

SSFL Phase 3 Chain of Custody

13013 1409284 7150954-59

CDM Smith
 DateShipped: 8/5/2013
 CarrierName: FedEx
 AirbillNo: 796396374240

Contact Name: Pam Hartman
 Contact Phone: (818)466-8007

COC No: 20130805-01
 Cooler #: 1
 Lab: Lancaster
 Lab Phone: 717-556-7259
 Lab Address: 2425 New Holland Pike
 Lancaster, PA 17601

Sample	Date/Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/931	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCS 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-FRH 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Formaldehyde 8315	Cyanide 9012	NDMA 1625	Methyl Mercury 1630	Organotin	Other Analysis/Notes						
TB-080513	8/5/13 08:00	WQ	HCl	3 - 40 mL Vial	10 day																																					
SL-568-SA8-SB-0.0-0.5	8/5/13 08:10	SO	None	2 - SS-Sleeve	10 day	X	X					X	X	X											X																	
SL-568-SA8-SB-0.0-0.5	8/5/13 08:10	SO	None	1 - 4 oz glass	10 day													X																								
SL-568-SA8-SB-4.0-5.0	8/5/13 08:30	SO	None	2 - SS-Sleeve	10 day	X	X					X	X	X											X																	
SL-568-SA8-SB-4.0-5.0	8/5/13 08:30	SO	None	1 - 4 oz glass	10 day													X																								
SL-568-SA8-SB-4.0-5.0	8/5/13 08:30	SO	None	2 - Encore	10 day																			X																		
SL-569-SA8-SB-0.0-0.5	8/5/13 09:50	SO	None	2 - SS-Sleeve	10 day	X	X					X	X	X											X																	
SL-569-SA8-SB-0.0-0.5	8/5/13 09:50	SO	None	1 - 4 oz glass	10 day													X																								
SL-569-SA8-SB-4.0-5.0	8/5/13 10:40	SO	None	2 - SS-Sleeve	10 day	X	X					X	X	X											X																	
SL-569-SA8-SB-4.0-5.0	8/5/13 10:40	SO	None	1 - 4 oz glass	10 day													X																								
SL-569-SA8-SB-4.0-5.0	8/5/13 10:40	SO	None	2 - Encore	10 day																			X																		
SL-569-SA8-SB-7.0-8.0	8/5/13 13:35	SO	None	2 - SS-Sleeve	10 day	X	X					X		X											X																	
SL-569-SA8-SB-7.0-8.0	8/5/13 13:35	SO	None	1 - 4 oz glass	10 day													X																								
SL-569-SA8-SB-7.0-8.0	8/5/13 13:35	SO	None	2 - Encore	10 day																			X																		

Special Instructions: Sampler: *Steve Meier*

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
<i>Steve Meier</i>	8/5/13	1400									
<div style="position: absolute; top: 0; left: 0; width: 100%; height: 100%; border: 1px solid black; opacity: 0.5;"></div>											
									<i>Brandy 8-613 915</i>		
									<i>Brandy</i>		

Environmental Sample Administration
Receipt Documentation Log

1409284

Client/Project: CDM
Date of Receipt: 8-6-13
Time of Receipt: 9:15
Source Code: 50-1

Shipping Container Sealed: YES NO

Custody Seal Present * : YES NO

* Custody seal was intact unless otherwise noted in the discrepancy section

Package: Chilled Not Chilled

Temperature of Shipping Containers							
Cooler #	Thermometer ID	Temperature (°C)	Temp Bottle (TB) or Surface Temp (ST)	Wet Ice (WI) or Dry Ice (DI) or Ice Packs (IP)	Ice Present? Y/N	Loose (L) Bagged Ice (B) or NA	Comments
1	D1146	1.2	TB	WI	X	B	
2							
3							
4							
5							
6							

Number of Trip Blanks received NOT listed on chain of custody: 0

Paperwork Discrepancy/Unpacking Problems:

Unpacker Signature/Emp#: Brandely Barclay ²²⁹⁹ Date/Time: 8-6-13 9:36

Issued by Dept. 6042 Management

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	BMQL	Below Minimum Quantitation Level
N.D.	none detected	MPN	Most Probable Number
TNTC	Too Numerous To Count	CP Units	cobalt-chloroplatinate units
IU	International Units	NTU	nephelometric turbidity units
umhos/cm	micromhos/cm	ng	nanogram(s)
C	degrees Celsius	F	degrees Fahrenheit
meq	milliequivalents	lb.	pound(s)
g	gram(s)	kg	kilogram(s)
µg	microgram(s)	mg	milligram(s)
mL	milliliter(s)	L	liter(s)
m³	cubic meter(s)	µL	microliter(s)
		pg/L	picogram/liter

< less than - The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Data Qualifiers:

C – result confirmed by reanalysis.

J - estimated value – The result is \geq the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ).

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers

Inorganic Qualifiers

A	TIC is a possible aldol-condensation product	B	Value is $<$ CRDL, but \geq IDL
B	Analyte was also detected in the blank	E	Estimated due to interference
C	Pesticide result confirmed by GC/MS	M	Duplicate injection precision not met
D	Compound quantitated on a diluted sample	N	Spike sample not within control limits
E	Concentration exceeds the calibration range of the instrument	S	Method of standard additions (MSA) used for calculation
N	Presumptive evidence of a compound (TICs only)	U	Compound was not detected
P	Concentration difference between primary and confirmation columns $>$ 25%	W	Post digestion spike out of control limits
U	Compound was not detected	*	Duplicate analysis not within control limits
X,Y,Z	Defined in case narrative	+	Correlation coefficient for MSA $<$ 0.995

Analytical test results meet all requirements of NELAC unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR part 136 Table II as “analyze immediately” are not performed within 15 minutes.

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SAMPLE DELIVERY GROUP

PH085

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

August 21, 2013

Project: SSFL Phase 3 Sampling

Submittal Date: 08/07/2013

Group Number: 1409714

SDG: PH085

PO Number: 1204-002-001-AL

State of Sample Origin: CA

<u>Client Sample Description</u>	<u>Lancaster Labs (LL) #</u>
TB-080613 Water	7152824
SL-564-SA8-SB-0.0-0.5 Soil	7152825
SL-582-SA8-SB-0.0-0.5 Soil	7152826
SL-582-SA8-SB-2.5-3.5 Soil	7152827
SL-583-SA8-SB-0.0-0.5 Soil	7152828
SL-583-SA8-SB-0.0-0.5MS Soil	7152829
SL-583-SA8-SB-0.0-0.5MSD Soil	7152830
SL-583-SA8-SB-0.0-0.5DUP Soil	7152831
SL-883-SA8-SB-0.0-0.5 Soil	7152832
SL-584-SA8-SB-0.0-0.5 Soil	7152833

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC Eurofins Lancaster Labs
COPY TO

Attn: Natalie Luciano

Respectfully Submitted,



Natalie R. Luciano
Senior Specialist

(717) 556-7258

Sample Description: TB-080613 Water
SSFL Phase 3 Subarea 8

LL Sample # WW 7152824
LL Group # 1409714
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/06/2013 08:00
Submitted: 08/07/2013 09:15
Reported: 08/21/2013 14:07

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

TB806 SDG#: PH085-01TB

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Limit of Quantitation*	As Received Method Detection Limit	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/l		ug/l	ug/l	
10335	Acetone	67-64-1	20	U	20	6	1
10335	Acrolein	107-02-8	100	U	100	40	1
10335	Acrylonitrile	107-13-1	20	U	20	4	1
10335	t-Amyl methyl ether	994-05-8	5	U	5	0.8	1
10335	Benzene	71-43-2	5	U	5	0.5	1
10335	Bromobenzene	108-86-1	5	U	5	1	1
10335	Bromochloromethane	74-97-5	5	U	5	1	1
10335	Bromodichloromethane	75-27-4	5	U	5	1	1
10335	Bromoform	75-25-2	5	U	5	1	1
10335	Bromomethane	74-83-9	5	U	5	1	1
10335	2-Butanone	78-93-3	10	U	10	3	1
10335	t-Butyl alcohol	75-65-0	50	U	50	10	1
10335	n-Butylbenzene	104-51-8	5	U	5	1	1
10335	sec-Butylbenzene	135-98-8	5	U	5	1	1
10335	tert-Butylbenzene	98-06-6	5	U	5	1	1
10335	Carbon Disulfide	75-15-0	5	U	5	1	1
10335	Carbon Tetrachloride	56-23-5	5	U	5	1	1
10335	Chlorobenzene	108-90-7	5	U	5	0.8	1
10335	Chloroethane	75-00-3	5	U	5	1	1
10335	2-Chloroethyl Vinyl Ether	110-75-8	10	U	10	2	1
	2-Chloroethyl vinyl ether may not be recovered if acid was used to preserve this sample.						
10335	Chloroform	67-66-3	5	U	5	0.8	1
10335	1-Chlorohexane	544-10-5	5	U	5	1	1
10335	Chloromethane	74-87-3	5	U	5	1	1
10335	2-Chlorotoluene	95-49-8	5	U	5	1	1
10335	4-Chlorotoluene	106-43-4	5	U	5	1	1
10335	Chlorotrifluoroethene	79-38-9	5	U	5	2	1
10335	1,2-Dibromo-3-chloropropane	96-12-8	5	U	5	2	1
10335	Dibromochloromethane	124-48-1	5	U	5	1	1
10335	1,2-Dibromoethane	106-93-4	5	U	5	1	1
10335	Dibromomethane	74-95-3	5	U	5	1	1
10335	1,2-Dichlorobenzene	95-50-1	5	U	5	1	1
10335	1,3-Dichlorobenzene	541-73-1	5	U	5	1	1
10335	1,4-Dichlorobenzene	106-46-7	5	U	5	1	1
10335	Dichlorodifluoromethane	75-71-8	5	U	5	2	1
10335	1,1-Dichloroethane	75-34-3	5	U	5	1	1
10335	1,2-Dichloroethane	107-06-2	5	U	5	1	1
10335	1,1-Dichloroethene	75-35-4	5	U	5	0.8	1
10335	cis-1,2-Dichloroethene	156-59-2	5	U	5	0.8	1
10335	trans-1,2-Dichloroethene	156-60-5	5	U	5	0.8	1
10335	1,2-Dichloropropane	78-87-5	5	U	5	1	1
10335	1,3-Dichloropropane	142-28-9	5	U	5	1	1
10335	2,2-Dichloropropane	594-20-7	5	U	5	1	1
10335	1,1-Dichloropropene	563-58-6	5	U	5	1	1
10335	cis-1,3-Dichloropropene	10061-01-5	5	U	5	1	1
10335	trans-1,3-Dichloropropene	10061-02-6	5	U	5	1	1
10335	Ethyl t-butyl ether	637-92-3	5	U	5	0.8	1
10335	Ethylbenzene	100-41-4	5	U	5	0.8	1
10335	Freon 113	76-13-1	5	U	5	2	1
10335	Freon 133a	75-88-7	5	U	5	2	1

*=This limit was used in the evaluation of the final result

Sample Description: TB-080613 Water
SSFL Phase 3 Subarea 8

LL Sample # WW 7152824
LL Group # 1409714
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/06/2013 08:00
Submitted: 08/07/2013 09:15
Reported: 08/21/2013 14:07

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

TB806 SDG#: PH085-01TB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/l	ug/l	ug/l	
10335	Hexachlorobutadiene	87-68-3	5 U	5	2	1
10335	2-Hexanone	591-78-6	10 U	10	3	1
10335	di-Isopropyl ether	108-20-3	5 U	5	0.8	1
10335	Isopropylbenzene	98-82-8	5 U	5	1	1
10335	p-Isopropyltoluene	99-87-6	5 U	5	1	1
10335	Methyl Iodide	74-88-4	5 U	5	1	1
10335	Methyl Tertiary Butyl Ether	1634-04-4	5 U	5	0.5	1
10335	4-Methyl-2-pentanone	108-10-1	10 U	10	3	1
10335	Methylene Chloride	75-09-2	5 U	5	2	1
10335	n-Propylbenzene	103-65-1	5 U	5	1	1
10335	Styrene	100-42-5	5 U	5	1	1
10335	1,1,1,2-Tetrachloroethane	630-20-6	5 U	5	1	1
10335	1,1,2,2-Tetrachloroethane	79-34-5	5 U	5	1	1
10335	Tetrachloroethene	127-18-4	5 U	5	0.8	1
10335	Toluene	108-88-3	5 U	5	0.7	1
10335	1,2,3-Trichlorobenzene	87-61-6	5 U	5	1	1
10335	1,2,4-Trichlorobenzene	120-82-1	5 U	5	1	1
10335	1,1,1-Trichloroethane	71-55-6	5 U	5	0.8	1
10335	1,1,2-Trichloroethane	79-00-5	5 U	5	0.8	1
10335	Trichloroethene	79-01-6	5 U	5	1	1
10335	Trichlorofluoromethane	75-69-4	5 U	5	2	1
10335	1,2,3-Trichloropropane	96-18-4	5 U	5	1	1
10335	1,2,4-Trimethylbenzene	95-63-6	5 U	5	1	1
10335	1,3,5-Trimethylbenzene	108-67-8	5 U	5	1	1
10335	Vinyl Acetate	108-05-4	10 U	10	2	1
10335	Vinyl Chloride	75-01-4	5 U	5	1	1
10335	m+p-Xylene	179601-23-1	5 U	5	0.8	1
10335	o-Xylene	95-47-6	5 U	5	0.8	1
GC	Volatiles	TPH GRO SW-8015B	ug/l	ug/l	ug/l	
08229	TPH-GRO S.CA water C5-C12	n.a.	50 U	50	20	1

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	12b Volatile Organics EPA8260B	SW-846 8260B	1	Y132202AA	08/08/2013 13:21	Angela D Sneeringer	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Y132202AA	08/08/2013 13:21	Angela D Sneeringer	1
08229	11b TPH by EPA 8015B GRO	TPH GRO SW-8015B	1	13224A20A	08/12/2013 12:01	Catherine J Schwarz	1

*=This limit was used in the evaluation of the final result

Sample Description: TB-080613 Water
SSFL Phase 3 Subarea 8

LL Sample # WW 7152824
LL Group # 1409714
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/06/2013 08:00

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/07/2013 09:15

Reported: 08/21/2013 14:07

TB806 SDG#: PH085-01TB

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01146	GC VOA Water Prep	SW-846 5030B	1	13224A20A	08/12/2013 12:01	Catherine J Schwarz	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-564-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7152825
LL Group # 1409714
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/06/2013 10:00 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/07/2013 09:15
Reported: 08/21/2013 14:07

