-074-NBZ-SB-0.5-1.5	1,2,3,4,6,7,8-HPCDD	JBQ	0.336	5.13	PQL	ng/Kg	
	1,2,3,4,6,7,8-HPCDF	JB	0.0655	5.13	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JBQ	0.0419	5.13	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JBQ	0.0247	5.13	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	JBQ	0.0977	5.13	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDD	JB	0.279	5.13	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	JB	0.0456	5.13	PQL	ng/Kg	J (all detects)
	1,2,3,7,8-PECDD	JQ	0.0564	5.13	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JB	0.0279	5.13	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JBQ	0.0289	5.13	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JBQ	0.0698	5.13	PQL	ng/Kg	
	OCDD	JB	0.538	10.3	PQL	ng/Kg	
	OCDF	JB	0.153	10.3	PQL	ng/Kg	

Reporting Limit Outliers

Lab Reporting Batch ID: DX161 **Laboratory: LL**

EDD Filename: DX161_v1. **eQAPP Name: CDM_SSFL_120718_Lan**

Method: 1613B

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-075-NBZ-SS-0.0-0.5	1,2,3,4,6,7,8-HPCDF	JB	2.04	5.43	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JB	0.144	5.43	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JB	0.219	5.43	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JBQ	0.390	5.43	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	JB	0.503	5.43	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JB	0.224	5.43	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDD	JBQ	0.329	5.43	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	JB	0.0679	5.43	PQL	ng/Kg	J (all detects)
	1,2,3,7,8-PECDD	JBQ	0.0956	5.43	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JB	0.922	5.43	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JB	0.206	5.43	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JB	0.291	5.43	PQL	ng/Kg	
	2,3,7,8-TCDD	JBQ	0.0273	1.09	PQL	ng/Kg	
	2,3,7,8-TCDF	JB	0.161	1.09	PQL	ng/Kg	
	OCDF	JB	6.08	10.9	PQL	ng/Kg	
SL-076-NBZ-SS-0.0-0.5	1,2,3,4,6,7,8-HPCDF	JB	2.90	5.69	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JB	0.214	5.69	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JB	0.273	5.69	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JB	0.544	5.69	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	JB	0.727	5.69	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JB	0.340	5.69	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDD	JB	0.485	5.69	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	JB	0.113	5.69	PQL	ng/Kg	J (all detects)
	1,2,3,7,8-PECDD	JB	0.261	5.69	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JB	1.15	5.69	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JB	0.299	5.69	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JB	0.605	5.69	PQL	ng/Kg	
	2,3,7,8-TCDD	JB	0.0584	1.14	PQL	ng/Kg	
	2,3,7,8-TCDF	JB	0.272	1.14	PQL	ng/Kg	
	OCDF	JB	9.40	11.4	PQL	ng/Kg	
SL-077-NBZ-SB-2.5-3.5	1,2,3,4,6,7,8-HPCDD	JBQ	1.20	5.29	PQL	ng/Kg	
	1,2,3,4,6,7,8-HPCDF	JB	0.295	5.29	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JB	0.0571	5.29	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JB	0.0273	5.29	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JB	0.0950	5.29	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	JBQ	0.0798	5.29	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JBQ	0.0486	5.29	PQL	ng/Kg	J (all detects)
	1,2,3,7,8,9-HXCDD	JB	0.0657	5.29	PQL	ng/Kg	
	1,2,3,7,8-PECDD	JBQ	0.0414	5.29	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JB	0.166	5.29	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JB	0.0450	5.29	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JB	0.0733	5.29	PQL	ng/Kg	
	2,3,7,8-TCDD	JBQ	0.0272	1.06	PQL	ng/Kg	
	OCDF	JB	0.823	10.6	PQL	ng/Kg	
SL-077-NBZ-SS-0.0-0.5	1,2,3,4,6,7,8-HPCDF	JB	4.71	5.76	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JB	0.415	5.76	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JB	0.378	5.76	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JB	0.892	5.76	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	JB	0.937	5.76	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JB	0.517	5.76	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDD	JB	0.705	5.76	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	JB	0.176	5.76	PQL	ng/Kg	J (all detects)
	1,2,3,7,8-PECDD	JB	0.278	5.76	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JB	1.55	5.76	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JB	0.589	5.76	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JB	0.960	5.76	PQL	ng/Kg	
	2,3,7,8-TCDD	JB	0.0762	1.15	PQL	ng/Kg	
	2,3,7,8-TCDF	JB	0.584	1.15	PQL	ng/Kg	

SAMPLE DELIVERY GROUP

DX162

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
21-Mar-2012	SL-064-NBZ-SB-0.5-1.5	6589249	N	METHOD	1613B	III
21-Mar-2012	SL-104-NBZ-SS-0.0-0.5	6589250	N	METHOD	1613B	III
21-Mar-2012	SL-063-NBZ-SB-0.5-1.5	6589248	N	METHOD	1613B	III
21-Mar-2012	SL-062-NBZ-SB-2.5-3.5	6589247	N	METHOD	1613B	III
22-Mar-2012	SL-061-NBZ-SB-1.0-2.0	6589255	N	METHOD	1613B	III
22-Mar-2012	SL-060-NBZ-SS-0.0-0.5	6589254	N	METHOD	1613B	III
22-Mar-2012	SL-059-NBZ-SS-0.0-0.5	6589253	N	METHOD	1613B	III
22-Mar-2012	SL-055-NBZ-SS-0.0-0.5	6589252	N	METHOD	1613B	III
22-Mar-2012	SL-054-NBZ-SS-0.0-0.5	6589251	N	METHOD	1613B	III
22-Mar-2012	SL-116-NBZ-SS-0.0-0.5	6589256	N	METHOD	1613B	III
22-Mar-2012	EB-NBZ-SB-032212	6589257	EB	METHOD	1613B	III
23-Mar-2012	SL-057-NBZ-SS-0.0-0.5	6590855	N	METHOD	1613B	III
23-Mar-2012	SL-057-NBZ-SS-0.0-0.5 MS	6590856	MS	METHOD	1613B	III
23-Mar-2012	SL-057-NBZ-SS-0.0-0.5 MSD	6590857	MSD	METHOD	1613B	III
23-Mar-2012	SL-057-NBZ-SS-0.0-0.5MSD	P590855M370856	MSD	METHOD	1613B	III
23-Mar-2012	SL-057-NBZ-SS-0.0-0.5MS	P590855R370759	MS	METHOD	1613B	III
23-Mar-2012	DUP-02-NBZ-QC-032312	6590858	FD	METHOD	1613B	III
23-Mar-2012	SL-051-NBZ-SB-1.5-2.5	6590854	N	METHOD	1613B	III
23-Mar-2012	SL-049-NBZ-SB-2.0-3.0	6590853	N	METHOD	1613B	III
23-Mar-2012	SL-048-NBZ-SS-0.0-0.5	6590851	N	METHOD	1613B	III
23-Mar-2012	SL-048-NBZ-SB-4.0-5.0	6590852	N	METHOD	1613B	III
23-Mar-2012	SL-047-NBZ-SB-4.0-5.0	6590859	N	METHOD	1613B	III

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Attachment II

Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: DX162 **Laboratory: LL**

EDD Filename: DX162_v1 **eQAPP Name: CDM_SSFL_120718_Lan**

Method Category: SVOA

Method: 1613B **Matrix: AQ**

Sample ID: EB-NBZ-SB-032212 *Collected:* 3/22/2012 3:30:00 *Analysis Type:* RES *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,6,7,8-HPCDD	3.75	JB	0.207	MDL	9.44	PQL	pg/L	U	B
1,2,3,4,6,7,8-HPCDF	1.24	JBQ	0.101	MDL	9.44	PQL	pg/L	U	B
1,2,3,4,7,8,9-HPCDF	0.361	JBQ	0.123	MDL	9.44	PQL	pg/L	U	B
1,2,3,4,7,8-HXCDF	0.316	JB	0.108	MDL	9.44	PQL	pg/L	U	B
1,2,3,6,7,8-HXCDD	0.467	JBQ	0.180	MDL	9.44	PQL	pg/L	U	B
1,2,3,6,7,8-HXCDF	0.233	JBQ	0.112	MDL	9.44	PQL	pg/L	U	B
1,2,3,7,8,9-HXCDD	0.507	JBQ	0.179	MDL	9.44	PQL	pg/L	U	B
1,2,3,7,8,9-HXCDF	0.144	JBQ	0.111	MDL	9.44	PQL	pg/L	U	B
1,2,3,7,8-PECDD	0.423	JQ	0.195	MDL	9.44	PQL	pg/L	J	Z
1,2,3,7,8-PECDF	0.321	JB	0.131	MDL	9.44	PQL	pg/L	U	B
2,3,4,6,7,8-HXCDF	0.425	JBQ	0.0996	MDL	9.44	PQL	pg/L	U	B
2,3,4,7,8-PECDF	0.385	JBQ	0.114	MDL	9.44	PQL	pg/L	U	B
2,3,7,8-TCDF	0.209	J	0.160	MDL	1.89	PQL	pg/L	J	Z
OCDD	8.78	JB	0.181	MDL	18.9	PQL	pg/L	U	B
OCDF	1.46	JB	0.221	MDL	18.9	PQL	pg/L	U	B

Method Category: SVOA

Method: 1613B **Matrix: SO**

Sample ID: DUP-02-NBZ-QC-032312 *Collected:* 3/23/2012 9:28:00 *Analysis Type:* REA *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
2,3,7,8-TCDF	1.78	C	0.203	MDL	1.06	PQL	ng/Kg	J	FD

Sample ID: DUP-02-NBZ-QC-032312 *Collected:* 3/23/2012 9:28:00 *Analysis Type:* RES *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,6,7,8-HPCDD	1.11	JB	0.0237	MDL	5.31	PQL	ng/Kg	UJ	B, FD
1,2,3,4,6,7,8-HPCDF	0.836	JB	0.0106	MDL	5.31	PQL	ng/Kg	J	Z, FD
1,2,3,4,7,8,9-HPCDF	0.492	JB	0.0225	MDL	5.31	PQL	ng/Kg	J	Z, FD
1,2,3,4,7,8-HxCDD	0.0763	JB	0.0204	MDL	5.31	PQL	ng/Kg	UJ	B, FD
1,2,3,4,7,8-HXCDF	1.99	JB	0.0284	MDL	5.31	PQL	ng/Kg	J	Z, FD

* denotes a non-reportable result

Project Name and Number: 1203-004-009-AL - SSFL Area IV Collocated Soil Sampling

Data Qualifier Summary

Lab Reporting Batch ID: DX162 **Laboratory: LL**

EDD Filename: DX162_v1 **eQAPP Name: CDM_SSFL_120718_Lan**

Method Category: SVOA

Method: 1613B **Matrix: SO**

Sample ID: DUP-02-NBZ-QC-032312 *Collected:* 3/23/2012 9:28:00 *Analysis Type:* RES *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,6,7,8-HXCDD	0.125	JB	0.0213	MDL	5.31	PQL	ng/Kg	UJ	B, FD
1,2,3,6,7,8-HXCDF	0.882	JB	0.0258	MDL	5.31	PQL	ng/Kg	J	Z, FD
1,2,3,7,8,9-HXCDD	0.120	JB	0.0209	MDL	5.31	PQL	ng/Kg	UJ	B, FD
1,2,3,7,8,9-HXCDF	0.361	JQ	0.0356	MDL	5.31	PQL	ng/Kg	J	Z, FD
1,2,3,7,8-PECDD	0.0948	J	0.0278	MDL	5.31	PQL	ng/Kg	J	Z, FD
1,2,3,7,8-PECDF	2.10	J	0.0467	MDL	5.31	PQL	ng/Kg	J	Z, FD
2,3,4,6,7,8-HXCDF	0.412	JB	0.0269	MDL	5.31	PQL	ng/Kg	J	Z, FD
2,3,4,7,8-PECDF	2.70	JB	0.0529	MDL	5.31	PQL	ng/Kg	J	Z, FD
2,3,7,8-TCDD	0.0454	JB	0.0238	MDL	1.06	PQL	ng/Kg	UJ	B, FD
OCDD	7.02	JB	0.0163	MDL	10.6	PQL	ng/Kg	J	Z, FD
OCDF	1.27	JB	0.0287	MDL	10.6	PQL	ng/Kg	J	Z, FD