SL564 SDG#: PH085-02

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	1.7 U	1.7	0.69	1
12969	Acenaphthylene	208-96-8	1.7 U	1.7	0.35	1
12969	Anthracene	120-12-7	1.7 U	1.7	0.35	1
12969	Benzo(a)anthracene	56-55-3	0.75 J	1.7	0.69	1
12969	Benzo(a)pyrene	50-32-8	1.7 U	1.7	0.69	1
12969	Benzo(b)fluoranthene	205-99-2	1.8	1.7	0.69	1
12969	Benzo(e)pyrene	192-97-2	18 U	18	3.5	1
12969	Benzo(g,h,i)perylene	191-24-2	1.7 U	1.7	0.69	1
12969	Benzo(k)fluoranthene	207-08-9	1.7 U	1.7	0.69	1
12969	Butylbenzylphthalate	85-68-7	19 U	19	6.3	1
12969	Di-n-butylphthalate	84-74-2	19 U	19	6.3	1
12969	Chrysene	218-01-9	2.4	1.7	0.35	1
12969	Dibenz(a,h)anthracene	53-70-3	1.7 U	1.7	0.69	1
12969	Diethylphthalate	84-66-2	19 U	19	6.3	1
12969	Dimethylphthalate	131-11-3	19 U	19	6.3	1
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	8.2 J	19	6.3	1
12969	Fluoranthene	206-44-0	2.2	1.7	0.69	1
12969	Fluorene	86-73-7	1.7 U	1.7	0.69	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	1.7 U	1.7	0.69	1
12969	1-Methylnaphthalene	90-12-0	1.7 U	1.7	0.69	1
12969	2-Methylnaphthalene	91-57-6	2.4	1.7	0.69	1
12969	Naphthalene	91-20-3	1.7 J	1.7	0.69	1
12969	N-Nitrosodimethylamine	62-75-9	1.7 U	1.7	0.69	1
12969	Di-n-octylphthalate	117-84-0	19 U	19	6.3	1
12969	Phenanthrene	85-01-8	2.2	1.7	0.69	1
12969	Pyrene	129-00-0	1.9	1.7	0.69	1
Herbicides	SW-846 8151A		ug/kg	ug/kg	ug/kg	
10401	2,4-D	94-75-7	23 J	37	12	1
10401	Dalapon	75-99-0	93 U	93	54	1
10401	2,4-DB	94-82-6	32 U	32	32	1
10401	Dicamba	1918-00-9	12 U	12	4.1	1
10401	Dinoseb	88-85-7	25 U	25	9.3	1
The QC window for dinoseb is advisory due to the erratic performance of the analyte using this method.						
10401	2,4-DP (Dichlorprop)	120-36-5	18 U	18	9.3	1
10401	MCPA	94-74-6	2,600 U	2,600	790	1
10401	MCPP (Mecoprop)	93-65-2	2,600 U	2,600	780	1
10401	2,4,5-T	93-76-5	1.8	1.8	0.85	1
10401	2,4,5-TP	93-72-1	1.8 U	1.8	0.78	1
Reporting limits were raised due to interference from the sample matrix.						
Pesticides/PCBs	SW-846 8081B		ug/kg	ug/kg	ug/kg	
10590	Aldrin	309-00-2	0.87 U	0.87	0.18	1
10590	Alpha BHC	319-84-6	0.87 U	0.87	0.18	1
10590	Beta BHC	319-85-7	2.0 U	2.0	1.0	1
10590	Gamma BHC - Lindane	58-89-9	0.87 U	0.87	0.18	1
10590	Chlordane	57-74-9	18 U	18	4.2	1
10590	p,p-DDD	72-54-8	1.8 U	1.8	0.35	1
10590	p,p-DDE	72-55-9	1.3 J	1.8	0.35	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-564-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7152825
LL Group # 1409714
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/06/2013 10:00 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/07/2013 09:15
Reported: 08/21/2013 14:07

SL564 SDG#: PH085-02

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs		SW-846 8081B	ug/kg		ug/kg	ug/kg	
10590	p,p-DDT	50-29-3	1.1 J		1.8	0.37	1
10590	Delta BHC	319-86-8	0.87 U		0.87	0.47	1
10590	Dieldrin	60-57-1	1.8 U		1.8	0.35	1
10590	Endosulfan I	959-98-8	0.87 U		0.87	0.23	1
10590	Endosulfan II	33213-65-9	1.8 U		1.8	0.35	1
10590	Endosulfan Sulfate	1031-07-8	1.8 U		1.8	0.35	1
10590	Endrin	72-20-8	1.8 U		1.8	0.35	1
10590	Endrin Aldehyde	7421-93-4	1.8 U		1.8	0.35	1
10590	Endrin Ketone	53494-70-5	1.9 U		1.9	0.63	1
10590	Heptachlor	76-44-8	0.87 U		0.87	0.18	1
10590	Heptachlor Epoxide	1024-57-3	0.87 U		0.87	0.18	1
10590	Methoxychlor	72-43-5	7.0 U		7.0	1.8	1
10590	Mirex	2385-85-5	1.8 U		1.8	0.37	1
10590	Toxaphene	8001-35-2	35 U		35	15	1

For all QC parameters which are outside project defined limits, but within the laboratory statistical limits, no corrective action is taken.

Pesticides/PCBs		SW-846 8082A	ug/kg		ug/kg	ug/kg	
10592	Aroclor 5432	63496-31-1	35 U		35	11	1
10592	Aroclor 5442	12642-23-8	35 U		35	11	1
10592	Aroclor 5460	11126-42-4	35 U		35	11	1
10592	PCB-1016	12674-11-2	18 U		18	3.5	1
10592	PCB-1221	11104-28-2	18 U		18	5.4	1
10592	PCB-1232	11141-16-5	18 U		18	4.3	1
10592	PCB-1242	53469-21-9	18 U		18	4.3	1
10592	PCB-1248	12672-29-6	18 U		18	3.5	1
10592	PCB-1254	11097-69-1	18 U		18	4.6	1
10592	PCB-1260	11096-82-5	18 U		18	4.1	1
10592	PCB-1262	37324-23-5	18 U		18	3.5	1
10592	PCB-1268	11100-14-4	18 U		18	3.5	1

GC Petroleum Hydrocarbons		SW-846 8015B modified	mg/kg		mg/kg	mg/kg	
12952	EFH (C12-C14)	n.a.	5.2 U		5.2	2.1	1
12952	EFH (C15-C20)	n.a.	5.2 U		5.2	2.1	1
12952	EFH (C21-C30)	n.a.	11		5.2	2.1	1
12952	EFH (C30-C40)	n.a.	29		10	4.2	1
12952	EFH (C8-C11)	n.a.	5.2 U		5.2	2.1	1

Metals		SW-846 6010C	mg/kg		mg/kg	mg/kg	
01643	Aluminum	7429-90-5	21,000		40.5	7.30	1
06944	Antimony	7440-36-0	4.05 U		4.05	0.749	1
06935	Arsenic	7440-38-2	3.02 J		4.05	0.709	1
06946	Barium	7440-39-3	108		1.01	0.0334	1
06947	Beryllium	7440-41-7	0.728 J		1.01	0.0678	1
07914	Boron	7440-42-8	14.5		10.1	0.850	1
06949	Cadmium	7440-43-9	0.198 J		1.01	0.0769	1
01650	Calcium	7440-70-2	4,550		20.2	3.38	1
06951	Chromium	7440-47-3	23.6		3.04	0.162	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-564-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7152825
LL Group # 1409714
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/06/2013 10:00 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/07/2013 09:15
Reported: 08/21/2013 14:07

SL564 SDG#: PH085-02

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals						
		SW-846 6010C	mg/kg	mg/kg	mg/kg	
06952	Cobalt	7440-48-4	7.12	1.01	0.100	1
06953	Copper	7440-50-8	17.2	2.02	0.294	1
01654	Iron	7439-89-6	25,400	40.5	3.66	1
06955	Lead	7439-92-1	16.2	3.04	0.506	1
01656	Lithium	7439-93-2	21.8	4.0	0.34	1
01657	Magnesium	7439-95-4	5,110	10.1	1.69	1
06958	Manganese	7439-96-5	356	1.01	0.0840	1
06960	Molybdenum	7439-98-7	0.405 J	2.02	0.172	1
06961	Nickel	7440-02-0	13.7	2.02	0.132	1
10145	Phosphorus	7723-14-0	398	10.1	2.93	1
01662	Potassium	7440-09-7	4,100	101	8.44	1
01667	Sodium	7440-23-5	62.8 J	101	16.9	1
06969	Tin	7440-31-5	2.90 J	10.1	0.223	1
06970	Titanium	7440-32-6	1,080	1.01	0.172	1
06971	Vanadium	7440-62-2	47.2	1.01	0.132	1
06972	Zinc	7440-66-6	62.3	4.05	0.202	1
10146	Zirconium	7440-67-7	3.02 J	5.06	0.850	1
		SW-846 6020A	mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	0.183 J	0.405	0.101	2
06142	Silver	7440-22-4	0.0500 J	0.202	0.0263	2
06144	Strontium	7440-24-6	29.0	0.405	0.0688	2
06145	Thallium	7440-28-0	0.328	0.202	0.0304	2
		SW-846 7471B	mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.0238	0.0170	0.0102	1
Wet Chemistry						
		SW-846 9045D modified	Std. Units	Std. Units	Std. Units	
00394	15a pH by 9045D The pH was measured in water at 21.9 C.	n.a.	6.63	0.0100	0.0100	1
Wet Chemistry						
		EPA 160.3 modified	%	%	%	
11624	14a Moisture Content by 160.3 Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.	n.a.	5.0	0.10	0.10	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-564-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7152825
LL Group # 1409714
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/06/2013 10:00 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/07/2013 09:15
Reported: 08/21/2013 14:07

SL564 SDG#: PH085-02

CAT No.	Analysis Name	CAS Number	Dry Result		Dry MRL*	Dry EDL	Dilution Factor
Dioxins/Furans			EPA 1613B		ng/kg	ng/kg	
11031	2378-TCDD	1746-01-6	0.0834	JQ	1.01	0.0688	1
11031	12378-PeCDD	40321-76-4	0.155	JB	5.06	0.0819	1
11031	123478-HxCDD	39227-28-6	0.157	J	5.06	0.0533	1
11031	123678-HxCDD	57653-85-7	0.426	JB	5.06	0.0567	1
11031	123789-HxCDD	19408-74-3	0.437	J	5.06	0.0569	1
11031	1234678-HpCDD	35822-46-9	5.42	B	5.06	0.106	1
11031	OCDD	3268-87-9	50.6	B	10.1	0.0805	1
11031	2378-TCDF	51207-31-9	0.241	J	1.01	0.103	1
11031	12378-PeCDF	57117-41-6	0.456	J	5.06	0.0508	1
11031	23478-PeCDF	57117-31-4	0.147	JB	5.06	0.0464	1
11031	123478-HxCDF	70648-26-9	0.211	JQ	5.06	0.0386	1
11031	123678-HxCDF	57117-44-9	0.196	J	5.06	0.0382	1
11031	123789-HxCDF	72918-21-9	0.295	JQ	5.06	0.0515	1
11031	234678-HxCDF	60851-34-5	0.222	J	5.06	0.0357	1
11031	1234678-HpCDF	67562-39-4	1.38	JB	5.06	0.0606	1
11031	1234789-HpCDF	55673-89-7	0.146	JBQ	5.06	0.0972	1
11031	OCDF	39001-02-0	3.91	JB	10.1	0.105	1

Toxic Equivalents		EPA 1613B	ng/kg	ng/kg	ng/kg	
11031	TEQ WHO 2005 - EDLx0.0	n.a.	0.465			1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	60	25 - 164
13C12-12378-PeCDD	85	25 - 181
13C12-123478-HxCDD	74	32 - 141
13C12-123678-HxCDD	78	28 - 130
13C12-123789-HxCDD	78	28 - 130
13C12-1234678-HpCDD	88	23 - 140
13C12-OCDD	87	17 - 157
13C12-2378-TCDF	60	24 - 169
13C12-12378-PeCDF	79	24 - 185
13C12-23478-PeCDF	78	21 - 178
13C12-123478-HxCDF	60	26 - 152
13C12-123678-HxCDF	67	26 - 123
13C12-234678-HxCDF	65	28 - 136
13C12-123789-HxCDF	62	29 - 147
13C12-1234678-HpCDF	82	28 - 143
13C12-1234789-HpCDF	69	26 - 138
13C12-OCDF	66	17 - 157

Dioxins/Furans Data Qualifiers:

- B Detected in Method Blank
- U Undetected
- J Estimated concentration between Estimated Detection Limit and Minimum Level
- E Exceeds calibration range
- C Confirmed quantitation on secondary GC column
- Q EMPC - Estimated Maximum Possible Concentration

*=This limit was used in the evaluation of the final result

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Sample Description: SL-564-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7152825
LL Group # 1409714
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/06/2013 10:00 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/07/2013 09:15

Reported: 08/21/2013 14:07

SL564 SDG#: PH085-02

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
F	Interference is present					
S	Saturation of detection signal					

*=This limit was used in the evaluation of the final result

Sample Description: SL-564-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7152825
LL Group # 1409714
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/06/2013 10:00 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/07/2013 09:15
Reported: 08/21/2013 14:07

SL564 SDG#: PH085-02

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13225SLA026	08/15/2013 09:36	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	13225SLA026	08/14/2013 08:30	Anna E Stager	1
10401	21a Herbicides by EPA 8151A	SW-846 8151A	1	132250009A	08/16/2013 13:10	Melissa McDermott	1
10590	20a Pesticides by EPA 8081B	SW-846 8081B	1	132250011A	08/19/2013 17:24	Jamie L Brillhart	1
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132250001A	08/14/2013 20:55	Monica M Souders	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132250001A	08/13/2013 16:25	JoElla L Rice	1
10496	PPL Pest. Microwave Extraction	SW-846 3546	2	132250011A	08/14/2013 03:00	Sherry L Morrow	1
04181	Herbicide Soil Extraction	SW-846 3550B/SW-846 8151A	1	132250009A	08/14/2013 05:30	Roman Kuropatkin	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132220004A	08/12/2013 23:48	Heather E Williams	1
12959	EPH soil ext. (microwave)	SW-846 3546	1	132220004A	08/11/2013 11:45	Sherry L Morrow	1
11031	23a Dioxin/Furan by EPA 1613B	EPA 1613B	1	13224001	08/14/2013 15:42	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	13224001	08/12/2013 11:30	Deborah M Zimmerman	1
01643	Aluminum	SW-846 6010C	1	132200637001	08/16/2013 12:12	Eric L Eby	1
06944	Antimony	SW-846 6010C	1	132200637001	08/16/2013 12:12	Eric L Eby	1
06935	Arsenic	SW-846 6010C	1	132200637001	08/16/2013 12:12	Eric L Eby	1
06946	Barium	SW-846 6010C	1	132200637001	08/16/2013 12:12	Eric L Eby	1
06947	Beryllium	SW-846 6010C	1	132200637001	08/16/2013 12:12	Eric L Eby	1
07914	Boron	SW-846 6010C	1	132200637001	08/16/2013 12:12	Eric L Eby	1
06949	Cadmium	SW-846 6010C	1	132200637001	08/16/2013 12:12	Eric L Eby	1
01650	Calcium	SW-846 6010C	1	132200637001	08/16/2013 12:12	Eric L Eby	1
06951	Chromium	SW-846 6010C	1	132200637001	08/16/2013 12:12	Eric L Eby	1
06952	Cobalt	SW-846 6010C	1	132200637001	08/16/2013 12:12	Eric L Eby	1
06953	Copper	SW-846 6010C	1	132200637001	08/16/2013 12:12	Eric L Eby	1
01654	Iron	SW-846 6010C	1	132200637001	08/16/2013 12:12	Eric L Eby	1
06955	Lead	SW-846 6010C	1	132200637001	08/16/2013 12:12	Eric L Eby	1
01656	Lithium	SW-846 6010C	1	132200637001	08/16/2013 12:12	Eric L Eby	1
01657	Magnesium	SW-846 6010C	1	132200637001	08/16/2013 12:12	Eric L Eby	1
06958	Manganese	SW-846 6010C	1	132200637001	08/16/2013 12:12	Eric L Eby	1
06960	Molybdenum	SW-846 6010C	1	132200637001	08/16/2013 12:12	Eric L Eby	1
06961	Nickel	SW-846 6010C	1	132200637001	08/16/2013 12:12	Eric L Eby	1
10145	Phosphorus	SW-846 6010C	1	132200637001	08/16/2013 12:12	Eric L Eby	1
01662	Potassium	SW-846 6010C	1	132200637001	08/16/2013 12:12	Eric L Eby	1
01667	Sodium	SW-846 6010C	1	132200637001	08/16/2013 12:12	Eric L Eby	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-564-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7152825
LL Group # 1409714
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/06/2013 10:00 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/07/2013 09:15

Reported: 08/21/2013 14:07

SL564 SDG#: PH085-02

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
06969	Tin	SW-846 6010C	1	132200637001	08/16/2013	12:12	Eric L Eby	1
06970	Titanium	SW-846 6010C	1	132200637001	08/16/2013	12:12	Eric L Eby	1
06971	Vanadium	SW-846 6010C	1	132200637001	08/16/2013	12:12	Eric L Eby	1
06972	Zinc	SW-846 6010C	1	132200637001	08/16/2013	12:12	Eric L Eby	1
10146	Zirconium	SW-846 6010C	1	132200637001	08/16/2013	12:12	Eric L Eby	1
06141	Selenium	SW-846 6020A	1	132200637001B	08/14/2013	13:00	Choon Y Tian	2
06142	Silver	SW-846 6020A	1	132200637001A	08/14/2013	13:00	Choon Y Tian	2
06144	Strontium	SW-846 6020A	1	132200637001A	08/14/2013	13:00	Choon Y Tian	2
06145	Thallium	SW-846 6020A	1	132200637001A	08/14/2013	13:00	Choon Y Tian	2
00159	3a Mercury 7471A	SW-846 7471B	1	132200638001	08/15/2013	14:08	Parker D Lindstrom	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132200637001	08/09/2013	09:35	Denise K Connors	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132200638001	08/09/2013	11:25	Denise K Connors	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13219039401A	08/07/2013	18:30	Clayton C Litchmore	1
11624	14a Moisture Content by 160.3	EPA 160.3 modified	1	13221162402A	08/09/2013	23:20	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-582-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7152826
LL Group # 1409714
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/06/2013 07:45 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/07/2013 09:15
Reported: 08/21/2013 14:07