Sample ID: SL-047-NBZ-SB-4.0-5.0 *Collected:* 3/23/2012 3:20:00 *Analysis Type:* RES *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,6,7,8-HPCDD	0.320	JB	0.0230	MDL	5.10	PQL	ng/Kg	U	B
1,2,3,4,6,7,8-HPCDF	0.0644	JB	0.00865	MDL	5.10	PQL	ng/Kg	U	B
1,2,3,4,7,8,9-HPCDF	0.0270	JBQ	0.0165	MDL	5.10	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.0292	JBQ	0.0185	MDL	5.10	PQL	ng/Kg	U	B
1,2,3,4,7,8-HXCDF	0.0450	JB	0.0123	MDL	5.10	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDD	0.0578	JBQ	0.0198	MDL	5.10	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDF	0.0329	JBQ	0.0113	MDL	5.10	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDD	0.0562	JBQ	0.0194	MDL	5.10	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDF	0.0310	JQ	0.0152	MDL	5.10	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDF	0.0473	JQ	0.0140	MDL	5.10	PQL	ng/Kg	J	Z
2,3,4,6,7,8-HXCDF	0.0305	JBQ	0.0113	MDL	5.10	PQL	ng/Kg	U	B
2,3,4,7,8-PECDF	0.0794	JB	0.0147	MDL	5.10	PQL	ng/Kg	U	B
2,3,7,8-TCDD	0.0238	JBQ	0.0219	MDL	1.02	PQL	ng/Kg	U	B
OCDD	0.781	JB	0.0171	MDL	10.2	PQL	ng/Kg	U	B
OCDF	0.119	JBQ	0.0270	MDL	10.2	PQL	ng/Kg	U	B

* denotes a non-reportable result

Project Name and Number: 1203-004-009-AL - SSFL Area IV Collocated Soil Sampling

Data Qualifier Summary

Lab Reporting Batch ID: DX162 **Laboratory: LL**

EDD Filename: DX162_v1 **eQAPP Name: CDM_SSFL_120718_Lan**

Method Category: SVOA

Method: 1613B **Matrix: SO**

Sample ID: SL-048-NBZ-SB-4.0-5.0 *Collected:* 3/23/2012 12:30:00 *Analysis Type:* RES *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,6,7,8-HPCDD	0.383	JB	0.0299	MDL	5.22	PQL	ng/Kg	U	B
1,2,3,4,6,7,8-HPCDF	0.0748	JBQ	0.00966	MDL	5.22	PQL	ng/Kg	U	B
1,2,3,4,7,8,9-HPCDF	0.0244	JBQ	0.0189	MDL	5.22	PQL	ng/Kg	U	B
1,2,3,4,7,8-HXCDF	0.0455	JBQ	0.0146	MDL	5.22	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDD	0.0451	JB	0.0239	MDL	5.22	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDF	0.0621	JBQ	0.0133	MDL	5.22	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDD	0.109	JB	0.0228	MDL	5.22	PQL	ng/Kg	U	B
1,2,3,7,8-PECDD	0.0449	JQ	0.0265	MDL	5.22	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDF	0.0536	JQ	0.0188	MDL	5.22	PQL	ng/Kg	J	Z
2,3,4,6,7,8-HXCDF	0.0489	JBQ	0.0143	MDL	5.22	PQL	ng/Kg	U	B
2,3,4,7,8-PECDF	0.0872	JBQ	0.0187	MDL	5.22	PQL	ng/Kg	U	B
2,3,7,8-TCDD	0.0218	JB	0.0202	MDL	1.04	PQL	ng/Kg	U	B
2,3,7,8-TCDF	0.0457	J	0.0264	MDL	1.04	PQL	ng/Kg	J	Z
OCDD	1.40	JB	0.0248	MDL	10.4	PQL	ng/Kg	U	B
OCDF	0.157	JBQ	0.0327	MDL	10.4	PQL	ng/Kg	U	B

Sample ID: SL-048-NBZ-SS-0.0-0.5 *Collected:* 3/23/2012 12:00:00 *Analysis Type:* RES *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,6,7,8-HPCDF	2.28	JB	0.0195	MDL	5.40	PQL	ng/Kg	J	Z
1,2,3,4,7,8,9-HPCDF	0.182	JB	0.0281	MDL	5.40	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.424	JB	0.0385	MDL	5.40	PQL	ng/Kg	J	Z
1,2,3,4,7,8-HXCDF	0.484	JB	0.0286	MDL	5.40	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDD	1.29	JB	0.0402	MDL	5.40	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDF	0.350	JB	0.0283	MDL	5.40	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDD	1.01	JB	0.0400	MDL	5.40	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDF	0.0955	J	0.0306	MDL	5.40	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDD	0.301	J	0.0482	MDL	5.40	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDF	0.753	J	0.0463	MDL	5.40	PQL	ng/Kg	J	Z
2,3,4,6,7,8-HXCDF	0.299	JB	0.0266	MDL	5.40	PQL	ng/Kg	J	Z
2,3,4,7,8-PECDF	0.715	JB	0.0457	MDL	5.40	PQL	ng/Kg	J	Z
2,3,7,8-TCDD	0.0466	JBQ	0.0295	MDL	1.08	PQL	ng/Kg	U	B

* denotes a non-reportable result

Project Name and Number: 1203-004-009-AL - SSFL Area IV Collocated Soil Sampling

Data Qualifier Summary

Lab Reporting Batch ID: DX162 **Laboratory: LL**

EDD Filename: DX162_v1 **eQAPP Name: CDM_SSFL_120718_Lan**

Method Category: SVOA

Method: 1613B **Matrix: SO**

Sample ID: SL-048-NBZ-SS-0.0-0.5 ***Collected:*** 3/23/2012 12:00:00 ***Analysis Type:*** RES ***Dilution:*** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
2,3,7,8-TCDF	0.906	J	0.0677	MDL	1.08	PQL	ng/Kg	J	Z
OCDF	4.78	JB	0.0290	MDL	10.8	PQL	ng/Kg	J	Z

Sample ID: SL-049-NBZ-SB-2.0-3.0 ***Collected:*** 3/23/2012 11:15:00 ***Analysis Type:*** RES ***Dilution:*** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,6,7,8-HPCDD	0.293	JB	0.0175	MDL	5.15	PQL	ng/Kg	U	B
1,2,3,4,6,7,8-HPCDF	0.0897	JB	0.00806	MDL	5.15	PQL	ng/Kg	U	B
1,2,3,4,7,8,9-HPCDF	0.0461	JBQ	0.0142	MDL	5.15	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.0265	JBQ	0.0145	MDL	5.15	PQL	ng/Kg	U	B
1,2,3,4,7,8-HXCDF	0.0993	JBQ	0.0111	MDL	5.15	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDD	0.141	JB	0.0155	MDL	5.15	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDF	0.0783	JB	0.0105	MDL	5.15	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDD	0.225	JB	0.0158	MDL	5.15	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDF	0.0681	JQ	0.0134	MDL	5.15	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDD	0.0840	JQ	0.0187	MDL	5.15	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDF	0.102	JQ	0.0158	MDL	5.15	PQL	ng/Kg	J	Z
2,3,4,6,7,8-HXCDF	0.0569	JB	0.0108	MDL	5.15	PQL	ng/Kg	U	B
2,3,4,7,8-PECDF	0.127	JB	0.0150	MDL	5.15	PQL	ng/Kg	U	B
2,3,7,8-TCDD	0.0200	JBQ	0.0179	MDL	1.03	PQL	ng/Kg	U	B
2,3,7,8-TCDF	0.0445	J	0.0244	MDL	1.03	PQL	ng/Kg	J	Z
OCDD	0.804	JB	0.0168	MDL	10.3	PQL	ng/Kg	U	B
OCDF	0.150	JB	0.0241	MDL	10.3	PQL	ng/Kg	U	B

Sample ID: SL-051-NBZ-SB-1.5-2.5 ***Collected:*** 3/23/2012 10:15:00 ***Analysis Type:*** RES ***Dilution:*** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,6,7,8-HPCDD	0.701	JB	0.0223	MDL	5.12	PQL	ng/Kg	U	B
1,2,3,4,6,7,8-HPCDF	0.157	JB	0.00810	MDL	5.12	PQL	ng/Kg	U	B
1,2,3,4,7,8,9-HPCDF	0.0357	JBQ	0.0167	MDL	5.12	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.0683	JBQ	0.0212	MDL	5.12	PQL	ng/Kg	U	B
1,2,3,4,7,8-HXCDF	0.114	JB	0.0138	MDL	5.12	PQL	ng/Kg	U	B

* denotes a non-reportable result

Project Name and Number: 1203-004-009-AL - SSFL Area IV Collocated Soil Sampling

Data Qualifier Summary

Lab Reporting Batch ID: DX162 **Laboratory: LL**

EDD Filename: DX162_v1 **eQAPP Name: CDM_SSFL_120718_Lan**

Method Category: SVOA

Method: 1613B **Matrix: SO**

Sample ID: **SL-051-NBZ-SB-1.5-2.5** ***Collected:*** **3/23/2012 10:15:00** ***Analysis Type:*** **RES** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,6,7,8-HXCDD	0.147	JBQ	0.0224	MDL	5.12	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDF	0.0979	JB	0.0124	MDL	5.12	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDD	0.120	JB	0.0215	MDL	5.12	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDF	0.0746	J	0.0176	MDL	5.12	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDD	0.120	J	0.0227	MDL	5.12	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDF	0.162	J	0.0159	MDL	5.12	PQL	ng/Kg	J	Z
2,3,4,6,7,8-HXCDF	0.0729	JBQ	0.0130	MDL	5.12	PQL	ng/Kg	U	B
2,3,4,7,8-PECDF	0.181	JB	0.0170	MDL	5.12	PQL	ng/Kg	U	B
2,3,7,8-TCDF	0.0807	J	0.0243	MDL	1.02	PQL	ng/Kg	J	Z
OCDD	2.96	JB	0.0163	MDL	10.2	PQL	ng/Kg	J	Z
OCDF	0.402	JB	0.0269	MDL	10.2	PQL	ng/Kg	U	B

Sample ID: **SL-054-NBZ-SS-0.0-0.5** ***Collected:*** **3/22/2012 1:45:00** ***Analysis Type:*** **REA** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
2,3,7,8-TCDF	0.796	JC	0.105	MDL	1.07	PQL	ng/Kg	J	Z

Sample ID: **SL-054-NBZ-SS-0.0-0.5** ***Collected:*** **3/22/2012 1:45:00** ***Analysis Type:*** **RES** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,7,8,9-HPCDF	0.818	JB	0.0267	MDL	5.37	PQL	ng/Kg	J	Z
1,2,3,4,7,8-HxCDD	0.553	JB	0.0267	MDL	5.37	PQL	ng/Kg	J	Z
1,2,3,4,7,8-HXCDF	2.06	JB	0.0265	MDL	5.37	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDD	1.89	JB	0.0294	MDL	5.37	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDF	1.12	JB	0.0258	MDL	5.37	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDD	1.72	JB	0.0269	MDL	5.37	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDD	0.705	J	0.0387	MDL	5.37	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDF	2.20	J	0.0384	MDL	5.37	PQL	ng/Kg	J	Z
2,3,4,6,7,8-HXCDF	0.743	JB	0.0249	MDL	5.37	PQL	ng/Kg	J	Z
2,3,4,7,8-PECDF	2.34	JB	0.0374	MDL	5.37	PQL	ng/Kg	J	Z
2,3,7,8-TCDD	0.151	JBQ	0.0239	MDL	1.07	PQL	ng/Kg	U	B

* denotes a non-reportable result

Project Name and Number: 1203-004-009-AL - SSFL Area IV Collocated Soil Sampling

Data Qualifier Summary

Lab Reporting Batch ID: DX162 **Laboratory: LL**

EDD Filename: DX162_v1 **eQAPP Name: CDM_SSFL_120718_Lan**

Method Category: SVOA

Method: 1613B **Matrix: SO**

Sample ID: **SL-055-NBZ-SS-0.0-0.5** ***Collected:*** **3/22/2012 11:25:00** ***Analysis Type:*** **RES** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,6,7,8-HPCDF	1.67	JB	0.0156	MDL	5.53	PQL	ng/Kg	J	Z
1,2,3,4,7,8,9-HPCDF	0.164	JBQ	0.0255	MDL	5.53	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.201	JB	0.0313	MDL	5.53	PQL	ng/Kg	J	Z
1,2,3,4,7,8-HXCDF	0.381	JB	0.0258	MDL	5.53	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDD	0.447	JBQ	0.0350	MDL	5.53	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDF	0.274	JB	0.0236	MDL	5.53	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDD	0.498	JB	0.0326	MDL	5.53	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDF	0.103	J	0.0297	MDL	5.53	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDD	0.297	J	0.0360	MDL	5.53	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDF	0.355	J	0.0324	MDL	5.53	PQL	ng/Kg	J	Z
2,3,4,6,7,8-HXCDF	0.235	JB	0.0230	MDL	5.53	PQL	ng/Kg	U	B
2,3,4,7,8-PECDF	0.549	JB	0.0327	MDL	5.53	PQL	ng/Kg	J	Z
2,3,7,8-TCDD	0.0738	JBQ	0.0279	MDL	1.11	PQL	ng/Kg	U	B
2,3,7,8-TCDF	0.386	J	0.0579	MDL	1.11	PQL	ng/Kg	J	Z
OCDF	3.14	JB	0.0298	MDL	11.1	PQL	ng/Kg	J	Z

Sample ID: **SL-057-NBZ-SS-0.0-0.5** ***Collected:*** **3/23/2012 9:20:00** ***Analysis Type:*** **REA** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
2,3,7,8-TCDF	10.3	C	0.440	MDL	1.10	PQL	ng/Kg	J	Q, FD

Sample ID: **SL-057-NBZ-SS-0.0-0.5** ***Collected:*** **3/23/2012 9:20:00** ***Analysis Type:*** **RES** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,6,7,8-HPCDD	8.71	B	0.0248	MDL	5.48	PQL	ng/Kg	J	FD
1,2,3,4,6,7,8-HPCDF	8.06	B	0.0144	MDL	5.48	PQL	ng/Kg	J	FD
1,2,3,4,7,8,9-HPCDF	4.26	JB	0.0287	MDL	5.48	PQL	ng/Kg	J	Z, FD
1,2,3,4,7,8-HxCDD	0.216	JB	0.0235	MDL	5.48	PQL	ng/Kg	J	Z, FD
1,2,3,4,7,8-HXCDF	15.9	B	0.0421	MDL	5.48	PQL	ng/Kg	J	FD
1,2,3,6,7,8-HXCDD	0.531	JB	0.0256	MDL	5.48	PQL	ng/Kg	J	Z, FD
1,2,3,6,7,8-HXCDF	7.24	B	0.0371	MDL	5.48	PQL	ng/Kg	J	FD
1,2,3,7,8,9-HXCDD	0.465	JB	0.0242	MDL	5.48	PQL	ng/Kg	J	Z, FD

* denotes a non-reportable result

Project Name and Number: 1203-004-009-AL - SSFL Area IV Collocated Soil Sampling

Data Qualifier Summary

Lab Reporting Batch ID: DX162 **Laboratory: LL**

EDD Filename: DX162_v1 **eQAPP Name: CDM_SSFL_120718_Lan**

Method Category: SVOA

Method: 1613B **Matrix: SO**

***Sample ID:*SL-057-NBZ-SS-0.0-0.5** ***Collected:* 3/23/2012 9:20:00** ***Analysis Type:* RES** ***Dilution:* 1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,7,8,9-HXCDF	0.0550	U	0.0550	MDL	5.48	PQL	ng/Kg	UJ	FD
1,2,3,7,8-PECDD	0.260	J	0.0526	MDL	5.48	PQL	ng/Kg	J	Z, FD
1,2,3,7,8-PECDF	17.8		0.0729	MDL	5.48	PQL	ng/Kg	J	FD
2,3,4,6,7,8-HXCDF	2.99	JB	0.0396	MDL	5.48	PQL	ng/Kg	J	Z, FD
2,3,4,7,8-PECDF	23.2	B	0.0823	MDL	5.48	PQL	ng/Kg	J	FD
2,3,7,8-TCDD	0.0762	JB	0.0426	MDL	1.10	PQL	ng/Kg	UJ	B, FD
OCDD	57.2	B	0.0183	MDL	11.0	PQL	ng/Kg	J	FD
OCDF	12.0	B	0.0226	MDL	11.0	PQL	ng/Kg	J	FD

***Sample ID:*SL-059-NBZ-SS-0.0-0.5** ***Collected:* 3/22/2012 10:50:00** ***Analysis Type:* RES** ***Dilution:* 1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,6,7,8-HPCDD	1.45	JB	0.0270	MDL	5.36	PQL	ng/Kg	J	Z
1,2,3,4,6,7,8-HPCDF	0.751	JB	0.0139	MDL	5.36	PQL	ng/Kg	J	Z
1,2,3,4,7,8,9-HPCDF	0.132	JB	0.0245	MDL	5.36	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.0506	JBQ	0.0210	MDL	5.36	PQL	ng/Kg	U	B
1,2,3,4,7,8-HXCDF	0.521	JB	0.0278	MDL	5.36	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDD	0.145	JBQ	0.0234	MDL	5.36	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDF	0.308	JB	0.0238	MDL	5.36	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDD	0.148	JB	0.0240	MDL	5.36	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDF	0.0721	J	0.0328	MDL	5.36	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDD	0.109	J	0.0278	MDL	5.36	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDF	1.12	J	0.0323	MDL	5.36	PQL	ng/Kg	J	Z
2,3,4,6,7,8-HXCDF	0.149	JB	0.0240	MDL	5.36	PQL	ng/Kg	U	B
2,3,4,7,8-PECDF	1.01	JB	0.0347	MDL	5.36	PQL	ng/Kg	J	Z
2,3,7,8-TCDF	0.844	J	0.0709	MDL	1.07	PQL	ng/Kg	J	Z
OCDD	9.74	JB	0.0190	MDL	10.7	PQL	ng/Kg	J	Z
OCDF	1.08	JB	0.0290	MDL	10.7	PQL	ng/Kg	J	Z

* denotes a non-reportable result

Project Name and Number: 1203-004-009-AL - SSFL Area IV Collocated Soil Sampling

Data Qualifier Summary

Lab Reporting Batch ID: DX162 **Laboratory: LL**

EDD Filename: DX162_v1 **eQAPP Name: CDM_SSFL_120718_Lan**

Method Category: SVOA

Method: 1613B **Matrix: SO**

Sample ID: SL-060-NBZ-SS-0.0-0.5 *Collected:* 3/22/2012 10:25:00 *Analysis Type:* RES *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,7,8-HxCDD	0.717	JB	0.0519	MDL	5.25	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDD	2.29	JB	0.0533	MDL	5.25	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDD	1.54	JB	0.0491	MDL	5.25	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDD	0.522	JBQ	0.0881	MDL	5.25	PQL	ng/Kg	U	B
2,3,7,8-TCDD	0.171	J	0.0751	MDL	1.05	PQL	ng/Kg	J	Z

Sample ID: SL-061-NBZ-SB-1.0-2.0 *Collected:* 3/22/2012 9:30:00 *Analysis Type:* RES *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,6,7,8-HPCDD	1.11	JB	0.0257	MDL	5.19	PQL	ng/Kg	U	B
1,2,3,4,6,7,8-HPCDF	0.459	JB	0.0137	MDL	5.19	PQL	ng/Kg	U	B
1,2,3,4,7,8,9-HPCDF	0.0491	JBQ	0.0259	MDL	5.19	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.0424	JBQ	0.0254	MDL	5.19	PQL	ng/Kg	U	B
1,2,3,4,7,8-HXCDF	0.301	JB	0.0248	MDL	5.19	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDD	0.108	JBQ	0.0259	MDL	5.19	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDF	0.165	JBQ	0.0230	MDL	5.19	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDD	0.0870	JBQ	0.0265	MDL	5.19	PQL	ng/Kg	U	B
1,2,3,7,8-PECDF	0.338	JQ	0.0326	MDL	5.19	PQL	ng/Kg	J	Z
2,3,4,6,7,8-HXCDF	0.210	JBQ	0.0241	MDL	5.19	PQL	ng/Kg	U	B
2,3,4,7,8-PECDF	0.697	JB	0.0336	MDL	5.19	PQL	ng/Kg	J	Z
2,3,7,8-TCDD	0.0437	JBQ	0.0253	MDL	1.04	PQL	ng/Kg	U	B
2,3,7,8-TCDF	0.278	J	0.0662	MDL	1.04	PQL	ng/Kg	J	Z
OCDD	6.77	JB	0.0221	MDL	10.4	PQL	ng/Kg	J	Z
OCDF	0.808	JB	0.0329	MDL	10.4	PQL	ng/Kg	U	B

Sample ID: SL-062-NBZ-SB-2.5-3.5 *Collected:* 3/21/2012 3:40:00 *Analysis Type:* REA *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
2,3,7,8-TCDF	0.363	JC	0.130	MDL	1.03	PQL	ng/Kg	J	Z

* denotes a non-reportable result

Project Name and Number: 1203-004-009-AL - SSFL Area IV Collocated Soil Sampling

Data Qualifier Summary

Lab Reporting Batch ID: DX162 **Laboratory: LL**

EDD Filename: DX162_v1 **eQAPP Name: CDM_SSFL_120718_Lan**

Method Category: SVOA

Method: 1613B **Matrix:** SO

Sample ID: SL-062-NBZ-SB-2.5-3.5 *Collected:* 3/21/2012 3:40:00 *Analysis Type:* RES *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,6,7,8-HPCDD	3.28	JB	0.0233	MDL	5.16	PQL	ng/Kg	J	Z
1,2,3,4,6,7,8-HPCDF	1.05	JB	0.00944	MDL	5.16	PQL	ng/Kg	J	Z
1,2,3,4,7,8,9-HPCDF	0.451	JB	0.0194	MDL	5.16	PQL	ng/Kg	J	Z
1,2,3,4,7,8-HxCDD	0.0911	JBQ	0.0199	MDL	5.16	PQL	ng/Kg	U	B
1,2,3,4,7,8-HXCDF	1.49	JB	0.0210	MDL	5.16	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDD	0.167	JB	0.0203	MDL	5.16	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDF	0.591	JB	0.0192	MDL	5.16	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDD	0.158	JB	0.0206	MDL	5.16	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDD	0.0722	J	0.0235	MDL	5.16	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDF	2.49	J	0.0405	MDL	5.16	PQL	ng/Kg	J	Z
2,3,4,6,7,8-HXCDF	0.299	JB	0.0209	MDL	5.16	PQL	ng/Kg	J	Z
2,3,4,7,8-PECDF	1.87	JB	0.0442	MDL	5.16	PQL	ng/Kg	J	Z
OCDF	2.10	JB	0.0230	MDL	10.3	PQL	ng/Kg	J	Z