SL582 SDG#: PH085-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	1.8 U	1.8	0.71	1
12969	Acenaphthylene	208-96-8	1.8 U	1.8	0.35	1
12969	Anthracene	120-12-7	1.8 U	1.8	0.35	1
12969	Benzo(a)anthracene	56-55-3	0.85 J	1.8	0.71	1
12969	Benzo(a)pyrene	50-32-8	0.93 J	1.8	0.71	1
12969	Benzo(b)fluoranthene	205-99-2	2.2	1.8	0.71	1
12969	Benzo(e)pyrene	192-97-2	18 U	18	3.5	1
12969	Benzo(g,h,i)perylene	191-24-2	1.8 U	1.8	0.71	1
12969	Benzo(k)fluoranthene	207-08-9	0.73 J	1.8	0.71	1
12969	Butylbenzylphthalate	85-68-7	9.7 J	19	6.4	1
12969	Di-n-butylphthalate	84-74-2	19 U	19	6.4	1
12969	Chrysene	218-01-9	3.1	1.8	0.35	1
12969	Dibenz(a,h)anthracene	53-70-3	1.8 U	1.8	0.71	1
12969	Diethylphthalate	84-66-2	19 U	19	6.4	1
12969	Dimethylphthalate	131-11-3	19 U	19	6.4	1
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	48	19	6.4	1
12969	Fluoranthene	206-44-0	2.4	1.8	0.71	1
12969	Fluorene	86-73-7	1.8 U	1.8	0.71	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	1.8 U	1.8	0.71	1
12969	1-Methylnaphthalene	90-12-0	1.3 J	1.8	0.71	1
12969	2-Methylnaphthalene	91-57-6	2.8	1.8	0.71	1
12969	Naphthalene	91-20-3	2.2	1.8	0.71	1
12969	N-Nitrosodimethylamine	62-75-9	1.8 U	1.8	0.71	1
12969	Di-n-octylphthalate	117-84-0	19 U	19	6.4	1
12969	Phenanthrene	85-01-8	2.3	1.8	0.71	1
12969	Pyrene	129-00-0	2.2	1.8	0.71	1
Pesticides/PCBs	SW-846 8082A		ug/kg	ug/kg	ug/kg	
10592	Aroclor 5432	63496-31-1	35 U	35	11	1
10592	Aroclor 5442	12642-23-8	35 U	35	11	1
10592	Aroclor 5460	11126-42-4	61	35	11	1
10592	PCB-1016	12674-11-2	18 U	18	3.5	1
10592	PCB-1221	11104-28-2	18 U	18	5.4	1
10592	PCB-1232	11141-16-5	18 U	18	4.4	1
10592	PCB-1242	53469-21-9	18 U	18	4.4	1
10592	PCB-1248	12672-29-6	18 U	18	3.5	1
10592	PCB-1254	11097-69-1	18 U	18	4.7	1
10592	PCB-1260	11096-82-5	9.5 J	18	4.1	1
10592	PCB-1262	37324-23-5	18 U	18	3.5	1
10592	PCB-1268	11100-14-4	18 U	18	3.5	1
GC Petroleum	SW-846 8015B modified		mg/kg	mg/kg	mg/kg	
Hydrocarbons						
12952	EFH (C12-C14)	n.a.	11 U	11	4.2	2
12952	EFH (C15-C20)	n.a.	5.8 J	11	4.2	2
12952	EFH (C21-C30)	n.a.	50	11	4.2	2
12952	EFH (C30-C40)	n.a.	110	21	8.5	2
12952	EFH (C8-C11)	n.a.	11 U	11	4.2	2
Metals	SW-846 6010C		mg/kg	mg/kg	mg/kg	

*=This limit was used in the evaluation of the final result

Sample Description: SL-582-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7152826
LL Group # 1409714
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/06/2013 07:45 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/07/2013 09:15
Reported: 08/21/2013 14:07

SL582 SDG#: PH085-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals						
		SW-846 6010C	mg/kg	mg/kg	mg/kg	
01643	Aluminum	7429-90-5	19,400	42.1	7.59	1
06944	Antimony	7440-36-0	2.05 J	4.21	0.779	1
06935	Arsenic	7440-38-2	2.89 J	4.21	0.737	1
06946	Barium	7440-39-3	111	1.05	0.0348	1
06947	Beryllium	7440-41-7	0.680 J	1.05	0.0706	1
07914	Boron	7440-42-8	13.9	10.5	0.885	1
06949	Cadmium	7440-43-9	0.594 J	1.05	0.0801	1
01650	Calcium	7440-70-2	4,520	21.1	3.52	1
06951	Chromium	7440-47-3	23.6	3.16	0.169	1
06952	Cobalt	7440-48-4	6.96	1.05	0.104	1
06953	Copper	7440-50-8	20.4	2.11	0.305	1
01654	Iron	7439-89-6	22,400	42.1	3.81	1
06955	Lead	7439-92-1	18.0	3.16	0.527	1
01656	Lithium	7439-93-2	19.7	4.2	0.36	1
01657	Magnesium	7439-95-4	5,670	10.5	1.76	1
06958	Manganese	7439-96-5	355	1.05	0.0874	1
06960	Molybdenum	7439-98-7	0.459 J	2.11	0.179	1
06961	Nickel	7440-02-0	14.2	2.11	0.137	1
10145	Phosphorus	7723-14-0	311	10.5	3.04	1
01662	Potassium	7440-09-7	3,860	105	8.78	1
01667	Sodium	7440-23-5	65.6 J	105	17.6	1
06969	Tin	7440-31-5	2.78 J	10.5	0.232	1
06970	Titanium	7440-32-6	1,030	1.05	0.179	1
06971	Vanadium	7440-62-2	43.9	1.05	0.137	1
06972	Zinc	7440-66-6	179	4.21	0.211	1
10146	Zirconium	7440-67-7	2.32 J	5.27	0.885	1
		SW-846 6020A	mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	0.219 J	0.421	0.105	2
06142	Silver	7440-22-4	0.0849 J	0.211	0.0274	2
06144	Strontium	7440-24-6	29.8	0.421	0.0716	2
06145	Thallium	7440-28-0	0.399	0.211	0.0316	2
		SW-846 7471B	mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.0296	0.0166	0.010	1
Wet Chemistry						
		SW-846 9045D modified	Std. Units	Std. Units	Std. Units	
00394	15a pH by 9045D The pH was measured in water at 22 C.	n.a.	5.46	0.0100	0.0100	1
Wet Chemistry						
		EPA 160.3 modified	%	%	%	
11624	14a Moisture Content by 160.3 Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.	n.a.	6.0	0.10	0.10	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-582-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7152826
LL Group # 1409714
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/06/2013 07:45 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/07/2013 09:15
Reported: 08/21/2013 14:07

SL582 SDG#: PH085-03

CAT No.	Analysis Name	CAS Number	Dry Result		Dry MRL*	Dry EDL	Dilution Factor
Dioxins/Furans			EPA 1613B		ng/kg	ng/kg	
11031	2378-TCDD	1746-01-6	0.135	JQ	1.04	0.0453	1
11031	12378-PeCDD	40321-76-4	0.362	JB	5.19	0.0663	1
11031	123478-HxCDD	39227-28-6	0.206	JQ	5.19	0.0671	1
11031	123678-HxCDD	57653-85-7	0.978	JB	5.19	0.0737	1
11031	123789-HxCDD	19408-74-3	0.918	J	5.19	0.0703	1
11031	1234678-HpCDD	35822-46-9	12.2	B	5.19	0.0948	1
11031	OCDD	3268-87-9	105	B	10.4	0.0593	1
11031	2378-TCDF	51207-31-9	0.444	JQ	1.04	0.170	1
11031	12378-PeCDF	57117-41-6	2.74	J	5.19	0.0786	1
11031	23478-PeCDF	57117-31-4	0.534	JB	5.19	0.0820	1
11031	123478-HxCDF	70648-26-9	0.327	J	5.19	0.0566	1
11031	123678-HxCDF	57117-44-9	0.441	J	5.19	0.0524	1
11031	123789-HxCDF	72918-21-9	0.896	J	5.19	0.0686	1
11031	234678-HxCDF	60851-34-5	0.284	J	5.19	0.0546	1
11031	1234678-HpCDF	67562-39-4	1.98	JB	5.19	0.0441	1
11031	1234789-HpCDF	55673-89-7	0.207	JB	5.19	0.0673	1
11031	OCDF	39001-02-0	3.45	JB	10.4	0.0511	1

Toxic Equivalents		EPA 1613B	ng/kg	ng/kg	ng/kg	
11031	TEQ WHO 2005 - EDLx0.0	n.a.	1.16			1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	62	25 - 164
13C12-12378-PeCDD	75	25 - 181
13C12-123478-HxCDD	70	32 - 141
13C12-123678-HxCDD	71	28 - 130
13C12-123789-HxCDD	73	28 - 130
13C12-1234678-HpCDD	76	23 - 140
13C12-OCDD	78	17 - 157
13C12-2378-TCDF	61	24 - 169
13C12-12378-PeCDF	80	24 - 185
13C12-23478-PeCDF	72	21 - 178
13C12-123478-HxCDF	60	26 - 152
13C12-123678-HxCDF	66	26 - 123
13C12-234678-HxCDF	63	28 - 136
13C12-123789-HxCDF	65	29 - 147
13C12-1234678-HpCDF	75	28 - 143
13C12-1234789-HpCDF	63	26 - 138
13C12-OCDF	60	17 - 157

Dioxins/Furans Data Qualifiers:

- B Detected in Method Blank
- U Undetected
- J Estimated concentration between Estimated Detection Limit and Minimum Level
- E Exceeds calibration range
- C Confirmed quantitation on secondary GC column
- Q EMPC - Estimated Maximum Possible Concentration

*=This limit was used in the evaluation of the final result

Sample Description: SL-582-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7152826
LL Group # 1409714
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/06/2013 07:45 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/07/2013 09:15

Reported: 08/21/2013 14:07

SL582 SDG#: PH085-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
F	Interference is present					
S	Saturation of detection signal					

*=This limit was used in the evaluation of the final result

Sample Description: SL-582-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7152826
LL Group # 1409714
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/06/2013 07:45 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/07/2013 09:15
Reported: 08/21/2013 14:07

SL582 SDG#: PH085-03

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13225SLA026	08/15/2013 10:09	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	13225SLA026	08/14/2013 08:30	Anna E Stager	1
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132250001A	08/14/2013 21:13	Monica M Souders	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132250001A	08/13/2013 16:25	JoElla L Rice	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132220004A	08/13/2013 03:16	Heather E Williams	2
12959	EFH soil ext. (microwave)	SW-846 3546	1	132220004A	08/11/2013 11:45	Sherry L Morrow	1
11031	23a Dioxin/Furan by EPA 1613B	EPA 1613B	1	13224001	08/14/2013 16:39	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	13224001	08/12/2013 11:30	Deborah M Zimmerman	1
01643	Aluminum	SW-846 6010C	1	132200637001	08/16/2013 12:15	Eric L Eby	1
06944	Antimony	SW-846 6010C	1	132200637001	08/16/2013 12:15	Eric L Eby	1
06935	Arsenic	SW-846 6010C	1	132200637001	08/16/2013 12:15	Eric L Eby	1
06946	Barium	SW-846 6010C	1	132200637001	08/16/2013 12:15	Eric L Eby	1
06947	Beryllium	SW-846 6010C	1	132200637001	08/16/2013 12:15	Eric L Eby	1
07914	Boron	SW-846 6010C	1	132200637001	08/16/2013 12:15	Eric L Eby	1
06949	Cadmium	SW-846 6010C	1	132200637001	08/16/2013 12:15	Eric L Eby	1
01650	Calcium	SW-846 6010C	1	132200637001	08/16/2013 12:15	Eric L Eby	1
06951	Chromium	SW-846 6010C	1	132200637001	08/16/2013 12:15	Eric L Eby	1
06952	Cobalt	SW-846 6010C	1	132200637001	08/16/2013 12:15	Eric L Eby	1
06953	Copper	SW-846 6010C	1	132200637001	08/16/2013 12:15	Eric L Eby	1
01654	Iron	SW-846 6010C	1	132200637001	08/16/2013 12:15	Eric L Eby	1
06955	Lead	SW-846 6010C	1	132200637001	08/16/2013 12:15	Eric L Eby	1
01656	Lithium	SW-846 6010C	1	132200637001	08/16/2013 12:15	Eric L Eby	1
01657	Magnesium	SW-846 6010C	1	132200637001	08/16/2013 12:15	Eric L Eby	1
06958	Manganese	SW-846 6010C	1	132200637001	08/16/2013 12:15	Eric L Eby	1
06960	Molybdenum	SW-846 6010C	1	132200637001	08/16/2013 12:15	Eric L Eby	1
06961	Nickel	SW-846 6010C	1	132200637001	08/16/2013 12:15	Eric L Eby	1
10145	Phosphorus	SW-846 6010C	1	132200637001	08/16/2013 12:15	Eric L Eby	1
01662	Potassium	SW-846 6010C	1	132200637001	08/16/2013 12:15	Eric L Eby	1
01667	Sodium	SW-846 6010C	1	132200637001	08/16/2013 12:15	Eric L Eby	1
06969	Tin	SW-846 6010C	1	132200637001	08/16/2013 12:15	Eric L Eby	1
06970	Titanium	SW-846 6010C	1	132200637001	08/16/2013 12:15	Eric L Eby	1
06971	Vanadium	SW-846 6010C	1	132200637001	08/16/2013 12:15	Eric L Eby	1
06972	Zinc	SW-846 6010C	1	132200637001	08/16/2013 12:15	Eric L Eby	1
10146	Zirconium	SW-846 6010C	1	132200637001	08/16/2013 12:15	Eric L Eby	1
06141	Selenium	SW-846 6020A	1	132200637001B	08/14/2013 13:03	Choon Y Tian	2
06142	Silver	SW-846 6020A	1	132200637001A	08/14/2013 13:03	Choon Y Tian	2
06144	Strontium	SW-846 6020A	1	132200637001A	08/14/2013 13:03	Choon Y Tian	2
06145	Thallium	SW-846 6020A	1	132200637001A	08/14/2013 13:03	Choon Y Tian	2

*=This limit was used in the evaluation of the final result

Sample Description: SL-582-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7152826
LL Group # 1409714
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/06/2013 07:45 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/07/2013 09:15

Reported: 08/21/2013 14:07

SL582 SDG#: PH085-03

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00159	3a Mercury 7471A	SW-846 7471B	1	132200638001	08/15/2013 14:10	Parker D Lindstrom	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132200637001	08/09/2013 09:35	Denise K Conners	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132200638001	08/09/2013 11:25	Denise K Conners	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13219039401A	08/07/2013 18:30	Clayton C Litchmore	1
11624	14a Moisture Content by 160.3	EPA 160.3 modified	1	13221162402A	08/09/2013 23:20	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-582-SA8-SB-2.5-3.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7152827
LL Group # 1409714
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/06/2013 08:50 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/07/2013 09:15
Reported: 08/21/2013 14:07