Sample ID: SL-063-NBZ-SB-0.5-1.5 *Collected:* 3/21/2012 2:45:00 *Analysis Type:* RES *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,6,7,8-HPCDD	2.84	JB	0.0240	MDL	5.58	PQL	ng/Kg	J	Z
1,2,3,4,6,7,8-HPCDF	0.940	JB	0.0109	MDL	5.58	PQL	ng/Kg	J	Z
1,2,3,4,7,8,9-HPCDF	0.125	JB	0.0195	MDL	5.58	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.0544	JB	0.0201	MDL	5.58	PQL	ng/Kg	U	B
1,2,3,4,7,8-HXCDF	0.226	JB	0.0178	MDL	5.58	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDD	0.169	JBQ	0.0223	MDL	5.58	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDF	0.193	JB	0.0158	MDL	5.58	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDD	0.155	JBQ	0.0209	MDL	5.58	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDD	0.0319	J	0.0248	MDL	5.58	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDF	0.295	J	0.0248	MDL	5.58	PQL	ng/Kg	J	Z
2,3,4,6,7,8-HXCDF	0.198	JB	0.0162	MDL	5.58	PQL	ng/Kg	U	B
2,3,4,7,8-PECDF	0.313	JB	0.0255	MDL	5.58	PQL	ng/Kg	U	B
2,3,7,8-TCDF	0.277	J	0.0474	MDL	1.12	PQL	ng/Kg	J	Z
OCDF	1.70	JB	0.0224	MDL	11.2	PQL	ng/Kg	J	Z

* denotes a non-reportable result

Project Name and Number: 1203-004-009-AL - SSFL Area IV Collocated Soil Sampling

Data Qualifier Summary

Lab Reporting Batch ID: DX162 **Laboratory: LL**

EDD Filename: DX162_v1 **eQAPP Name: CDM_SSFL_120718_Lan**

Method Category: SVOA

Method: 1613B **Matrix: SO**

Sample ID: SL-064-NBZ-SB-0.5-1.5 *Collected:* 3/21/2012 1:30:00 *Analysis Type:* RES *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,6,7,8-HPCDD	0.629	JB	0.0205	MDL	5.21	PQL	ng/Kg	U	B
1,2,3,4,6,7,8-HPCDF	0.203	JB	0.00665	MDL	5.21	PQL	ng/Kg	U	B
1,2,3,4,7,8,9-HPCDF	0.0510	JB	0.0116	MDL	5.21	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.0236	JB	0.0138	MDL	5.21	PQL	ng/Kg	U	B
1,2,3,4,7,8-HXCDF	0.0763	JB	0.0124	MDL	5.21	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDD	0.0702	JBQ	0.0149	MDL	5.21	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDF	0.0556	JBQ	0.0110	MDL	5.21	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDD	0.0741	JB	0.0146	MDL	5.21	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDF	0.0393	JQ	0.0138	MDL	5.21	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDF	0.0812	J	0.0143	MDL	5.21	PQL	ng/Kg	J	Z
2,3,4,6,7,8-HXCDF	0.0637	JB	0.0119	MDL	5.21	PQL	ng/Kg	U	B
2,3,4,7,8-PECDF	0.0813	JB	0.0140	MDL	5.21	PQL	ng/Kg	U	B
2,3,7,8-TCDD	0.0218	JB	0.0170	MDL	1.04	PQL	ng/Kg	U	B
2,3,7,8-TCDF	0.0685	J	0.0243	MDL	1.04	PQL	ng/Kg	J	Z
OCDD	3.14	JB	0.0124	MDL	10.4	PQL	ng/Kg	J	Z
OCDF	0.338	JB	0.0185	MDL	10.4	PQL	ng/Kg	U	B

Sample ID: SL-104-NBZ-SS-0.0-0.5 *Collected:* 3/21/2012 1:45:00 *Analysis Type:* RES *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,6,7,8-HPCDD	1.87	JB	0.0230	MDL	5.43	PQL	ng/Kg	J	Z
1,2,3,4,6,7,8-HPCDF	0.591	JB	0.0122	MDL	5.43	PQL	ng/Kg	J	Z
1,2,3,4,7,8,9-HPCDF	0.0980	JBQ	0.0196	MDL	5.43	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.0682	JBQ	0.0191	MDL	5.43	PQL	ng/Kg	U	B
1,2,3,4,7,8-HXCDF	0.247	JB	0.0165	MDL	5.43	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDD	0.126	JB	0.0211	MDL	5.43	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDF	0.156	JB	0.0156	MDL	5.43	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDD	0.127	JBQ	0.0197	MDL	5.43	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDF	0.0500	JQ	0.0203	MDL	5.43	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDD	0.0686	JQ	0.0227	MDL	5.43	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDF	0.361	J	0.0247	MDL	5.43	PQL	ng/Kg	J	Z
2,3,4,6,7,8-HXCDF	0.149	JB	0.0158	MDL	5.43	PQL	ng/Kg	U	B

* denotes a non-reportable result

Project Name and Number: 1203-004-009-AL - SSFL Area IV Collocated Soil Sampling

Data Qualifier Summary

Lab Reporting Batch ID: DX162 **Laboratory: LL**

EDD Filename: DX162_v1 **eQAPP Name: CDM_SSFL_120718_Lan**

Method Category: SVOA

Method: 1613B **Matrix: SO**

Sample ID: SL-104-NBZ-SS-0.0-0.5 *Collected:* 3/21/2012 1:45:00 *Analysis Type:* RES *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
2,3,4,7,8-PECDF	0.517	JB	0.0258	MDL	5.43	PQL	ng/Kg	J	Z
2,3,7,8-TCDF	0.239	J	0.0475	MDL	1.09	PQL	ng/Kg	J	Z
OCDF	1.08	JB	0.0179	MDL	10.9	PQL	ng/Kg	J	Z

Sample ID: SL-116-NBZ-SS-0.0-0.5 *Collected:* 3/22/2012 3:00:00 *Analysis Type:* RES *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,6,7,8-HPCDD	2.01	JB	0.0302	MDL	5.56	PQL	ng/Kg	J	Z
1,2,3,4,6,7,8-HPCDF	0.579	JB	0.0155	MDL	5.56	PQL	ng/Kg	J	Z
1,2,3,4,7,8,9-HPCDF	0.0551	JBQ	0.0222	MDL	5.56	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.0867	JB	0.0300	MDL	5.56	PQL	ng/Kg	U	B
1,2,3,4,7,8-HXCDF	0.117	JB	0.0219	MDL	5.56	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDD	0.932	JB	0.0305	MDL	5.56	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDF	0.128	JBQ	0.0207	MDL	5.56	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDD	1.45	JB	0.0314	MDL	5.56	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDF	0.294	JQ	0.0239	MDL	5.56	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDD	0.207	J	0.0370	MDL	5.56	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDF	0.251	JQ	0.0284	MDL	5.56	PQL	ng/Kg	J	Z
2,3,4,6,7,8-HXCDF	0.100	JB	0.0215	MDL	5.56	PQL	ng/Kg	U	B
2,3,4,7,8-PECDF	0.0966	JB	0.0272	MDL	5.56	PQL	ng/Kg	U	B
2,3,7,8-TCDF	0.137	J	0.0475	MDL	1.11	PQL	ng/Kg	J	Z
OCDF	1.18	JB	0.0299	MDL	11.1	PQL	ng/Kg	J	Z

* denotes a non-reportable result

Data Qualifier Summary

Lab Reporting Batch ID: DX162 **Laboratory: LL**

EDD Filename: DX162_v1 **eQAPP Name: CDM_SSFL_120718_Lan**

Reason Code Legend

Reason Code	*Description*
B	Method Blank Contamination
FD	Field Duplicate Precision
Q	Matrix Spike Lower Estimation
Z	Reporting Limit Trace Value

* denotes a non-reportable result

Project Name and Number: 1203-004-009-AL - SSFL Area IV Collocated Soil Sampling

Enclosure I

Level III ADR Outliers
(including Manual Review Outliers)

Quality Control Outlier Reports

DX162

Method Blank Outlier Report

Lab Reporting Batch ID: DX162 **Laboratory: LL**

EDD Filename: DX162_v1 **eQAPP Name: CDM_SSFL_120718_Lan**

Method: 1613B
Matrix: AQ

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples
BLK0940B371712	4/4/2012 5:12:00 PM	1,2,3,4,6,7,8-HPCDD	4.80 pg/L	EB-NBZ-SB-032212
		1,2,3,4,6,7,8-HPCDF	1.46 pg/L	
		1,2,3,4,7,8,9-HPCDF	0.326 pg/L	
		1,2,3,4,7,8-HxCDD	0.221 pg/L	
		1,2,3,4,7,8-HXCDF	0.403 pg/L	
		1,2,3,6,7,8-HXCDD	0.438 pg/L	
		1,2,3,6,7,8-HXCDF	0.161 pg/L	
		1,2,3,7,8,9-HXCDD	0.508 pg/L	
		1,2,3,7,8,9-HXCDF	0.364 pg/L	
		1,2,3,7,8-PECDF	0.176 pg/L	
		2,3,4,6,7,8-HXCDF	0.356 pg/L	
		2,3,4,7,8-PECDF	0.605 pg/L	
		2,3,7,8-TCDD	0.269 pg/L	
		OCDD	14.6 pg/L	
		OCDF	1.40 pg/L	

The following samples and their listed target analytes were qualified due to contamination reported in this blank

Sample ID	Analyte	Reported Result	Modified Final Result
EB-NBZ-SB-032212(RES)	1,2,3,4,6,7,8-HPCDD	3.75 pg/L	3.75U pg/L
EB-NBZ-SB-032212(RES)	1,2,3,4,6,7,8-HPCDF	1.24 pg/L	1.24U pg/L
EB-NBZ-SB-032212(RES)	1,2,3,4,7,8,9-HPCDF	0.361 pg/L	0.361U pg/L
EB-NBZ-SB-032212(RES)	1,2,3,4,7,8-HXCDF	0.316 pg/L	0.316U pg/L
EB-NBZ-SB-032212(RES)	1,2,3,6,7,8-HXCDD	0.467 pg/L	0.467U pg/L
EB-NBZ-SB-032212(RES)	1,2,3,6,7,8-HXCDF	0.233 pg/L	0.233U pg/L
EB-NBZ-SB-032212(RES)	1,2,3,7,8,9-HXCDD	0.507 pg/L	0.507U pg/L
EB-NBZ-SB-032212(RES)	1,2,3,7,8,9-HXCDF	0.144 pg/L	0.144U pg/L
EB-NBZ-SB-032212(RES)	1,2,3,7,8-PECDF	0.321 pg/L	0.321U pg/L
EB-NBZ-SB-032212(RES)	2,3,4,6,7,8-HXCDF	0.425 pg/L	0.425U pg/L
EB-NBZ-SB-032212(RES)	2,3,4,7,8-PECDF	0.385 pg/L	0.385U pg/L
EB-NBZ-SB-032212(RES)	OCDD	8.78 pg/L	8.78U pg/L
EB-NBZ-SB-032212(RES)	OCDF	1.46 pg/L	1.46U pg/L

Method: 1613B
Matrix: SO

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples
BLK0890B371818	3/30/2012 6:18:00 PM	1,2,3,4,6,7,8-HPCDD	0.266 ng/Kg	DUP-02-NBZ-QC-032312
		1,2,3,4,6,7,8-HPCDF	0.0992 ng/Kg	SL-047-NBZ-SB-4.0-5.0
		1,2,3,4,7,8,9-HPCDF	0.0489 ng/Kg	SL-048-NBZ-SB-4.0-5.0
		1,2,3,4,7,8-HxCDD	0.0274 ng/Kg	SL-048-NBZ-SS-0.0-0.5
		1,2,3,4,7,8-HXCDF	0.0430 ng/Kg	SL-049-NBZ-SB-2.0-3.0
		1,2,3,6,7,8-HXCDD	0.0499 ng/Kg	SL-051-NBZ-SB-1.5-2.5
		1,2,3,6,7,8-HXCDF	0.0457 ng/Kg	SL-054-NBZ-SS-0.0-0.5
		1,2,3,7,8,9-HXCDD	0.0288 ng/Kg	SL-055-NBZ-SS-0.0-0.5
		2,3,4,6,7,8-HXCDF	0.0515 ng/Kg	SL-057-NBZ-SS-0.0-0.5
		2,3,4,7,8-PECDF	0.0673 ng/Kg	SL-059-NBZ-SS-0.0-0.5
		2,3,7,8-TCDD	0.0304 ng/Kg	SL-061-NBZ-SB-1.0-2.0
		OCDD	0.447 ng/Kg	SL-062-NBZ-SB-2.5-3.5
		OCDF	0.184 ng/Kg	SL-063-NBZ-SB-0.5-1.5
				SL-064-NBZ-SB-0.5-1.5
				SL-104-NBZ-SS-0.0-0.5
				SL-116-NBZ-SS-0.0-0.5

Method Blank Outlier Report

Lab Reporting Batch ID: DX162 **Laboratory: LL**

EDD Filename: DX162_v1 **eQAPP Name: CDM_SSFL_120718_Lan**

Method: 1613B
Matrix: SO

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples
BLK0960B370337	4/7/2012 3:37:00 AM	1,2,3,4,6,7,8-HPCDD	0.397 ng/Kg	SL-060-NBZ-SS-0.0-0.5
		1,2,3,4,6,7,8-HPCDF	0.105 ng/Kg	
		1,2,3,4,7,8,9-HPCDF	0.0395 ng/Kg	
		1,2,3,4,7,8-HxCDD	0.0698 ng/Kg	
		1,2,3,6,7,8-HXCDD	0.0770 ng/Kg	
		1,2,3,6,7,8-HXCDF	0.0628 ng/Kg	
		1,2,3,7,8,9-HXCDD	0.0905 ng/Kg	
		1,2,3,7,8-PECDD	0.212 ng/Kg	
		1,2,3,7,8-PECDF	0.0466 ng/Kg	
		2,3,4,6,7,8-HXCDF	0.132 ng/Kg	
		2,3,4,7,8-PECDF	0.0784 ng/Kg	
		2,3,7,8-TCDF	0.0586 ng/Kg	
		OCDD	0.624 ng/Kg	
		OCDF	0.195 ng/Kg	

The following samples and their listed target analytes were qualified due to contamination reported in this blank

Sample ID	Analyte	Reported Result	Modified Final Result
DUP-02-NBZ-QC-032312(RES)	1,2,3,4,6,7,8-HPCDD	1.11 ng/Kg	1.11U ng/Kg
DUP-02-NBZ-QC-032312(RES)	1,2,3,4,7,8-HxCDD	0.0763 ng/Kg	0.0763U ng/Kg
DUP-02-NBZ-QC-032312(RES)	1,2,3,6,7,8-HXCDD	0.125 ng/Kg	0.125U ng/Kg
DUP-02-NBZ-QC-032312(RES)	1,2,3,7,8,9-HXCDD	0.120 ng/Kg	0.120U ng/Kg
DUP-02-NBZ-QC-032312(RES)	2,3,7,8-TCDD	0.0454 ng/Kg	0.0454U ng/Kg
SL-047-NBZ-SB-4.0-5.0(RES)	1,2,3,4,6,7,8-HPCDD	0.320 ng/Kg	0.320U ng/Kg
SL-047-NBZ-SB-4.0-5.0(RES)	1,2,3,4,6,7,8-HPCDF	0.0644 ng/Kg	0.0644U ng/Kg
SL-047-NBZ-SB-4.0-5.0(RES)	1,2,3,4,7,8,9-HPCDF	0.0270 ng/Kg	0.0270U ng/Kg
SL-047-NBZ-SB-4.0-5.0(RES)	1,2,3,4,7,8-HxCDD	0.0292 ng/Kg	0.0292U ng/Kg
SL-047-NBZ-SB-4.0-5.0(RES)	1,2,3,4,7,8-HXCDF	0.0450 ng/Kg	0.0450U ng/Kg
SL-047-NBZ-SB-4.0-5.0(RES)	1,2,3,6,7,8-HXCDD	0.0578 ng/Kg	0.0578U ng/Kg
SL-047-NBZ-SB-4.0-5.0(RES)	1,2,3,6,7,8-HXCDF	0.0329 ng/Kg	0.0329U ng/Kg
SL-047-NBZ-SB-4.0-5.0(RES)	1,2,3,7,8,9-HXCDD	0.0562 ng/Kg	0.0562U ng/Kg
SL-047-NBZ-SB-4.0-5.0(RES)	2,3,4,6,7,8-HXCDF	0.0305 ng/Kg	0.0305U ng/Kg
SL-047-NBZ-SB-4.0-5.0(RES)	2,3,4,7,8-PECDF	0.0794 ng/Kg	0.0794U ng/Kg
SL-047-NBZ-SB-4.0-5.0(RES)	2,3,7,8-TCDD	0.0238 ng/Kg	0.0238U ng/Kg
SL-047-NBZ-SB-4.0-5.0(RES)	OCDD	0.781 ng/Kg	0.781U ng/Kg
SL-047-NBZ-SB-4.0-5.0(RES)	OCDF	0.119 ng/Kg	0.119U ng/Kg
SL-048-NBZ-SB-4.0-5.0(RES)	1,2,3,4,6,7,8-HPCDD	0.383 ng/Kg	0.383U ng/Kg
SL-048-NBZ-SB-4.0-5.0(RES)	1,2,3,4,6,7,8-HPCDF	0.0748 ng/Kg	0.0748U ng/Kg
SL-048-NBZ-SB-4.0-5.0(RES)	1,2,3,4,7,8,9-HPCDF	0.0244 ng/Kg	0.0244U ng/Kg
SL-048-NBZ-SB-4.0-5.0(RES)	1,2,3,4,7,8-HXCDF	0.0455 ng/Kg	0.0455U ng/Kg
SL-048-NBZ-SB-4.0-5.0(RES)	1,2,3,6,7,8-HXCDD	0.0451 ng/Kg	0.0451U ng/Kg
SL-048-NBZ-SB-4.0-5.0(RES)	1,2,3,6,7,8-HXCDF	0.0621 ng/Kg	0.0621U ng/Kg
SL-048-NBZ-SB-4.0-5.0(RES)	1,2,3,7,8,9-HXCDD	0.109 ng/Kg	0.109U ng/Kg
SL-048-NBZ-SB-4.0-5.0(RES)	2,3,4,6,7,8-HXCDF	0.0489 ng/Kg	0.0489U ng/Kg
SL-048-NBZ-SB-4.0-5.0(RES)	2,3,4,7,8-PECDF	0.0872 ng/Kg	0.0872U ng/Kg
SL-048-NBZ-SB-4.0-5.0(RES)	2,3,7,8-TCDD	0.0218 ng/Kg	0.0218U ng/Kg
SL-048-NBZ-SB-4.0-5.0(RES)	OCDD	1.40 ng/Kg	1.40U ng/Kg
SL-048-NBZ-SB-4.0-5.0(RES)	OCDF	0.157 ng/Kg	0.157U ng/Kg
SL-048-NBZ-SS-0.0-0.5(RES)	1,2,3,4,7,8,9-HPCDF	0.182 ng/Kg	0.182U ng/Kg

Method Blank Outlier Report

Lab Reporting Batch ID: DX162 **Laboratory: LL**

EDD Filename: DX162_v1 **eQAPP Name: CDM_SSFL_120718_Lan**

Method: **1613B**
Matrix: **SO**

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples

The following samples and their listed target analytes were qualified due to contamination reported in this blank

Sample ID	Analyte	Reported Result	Modified Final Result
SL-048-NBZ-SS-0.0-0.5(RES)	2,3,7,8-TCDD	0.0466 ng/Kg	0.0466U ng/Kg
SL-049-NBZ-SB-2.0-3.0(RES)	1,2,3,4,6,7,8-HPCDD	0.293 ng/Kg	0.293U ng/Kg
SL-049-NBZ-SB-2.0-3.0(RES)	1,2,3,4,6,7,8-HPCDF	0.0897 ng/Kg	0.0897U ng/Kg
SL-049-NBZ-SB-2.0-3.0(RES)	1,2,3,4,7,8,9-HPCDF	0.0461 ng/Kg	0.0461U ng/Kg
SL-049-NBZ-SB-2.0-3.0(RES)	1,2,3,4,7,8-HxCDD	0.0265 ng/Kg	0.0265U ng/Kg
SL-049-NBZ-SB-2.0-3.0(RES)	1,2,3,4,7,8-HXCDF	0.0993 ng/Kg	0.0993U ng/Kg
SL-049-NBZ-SB-2.0-3.0(RES)	1,2,3,6,7,8-HXCDD	0.141 ng/Kg	0.141U ng/Kg
SL-049-NBZ-SB-2.0-3.0(RES)	1,2,3,6,7,8-HXCDF	0.0783 ng/Kg	0.0783U ng/Kg
SL-049-NBZ-SB-2.0-3.0(RES)	2,3,4,6,7,8-HXCDF	0.0569 ng/Kg	0.0569U ng/Kg
SL-049-NBZ-SB-2.0-3.0(RES)	2,3,4,7,8-PECDF	0.127 ng/Kg	0.127U ng/Kg
SL-049-NBZ-SB-2.0-3.0(RES)	2,3,7,8-TCDD	0.0200 ng/Kg	0.0200U ng/Kg
SL-049-NBZ-SB-2.0-3.0(RES)	OCDD	0.804 ng/Kg	0.804U ng/Kg
SL-049-NBZ-SB-2.0-3.0(RES)	OCDF	0.150 ng/Kg	0.150U ng/Kg
SL-051-NBZ-SB-1.5-2.5(RES)	1,2,3,4,6,7,8-HPCDD	0.701 ng/Kg	0.701U ng/Kg
SL-051-NBZ-SB-1.5-2.5(RES)	1,2,3,4,6,7,8-HPCDF	0.157 ng/Kg	0.157U ng/Kg
SL-051-NBZ-SB-1.5-2.5(RES)	1,2,3,4,7,8,9-HPCDF	0.0357 ng/Kg	0.0357U ng/Kg
SL-051-NBZ-SB-1.5-2.5(RES)	1,2,3,4,7,8-HxCDD	0.0683 ng/Kg	0.0683U ng/Kg
SL-051-NBZ-SB-1.5-2.5(RES)	1,2,3,4,7,8-HXCDF	0.114 ng/Kg	0.114U ng/Kg
SL-051-NBZ-SB-1.5-2.5(RES)	1,2,3,6,7,8-HXCDD	0.147 ng/Kg	0.147U ng/Kg
SL-051-NBZ-SB-1.5-2.5(RES)	1,2,3,6,7,8-HXCDF	0.0979 ng/Kg	0.0979U ng/Kg
SL-051-NBZ-SB-1.5-2.5(RES)	1,2,3,7,8,9-HXCDD	0.120 ng/Kg	0.120U ng/Kg
SL-051-NBZ-SB-1.5-2.5(RES)	2,3,4,6,7,8-HXCDF	0.0729 ng/Kg	0.0729U ng/Kg
SL-051-NBZ-SB-1.5-2.5(RES)	2,3,4,7,8-PECDF	0.181 ng/Kg	0.181U ng/Kg
SL-051-NBZ-SB-1.5-2.5(RES)	OCDF	0.402 ng/Kg	0.402U ng/Kg
SL-054-NBZ-SS-0.0-0.5(RES)	2,3,7,8-TCDD	0.151 ng/Kg	0.151U ng/Kg
SL-055-NBZ-SS-0.0-0.5(RES)	1,2,3,4,7,8,9-HPCDF	0.164 ng/Kg	0.164U ng/Kg
SL-055-NBZ-SS-0.0-0.5(RES)	2,3,4,6,7,8-HXCDF	0.235 ng/Kg	0.235U ng/Kg
SL-055-NBZ-SS-0.0-0.5(RES)	2,3,7,8-TCDD	0.0738 ng/Kg	0.0738U ng/Kg
SL-057-NBZ-SS-0.0-0.5(RES)	2,3,7,8-TCDD	0.0762 ng/Kg	0.0762U ng/Kg
SL-059-NBZ-SS-0.0-0.5(RES)	1,2,3,4,7,8,9-HPCDF	0.132 ng/Kg	0.132U ng/Kg
SL-059-NBZ-SS-0.0-0.5(RES)	1,2,3,4,7,8-HxCDD	0.0506 ng/Kg	0.0506U ng/Kg
SL-059-NBZ-SS-0.0-0.5(RES)	1,2,3,6,7,8-HXCDD	0.145 ng/Kg	0.145U ng/Kg
SL-059-NBZ-SS-0.0-0.5(RES)	2,3,4,6,7,8-HXCDF	0.149 ng/Kg	0.149U ng/Kg
SL-060-NBZ-SS-0.0-0.5(RES)	1,2,3,7,8-PECDD	0.522 ng/Kg	0.522U ng/Kg
SL-061-NBZ-SB-1.0-2.0(RES)	1,2,3,4,6,7,8-HPCDD	1.11 ng/Kg	1.11U ng/Kg
SL-061-NBZ-SB-1.0-2.0(RES)	1,2,3,4,6,7,8-HPCDF	0.459 ng/Kg	0.459U ng/Kg
SL-061-NBZ-SB-1.0-2.0(RES)	1,2,3,4,7,8,9-HPCDF	0.0491 ng/Kg	0.0491U ng/Kg
SL-061-NBZ-SB-1.0-2.0(RES)	1,2,3,4,7,8-HxCDD	0.0424 ng/Kg	0.0424U ng/Kg
SL-061-NBZ-SB-1.0-2.0(RES)	1,2,3,6,7,8-HXCDD	0.108 ng/Kg	0.108U ng/Kg
SL-061-NBZ-SB-1.0-2.0(RES)	1,2,3,6,7,8-HXCDF	0.165 ng/Kg	0.165U ng/Kg