582-2 SDG#: PH085-04

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/kg		ug/kg	ug/kg	
10237	Acetone	67-64-1	23	U	23	8	1.07
10237	Acrolein	107-02-8	110	U	110	23	1.07
10237	Acrylonitrile	107-13-1	23	U	23	5	1.07
10237	t-Amyl methyl ether	994-05-8	6	U	6	1	1.07
10237	Benzene	71-43-2	6	U	6	0.6	1.07
10237	Bromobenzene	108-86-1	6	U	6	1	1.07
10237	Bromochloromethane	74-97-5	6	U	6	1	1.07
10237	Bromodichloromethane	75-27-4	6	U	6	1	1.07
10237	Bromoform	75-25-2	6	U	6	1	1.07
10237	Bromomethane	74-83-9	6	U	6	2	1.07
10237	2-Butanone	78-93-3	11	U	11	5	1.07
10237	t-Butyl alcohol	75-65-0	57	U	57	23	1.07
10237	n-Butylbenzene	104-51-8	6	U	6	1	1.07
10237	sec-Butylbenzene	135-98-8	6	U	6	1	1.07
10237	tert-Butylbenzene	98-06-6	6	U	6	1	1.07
10237	Carbon Disulfide	75-15-0	6	U	6	1	1.07
10237	Carbon Tetrachloride	56-23-5	6	U	6	1	1.07
10237	Chlorobenzene	108-90-7	6	U	6	1	1.07
10237	Chloroethane	75-00-3	6	U	6	2	1.07
10237	2-Chloroethyl Vinyl Ether	110-75-8	11	U	11	2	1.07
10237	Chloroform	67-66-3	6	U	6	1	1.07
10237	1-Chlorohexane	544-10-5	6	U	6	1	1.07
10237	Chloromethane	74-87-3	6	U	6	2	1.07
10237	2-Chlorotoluene	95-49-8	6	U	6	1	1.07
10237	4-Chlorotoluene	106-43-4	6	U	6	1	1.07
10237	Chlorotrifluoroethene	79-38-9	6	U	6	2	1.07
10237	1,2-Dibromo-3-chloropropane	96-12-8	6	U	6	2	1.07
10237	Dibromochloromethane	124-48-1	6	U	6	1	1.07
10237	1,2-Dibromoethane	106-93-4	6	U	6	1	1.07
10237	Dibromomethane	74-95-3	6	U	6	1	1.07
10237	1,2-Dichlorobenzene	95-50-1	6	U	6	1	1.07
10237	1,3-Dichlorobenzene	541-73-1	6	U	6	1	1.07
10237	1,4-Dichlorobenzene	106-46-7	6	U	6	1	1.07
10237	Dichlorodifluoromethane	75-71-8	6	U	6	2	1.07
10237	1,1-Dichloroethane	75-34-3	6	U	6	1	1.07
10237	1,2-Dichloroethane	107-06-2	6	U	6	1	1.07
10237	1,1-Dichloroethene	75-35-4	6	U	6	1	1.07
10237	cis-1,2-Dichloroethene	156-59-2	6	U	6	1	1.07
10237	trans-1,2-Dichloroethene	156-60-5	6	U	6	1	1.07
10237	1,2-Dichloropropane	78-87-5	6	U	6	1	1.07
10237	1,3-Dichloropropane	142-28-9	6	U	6	1	1.07
10237	2,2-Dichloropropane	594-20-7	6	U	6	1	1.07
10237	1,1-Dichloropropene	563-58-6	6	U	6	1	1.07
10237	cis-1,3-Dichloropropene	10061-01-5	6	U	6	1	1.07
10237	trans-1,3-Dichloropropene	10061-02-6	6	U	6	1	1.07
10237	Ethyl t-butyl ether	637-92-3	6	U	6	1	1.07
10237	Ethylbenzene	100-41-4	6	U	6	1	1.07
10237	Freon 113	76-13-1	6	U	6	2	1.07
10237	Freon 133a	75-88-7	6	U	6	2	1.07
10237	Hexachlorobutadiene	87-68-3	6	U	6	2	1.07
10237	2-Hexanone	591-78-6	11	U	11	3	1.07

*=This limit was used in the evaluation of the final result

Sample Description: SL-582-SA8-SB-2.5-3.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7152827
LL Group # 1409714
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/06/2013 08:50 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/07/2013 09:15

Reported: 08/21/2013 14:07

582-2 SDG#: PH085-04

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg	
10237	di-Isopropyl ether	108-20-3	6 U	6	1	1.07
10237	Isopropylbenzene	98-82-8	6 U	6	1	1.07
10237	p-Isopropyltoluene	99-87-6	6 U	6	1	1.07
10237	Methyl Iodide	74-88-4	6 U	6	3	1.07
10237	Methyl Tertiary Butyl Ether	1634-04-4	6 U	6	0.6	1.07
10237	4-Methyl-2-pentanone	108-10-1	11 U	11	3	1.07
10237	Methylene Chloride	75-09-2	6 U	6	2	1.07
10237	n-Propylbenzene	103-65-1	6 U	6	1	1.07
10237	Styrene	100-42-5	6 U	6	1	1.07
10237	1,1,1,2-Tetrachloroethane	630-20-6	6 U	6	1	1.07
10237	1,1,2,2-Tetrachloroethane	79-34-5	6 U	6	1	1.07
10237	Tetrachloroethene	127-18-4	6 U	6	1	1.07
10237	Toluene	108-88-3	6 U	6	1	1.07
10237	1,2,3-Trichlorobenzene	87-61-6	6 U	6	1	1.07
10237	1,2,4-Trichlorobenzene	120-82-1	6 U	6	1	1.07
10237	1,1,1-Trichloroethane	71-55-6	6 U	6	1	1.07
10237	1,1,2-Trichloroethane	79-00-5	6 U	6	1	1.07
10237	Trichloroethene	79-01-6	6 U	6	1	1.07
10237	Trichlorofluoromethane	75-69-4	6 U	6	2	1.07
10237	1,2,3-Trichloropropane	96-18-4	6 U	6	1	1.07
10237	1,2,4-Trimethylbenzene	95-63-6	6 U	6	1	1.07
10237	1,3,5-Trimethylbenzene	108-67-8	6 U	6	1	1.07
10237	Vinyl Acetate	108-05-4	11 U	11	2	1.07
10237	Vinyl Chloride	75-01-4	6 U	6	1	1.07
10237	m+p-Xylene	179601-23-1	6 U	6	1	1.07
10237	o-Xylene	95-47-6	6 U	6	1	1.07

The response for 1,1,1-trichloroethane in the initial calibration does not meet the method acceptance limits for the linearity of the calibration curve. The following corrective action was taken: The average response factor for 1,1,1-trichloroethane was used due to poor curve fit.

GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	1.8 U	1.8	0.71	1
12969	Acenaphthylene	208-96-8	1.8 U	1.8	0.35	1
12969	Anthracene	120-12-7	1.8 U	1.8	0.35	1
12969	Benzo(a)anthracene	56-55-3	1.8 U	1.8	0.71	1
12969	Benzo(a)pyrene	50-32-8	1.8 U	1.8	0.71	1
12969	Benzo(b)fluoranthene	205-99-2	1.8 U	1.8	0.71	1
12969	Benzo(e)pyrene	192-97-2	18 U	18	3.5	1
12969	Benzo(g,h,i)perylene	191-24-2	1.8 U	1.8	0.71	1
12969	Benzo(k)fluoranthene	207-08-9	1.8 U	1.8	0.71	1
12969	Butylbenzylphthalate	85-68-7	19 U	19	6.4	1
12969	Di-n-butylphthalate	84-74-2	19 U	19	6.4	1
12969	Chrysene	218-01-9	1.8 U	1.8	0.35	1
12969	Dibenz(a,h)anthracene	53-70-3	1.8 U	1.8	0.71	1
12969	Diethylphthalate	84-66-2	19 U	19	6.4	1
12969	Dimethylphthalate	131-11-3	19 U	19	6.4	1
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	19 U	19	6.4	1
12969	Fluoranthene	206-44-0	1.8 U	1.8	0.71	1
12969	Fluorene	86-73-7	1.8 U	1.8	0.71	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-582-SA8-SB-2.5-3.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7152827
LL Group # 1409714
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/06/2013 08:50 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/07/2013 09:15
Reported: 08/21/2013 14:07

582-2 SDG#: PH085-04

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles SW-846 8270D SIM						
12969	Indeno (1,2,3-cd)pyrene	193-39-5	1.8 U	1.8	0.71	1
12969	1-Methylnaphthalene	90-12-0	1.8 U	1.8	0.71	1
12969	2-Methylnaphthalene	91-57-6	1.8 U	1.8	0.71	1
12969	Naphthalene	91-20-3	1.8 U	1.8	0.71	1
12969	N-Nitrosodimethylamine	62-75-9	1.8 U	1.8	0.71	1
12969	Di-n-octylphthalate	117-84-0	19 U	19	6.4	1
12969	Phenanthrene	85-01-8	1.8 U	1.8	0.71	1
12969	Pyrene	129-00-0	1.8 U	1.8	0.71	1
GC Volatiles TPH GRO SW-846 8015B mod						
05551	11a TPH by EPA 8015B GRO	n.a.	1.1 U	1.1	0.2	26.71
Pesticides/PCBs SW-846 8082A						
10592	Aroclor 5432	63496-31-1	35 U	35	11	1
10592	Aroclor 5442	12642-23-8	35 U	35	11	1
10592	Aroclor 5460	11126-42-4	35 U	35	11	1
10592	PCB-1016	12674-11-2	18 U	18	3.5	1
10592	PCB-1221	11104-28-2	18 U	18	5.4	1
10592	PCB-1232	11141-16-5	18 U	18	4.4	1
10592	PCB-1242	53469-21-9	18 U	18	4.4	1
10592	PCB-1248	12672-29-6	18 U	18	3.5	1
10592	PCB-1254	11097-69-1	18 U	18	4.7	1
10592	PCB-1260	11096-82-5	18 U	18	4.1	1
10592	PCB-1262	37324-23-5	18 U	18	3.5	1
10592	PCB-1268	11100-14-4	18 U	18	3.5	1
GC Petroleum SW-846 8015B modified						
Hydrocarbons						
12952	EFH (C12-C14)	n.a.	5.3 U	5.3	2.1	1
12952	EFH (C15-C20)	n.a.	5.3 U	5.3	2.1	1
12952	EFH (C21-C30)	n.a.	2.5 J	5.3	2.1	1
12952	EFH (C30-C40)	n.a.	11 U	11	4.2	1
12952	EFH (C8-C11)	n.a.	5.3 U	5.3	2.1	1
Metals SW-846 6010C						
01643	Aluminum	7429-90-5	21,900	42.1	7.59	1
06944	Antimony	7440-36-0	4.21 U	4.21	0.779	1
06935	Arsenic	7440-38-2	2.37 J	4.21	0.737	1
06946	Barium	7440-39-3	118	1.05	0.0347	1
06947	Beryllium	7440-41-7	0.784 J	1.05	0.0705	1
07914	Boron	7440-42-8	12.7	10.5	0.884	1
06949	Cadmium	7440-43-9	0.253 J	1.05	0.0800	1
01650	Calcium	7440-70-2	2,190	21.0	3.51	1
06951	Chromium	7440-47-3	23.9	3.16	0.168	1
06952	Cobalt	7440-48-4	6.78	1.05	0.104	1
06953	Copper	7440-50-8	17.3	2.10	0.305	1
01654	Iron	7439-89-6	23,900	42.1	3.81	1
06955	Lead	7439-92-1	8.15	3.16	0.526	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-582-SA8-SB-2.5-3.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7152827
LL Group # 1409714
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/06/2013 08:50 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/07/2013 09:15

Reported: 08/21/2013 14:07

582-2 SDG#: PH085-04

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals						
		SW-846 6010C	mg/kg	mg/kg	mg/kg	
01656	Lithium	7439-93-2	20.1	4.2	0.36	1
01657	Magnesium	7439-95-4	4,620	10.5	1.76	1
06958	Manganese	7439-96-5	235	1.05	0.0873	1
06960	Molybdenum	7439-98-7	0.446 J	2.10	0.179	1
06961	Nickel	7440-02-0	14.1	2.10	0.137	1
10145	Phosphorus	7723-14-0	346	10.5	3.04	1
01662	Potassium	7440-09-7	3,770	105	8.78	1
01667	Sodium	7440-23-5	69.8 J	105	17.6	1
06969	Tin	7440-31-5	2.69 J	10.5	0.231	1
06970	Titanium	7440-32-6	1,090	1.05	0.179	1
06971	Vanadium	7440-62-2	44.5	1.05	0.137	1
06972	Zinc	7440-66-6	59.7	4.21	0.210	1
10146	Zirconium	7440-67-7	1.86 J	5.26	0.884	1
		SW-846 6020A	mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	0.275 J	0.421	0.105	2
06142	Silver	7440-22-4	0.0375 J	0.210	0.0274	2
06144	Strontium	7440-24-6	38.2	0.421	0.0715	2
06145	Thallium	7440-28-0	0.443	0.210	0.0316	2
		SW-846 7471B	mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.0170 U	0.0170	0.0102	1
Wet Chemistry						
		SW-846 9045D modified	Std. Units	Std. Units	Std. Units	
00394	15a pH by 9045D The pH was measured in water at 22 C.	n.a.	5.45	0.0100	0.0100	1
Wet Chemistry						
		EPA 160.3 modified	%	%	%	
11624	14a Moisture Content by 160.3 Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.	n.a.	5.9	0.10	0.10	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-582-SA8-SB-2.5-3.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7152827
LL Group # 1409714
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/06/2013 08:50 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/07/2013 09:15
Reported: 08/21/2013 14:07

582-2 SDG#: PH085-04

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
Dioxins/Furans			ng/kg	ng/kg	ng/kg	
EPA 1613B						
11031	2378-TCDD	1746-01-6	1.02 U	1.02	0.0455	1
11031	12378-PeCDD	40321-76-4	0.0679 JBQ	5.12	0.0583	1
11031	123478-HxCDD	39227-28-6	5.12 U	5.12	0.0482	1
11031	123678-HxCDD	57653-85-7	0.444 JBQ	5.12	0.0550	1
11031	123789-HxCDD	19408-74-3	0.650 J	5.12	0.0528	1
11031	1234678-HpCDD	35822-46-9	0.453 JB	5.12	0.0363	1
11031	OCDD	3268-87-9	3.23 JB	10.2	0.0294	1
11031	2378-TCDF	51207-31-9	1.02 U	1.02	0.0461	1
11031	12378-PeCDF	57117-41-6	0.173 J	5.12	0.0286	1
11031	23478-PeCDF	57117-31-4	5.12 U	5.12	0.0255	1
11031	123478-HxCDF	70648-26-9	5.12 U	5.12	0.0186	1
11031	123678-HxCDF	57117-44-9	5.12 U	5.12	0.0181	1
11031	123789-HxCDF	72918-21-9	0.940 JQ	5.12	0.0223	1
11031	234678-HxCDF	60851-34-5	0.0207 JQ	5.12	0.0181	1
11031	1234678-HpCDF	67562-39-4	0.0800 JB	5.12	0.0188	1
11031	1234789-HpCDF	55673-89-7	5.12 U	5.12	0.0293	1
11031	OCDF	39001-02-0	0.156 JBQ	10.2	0.0348	1

Toxic Equivalents		EPA 1613B	ng/kg	ng/kg	ng/kg	
11031	TEQ WHO 2005 - EDLx0.0	n.a.	0.0765			1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	54	25 - 164
13C12-12378-PeCDD	76	25 - 181
13C12-123478-HxCDD	67	32 - 141
13C12-123678-HxCDD	72	28 - 130
13C12-123789-HxCDD	71	28 - 130
13C12-1234678-HpCDD	78	23 - 140
13C12-OCDD	78	17 - 157
13C12-2378-TCDF	53	24 - 169
13C12-12378-PeCDF	72	24 - 185
13C12-23478-PeCDF	73	21 - 178
13C12-123478-HxCDF	58	26 - 152
13C12-123678-HxCDF	63	26 - 123
13C12-234678-HxCDF	61	28 - 136
13C12-123789-HxCDF	61	29 - 147
13C12-1234678-HpCDF	78	28 - 143
13C12-1234789-HpCDF	67	26 - 138
13C12-OCDF	59	17 - 157

Dioxins/Furans Data Qualifiers:

- B Detected in Method Blank
- U Undetected
- J Estimated concentration between Estimated Detection Limit and Minimum Level
- E Exceeds calibration range
- C Confirmed quantitation on secondary GC column
- Q EMPC - Estimated Maximum Possible Concentration