Method Blank Outlier Report

Lab Reporting Batch ID: DX162 **Laboratory: LL**

EDD Filename: DX162_v1 **eQAPP Name: CDM_SSFL_120718_Lan**

Method: **1613B**
Matrix: **SO**

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples

The following samples and their listed target analytes were qualified due to contamination reported in this blank

Sample ID	Analyte	Reported Result	Modified Final Result
SL-061-NBZ-SB-1.0-2.0(RES)	1,2,3,7,8,9-HXCDD	0.0870 ng/Kg	0.0870U ng/Kg
SL-061-NBZ-SB-1.0-2.0(RES)	2,3,4,6,7,8-HXCDF	0.210 ng/Kg	0.210U ng/Kg
SL-061-NBZ-SB-1.0-2.0(RES)	2,3,7,8-TCDD	0.0437 ng/Kg	0.0437U ng/Kg
SL-061-NBZ-SB-1.0-2.0(RES)	OCDF	0.808 ng/Kg	0.808U ng/Kg
SL-062-NBZ-SB-2.5-3.5(RES)	1,2,3,4,7,8-HxCDD	0.0911 ng/Kg	0.0911U ng/Kg
SL-062-NBZ-SB-2.5-3.5(RES)	1,2,3,6,7,8-HXCDD	0.167 ng/Kg	0.167U ng/Kg
SL-063-NBZ-SB-0.5-1.5(RES)	1,2,3,4,7,8,9-HPCDF	0.125 ng/Kg	0.125U ng/Kg
SL-063-NBZ-SB-0.5-1.5(RES)	1,2,3,4,7,8-HxCDD	0.0544 ng/Kg	0.0544U ng/Kg
SL-063-NBZ-SB-0.5-1.5(RES)	1,2,3,6,7,8-HXCDD	0.169 ng/Kg	0.169U ng/Kg
SL-063-NBZ-SB-0.5-1.5(RES)	1,2,3,6,7,8-HXCDF	0.193 ng/Kg	0.193U ng/Kg
SL-063-NBZ-SB-0.5-1.5(RES)	2,3,4,6,7,8-HXCDF	0.198 ng/Kg	0.198U ng/Kg
SL-063-NBZ-SB-0.5-1.5(RES)	2,3,4,7,8-PECDF	0.313 ng/Kg	0.313U ng/Kg
SL-064-NBZ-SB-0.5-1.5(RES)	1,2,3,4,6,7,8-HPCDD	0.629 ng/Kg	0.629U ng/Kg
SL-064-NBZ-SB-0.5-1.5(RES)	1,2,3,4,6,7,8-HPCDF	0.203 ng/Kg	0.203U ng/Kg
SL-064-NBZ-SB-0.5-1.5(RES)	1,2,3,4,7,8,9-HPCDF	0.0510 ng/Kg	0.0510U ng/Kg
SL-064-NBZ-SB-0.5-1.5(RES)	1,2,3,4,7,8-HxCDD	0.0236 ng/Kg	0.0236U ng/Kg
SL-064-NBZ-SB-0.5-1.5(RES)	1,2,3,4,7,8-HXCDF	0.0763 ng/Kg	0.0763U ng/Kg
SL-064-NBZ-SB-0.5-1.5(RES)	1,2,3,6,7,8-HXCDD	0.0702 ng/Kg	0.0702U ng/Kg
SL-064-NBZ-SB-0.5-1.5(RES)	1,2,3,6,7,8-HXCDF	0.0556 ng/Kg	0.0556U ng/Kg
SL-064-NBZ-SB-0.5-1.5(RES)	1,2,3,7,8,9-HXCDD	0.0741 ng/Kg	0.0741U ng/Kg
SL-064-NBZ-SB-0.5-1.5(RES)	2,3,4,6,7,8-HXCDF	0.0637 ng/Kg	0.0637U ng/Kg
SL-064-NBZ-SB-0.5-1.5(RES)	2,3,4,7,8-PECDF	0.0813 ng/Kg	0.0813U ng/Kg
SL-064-NBZ-SB-0.5-1.5(RES)	2,3,7,8-TCDD	0.0218 ng/Kg	0.0218U ng/Kg
SL-064-NBZ-SB-0.5-1.5(RES)	OCDF	0.338 ng/Kg	0.338U ng/Kg
SL-104-NBZ-SS-0.0-0.5(RES)	1,2,3,4,7,8,9-HPCDF	0.0980 ng/Kg	0.0980U ng/Kg
SL-104-NBZ-SS-0.0-0.5(RES)	1,2,3,4,7,8-HxCDD	0.0682 ng/Kg	0.0682U ng/Kg
SL-104-NBZ-SS-0.0-0.5(RES)	1,2,3,6,7,8-HXCDD	0.126 ng/Kg	0.126U ng/Kg
SL-104-NBZ-SS-0.0-0.5(RES)	1,2,3,6,7,8-HXCDF	0.156 ng/Kg	0.156U ng/Kg
SL-104-NBZ-SS-0.0-0.5(RES)	1,2,3,7,8,9-HXCDD	0.127 ng/Kg	0.127U ng/Kg
SL-104-NBZ-SS-0.0-0.5(RES)	2,3,4,6,7,8-HXCDF	0.149 ng/Kg	0.149U ng/Kg
SL-116-NBZ-SS-0.0-0.5(RES)	1,2,3,4,7,8,9-HPCDF	0.0551 ng/Kg	0.0551U ng/Kg
SL-116-NBZ-SS-0.0-0.5(RES)	1,2,3,4,7,8-HxCDD	0.0867 ng/Kg	0.0867U ng/Kg
SL-116-NBZ-SS-0.0-0.5(RES)	1,2,3,4,7,8-HXCDF	0.117 ng/Kg	0.117U ng/Kg
SL-116-NBZ-SS-0.0-0.5(RES)	1,2,3,6,7,8-HXCDF	0.128 ng/Kg	0.128U ng/Kg
SL-116-NBZ-SS-0.0-0.5(RES)	2,3,4,6,7,8-HXCDF	0.100 ng/Kg	0.100U ng/Kg
SL-116-NBZ-SS-0.0-0.5(RES)	2,3,4,7,8-PECDF	0.0966 ng/Kg	0.0966U ng/Kg

Matrix Spike/Matrix Spike Duplicate Outlier Report

Lab Reporting Batch ID: DX162 **Laboratory: LL**

EDD Filename: DX162_v1 **eQAPP Name: CDM_SSFL_120718_Lan**

Method: **1613B**
Matrix: **SO**

QC Sample ID (Associated Samples)	*Compound*	*MS %R*	*MSD %R*	*%R Limits*	*RPD (Limits)*	*Affected Compounds*	*Flag*
SL-057-NBZ-SS-0.0-0.5 MSD **SL-057-NBZ-SS-0.0-0.5MSD** (SL-057-NBZ-SS-0.0-0.5)	2,3,7,8-TCDF	-	35	40.00-135.00	-	2,3,7,8-TCDF	J (all detects) UJ (all non-detects)

Field Duplicate RPD Report

Lab Reporting Batch ID: DX162 **Laboratory: LL**

EDD Filename: DX162_v1 **eQAPP Name: CDM_SSFL_120718_Lan**

Method: 160.3M
Matrix: SO

Analyte	Concentration (%)		Sample RPD	eQAPP RPD	Flag
	SL-057-NBZ-SS-0.0-0.5	DUP-02-NBZ-QC-032312			
MOISTURE	9.1	7.2	23		No Qualifiers Applied

Method: 1613B
Matrix: SO

Analyte	Concentration (ng/Kg)		Sample RPD	eQAPP RPD	Flag
	SL-057-NBZ-SS-0.0-0.5	DUP-02-NBZ-QC-032312			
1,2,3,4,6,7,8-HPCDD	8.71	1.11	155	50.00	
1,2,3,4,6,7,8-HPCDF	8.06	0.836	162	50.00	
1,2,3,4,7,8,9-HPCDF	4.26	0.492	159	50.00	
1,2,3,4,7,8-HxCDD	0.216	0.0763	96	50.00	
1,2,3,4,7,8-HXCDF	15.9	1.99	156	50.00	
1,2,3,6,7,8-HXCDD	0.531	0.125	124	50.00	
1,2,3,6,7,8-HXCDF	7.24	0.882	157	50.00	
1,2,3,7,8,9-HXCDD	0.465	0.120	118	50.00	
1,2,3,7,8,9-HXCDF	5.48 U	0.361	200	50.00	J(all detects) UJ(all non-detects)
1,2,3,7,8-PECDD	0.260	0.0948	93	50.00	
1,2,3,7,8-PECDF	17.8	2.10	158	50.00	
2,3,4,6,7,8-HXCDF	2.99	0.412	152	50.00	
2,3,4,7,8-PECDF	23.2	2.70	158	50.00	
2,3,7,8-TCDD	0.0762	0.0454	51	50.00	
2,3,7,8-TCDF	10.3	1.78	141	50.00	
OCDD	57.2	7.02	156	50.00	
OCDF	12.0	1.27	162	50.00	