*=This limit was used in the evaluation of the final result

Sample Description: SL-582-SA8-SB-2.5-3.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7152827
LL Group # 1409714
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/06/2013 08:50 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/07/2013 09:15

Reported: 08/21/2013 14:07

582-2 SDG#: PH085-04

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
F	Interference is present					
S	Saturation of detection signal					

*=This limit was used in the evaluation of the final result

Sample Description: SL-582-SA8-SB-2.5-3.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7152827
LL Group # 1409714
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/06/2013 08:50 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/07/2013 09:15
Reported: 08/21/2013 14:07

582-2 SDG#: PH085-04

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	12a Volatile Organics EPA8260B	SW-846 8260B	1	B132252AA	08/13/2013 22:32	Andrea E Lando	1.07
07320	GC/MS - LL DIH2O Encore Prep	SW-846 5035A	1	201321931985	08/07/2013 15:15	Larry E Bevins	n.a.
07320	GC/MS - LL DIH2O Encore Prep	SW-846 5035A	2	201321931985	08/07/2013 15:15	Larry E Bevins	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035A	1	201321931985	08/07/2013 15:13	Larry E Bevins	n.a.
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13225SLA026	08/15/2013 05:45	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	13225SLA026	08/14/2013 08:30	Anna E Stager	1
05551	11a TPH by EPA 8015B GRO	TPH GRO SW-846 8015B mod	1	13224A16A	08/12/2013 21:25	Laura M Krieger	26.71
06130	GC - 5 g HL Encore Prep	SW-846 5035A	1	201321931985	08/07/2013 15:12	Larry E Bevins	n.a.
06130	GC - 5 g HL Encore Prep	SW-846 5035A	2	201321931985	08/07/2013 15:12	Larry E Bevins	n.a.
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132250001A	08/14/2013 21:31	Monica M Souders	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132250001A	08/13/2013 16:25	JoElla L Rice	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132220004A	08/12/2013 23:06	Heather E Williams	1
12959	EPH soil ext. (microwave)	SW-846 3546	1	132220004A	08/11/2013 11:45	Sherry L Morrow	1
11031	23a Dioxin/Furan by EPA 1613B	EPA 1613B	1	13224001	08/14/2013 17:36	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	13224001	08/12/2013 11:30	Deborah M Zimmerman	1
01643	Aluminum	SW-846 6010C	1	132200637001	08/16/2013 12:27	Eric L Eby	1
06944	Antimony	SW-846 6010C	1	132200637001	08/16/2013 12:27	Eric L Eby	1
06935	Arsenic	SW-846 6010C	1	132200637001	08/16/2013 12:27	Eric L Eby	1
06946	Barium	SW-846 6010C	1	132200637001	08/16/2013 12:27	Eric L Eby	1
06947	Beryllium	SW-846 6010C	1	132200637001	08/16/2013 12:27	Eric L Eby	1
07914	Boron	SW-846 6010C	1	132200637001	08/16/2013 12:27	Eric L Eby	1
06949	Cadmium	SW-846 6010C	1	132200637001	08/16/2013 12:27	Eric L Eby	1
01650	Calcium	SW-846 6010C	1	132200637001	08/16/2013 12:27	Eric L Eby	1
06951	Chromium	SW-846 6010C	1	132200637001	08/16/2013 12:27	Eric L Eby	1
06952	Cobalt	SW-846 6010C	1	132200637001	08/16/2013 12:27	Eric L Eby	1
06953	Copper	SW-846 6010C	1	132200637001	08/16/2013 12:27	Eric L Eby	1
01654	Iron	SW-846 6010C	1	132200637001	08/16/2013 12:27	Eric L Eby	1
06955	Lead	SW-846 6010C	1	132200637001	08/16/2013 12:27	Eric L Eby	1
01656	Lithium	SW-846 6010C	1	132200637001	08/16/2013 12:27	Eric L Eby	1
01657	Magnesium	SW-846 6010C	1	132200637001	08/16/2013 12:27	Eric L Eby	1
06958	Manganese	SW-846 6010C	1	132200637001	08/16/2013 12:27	Eric L Eby	1
06960	Molybdenum	SW-846 6010C	1	132200637001	08/16/2013 12:27	Eric L Eby	1
06961	Nickel	SW-846 6010C	1	132200637001	08/16/2013 12:27	Eric L Eby	1
10145	Phosphorus	SW-846 6010C	1	132200637001	08/16/2013 12:27	Eric L Eby	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-582-SA8-SB-2.5-3.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7152827
LL Group # 1409714
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/06/2013 08:50 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/07/2013 09:15

Reported: 08/21/2013 14:07

582-2 SDG#: PH085-04

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
01662	Potassium	SW-846 6010C	1	132200637001	08/16/2013	12:27	Eric L Eby	1
01667	Sodium	SW-846 6010C	1	132200637001	08/16/2013	12:27	Eric L Eby	1
06969	Tin	SW-846 6010C	1	132200637001	08/16/2013	12:27	Eric L Eby	1
06970	Titanium	SW-846 6010C	1	132200637001	08/16/2013	12:27	Eric L Eby	1
06971	Vanadium	SW-846 6010C	1	132200637001	08/16/2013	12:27	Eric L Eby	1
06972	Zinc	SW-846 6010C	1	132200637001	08/16/2013	12:27	Eric L Eby	1
10146	Zirconium	SW-846 6010C	1	132200637001	08/16/2013	12:27	Eric L Eby	1
06141	Selenium	SW-846 6020A	1	132200637001B	08/14/2013	13:10	Choon Y Tian	2
06142	Silver	SW-846 6020A	1	132200637001A	08/14/2013	13:10	Choon Y Tian	2
06144	Strontium	SW-846 6020A	1	132200637001A	08/14/2013	13:10	Choon Y Tian	2
06145	Thallium	SW-846 6020A	1	132200637001A	08/14/2013	13:10	Choon Y Tian	2
00159	3a Mercury 7471A	SW-846 7471B	1	132200638001	08/15/2013	14:12	Parker D Lindstrom	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132200637001	08/09/2013	09:35	Denise K Conners	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132200638001	08/09/2013	11:25	Denise K Conners	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13219039401A	08/07/2013	18:30	Clayton C Litchmore	1
11624	14a Moisture Content by 160.3	EPA 160.3 modified	1	13221162402A	08/09/2013	23:20	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-583-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7152828
LL Group # 1409714
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/06/2013 12:20 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/07/2013 09:15
Reported: 08/21/2013 14:07

SL583 SDG#: PH085-05BKG

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D	ug/kg	ug/kg	ug/kg	
10726	Aniline	62-53-3	340	U 340	170	1
10726	Benzidine	92-87-5	1,700	U 1,700	710	1
10726	Benzo(a)anthracene	56-55-3	7	J 17	3	1
10726	Benzo(b)fluoranthene	205-99-2	8	J 17	3	1
10726	Benzo(k)fluoranthene	207-08-9	8	J 17	3	1
10726	Benzoic acid	65-85-0	510	U 510	170	1
10726	Benzyl alcohol	100-51-6	340	U 340	170	1
10726	1,1'-Biphenyl	92-52-4	34	U 34	17	1
10726	4-Bromophenyl-phenylether	101-55-3	34	U 34	17	1
10726	2-butoxy-Ethanol	111-76-2	170	U 170	170	1
	2-butoxy-Ethanol was quantified using a single point calibration analyzed at the beginning of each 12 hour tune period.					
10726	Carbazole	86-74-8	34	U 34	17	1
10726	4-Chloro-3-methylphenol	59-50-7	34	U 34	17	1
10726	4-Chloroaniline	106-47-8	34	U 34	17	1
10726	bis(2-Chloroethoxy)methane	111-91-1	34	U 34	17	1
10726	bis(2-Chloroethyl) ether	111-44-4	34	U 34	17	1
10726	bis(2-Chloroisopropyl) ether	39638-32-9	34	U 34	17	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	2-Chloronaphthalene	91-58-7	34	U 34	7	1
10726	2-Chlorophenol	95-57-8	34	U 34	17	1
10726	4-Chlorophenyl-phenylether	7005-72-3	34	U 34	17	1
10726	Chrysene	218-01-9	7	J 17	3	1
10726	Dibenzofuran	132-64-9	34	U 34	17	1
10726	1,2-Dichlorobenzene	95-50-1	34	U 34	17	1
10726	1,3-Dichlorobenzene	541-73-1	34	U 34	17	1
10726	1,4-Dichlorobenzene	106-46-7	34	U 34	17	1
10726	3,3'-Dichlorobenzidine	91-94-1	340	U 340	100	1
10726	2,4-Dichlorophenol	120-83-2	34	U 34	17	1
10726	2,6-Dichlorophenol	87-65-0	34	U 34	17	1
10726	2,4-Dimethylphenol	105-67-9	34	U 34	17	1
10726	3,5-Dimethylphenol	108-68-9	170	U 170	34	1
10726	4,6-Dinitro-2-methylphenol	534-52-1	510	U 510	170	1
10726	2,4-Dinitrophenol	51-28-5	670	U 670	300	1
10726	1,2-Diphenylhydrazine	122-66-7	34	U 34	17	1
10726	Fluoranthene	206-44-0	4	J 17	3	1
10726	Hexachlorobenzene	118-74-1	17	U 17	3	1
10726	Hexachlorobutadiene	87-68-3	34	U 34	17	1
10726	Hexachlorocyclopentadiene	77-47-4	510	U 510	170	1
10726	Hexachloroethane	67-72-1	170	U 170	34	1
10726	Isophorone	78-59-1	34	U 34	17	1
10726	2-Methylphenol	95-48-7	34	U 34	17	1
10726	4-Methylphenol	106-44-5	34	U 34	17	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	NDPA as diphenylamine	n.a.	170	U 170	34	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-583-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7152828
LL Group # 1409714
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/06/2013 12:20 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/07/2013 09:15
Reported: 08/21/2013 14:07

SL583 SDG#: PH085-05BKG

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D	ug/kg	ug/kg	ug/kg	
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	2-Nitroaniline	88-74-4	34	U 34	17	1
10726	3-Nitroaniline	99-09-2	170	U 170	68	1
10726	4-Nitroaniline	100-01-6	170	U 170	68	1
10726	Nitrobenzene	98-95-3	34	U 34	17	1
10726	2-Nitrophenol	88-75-5	34	U 34	17	1
10726	4-Nitrophenol	100-02-7	510	U 510	170	1
10726	N-Nitroso-di-n-propylamine	621-64-7	34	U 34	17	1
10726	N-Nitrosodiphenylamine	86-30-6	34	U 34	17	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Pentachlorophenol	87-86-5	170	U 170	34	1
10726	Phenanthrene	85-01-8	5	J 17	3	1
10726	Phenol	108-95-2	34	U 34	17	1
10726	2-phenoxy-Ethanol	122-99-6	170	U 170	170	1
	2-phenoxy-Ethanol was quantified using a single point calibration analyzed at the beginning of each 12 hour tune period.					
10726	Pyrene	129-00-0	8	J 17	3	1
10726	Pyridine	110-86-1	170	U 170	68	1
10726	1,2,3,4-Tetrahydronaphthalene	119-64-2	170	U 170	34	1
	1,2,3,4-Tetrahydronaphthalene (Tetralin) was quantified using a single point calibration analyzed at the beginning of each 12 hour tune period.					
10726	1,2,4-Trichlorobenzene	120-82-1	34	U 34	17	1
10726	2,4,5-Trichlorophenol	95-95-4	34	U 34	17	1
10726	2,4,6-Trichlorophenol	88-06-2	34	U 34	17	1
	The recovery for the sample internal standard(s) is outside the QC acceptance limits. The recovery for the internal standard(s) is also outside the QC acceptance limits in the associated matrix spike(s), indicating a matrix effect.					
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	1.7	U 1.7	0.68	1
12969	Acenaphthylene	208-96-8	1.7	U 1.7	0.34	1
12969	Anthracene	120-12-7	1.7	U 1.7	0.34	1
12969	Benzo(a)pyrene	50-32-8	1.1	J 1.7	0.68	1
12969	Benzo(e)pyrene	192-97-2	17	U 17	3.4	1
12969	Benzo(g,h,i)perylene	191-24-2	0.71	J 1.7	0.68	1
12969	Butylbenzylphthalate	85-68-7	18	U 18	6.1	1
12969	Di-n-butylphthalate	84-74-2	18	U 18	6.1	1
12969	Dibenz(a,h)anthracene	53-70-3	1.7	U 1.7	0.68	1
12969	Diethylphthalate	84-66-2	18	U 18	6.1	1
12969	Dimethylphthalate	131-11-3	18	U 18	6.1	1
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	11	J 18	6.1	1
12969	Fluorene	86-73-7	1.7	U 1.7	0.68	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	1.7	U 1.7	0.68	1
12969	1-Methylnaphthalene	90-12-0	1.7	U 1.7	0.68	1
12969	2-Methylnaphthalene	91-57-6	1.0	J 1.7	0.68	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-583-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7152828
LL Group # 1409714
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/06/2013 12:20 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/07/2013 09:15
Reported: 08/21/2013 14:07

SL583 SDG#: PH085-05BKG

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Naphthalene	91-20-3	1.2 J	1.7	0.68	1
12969	N-Nitrosodimethylamine	62-75-9	1.7 U	1.7	0.68	1
12969	Di-n-octylphthalate	117-84-0	18 U	18	6.1	1

Herbicides		SW-846 8151A	ug/kg	ug/kg	ug/kg	
10401	2,4-D	94-75-7	23 J	37	12	1
10401	Dalapon	75-99-0	91 U	91	45	1
10401	2,4-DB	94-82-6	30 U	30	30	1
10401	Dicamba	1918-00-9	12 U	12	4.1	1
10401	Dinoseb	88-85-7	24 U	24	9.1	1
The QC window for dinoseb is advisory due to the erratic performance of the analyte using this method.						
10401	2,4-DP (Dichlorprop)	120-36-5	17 U	17	9.1	1
10401	MCPA	94-74-6	2,500 U	2,500	770	1
10401	MCP (Mecoprop)	93-65-2	2,500 U	2,500	760	1
10401	2,4,5-T	93-76-5	1.7 J	1.7	0.83	1
10401	2,4,5-TP	93-72-1	1.7 U	1.7	0.76	1
Reporting limits were raised due to interference from the sample matrix.						

Pesticides/PCBs		SW-846 8081B	ug/kg	ug/kg	ug/kg	
10590	Aldrin	309-00-2	0.84 U	0.84	0.17	1
10590	Alpha BHC	319-84-6	0.84 U	0.84	0.17	1
10590	Beta BHC	319-85-7	1.9 U	1.9	0.98	1
10590	Gamma BHC - Lindane	58-89-9	0.84 U	0.84	0.17	1
10590	Chlordane	57-74-9	17 U	17	4.1	1
10590	p,p-DDD	72-54-8	1.7 U	1.7	0.34	1
10590	p,p-DDE	72-55-9	1.7 U	1.7	0.76	1
10590	p,p-DDT	50-29-3	3.3 U	3.3	3.3	1
10590	Delta BHC	319-86-8	0.84 U	0.84	0.46	1
10590	Dieldrin	60-57-1	1.7 U	1.7	1.2	1
10590	Endosulfan I	959-98-8	0.84 U	0.84	0.22	1
10590	Endosulfan II	33213-65-9	1.7 U	1.7	0.34	1
10590	Endosulfan Sulfate	1031-07-8	1.7 U	1.7	0.34	1
10590	Endrin	72-20-8	1.7 U	1.7	0.34	1
10590	Endrin Aldehyde	7421-93-4	1.7 U	1.7	0.42	1
10590	Endrin Ketone	53494-70-5	1.8 U	1.8	0.61	1
10590	Heptachlor	76-44-8	0.84 U	0.84	0.17	1
10590	Heptachlor Epoxide	1024-57-3	0.84 U	0.84	0.17	1
10590	Methoxychlor	72-43-5	6.8 U	6.8	1.7	1
10590	Mirex	2385-85-5	1.7 U	1.7	0.36	1
10590	Toxaphene	8001-35-2	34 U	34	14	1
Reporting limits were raised due to interference from the sample matrix.						

Pesticides/PCBs		SW-846 8082A	ug/kg	ug/kg	ug/kg	
10592	Aroclor 5432	63496-31-1	34 U	34	10	1
10592	Aroclor 5442	12642-23-8	34 U	34	10	1
10592	Aroclor 5460	11126-42-4	34 U	34	10	1
10592	PCB-1016	12674-11-2	17 U	17	3.4	1
10592	PCB-1221	11104-28-2	17 U	17	5.2	1
10592	PCB-1232	11141-16-5	17 U	17	4.2	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-583-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7152828
LL Group # 1409714
Account # 13013

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SL583 SDG#: PH085-05BKG

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs						
	SW-846 8082A		ug/kg	ug/kg	ug/kg	
10592	PCB-1242	53469-21-9	17 U	17	4.2	1
10592	PCB-1248	12672-29-6	17 U	17	3.4	1
10592	PCB-1254	11097-69-1	20	17	4.5	1
10592	PCB-1260	11096-82-5	9.2 J	17	4.0	1
10592	PCB-1262	37324-23-5	17 U	17	3.4	1
10592	PCB-1268	11100-14-4	17 U	17	3.4	1
GC Petroleum Hydrocarbons						
	SW-846 8015B modified		mg/kg	mg/kg	mg/kg	
12952	EFH (C12-C14)	n.a.	5.1 U	5.1	2.0	1
12952	EFH (C15-C20)	n.a.	5.1 U	5.1	2.0	1
12952	EFH (C21-C30)	n.a.	13	5.1	2.0	1
12952	EFH (C30-C40)	n.a.	34	10	4.1	1
12952	EFH (C8-C11)	n.a.	5.1 U	5.1	2.0	1
Metals						
	SW-846 6010C		mg/kg	mg/kg	mg/kg	
01643	Aluminum	7429-90-5	18,000	40.0	7.21	1
06944	Antimony	7440-36-0	4.00 U	4.00	0.740	1
06935	Arsenic	7440-38-2	1.72 J	4.00	0.700	1
06946	Barium	7440-39-3	92.1	0.999	0.0330	1
06947	Beryllium	7440-41-7	0.621 J	0.999	0.0670	1
07914	Boron	7440-42-8	12.2	9.99	0.839	1
06949	Cadmium	7440-43-9	0.584 J	0.999	0.0760	1
01650	Calcium	7440-70-2	3,380	20.0	3.34	1
06951	Chromium	7440-47-3	20.0	3.00	0.160	1
06952	Cobalt	7440-48-4	5.46	0.999	0.0989	1
06953	Copper	7440-50-8	14.8	2.00	0.290	1
01654	Iron	7439-89-6	20,400	40.0	3.62	1
06955	Lead	7439-92-1	15.4	3.00	0.500	1
01656	Lithium	7439-93-2	19.6	4.0	0.34	1
01657	Magnesium	7439-95-4	4,040	9.99	1.67	1
06958	Manganese	7439-96-5	288	0.999	0.0829	1
06960	Molybdenum	7439-98-7	0.853 J	2.00	0.170	1
06961	Nickel	7440-02-0	11.8	2.00	0.130	1
10145	Phosphorus	7723-14-0	416	9.99	2.89	1
01662	Potassium	7440-09-7	3,290	99.9	8.33	1
01667	Sodium	7440-23-5	64.5 J	99.9	16.7	1
06969	Tin	7440-31-5	2.75 J	9.99	0.220	1
06970	Titanium	7440-32-6	980	0.999	0.170	1
06971	Vanadium	7440-62-2	37.0	0.999	0.130	1
06972	Zinc	7440-66-6	106	4.00	0.200	1
10146	Zirconium	7440-67-7	2.53 J	5.00	0.839	1
	SW-846 6020A		mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	0.144 J	0.400	0.0999	2
06142	Silver	7440-22-4	0.0432 J	0.200	0.0260	2
06144	Strontium	7440-24-6	23.4	0.400	0.0680	2
06145	Thallium	7440-28-0	0.262	0.200	0.0300	2

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Sample Description: SL-583-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7152828
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SL583 SDG#: PH085-05BKG

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals						
00159	3a Mercury 7471A	7439-97-6	0.0225	0.0160	0.0096	1
Wet Chemistry						
00394	15a pH by 9045D The pH was measured in water at 21.9 C.	n.a.	6.52	0.0100	0.0100	1
Wet Chemistry						
11624	14a Moisture Content by 160.3 Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.	n.a.	1.9	0.10	0.10	1

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Sample Description: SL-583-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

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SL583 SDG#: PH085-05BKG

CAT No.	Analysis Name	CAS Number	Dry Result		Dry MRL*	Dry EDL	Dilution Factor
Dioxins/Furans			EPA 1613B		ng/kg	ng/kg	
11031	2378-TCDD	1746-01-6	0.990	U	0.990	0.0325	1
11031	12378-PeCDD	40321-76-4	0.151	JB	4.95	0.0482	1
11031	123478-HxCDD	39227-28-6	0.266	JQ	4.95	0.0615	1
11031	123678-HxCDD	57653-85-7	0.870	JB	4.95	0.0673	1
11031	123789-HxCDD	19408-74-3	0.861	J	4.95	0.0667	1
11031	1234678-HpCDD	35822-46-9	12.8	B	4.95	0.0621	1
11031	OCDD	3268-87-9	122	B	9.90	0.0284	1
11031	2378-TCDF	51207-31-9	0.581	J	0.990	0.0903	1
11031	12378-PeCDF	57117-41-6	2.10	J	4.95	0.0504	1
11031	23478-PeCDF	57117-31-4	0.252	JB	4.95	0.0484	1
11031	123478-HxCDF	70648-26-9	0.347	J	4.95	0.0378	1
11031	123678-HxCDF	57117-44-9	0.403	J	4.95	0.0379	1
11031	123789-HxCDF	72918-21-9	0.396	J	4.95	0.0440	1
11031	234678-HxCDF	60851-34-5	0.237	J	4.95	0.0391	1
11031	1234678-HpCDF	67562-39-4	1.65	JB	4.95	0.0256	1
11031	1234789-HpCDF	55673-89-7	0.189	JB	4.95	0.0448	1
11031	OCDF	39001-02-0	3.08	JB	9.90	0.0263	1

Toxic Equivalents		EPA 1613B	ng/kg	ng/kg	ng/kg	
11031	TEQ WHO 2005 - EDLx0.0	n.a.	0.843			1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	60	25 - 164
13C12-12378-PeCDD	78	25 - 181
13C12-123478-HxCDD	72	32 - 141
13C12-123678-HxCDD	76	28 - 130
13C12-123789-HxCDD	72	28 - 130
13C12-1234678-HpCDD	77	23 - 140
13C12-OCDD	77	17 - 157
13C12-2378-TCDF	61	24 - 169
13C12-12378-PeCDF	80	24 - 185
13C12-23478-PeCDF	75	21 - 178
13C12-123478-HxCDF	61	26 - 152
13C12-123678-HxCDF	67	26 - 123
13C12-234678-HxCDF	62	28 - 136
13C12-123789-HxCDF	67	29 - 147
13C12-1234678-HpCDF	83	28 - 143
13C12-1234789-HpCDF	61	26 - 138
13C12-OCDF	57	17 - 157

Dioxins/Furans Data Qualifiers:

- B Detected in Method Blank
- U Undetected
- J Estimated concentration between Estimated Detection Limit and Minimum Level
- E Exceeds calibration range
- C Confirmed quantitation on secondary GC column
- Q EMPC - Estimated Maximum Possible Concentration

*=This limit was used in the evaluation of the final result

Sample Description: SL-583-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7152828
LL Group # 1409714
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/06/2013 12:20 by SM

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Reported: 08/21/2013 14:07

SL583 SDG#: PH085-05BKG

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
F	Interference is present					
S	Saturation of detection signal					

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Sample Description: SL-583-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7152828
LL Group # 1409714
Account # 13013

Project Name: SSFL Phase 3 Sampling

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SL583 SDG#: PH085-05BKG

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10726	8a SVOCs by EPA 8270D	SW-846 8270D	1	13225SLB026	08/19/2013 13:11	Linda M Hartenstine	1
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13225SLA026	08/15/2013 10:42	Mark A Clark	1
10813	BNA Soil Microwave APP IX	SW-846 3546	1	13225SLB026	08/14/2013 08:30	Anna E Stager	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	13225SLA026	08/14/2013 08:30	Anna E Stager	1
10401	21a Herbicides by EPA 8151A	SW-846 8151A	1	132250009A	08/16/2013 13:36	Melissa McDermott	1
10590	20a Pesticides by EPA 8081B	SW-846 8081B	1	132250011A	08/19/2013 17:39	Jamie L Brillhart	1
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132250001A	08/14/2013 21:50	Monica M Souders	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132250001A	08/13/2013 16:25	JoElla L Rice	1
10496	PPL Pest. Microwave Extraction	SW-846 3546	2	132250011A	08/14/2013 03:00	Sherry L Morrow	1
04181	Herbicide Soil Extraction	SW-846 3550B/SW-846 8151A	1	132250009A	08/14/2013 05:30	Roman Kuropatkin	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132220004A	08/13/2013 00:09	Heather E Williams	1
12959	EFH soil ext. (microwave)	SW-846 3546	1	132220004A	08/11/2013 11:45	Sherry L Morrow	1
11031	23a Dioxin/Furan by EPA 1613B	EPA 1613B	1	13224001	08/16/2013 12:11	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	13224001	08/12/2013 11:30	Deborah M Zimmerman	1
01643	Aluminum	SW-846 6010C	1	132200637001	08/16/2013 11:48	Eric L Eby	1
06944	Antimony	SW-846 6010C	1	132200637001	08/16/2013 11:48	Eric L Eby	1
06935	Arsenic	SW-846 6010C	1	132200637001	08/16/2013 11:48	Eric L Eby	1
06946	Barium	SW-846 6010C	1	132200637001	08/16/2013 11:48	Eric L Eby	1
06947	Beryllium	SW-846 6010C	1	132200637001	08/16/2013 11:48	Eric L Eby	1
07914	Boron	SW-846 6010C	1	132200637001	08/16/2013 11:48	Eric L Eby	1
06949	Cadmium	SW-846 6010C	1	132200637001	08/16/2013 11:48	Eric L Eby	1
01650	Calcium	SW-846 6010C	1	132200637001	08/16/2013 11:48	Eric L Eby	1
06951	Chromium	SW-846 6010C	1	132200637001	08/16/2013 11:48	Eric L Eby	1
06952	Cobalt	SW-846 6010C	1	132200637001	08/16/2013 11:48	Eric L Eby	1
06953	Copper	SW-846 6010C	1	132200637001	08/16/2013 11:48	Eric L Eby	1
01654	Iron	SW-846 6010C	1	132200637001	08/16/2013 11:48	Eric L Eby	1
06955	Lead	SW-846 6010C	1	132200637001	08/16/2013 11:48	Eric L Eby	1
01656	Lithium	SW-846 6010C	1	132200637001	08/16/2013 11:48	Eric L Eby	1
01657	Magnesium	SW-846 6010C	1	132200637001	08/16/2013 11:48	Eric L Eby	1
06958	Manganese	SW-846 6010C	1	132200637001	08/16/2013 11:48	Eric L Eby	1
06960	Molybdenum	SW-846 6010C	1	132200637001	08/16/2013 11:48	Eric L Eby	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-583-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7152828
LL Group # 1409714
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/06/2013 12:20 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
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Submitted: 08/07/2013 09:15

Reported: 08/21/2013 14:07

SL583 SDG#: PH085-05BKG

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
06961	Nickel	SW-846 6010C	1	132200637001	08/16/2013	11:48	Eric L Eby	1
10145	Phosphorus	SW-846 6010C	1	132200637001	08/16/2013	11:48	Eric L Eby	1
01662	Potassium	SW-846 6010C	1	132200637001	08/16/2013	11:48	Eric L Eby	1
01667	Sodium	SW-846 6010C	1	132200637001	08/16/2013	11:48	Eric L Eby	1
06969	Tin	SW-846 6010C	1	132200637001	08/16/2013	11:48	Eric L Eby	1
06970	Titanium	SW-846 6010C	1	132200637001	08/16/2013	11:48	Eric L Eby	1
06971	Vanadium	SW-846 6010C	1	132200637001	08/16/2013	11:48	Eric L Eby	1
06972	Zinc	SW-846 6010C	1	132200637001	08/16/2013	11:48	Eric L Eby	1
10146	Zirconium	SW-846 6010C	1	132200637001	08/16/2013	11:48	Eric L Eby	1
06141	Selenium	SW-846 6020A	1	132200637001B	08/14/2013	12:46	Choon Y Tian	2
06142	Silver	SW-846 6020A	1	132200637001A	08/14/2013	12:46	Choon Y Tian	2
06144	Strontium	SW-846 6020A	1	132200637001A	08/14/2013	12:46	Choon Y Tian	2
06145	Thallium	SW-846 6020A	1	132200637001A	08/14/2013	12:46	Choon Y Tian	2
00159	3a Mercury 7471A	SW-846 7471B	1	132200638001	08/15/2013	14:14	Parker D Lindstrom	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132200637001	08/09/2013	09:35	Denise K Connors	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132200638001	08/09/2013	11:25	Denise K Connors	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13219039401A	08/07/2013	18:30	Clayton C Litchmore	1
11624	14a Moisture Content by 160.3	EPA 160.3 modified	1	13221162402A	08/09/2013	23:20	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-583-SA8-SB-0.0-0.5MS Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7152829
LL Group # 1409714
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/06/2013 12:20 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/07/2013 09:15
Reported: 08/21/2013 14:07

SL583 SDG#: PH085-05MS

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D	ug/kg	ug/kg	ug/kg	
10726	Acenaphthene	83-32-9	1,600	17	3	1
10726	Acenaphthylene	208-96-8	1,700	17	3	1
10726	Aniline	62-53-3	790	340	170	1
10726	Anthracene	120-12-7	1,600	17	3	1
10726	Benzidine	92-87-5	1,700	U 1,700	710	1
10726	Benzo(a)anthracene	56-55-3	1,300	17	3	1
10726	Benzo(a)pyrene	50-32-8	1,400	17	3	1
10726	Benzo(b)fluoranthene	205-99-2	1,800	17	3	1
10726	Benzo(g,h,i)perylene	191-24-2	1,500	17	3	1
10726	Benzo(k)fluoranthene	207-08-9	1,700	17	3	1
10726	Benzoic acid	65-85-0	1,500	510	170	1
10726	Benzyl alcohol	100-51-6	1,500	340	170	1
10726	1,1'-Biphenyl	92-52-4	1,500	34	17	1
10726	4-Bromophenyl-phenylether	101-55-3	1,700	34	17	1
10726	Butylbenzylphthalate	85-68-7	1,600	170	68	1
10726	Di-n-butylphthalate	84-74-2	1,500	170	68	1
10726	Carbazole	86-74-8	1,500	34	17	1
10726	4-Chloro-3-methylphenol	59-50-7	1,500	34	17	1
10726	4-Chloroaniline	106-47-8	740	34	17	1
10726	bis(2-Chloroethoxy)methane	111-91-1	1,500	34	17	1
10726	bis(2-Chloroethyl)ether	111-44-4	1,500	34	17	1
10726	bis(2-Chloroisopropyl)ether	39638-32-9	1,500	34	17	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	2-Chloronaphthalene	91-58-7	1,400	34	7	1
10726	2-Chlorophenol	95-57-8	1,600	34	17	1
10726	4-Chlorophenyl-phenylether	7005-72-3	1,500	34	17	1
10726	Chrysene	218-01-9	1,300	17	3	1
10726	Dibenz(a,h)anthracene	53-70-3	1,700	17	3	1
10726	Dibenzofuran	132-64-9	1,600	34	17	1
10726	1,2-Dichlorobenzene	95-50-1	1,600	34	17	1
10726	1,3-Dichlorobenzene	541-73-1	1,500	34	17	1
10726	1,4-Dichlorobenzene	106-46-7	1,500	34	17	1
10726	3,3'-Dichlorobenzidine	91-94-1	960	340	100	1
10726	2,4-Dichlorophenol	120-83-2	1,700	34	17	1
10726	2,6-Dichlorophenol	87-65-0	1,600	34	17	1
10726	Diethylphthalate	84-66-2	1,600	170	68	1
10726	2,4-Dimethylphenol	105-67-9	1,500	34	17	1
10726	3,5-Dimethylphenol	108-68-9	170	U 170	34	1
10726	Dimethylphthalate	131-11-3	1,600	170	68	1
10726	4,6-Dinitro-2-methylphenol	534-52-1	1,300	510	170	1
10726	2,4-Dinitrophenol	51-28-5	2,000	670	310	1
10726	1,2-Diphenylhydrazine	122-66-7	1,700	34	17	1
10726	bis(2-Ethylhexyl)phthalate	117-81-7	1,500	170	68	1
10726	Fluoranthene	206-44-0	1,300	17	3	1
10726	Fluorene	86-73-7	1,600	17	3	1
10726	Hexachlorobenzene	118-74-1	1,600	17	3	1
10726	Hexachlorobutadiene	87-68-3	1,700	34	17	1
10726	Hexachlorocyclopentadiene	77-47-4	3,500	510	170	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-583-SA8-SB-0.0-0.5MS Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7152829
LL Group # 1409714
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/06/2013 12:20 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/07/2013 09:15
Reported: 08/21/2013 14:07