Reporting Limit Outliers

Lab Reporting Batch ID: DX162 **Laboratory: LL**

EDD Filename: DX162_v1 **eQAPP Name: CDM_SSFL_120718_Lan**

Method: 1613B
Matrix: AQ

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
EB-NBZ-SB-032212	1,2,3,4,6,7,8-HPCDD	JB	3.75	9.44	PQL	pg/L	
	1,2,3,4,6,7,8-HPCDF	JBQ	1.24	9.44	PQL	pg/L	
	1,2,3,4,7,8,9-HPCDF	JBQ	0.361	9.44	PQL	pg/L	
	1,2,3,4,7,8-HXCDF	JB	0.316	9.44	PQL	pg/L	
	1,2,3,6,7,8-HXCDD	JBQ	0.467	9.44	PQL	pg/L	
	1,2,3,6,7,8-HXCDF	JBQ	0.233	9.44	PQL	pg/L	
	1,2,3,7,8,9-HXCDD	JBQ	0.507	9.44	PQL	pg/L	
	1,2,3,7,8,9-HXCDF	JBQ	0.144	9.44	PQL	pg/L	J (all detects)
	1,2,3,7,8-PECDD	JQ	0.423	9.44	PQL	pg/L	
	1,2,3,7,8-PECDF	JB	0.321	9.44	PQL	pg/L	
	2,3,4,6,7,8-HXCDF	JBQ	0.425	9.44	PQL	pg/L	
	2,3,4,7,8-PECDF	JBQ	0.385	9.44	PQL	pg/L	
	2,3,7,8-TCDF	J	0.209	1.89	PQL	pg/L	
	OCDD	JB	8.78	18.9	PQL	pg/L	
	OCDF	JB	1.46	18.9	PQL	pg/L	

Method: 1613B
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
DUP-02-NBZ-QC-032312	1,2,3,4,6,7,8-HPCDD	JB	1.11	5.31	PQL	ng/Kg	
	1,2,3,4,6,7,8-HPCDF	JB	0.836	5.31	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JB	0.492	5.31	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JB	0.0763	5.31	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JB	1.99	5.31	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	JB	0.125	5.31	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JB	0.882	5.31	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDD	JB	0.120	5.31	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	JQ	0.361	5.31	PQL	ng/Kg	J (all detects)
	1,2,3,7,8-PECDD	J	0.0948	5.31	PQL	ng/Kg	
	1,2,3,7,8-PECDF	J	2.10	5.31	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JB	0.412	5.31	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JB	2.70	5.31	PQL	ng/Kg	
	2,3,7,8-TCDD	JB	0.0454	1.06	PQL	ng/Kg	
	OCDD	JB	7.02	10.6	PQL	ng/Kg	
	OCDF	JB	1.27	10.6	PQL	ng/Kg	
SL-047-NBZ-SB-4.0-5.0	1,2,3,4,6,7,8-HPCDD	JB	0.320	5.10	PQL	ng/Kg	
	1,2,3,4,6,7,8-HPCDF	JB	0.0644	5.10	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JBQ	0.0270	5.10	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JBQ	0.0292	5.10	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JB	0.0450	5.10	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	JBQ	0.0578	5.10	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JBQ	0.0329	5.10	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDD	JBQ	0.0562	5.10	PQL	ng/Kg	J (all detects)
	1,2,3,7,8,9-HXCDF	JQ	0.0310	5.10	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JQ	0.0473	5.10	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JBQ	0.0305	5.10	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JB	0.0794	5.10	PQL	ng/Kg	
	2,3,7,8-TCDD	JBQ	0.0238	1.02	PQL	ng/Kg	
	OCDD	JB	0.781	10.2	PQL	ng/Kg	
	OCDF	JBQ	0.119	10.2	PQL	ng/Kg	

Reporting Limit Outliers

Lab Reporting Batch ID: DX162 **Laboratory: LL**

EDD Filename: DX162_v1 **eQAPP Name: CDM_SSFL_120718_Lan**

Method: 1613B

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-048-NBZ-SB-4.0-5.0	1,2,3,4,6,7,8-HPCDD	JB	0.383	5.22	PQL	ng/Kg	
	1,2,3,4,6,7,8-HPCDF	JBQ	0.0748	5.22	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JBQ	0.0244	5.22	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JBQ	0.0455	5.22	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	JB	0.0451	5.22	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JBQ	0.0621	5.22	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDD	JB	0.109	5.22	PQL	ng/Kg	
	1,2,3,7,8-PECDD	JQ	0.0449	5.22	PQL	ng/Kg	J (all detects)
	1,2,3,7,8-PECDF	JQ	0.0536	5.22	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JBQ	0.0489	5.22	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JBQ	0.0872	5.22	PQL	ng/Kg	
	2,3,7,8-TCDD	JB	0.0218	1.04	PQL	ng/Kg	
	2,3,7,8-TCDF	J	0.0457	1.04	PQL	ng/Kg	
	OCDD	JB	1.40	10.4	PQL	ng/Kg	
	OCDF	JBQ	0.157	10.4	PQL	ng/Kg	
SL-048-NBZ-SS-0.0-0.5	1,2,3,4,6,7,8-HPCDF	JB	2.28	5.40	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JB	0.182	5.40	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JB	0.424	5.40	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JB	0.484	5.40	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	JB	1.29	5.40	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JB	0.350	5.40	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDD	JB	1.01	5.40	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	J	0.0955	5.40	PQL	ng/Kg	J (all detects)
	1,2,3,7,8-PECDD	J	0.301	5.40	PQL	ng/Kg	
	1,2,3,7,8-PECDF	J	0.753	5.40	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JB	0.299	5.40	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JB	0.715	5.40	PQL	ng/Kg	
	2,3,7,8-TCDD	JBQ	0.0466	1.08	PQL	ng/Kg	
	2,3,7,8-TCDF	J	0.906	1.08	PQL	ng/Kg	
	OCDF	JB	4.78	10.8	PQL	ng/Kg	
SL-049-NBZ-SB-2.0-3.0	1,2,3,4,6,7,8-HPCDD	JB	0.293	5.15	PQL	ng/Kg	
	1,2,3,4,6,7,8-HPCDF	JB	0.0897	5.15	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JBQ	0.0461	5.15	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JBQ	0.0265	5.15	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JBQ	0.0993	5.15	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	JB	0.141	5.15	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JB	0.0783	5.15	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDD	JB	0.225	5.15	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	JQ	0.0681	5.15	PQL	ng/Kg	J (all detects)
	1,2,3,7,8-PECDD	JQ	0.0840	5.15	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JQ	0.102	5.15	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JB	0.0569	5.15	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JB	0.127	5.15	PQL	ng/Kg	
	2,3,7,8-TCDD	JBQ	0.0200	1.03	PQL	ng/Kg	
	2,3,7,8-TCDF	J	0.0445	1.03	PQL	ng/Kg	
	OCDD	JB	0.804	10.3	PQL	ng/Kg	
	OCDF	JB	0.150	10.3	PQL	ng/Kg	

Reporting Limit Outliers

Lab Reporting Batch ID: DX162 **Laboratory: LL**

EDD Filename: DX162_v1 **eQAPP Name: CDM_SSFL_120718_Lan**

Method: 1613B

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-051-NBZ-SB-1.5-2.5	1,2,3,4,6,7,8-HPCDD	JB	0.701	5.12	PQL	ng/Kg	
	1,2,3,4,6,7,8-HPCDF	JB	0.157	5.12	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JBQ	0.0357	5.12	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JBQ	0.0683	5.12	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JB	0.114	5.12	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	JBQ	0.147	5.12	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JB	0.0979	5.12	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDD	JB	0.120	5.12	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	J	0.0746	5.12	PQL	ng/Kg	J (all detects)
	1,2,3,7,8-PECDD	J	0.120	5.12	PQL	ng/Kg	
	1,2,3,7,8-PECDF	J	0.162	5.12	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JBQ	0.0729	5.12	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JB	0.181	5.12	PQL	ng/Kg	
	2,3,7,8-TCDF	J	0.0807	1.02	PQL	ng/Kg	
	OCDD	JB	2.96	10.2	PQL	ng/Kg	
	OCDF	JB	0.402	10.2	PQL	ng/Kg	
SL-054-NBZ-SS-0.0-0.5	1,2,3,4,7,8,9-HPCDF	JB	0.818	5.37	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JB	0.553	5.37	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JB	2.06	5.37	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	JB	1.89	5.37	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JB	1.12	5.37	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDD	JB	1.72	5.37	PQL	ng/Kg	
	1,2,3,7,8-PECDD	J	0.705	5.37	PQL	ng/Kg	J (all detects)
	1,2,3,7,8-PECDF	J	2.20	5.37	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JB	0.743	5.37	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JB	2.34	5.37	PQL	ng/Kg	
	2,3,7,8-TCDD	JBQ	0.151	1.07	PQL	ng/Kg	
	2,3,7,8-TCDF	JC	0.796	1.07	PQL	ng/Kg	
SL-055-NBZ-SS-0.0-0.5	1,2,3,4,6,7,8-HPCDF	JB	1.67	5.53	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JBQ	0.164	5.53	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JB	0.201	5.53	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JB	0.381	5.53	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	JBQ	0.447	5.53	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JB	0.274	5.53	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDD	JB	0.498	5.53	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	J	0.103	5.53	PQL	ng/Kg	J (all detects)
	1,2,3,7,8-PECDD	J	0.297	5.53	PQL	ng/Kg	
	1,2,3,7,8-PECDF	J	0.355	5.53	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JB	0.235	5.53	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JB	0.549	5.53	PQL	ng/Kg	
	2,3,7,8-TCDD	JBQ	0.0738	1.11	PQL	ng/Kg	
	2,3,7,8-TCDF	J	0.386	1.11	PQL	ng/Kg	
	OCDF	JB	3.14	11.1	PQL	ng/Kg	
SL-057-NBZ-SS-0.0-0.5	1,2,3,4,7,8,9-HPCDF	JB	4.26	5.48	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JB	0.216	5.48	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	JB	0.531	5.48	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDD	JB	0.465	5.48	PQL	ng/Kg	J (all detects)
	1,2,3,7,8-PECDD	J	0.260	5.48	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JB	2.99	5.48	PQL	ng/Kg	
	2,3,7,8-TCDD	JB	0.0762	1.10	PQL	ng/Kg	

Reporting Limit Outliers

Lab Reporting Batch ID: DX162 **Laboratory: LL**

EDD Filename: DX162_v1 **eQAPP Name: CDM_SSFL_120718_Lan**

Method: 1613B

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-059-NBZ-SS-0.0-0.5	1,2,3,4,6,7,8-HPCDD	JB	1.45	5.36	PQL	ng/Kg	
	1,2,3,4,6,7,8-HPCDF	JB	0.751	5.36	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JB	0.132	5.36	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JBQ	0.0506	5.36	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JB	0.521	5.36	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	JBQ	0.145	5.36	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JB	0.308	5.36	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDD	JB	0.148	5.36	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	J	0.0721	5.36	PQL	ng/Kg	J (all detects)
	1,2,3,7,8-PECDD	J	0.109	5.36	PQL	ng/Kg	
	1,2,3,7,8-PECDF	J	1.12	5.36	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JB	0.149	5.36	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JB	1.01	5.36	PQL	ng/Kg	
	2,3,7,8-TCDF	J	0.844	1.07	PQL	ng/Kg	
	OCDD	JB	9.74	10.7	PQL	ng/Kg	
	OCDF	JB	1.08	10.7	PQL	ng/Kg	
SL-060-NBZ-SS-0.0-0.5	1,2,3,4,7,8-HxCDD	JB	0.717	5.25	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	JB	2.29	5.25	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDD	JB	1.54	5.25	PQL	ng/Kg	J (all detects)
	1,2,3,7,8-PECDD	JBQ	0.522	5.25	PQL	ng/Kg	
	2,3,7,8-TCDD	J	0.171	1.05	PQL	ng/Kg	
SL-061-NBZ-SB-1.0-2.0	1,2,3,4,6,7,8-HPCDD	JB	1.11	5.19	PQL	ng/Kg	
	1,2,3,4,6,7,8-HPCDF	JB	0.459	5.19	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JBQ	0.0491	5.19	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JBQ	0.0424	5.19	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JB	0.301	5.19	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	JBQ	0.108	5.19	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JBQ	0.165	5.19	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDD	JBQ	0.0870	5.19	PQL	ng/Kg	J (all detects)
	1,2,3,7,8-PECDF	JQ	0.338	5.19	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JBQ	0.210	5.19	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JB	0.697	5.19	PQL	ng/Kg	
	2,3,7,8-TCDD	JBQ	0.0437	1.04	PQL	ng/Kg	
	2,3,7,8-TCDF	J	0.278	1.04	PQL	ng/Kg	
	OCDD	JB	6.77	10.4	PQL	ng/Kg	
	OCDF	JB	0.808	10.4	PQL	ng/Kg	
SL-062-NBZ-SB-2.5-3.5	1,2,3,4,6,7,8-HPCDD	JB	3.28	5.16	PQL	ng/Kg	
	1,2,3,4,6,7,8-HPCDF	JB	1.05	5.16	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JB	0.451	5.16	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JBQ	0.0911	5.16	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JB	1.49	5.16	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	JB	0.167	5.16	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JB	0.591	5.16	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDD	JB	0.158	5.16	PQL	ng/Kg	J (all detects)
	1,2,3,7,8-PECDD	J	0.0722	5.16	PQL	ng/Kg	
	1,2,3,7,8-PECDF	J	2.49	5.16	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JB	0.299	5.16	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JB	1.87	5.16	PQL	ng/Kg	
	2,3,7,8-TCDF	JC	0.363	1.03	PQL	ng/Kg	
	OCDF	JB	2.10	10.3	PQL	ng/Kg	