SL583 SDG#: PH085-05MS

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D	ug/kg	ug/kg	ug/kg	
10726	Hexachloroethane	67-72-1	1,600	170	34	1
10726	Indeno(1,2,3-cd)pyrene	193-39-5	1,700	17	3	1
10726	Isophorone	78-59-1	1,600	34	17	1
10726	1-Methylnaphthalene	90-12-0	1,600	17	3	1
10726	2-Methylnaphthalene	91-57-6	1,500	17	3	1
10726	2-Methylphenol	95-48-7	1,600	34	17	1
10726	4-Methylphenol	106-44-5	1,600	34	17	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	1,600	17	3	1
10726	NDPA as diphenylamine	n.a.	1,600	170	34	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	2-Nitroaniline	88-74-4	1,500	34	17	1
10726	3-Nitroaniline	99-09-2	1,400	170	68	1
10726	4-Nitroaniline	100-01-6	1,200	170	68	1
10726	Nitrobenzene	98-95-3	1,600	34	17	1
10726	2-Nitrophenol	88-75-5	1,600	34	17	1
10726	4-Nitrophenol	100-02-7	1,500	510	170	1
10726	N-Nitrosodimethylamine	62-75-9	1,400	170	68	1
10726	N-Nitroso-di-n-propylamine	621-64-7	1,500	34	17	1
10726	N-Nitrosodiphenylamine	86-30-6	1,600	34	17	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	2,000	170	68	1
10726	Pentachlorophenol	87-86-5	1,400	170	34	1
10726	Phenanthrene	85-01-8	1,500	17	3	1
10726	Phenol	108-95-2	1,600	34	17	1
10726	Pyrene	129-00-0	1,600	17	3	1
10726	Pyridine	110-86-1	640	170	68	1
10726	1,2,4-Trichlorobenzene	120-82-1	1,600	34	17	1
10726	2,4,5-Trichlorophenol	95-95-4	1,600	34	17	1
10726	2,4,6-Trichlorophenol	88-06-2	1,600	34	17	1
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	32	1.7	0.67	1
12969	Acenaphthylene	208-96-8	34	1.7	0.34	1
12969	Anthracene	120-12-7	34	1.7	0.34	1
12969	Benzo(a)anthracene	56-55-3	33	1.7	0.67	1
12969	Benzo(a)pyrene	50-32-8	31	1.7	0.67	1
12969	Benzo(b)fluoranthene	205-99-2	44	1.7	0.67	1
12969	Benzo(e)pyrene	192-97-2	31	17	3.4	1
12969	Benzo(g,h,i)perylene	191-24-2	15	1.7	0.67	1
12969	Benzo(k)fluoranthene	207-08-9	34	1.7	0.67	1
12969	Butylbenzylphthalate	85-68-7	50	18	6.1	1
12969	Di-n-butylphthalate	84-74-2	42	18	6.1	1
12969	Chrysene	218-01-9	35	1.7	0.34	1
12969	Dibenz(a,h)anthracene	53-70-3	19	1.7	0.67	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-583-SA8-SB-0.0-0.5MS Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7152829
LL Group # 1409714
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/06/2013 12:20 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/07/2013 09:15
Reported: 08/21/2013 14:07

SL583 SDG#: PH085-05MS

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Diethylphthalate	84-66-2	36	18	6.1	1
12969	Dimethylphthalate	131-11-3	34	18	6.1	1
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	56	18	6.1	1
12969	Fluoranthene	206-44-0	36	1.7	0.67	1
12969	Fluorene	86-73-7	33	1.7	0.67	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	18	1.7	0.67	1
12969	1-Methylnaphthalene	90-12-0	35	1.7	0.67	1
12969	2-Methylnaphthalene	91-57-6	35	1.7	0.67	1
12969	Naphthalene	91-20-3	34	1.7	0.67	1
12969	N-Nitrosodimethylamine	62-75-9	32	1.7	0.67	1
12969	Di-n-octylphthalate	117-84-0	62	18	6.1	1
12969	Phenanthrene	85-01-8	34	1.7	0.67	1
12969	Pyrene	129-00-0	38	1.7	0.67	1
Herbicides	SW-846 8151A		ug/kg	ug/kg	ug/kg	
10401	2,4-D	94-75-7	90	36	12	1
10401	Dalapon	75-99-0	61	J 91	44	1
10401	2,4-DB	94-82-6	100	17	6.2	1
10401	Dicamba	1918-00-9	8.2	J 12	4.0	1
10401	Dinoseb	88-85-7	37	24	9.1	1
The QC window for dinoseb is advisory due to the erratic performance of the analyte using this method.						
10401	2,4-DP (Dichlorprop)	120-36-5	110	17	9.1	1
10401	MCPA	94-74-6	7,900	2,500	760	1
10401	MCPP (Mecoprop)	93-65-2	6,900	2,500	750	1
10401	2,4,5-T	93-76-5	9.4	1.7	0.82	1
10401	2,4,5-TP	93-72-1	9.4	1.7	0.75	1
Pesticides/PCBs	SW-846 8081B		ug/kg	ug/kg	ug/kg	
10590	Aldrin	309-00-2	3.7	0.84	0.17	1
10590	Alpha BHC	319-84-6	3.5	0.84	0.17	1
10590	Beta BHC	319-85-7	3.7	1.9	0.98	1
10590	Gamma BHC - Lindane	58-89-9	3.9	0.84	0.17	1
10590	Chlordane	57-74-9	17	U 17	4.1	1
10590	p,p-DDD	72-54-8	8.4	1.7	0.34	1
10590	p,p-DDE	72-55-9	9.3	1.7	0.34	1
10590	p,p-DDT	50-29-3	14	1.7	0.36	1
10590	Delta BHC	319-86-8	3.9	0.84	0.46	1
10590	Dieldrin	60-57-1	8.3	1.7	0.34	1
10590	Endosulfan I	959-98-8	3.8	0.84	0.22	1
10590	Endosulfan II	33213-65-9	9.3	1.7	0.34	1
10590	Endosulfan Sulfate	1031-07-8	8.0	1.7	0.34	1
10590	Endrin	72-20-8	8.3	1.7	0.34	1
10590	Endrin Aldehyde	7421-93-4	7.5	1.7	0.34	1
10590	Endrin Ketone	53494-70-5	7.4	1.8	0.61	1
10590	Heptachlor	76-44-8	4.2	0.84	0.17	1
10590	Heptachlor Epoxide	1024-57-3	4.7	0.84	0.17	1
10590	Methoxychlor	72-43-5	41	6.8	1.7	1
10590	Mirex	2385-85-5	1.7	U 1.7	0.36	1
10590	Toxaphene	8001-35-2	34	U 34	14	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-583-SA8-SB-0.0-0.5MS Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7152829
LL Group # 1409714
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/06/2013 12:20 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/07/2013 09:15
Reported: 08/21/2013 14:07

SL583 SDG#: PH085-05MS

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs						
		SW-846 8082A	ug/kg	ug/kg	ug/kg	
10592	Aroclor 5432	63496-31-1	34 U	34	10	1
10592	Aroclor 5442	12642-23-8	34 U	34	10	1
10592	Aroclor 5460	11126-42-4	34 U	34	10	1
10592	PCB-1016	12674-11-2	150	17	3.4	1
10592	PCB-1221	11104-28-2	17 U	17	5.2	1
10592	PCB-1232	11141-16-5	17 U	17	4.2	1
10592	PCB-1242	53469-21-9	17 U	17	4.2	1
10592	PCB-1248	12672-29-6	17 U	17	3.4	1
10592	PCB-1254	11097-69-1	45	17	4.5	1
10592	PCB-1260	11096-82-5	160	17	4.0	1
10592	PCB-1262	37324-23-5	17 U	17	3.4	1
10592	PCB-1268	11100-14-4	17 U	17	3.4	1
GC Petroleum						
		SW-846 8015B modified	mg/kg	mg/kg	mg/kg	
Hydrocarbons						
12952	EFH (C12-C14)	n.a.	5.1 U	5.1	2.0	1
12952	EFH (C15-C20)	n.a.	4.5 J	5.1	2.0	1
12952	EFH (C21-C30)	n.a.	34	5.1	2.0	1
12952	EFH (C30-C40)	n.a.	48	10	4.1	1
12952	EFH (C8-C11)	n.a.	5.1 U	5.1	2.0	1
Metals						
		SW-846 6010C	mg/kg	mg/kg	mg/kg	
01643	Aluminum	7429-90-5	24,500	40.4	7.28	1
06944	Antimony	7440-36-0	17.0	4.04	0.747	1
06935	Arsenic	7440-38-2	18.0	4.04	0.706	1
06946	Barium	7440-39-3	301	1.01	0.0333	1
06947	Beryllium	7440-41-7	5.95	1.01	0.0676	1
07914	Boron	7440-42-8	204	10.1	0.848	1
06949	Cadmium	7440-43-9	5.51	1.01	0.0767	1
01650	Calcium	7440-70-2	4,230	20.2	3.37	1
06951	Chromium	7440-47-3	44.4	3.03	0.161	1
06952	Cobalt	7440-48-4	54.9	1.01	0.0999	1
06953	Copper	7440-50-8	43.8	2.02	0.293	1
01654	Iron	7439-89-6	22,400	40.4	3.65	1
06955	Lead	7439-92-1	31.5	3.03	0.505	1
01656	Lithium	7439-93-2	124	4.0	0.34	1
01657	Magnesium	7439-95-4	4,770	10.1	1.69	1
06958	Manganese	7439-96-5	351	1.01	0.0838	1
06960	Molybdenum	7439-98-7	197	2.02	0.172	1
06961	Nickel	7440-02-0	62.9	2.02	0.131	1
10145	Phosphorus	7723-14-0	527	10.1	2.92	1
01662	Potassium	7440-09-7	4,870	101	8.42	1
01667	Sodium	7440-23-5	1,110	101	16.9	1
06969	Tin	7440-31-5	365	10.1	0.222	1
06970	Titanium	7440-32-6	1,370	1.01	0.172	1
06971	Vanadium	7440-62-2	97.7	1.01	0.131	1
06972	Zinc	7440-66-6	158	4.04	0.202	1
10146	Zirconium	7440-67-7	99.0	5.05	0.848	1
		SW-846 6020A	mg/kg	mg/kg	mg/kg	

*=This limit was used in the evaluation of the final result

Sample Description: SL-583-SA8-SB-0.0-0.5MS Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7152829
LL Group # 1409714
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/06/2013 12:20 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/07/2013 09:15

Reported: 08/21/2013 14:07

SL583 SDG#: PH085-05MS

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals						
		SW-846 6020A	mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	2.40	0.404	0.101	2
06142	Silver	7440-22-4	12.1	0.202	0.0262	2
06144	Strontium	7440-24-6	35.1	0.404	0.0686	2
06145	Thallium	7440-28-0	0.754	0.202	0.0303	2
		SW-846 7471B	mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.215	0.0161	0.0096	1
Wet Chemistry						
		EPA 160.3 modified	%	%	%	
11625	14a Moisture Content by 160.3	n.a.	1.9	0.10	0.10	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-583-SA8-SB-0.0-0.5MS Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7152829
LL Group # 1409714
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/06/2013 12:20 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/07/2013 09:15
Reported: 08/21/2013 14:07

SL583 SDG#: PH085-05MS

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
Dioxins/Furans			EPA 1613B			
			ng/kg	ng/kg	ng/kg	
11031	2378-TCDD	1746-01-6	20.6	1.01	0.0995	1
11031	12378-PeCDD	40321-76-4	106	B 5.07	0.182	1
11031	123478-HxCDD	39227-28-6	96.1	5.07	0.124	1
11031	123678-HxCDD	57653-85-7	97.8	B 5.07	0.136	1
11031	123789-HxCDD	19408-74-3	94.5	5.07	0.134	1
11031	1234678-HpCDD	35822-46-9	105	B 5.07	0.133	1
11031	OCDD	3268-87-9	305	B 10.1	0.0775	1
11031	2378-TCDF	51207-31-9	20.2	1.01	0.147	1
11031	12378-PeCDF	57117-41-6	95.8	5.07	0.0913	1
11031	23478-PeCDF	57117-31-4	95.7	B 5.07	0.101	1
11031	123478-HxCDF	70648-26-9	93.2	5.07	0.117	1
11031	123678-HxCDF	57117-44-9	93.5	5.07	0.112	1
11031	123789-HxCDF	72918-21-9	89.5	5.07	0.155	1
11031	234678-HxCDF	60851-34-5	91.2	5.07	0.121	1
11031	1234678-HpCDF	67562-39-4	89.9	B 5.07	0.0709	1
11031	1234789-HpCDF	55673-89-7	88.4	B 5.07	0.125	1
11031	OCDF	39001-02-0	181	B 10.1	0.0799	1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	62	25 - 164
13C12-12378-PeCDD	77	25 - 181
13C12-123478-HxCDD	75	32 - 141
13C12-123678-HxCDD	77	28 - 130
13C12-123789-HxCDD	77	28 - 130
13C12-1234678-HpCDD	79	23 - 140
13C12-OCDD	80	17 - 157
13C12-2378-TCDF	62	24 - 169
13C12-12378-PeCDF	80	24 - 185
13C12-23478-PeCDF	74	21 - 178
13C12-123478-HxCDF	62	26 - 152
13C12-123678-HxCDF	70	26 - 123
13C12-234678-HxCDF	64	28 - 136
13C12-123789-HxCDF	58	29 - 147
13C12-1234678-HpCDF	81	28 - 143
13C12-1234789-HpCDF	58	26 - 138
13C12-OCDF	56	17 - 157

Dioxins/Furans Data Qualifiers:

- B Detected in Method Blank
- U Undetected
- J Estimated concentration between Estimated Detection Limit and Minimum Level
- E Exceeds calibration range
- C Confirmed quantitation on secondary GC column
- Q EMPC - Estimated Maximum Possible Concentration
- F Interference is present
- S Saturation of detection signal

*=This limit was used in the evaluation of the final result

Sample Description: SL-583-SA8-SB-0.0-0.5MS Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7152829
LL Group # 1409714
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/06/2013 12:20 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/07/2013 09:15
Reported: 08/21/2013 14:07