Reporting Limit Outliers

Lab Reporting Batch ID: DX162 **Laboratory: LL**

EDD Filename: DX162_v1 **eQAPP Name: CDM_SSFL_120718_Lan**

Method: 1613B

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-063-NBZ-SB-0.5-1.5	1,2,3,4,6,7,8-HPCDD	JB	2.84	5.58	PQL	ng/Kg	
	1,2,3,4,6,7,8-HPCDF	JB	0.940	5.58	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JB	0.125	5.58	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JB	0.0544	5.58	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JB	0.226	5.58	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	JBQ	0.169	5.58	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JB	0.193	5.58	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDD	JBQ	0.155	5.58	PQL	ng/Kg	J (all detects)
	1,2,3,7,8-PECDD	J	0.0319	5.58	PQL	ng/Kg	
	1,2,3,7,8-PECDF	J	0.295	5.58	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JB	0.198	5.58	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JB	0.313	5.58	PQL	ng/Kg	
	2,3,7,8-TCDF	J	0.277	1.12	PQL	ng/Kg	
	OCDF	JB	1.70	11.2	PQL	ng/Kg	
SL-064-NBZ-SB-0.5-1.5	1,2,3,4,6,7,8-HPCDD	JB	0.629	5.21	PQL	ng/Kg	
	1,2,3,4,6,7,8-HPCDF	JB	0.203	5.21	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JB	0.0510	5.21	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JB	0.0236	5.21	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JB	0.0763	5.21	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	JBQ	0.0702	5.21	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JBQ	0.0556	5.21	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDD	JB	0.0741	5.21	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	JQ	0.0393	5.21	PQL	ng/Kg	J (all detects)
	1,2,3,7,8-PECDF	J	0.0812	5.21	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JB	0.0637	5.21	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JB	0.0813	5.21	PQL	ng/Kg	
	2,3,7,8-TCDD	JB	0.0218	1.04	PQL	ng/Kg	
	2,3,7,8-TCDF	J	0.0685	1.04	PQL	ng/Kg	
	OCDD	JB	3.14	10.4	PQL	ng/Kg	
	OCDF	JB	0.338	10.4	PQL	ng/Kg	
SL-104-NBZ-SS-0.0-0.5	1,2,3,4,6,7,8-HPCDD	JB	1.87	5.43	PQL	ng/Kg	
	1,2,3,4,6,7,8-HPCDF	JB	0.591	5.43	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JBQ	0.0980	5.43	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JBQ	0.0682	5.43	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JB	0.247	5.43	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	JB	0.126	5.43	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JB	0.156	5.43	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDD	JBQ	0.127	5.43	PQL	ng/Kg	J (all detects)
	1,2,3,7,8,9-HXCDF	JQ	0.0500	5.43	PQL	ng/Kg	
	1,2,3,7,8-PECDD	JQ	0.0686	5.43	PQL	ng/Kg	
	1,2,3,7,8-PECDF	J	0.361	5.43	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JB	0.149	5.43	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JB	0.517	5.43	PQL	ng/Kg	
	2,3,7,8-TCDF	J	0.239	1.09	PQL	ng/Kg	
	OCDF	JB	1.08	10.9	PQL	ng/Kg	

Reporting Limit Outliers

Lab Reporting Batch ID: DX162 **Laboratory: LL**

EDD Filename: DX162_v1 **eQAPP Name: CDM_SSFL_120718_Lan**

Method: 1613B

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-116-NBZ-SS-0.0-0.5	1,2,3,4,6,7,8-HPCDD	JB	2.01	5.56	PQL	ng/Kg	
	1,2,3,4,6,7,8-HPCDF	JB	0.579	5.56	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JBQ	0.0551	5.56	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JB	0.0867	5.56	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JB	0.117	5.56	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	JB	0.932	5.56	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JBQ	0.128	5.56	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDD	JB	1.45	5.56	PQL	ng/Kg	J (all detects)
	1,2,3,7,8,9-HXCDF	JQ	0.294	5.56	PQL	ng/Kg	
	1,2,3,7,8-PECDD	J	0.207	5.56	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JQ	0.251	5.56	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JB	0.100	5.56	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JB	0.0966	5.56	PQL	ng/Kg	
	2,3,7,8-TCDF	J	0.137	1.11	PQL	ng/Kg	
	OCDF	JB	1.18	11.1	PQL	ng/Kg	

SAMPLE DELIVERY GROUP

DX163

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
26-Mar-2012	SL-046-NBZ-SS-0.0-0.5	6595142	N	METHOD	1613B	III
26-Mar-2012	SL-046-NBZ-SB-4.0-5.0	6595143	N	METHOD	1613B	III
26-Mar-2012	SL-124-NBZ-SS-0.0-0.5	6595147	N	METHOD	1613B	III
26-Mar-2012	SL-126-NBZ-SS-0.0-0.5	6595148	N	METHOD	1613B	III
26-Mar-2012	SL-045-NBZ-SS-0.0-0.5	6595140	N	METHOD	1613B	III
26-Mar-2012	SL-196-NBZ-SS-0.0-0.5	6595150	N	METHOD	1613B	III
26-Mar-2012	SL-045-NBZ-SB-4.0-5.0	6595141	N	METHOD	1613B	III
26-Mar-2012	SL-042-NBZ-SS-0.0-0.5	6595138	N	METHOD	1613B	III
26-Mar-2012	SL-050-NBZ-SS-0.0-0.5	6595144	N	METHOD	1613B	III
26-Mar-2012	SL-123-NBZ-SS-0.0-0.5	6595145	N	METHOD	1613B	III
26-Mar-2012	SL-133-NBZ-SS-0.0-0.5	6595146	N	METHOD	1613B	III
26-Mar-2012	SL-043-NBZ-SS-0.0-0.5	6595139	N	METHOD	1613B	III
26-Mar-2012	SL-195-NBZ-SS-0.0-0.5	6595149	N	METHOD	1613B	III
27-Mar-2012	SL-078-NBZ-SS-0.0-0.5	6595152	N	METHOD	1613B	III
27-Mar-2012	SL-095-NBZ-SS-0.0-0.5	6595153	N	METHOD	1613B	III
27-Mar-2012	SL-130-NBZ-SS-0.0-0.5	6595155	N	METHOD	1613B	III
27-Mar-2012	SL-119-NBZ-SS-0.0-0.5	6595154	N	METHOD	1613B	III
27-Mar-2012	SL-038-NBZ-SS-0.0-0.5	6595151	N	METHOD	1613B	III
27-Mar-2012	EB-NBZ-SB-032712	6595156	EB	METHOD	1613B	III
27-Mar-2012	EB-NBZ-SS-032712	6595157	EB	METHOD	1613B	III

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Attachment II

Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: DX163 **Laboratory: LL**

EDD Filename: DX163_v1 **eQAPP Name: CDM_SSFL_120718_Lan**

Method Category: **SVOA**

Method: **1613B** ***Matrix:*** **AQ**

Sample ID: EB-NBZ-SB-032712 ***Collected:*** 3/27/2012 3:00:00 ***Analysis Type:*** RES ***Dilution:*** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,6,7,8-HPCDD	4.39	JBQ	0.237	MDL	10.5	PQL	pg/L	U	B
1,2,3,4,6,7,8-HPCDF	1.49	JB	0.114	MDL	10.5	PQL	pg/L	U	B
1,2,3,4,7,8-HXCDF	0.354	JBQ	0.114	MDL	10.5	PQL	pg/L	U	B
1,2,3,6,7,8-HXCDD	0.518	JBQ	0.201	MDL	10.5	PQL	pg/L	U	B
1,2,3,6,7,8-HXCDF	0.371	JBQ	0.125	MDL	10.5	PQL	pg/L	U	B
1,2,3,7,8,9-HXCDD	0.570	JBQ	0.205	MDL	10.5	PQL	pg/L	U	B
1,2,3,7,8,9-HXCDF	0.569	JBQ	0.120	MDL	10.5	PQL	pg/L	U	B
1,2,3,7,8-PECDD	0.302	JQ	0.233	MDL	10.5	PQL	pg/L	J	Z
1,2,3,7,8-PECDF	0.365	JBQ	0.152	MDL	10.5	PQL	pg/L	U	B
2,3,4,6,7,8-HXCDF	0.497	JBQ	0.110	MDL	10.5	PQL	pg/L	U	B
2,3,4,7,8-PECDF	0.466	JB	0.135	MDL	10.5	PQL	pg/L	U	B
2,3,7,8-TCDD	0.218	JBQ	0.210	MDL	2.11	PQL	pg/L	U	B
OCDD	10.4	JB	0.246	MDL	21.1	PQL	pg/L	U	B
OCDF	1.61	JB	0.276	MDL	21.1	PQL	pg/L	U	B

Sample ID: EB-NBZ-SS-032712 ***Collected:*** 3/27/2012 3:30:00 ***Analysis Type:*** RES ***Dilution:*** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,6,7,8-HPCDD	3.61	JB	0.196	MDL	9.94	PQL	pg/L	U	B
1,2,3,4,6,7,8-HPCDF	1.26	JB	0.108	MDL	9.94	PQL	pg/L	U	B
1,2,3,4,7,8,9-HPCDF	0.199	JBQ	0.131	MDL	9.94	PQL	pg/L	U	B
1,2,3,4,7,8-HxCDD	0.373	JBQ	0.163	MDL	9.94	PQL	pg/L	U	B
1,2,3,4,7,8-HXCDF	0.373	JB	0.0899	MDL	9.94	PQL	pg/L	U	B
1,2,3,6,7,8-HXCDD	0.276	JB	0.178	MDL	9.94	PQL	pg/L	U	B
1,2,3,6,7,8-HXCDF	0.338	JBQ	0.0940	MDL	9.94	PQL	pg/L	U	B
1,2,3,7,8,9-HXCDD	0.299	JBQ	0.167	MDL	9.94	PQL	pg/L	U	B
1,2,3,7,8,9-HXCDF	0.227	JBQ	0.0936	MDL	9.94	PQL	pg/L	U	B
1,2,3,7,8-PECDD	0.224	JQ	0.190	MDL	9.94	PQL	pg/L	J	Z
1,2,3,7,8-PECDF	0.170	JBQ	0.136	MDL	9.94	PQL	pg/L	U	B
2,3,4,6,7,8-HXCDF	0.395	JBQ	0.0810	MDL	9.94	PQL	pg/L	U	B
2,3,4,7,8-PECDF	0.494	JBQ	0.126	MDL	9.94	PQL	pg/L	U	B
2,3,7,8-TCDF	0.210	JQ	0.164	MDL	1.99	PQL	pg/L	J	Z

* denotes a non-reportable result

Project Name and Number: 1203-004-009-AL - SSFL Area IV Collocated Soil Sampling