SL583 SDG#: PH085-05MS

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10726	8a SVOCs by EPA 8270D	SW-846 8270D	1	13225SLB026	08/19/2013 11:58	Linda M Hartenstine	1
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13225SLA026	08/15/2013 11:16	Mark A Clark	1
10813	BNA Soil Microwave APP IX	SW-846 3546	1	13225SLB026	08/14/2013 08:30	Anna E Stager	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	13225SLA026	08/14/2013 08:30	Anna E Stager	1
10401	21a Herbicides by EPA 8151A	SW-846 8151A	1	132250009A	08/16/2013 14:03	Melissa McDermott	1
10590	20a Pesticides by EPA 8081B	SW-846 8081B	1	132250011A	08/19/2013 18:09	Jamie L Brillhart	1
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132250001A	08/14/2013 22:08	Monica M Souders	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132250001A	08/13/2013 16:25	JoElla L Rice	1
10496	PPL Pest. Microwave Extraction	SW-846 3546	2	132250011A	08/14/2013 03:00	Sherry L Morrow	1
04181	Herbicide Soil Extraction	SW-846 3550B/SW-846 8151A	1	132250009A	08/14/2013 05:30	Roman Kuropatkin	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132220004A	08/13/2013 00:30	Heather E Williams	1
12959	EFH soil ext. (microwave)	SW-846 3546	1	132220004A	08/11/2013 11:45	Sherry L Morrow	1
11031	23a Dioxin/Furan by EPA 1613B	EPA 1613B	1	13224001	08/15/2013 18:05	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	13224001	08/12/2013 11:30	Deborah M Zimmerman	1
01643	Aluminum	SW-846 6010C	1	132200637001	08/16/2013 12:00	Eric L Eby	1
06944	Antimony	SW-846 6010C	1	132200637001	08/16/2013 12:00	Eric L Eby	1
06935	Arsenic	SW-846 6010C	1	132200637001	08/16/2013 12:00	Eric L Eby	1
06946	Barium	SW-846 6010C	1	132200637001	08/16/2013 12:00	Eric L Eby	1
06947	Beryllium	SW-846 6010C	1	132200637001	08/16/2013 12:00	Eric L Eby	1
07914	Boron	SW-846 6010C	1	132200637001	08/16/2013 12:00	Eric L Eby	1
06949	Cadmium	SW-846 6010C	1	132200637001	08/16/2013 12:00	Eric L Eby	1
01650	Calcium	SW-846 6010C	1	132200637001	08/16/2013 12:00	Eric L Eby	1
06951	Chromium	SW-846 6010C	1	132200637001	08/16/2013 12:00	Eric L Eby	1
06952	Cobalt	SW-846 6010C	1	132200637001	08/16/2013 12:00	Eric L Eby	1
06953	Copper	SW-846 6010C	1	132200637001	08/16/2013 12:00	Eric L Eby	1
01654	Iron	SW-846 6010C	1	132200637001	08/16/2013 12:00	Eric L Eby	1
06955	Lead	SW-846 6010C	1	132200637001	08/16/2013 12:00	Eric L Eby	1
01656	Lithium	SW-846 6010C	1	132200637001	08/16/2013 12:00	Eric L Eby	1
01657	Magnesium	SW-846 6010C	1	132200637001	08/16/2013 12:00	Eric L Eby	1
06958	Manganese	SW-846 6010C	1	132200637001	08/16/2013 12:00	Eric L Eby	1
06960	Molybdenum	SW-846 6010C	1	132200637001	08/16/2013 12:00	Eric L Eby	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-583-SA8-SB-0.0-0.5MS Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7152829
LL Group # 1409714
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/06/2013 12:20 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/07/2013 09:15
Reported: 08/21/2013 14:07

SL583 SDG#: PH085-05MS

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
06961	Nickel	SW-846 6010C	1	132200637001	08/16/2013	12:00	Eric L Eby	1
10145	Phosphorus	SW-846 6010C	1	132200637001	08/16/2013	12:00	Eric L Eby	1
01662	Potassium	SW-846 6010C	1	132200637001	08/16/2013	12:00	Eric L Eby	1
01667	Sodium	SW-846 6010C	1	132200637001	08/16/2013	12:00	Eric L Eby	1
06969	Tin	SW-846 6010C	1	132200637001	08/16/2013	12:00	Eric L Eby	1
06970	Titanium	SW-846 6010C	1	132200637001	08/16/2013	12:00	Eric L Eby	1
06971	Vanadium	SW-846 6010C	1	132200637001	08/16/2013	12:00	Eric L Eby	1
06972	Zinc	SW-846 6010C	1	132200637001	08/16/2013	12:00	Eric L Eby	1
10146	Zirconium	SW-846 6010C	1	132200637001	08/16/2013	12:00	Eric L Eby	1
06141	Selenium	SW-846 6020A	1	132200637001B	08/14/2013	12:53	Choon Y Tian	2
06142	Silver	SW-846 6020A	1	132200637001A	08/14/2013	12:53	Choon Y Tian	2
06144	Strontium	SW-846 6020A	1	132200637001A	08/14/2013	12:53	Choon Y Tian	2
06145	Thallium	SW-846 6020A	1	132200637001A	08/14/2013	12:53	Choon Y Tian	2
00159	3a Mercury 7471A	SW-846 7471B	1	132200638001	08/15/2013	14:18	Parker D Lindstrom	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132200637001	08/09/2013	09:35	Denise K Conners	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132200638001	08/09/2013	11:25	Denise K Conners	1
11625	14a Moisture Content by 160.3	EPA 160.3 modified	1	13221162402A	08/09/2013	23:20	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-583-SA8-SB-0.0-0.5MSD Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7152830
LL Group # 1409714
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/06/2013 12:20 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/07/2013 09:15
Reported: 08/21/2013 14:07

SL583 SDG#: PH085-05MSD

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D	ug/kg	ug/kg	ug/kg	
10726	Acenaphthene	83-32-9	1,500	17	3	1
10726	Acenaphthylene	208-96-8	1,700	17	3	1
10726	Aniline	62-53-3	610	340	170	1
10726	Anthracene	120-12-7	1,500	17	3	1
10726	Benzidine	92-87-5	1,700	U 1,700	710	1
10726	Benzo(a)anthracene	56-55-3	1,300	17	3	1
10726	Benzo(a)pyrene	50-32-8	1,400	17	3	1
10726	Benzo(b)fluoranthene	205-99-2	1,700	17	3	1
10726	Benzo(g,h,i)perylene	191-24-2	1,400	17	3	1
10726	Benzo(k)fluoranthene	207-08-9	1,700	17	3	1
10726	Benzoic acid	65-85-0	1,300	500	170	1
10726	Benzyl alcohol	100-51-6	1,500	340	170	1
10726	1,1'-Biphenyl	92-52-4	1,400	34	17	1
10726	4-Bromophenyl-phenylether	101-55-3	1,700	34	17	1
10726	Butylbenzylphthalate	85-68-7	1,500	170	67	1
10726	Di-n-butylphthalate	84-74-2	1,400	170	67	1
10726	Carbazole	86-74-8	1,400	34	17	1
10726	4-Chloro-3-methylphenol	59-50-7	1,500	34	17	1
10726	4-Chloroaniline	106-47-8	620	34	17	1
10726	bis(2-Chloroethoxy)methane	111-91-1	1,400	34	17	1
10726	bis(2-Chloroethyl)ether	111-44-4	1,500	34	17	1
10726	bis(2-Chloroisopropyl)ether	39638-32-9	1,500	34	17	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
10726	2-Chloronaphthalene	91-58-7	1,300	33	7	1
10726	2-Chlorophenol	95-57-8	1,600	34	17	1
10726	4-Chlorophenyl-phenylether	7005-72-3	1,500	34	17	1
10726	Chrysene	218-01-9	1,200	17	3	1
10726	Dibenz(a,h)anthracene	53-70-3	1,600	17	3	1
10726	Dibenzofuran	132-64-9	1,500	34	17	1
10726	1,2-Dichlorobenzene	95-50-1	1,500	34	17	1
10726	1,3-Dichlorobenzene	541-73-1	1,500	34	17	1
10726	1,4-Dichlorobenzene	106-46-7	1,500	34	17	1
10726	3,3'-Dichlorobenzidine	91-94-1	810	340	100	1
10726	2,4-Dichlorophenol	120-83-2	1,600	34	17	1
10726	2,6-Dichlorophenol	87-65-0	1,600	34	17	1
10726	Diethylphthalate	84-66-2	1,500	170	67	1
10726	2,4-Dimethylphenol	105-67-9	1,400	34	17	1
10726	3,5-Dimethylphenol	108-68-9	170	U 170	34	1
10726	Dimethylphthalate	131-11-3	1,500	170	67	1
10726	4,6-Dinitro-2-methylphenol	534-52-1	1,300	500	170	1
10726	2,4-Dinitrophenol	51-28-5	1,700	670	300	1
10726	1,2-Diphenylhydrazine	122-66-7	1,700	34	17	1
10726	bis(2-Ethylhexyl)phthalate	117-81-7	1,500	170	67	1
10726	Fluoranthene	206-44-0	1,300	17	3	1
10726	Fluorene	86-73-7	1,500	17	3	1
10726	Hexachlorobenzene	118-74-1	1,600	17	3	1
10726	Hexachlorobutadiene	87-68-3	1,600	34	17	1
10726	Hexachlorocyclopentadiene	77-47-4	3,200	500	170	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-583-SA8-SB-0.0-0.5MSD Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7152830
LL Group # 1409714
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/06/2013 12:20 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/07/2013 09:15

Reported: 08/21/2013 14:07

SL583 SDG#: PH085-05MSD

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D	ug/kg	ug/kg	ug/kg	
10726	Hexachloroethane	67-72-1	1,500	170	34	1
10726	Indeno(1,2,3-cd)pyrene	193-39-5	1,500	17	3	1
10726	Isophorone	78-59-1	1,500	34	17	1
10726	1-Methylnaphthalene	90-12-0	1,500	17	3	1
10726	2-Methylnaphthalene	91-57-6	1,400	17	3	1
10726	2-Methylphenol	95-48-7	1,500	34	17	1
10726	4-Methylphenol	106-44-5	1,400	34	17	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	Naphthalene	91-20-3	1,500	17	3	1
10726	NDPA as diphenylamine	n.a.	1,600	170	34	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	2-Nitroaniline	88-74-4	1,500	34	17	1
10726	3-Nitroaniline	99-09-2	1,300	170	67	1
10726	4-Nitroaniline	100-01-6	1,200	170	67	1
10726	Nitrobenzene	98-95-3	1,500	34	17	1
10726	2-Nitrophenol	88-75-5	1,500	34	17	1
10726	4-Nitrophenol	100-02-7	1,400	500	170	1
10726	N-Nitrosodimethylamine	62-75-9	1,200	170	67	1
10726	N-Nitroso-di-n-propylamine	621-64-7	1,500	34	17	1
10726	N-Nitrosodiphenylamine	86-30-6	1,600	34	17	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	1,900	170	67	1
10726	Pentachlorophenol	87-86-5	1,400	170	34	1
10726	Phenanthrene	85-01-8	1,500	17	3	1
10726	Phenol	108-95-2	1,500	34	17	1
10726	Pyrene	129-00-0	1,600	17	3	1
10726	Pyridine	110-86-1	520	170	67	1
10726	1,2,4-Trichlorobenzene	120-82-1	1,600	34	17	1
10726	2,4,5-Trichlorophenol	95-95-4	1,600	34	17	1
10726	2,4,6-Trichlorophenol	88-06-2	1,600	34	17	1

The recovery for the sample internal standard(s) is outside the QC acceptance limits. The recovery for the internal standard(s) is also outside the QC acceptance limits in the associated background sample, indicating a matrix effect.

GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	33	1.7	0.68	1
12969	Acenaphthylene	208-96-8	35	1.7	0.34	1
12969	Anthracene	120-12-7	35	1.7	0.34	1
12969	Benzo(a)anthracene	56-55-3	34	1.7	0.68	1
12969	Benzo(a)pyrene	50-32-8	32	1.7	0.68	1
12969	Benzo(b)fluoranthene	205-99-2	45	1.7	0.68	1
12969	Benzo(e)pyrene	192-97-2	32	17	3.4	1
12969	Benzo(g,h,i)perylene	191-24-2	15	1.7	0.68	1
12969	Benzo(k)fluoranthene	207-08-9	34	1.7	0.68	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-583-SA8-SB-0.0-0.5MSD Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7152830
LL Group # 1409714
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/06/2013 12:20 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/07/2013 09:15
Reported: 08/21/2013 14:07

SL583 SDG#: PH085-05MSD

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Butylbenzylphthalate	85-68-7	49	18	6.1	1
12969	Di-n-butylphthalate	84-74-2	44	18	6.1	1
12969	Chrysene	218-01-9	37	1.7	0.34	1
12969	Dibenz(a,h)anthracene	53-70-3	19	1.7	0.68	1
12969	Diethylphthalate	84-66-2	37	18	6.1	1
12969	Dimethylphthalate	131-11-3	35	18	6.1	1
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	55	18	6.1	1
12969	Fluoranthene	206-44-0	38	1.7	0.68	1
12969	Fluorene	86-73-7	34	1.7	0.68	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	18	1.7	0.68	1
12969	1-Methylnaphthalene	90-12-0	36	1.7	0.68	1
12969	2-Methylnaphthalene	91-57-6	37	1.7	0.68	1
12969	Naphthalene	91-20-3	35	1.7	0.68	1
12969	N-Nitrosodimethylamine	62-75-9	32	1.7	0.68	1
12969	Di-n-octylphthalate	117-84-0	62	18	6.1	1
12969	Phenanthrene	85-01-8	35	1.7	0.68	1
12969	Pyrene	129-00-0	39	1.7	0.68	1
Herbicides	SW-846 8151A		ug/kg	ug/kg	ug/kg	
10401	2,4-D	94-75-7	90	36	12	1
10401	Dalapon	75-99-0	91	U	44	1
10401	2,4-DB	94-82-6	98	17	6.2	1
10401	Dicamba	1918-00-9	7.7	J	4.0	1
10401	Dinoseb	88-85-7	36	24	9.1	1
The QC window for dinoseb is advisory due to the erratic performance of the analyte using this method.						
10401	2,4-DP (Dichlorprop)	120-36-5	110	17	9.1	1
10401	MCPA	94-74-6	7,500	2,500	760	1
10401	MCPP (Mecoprop)	93-65-2	6,900	2,500	750	1
10401	2,4,5-T	93-76-5	9.0	1.7	0.82	1
10401	2,4,5-TP	93-72-1	8.9	1.7	0.75	1
Pesticides/PCBs	SW-846 8081B		ug/kg	ug/kg	ug/kg	
10590	Aldrin	309-00-2	3.3	0.84	0.17	1
10590	Alpha BHC	319-84-6	3.3	0.84	0.17	1
10590	Beta BHC	319-85-7	3.5	1.9	0.98	1
10590	Gamma BHC - Lindane	58-89-9	3.3	0.84	0.17	1
10590	Chlordane	57-74-9	17	U	4.1	1
10590	p,p-DDD	72-54-8	7.7	1.7	0.34	1
10590	p,p-DDE	72-55-9	8.2	1.7	0.34	1
10590	p,p-DDT	50-29-3	11	1.7	0.36	1
10590	Delta BHC	319-86-8	4.0	0.84	0.46	1
10590	Dieldrin	60-57-1	7.6	1.7	0.34	1
10590	Endosulfan I	959-98-8	3.4	0.84	0.22	1
10590	Endosulfan II	33213-65-9	8.0	1.7	0.34	1
10590	Endosulfan Sulfate	1031-07-8	7.3	1.7	0.34	1
10590	Endrin	72-20-8	7.5	1.7	0.34	1
10590	Endrin Aldehyde	7421-93-4	6.7	1.7	0.34	1
10590	Endrin Ketone	53494-70-5	6.9	1.8	0.61	1
10590	Heptachlor	76-44-8	3.4	0.84	0.17	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-583-SA8-SB-0.0-0.5MSD Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7152830
LL Group # 1409714
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/06/2013 12:20 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/07/2013 09:15
Reported: 08/21/2013 14:07

SL583 SDG#: PH085-05MSD

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs SW-846 8081B						
10590	Heptachlor Epoxide	1024-57-3	3.9	0.84	0.17	1
10590	Methoxychlor	72-43-5	38	6.8	1.7	1
10590	Mirex	2385-85-5	1.7 U	1.7	0.36	1
10590	Toxaphene	8001-35-2	34 U	34	14	1
Pesticides/PCBs SW-846 8082A						
10592	Aroclor 5432	63496-31-1	34 U	34	10	1
10592	Aroclor 5442	12642-23-8	34 U	34	10	1
10592	Aroclor 5460	11126-42-4	34 U	34	10	1
10592	PCB-1016	12674-11-2	150	17	3.4	1
10592	PCB-1221	11104-28-2	17 U	17	5.2	1
10592	PCB-1232	11141-16-5	17 U	17	4.2	1
10592	PCB-1242	53469-21-9	17 U	17	4.2	1
10592	PCB-1248	12672-29-6	17 U	17	3.4	1
10592	PCB-1254	11097-69-1	69	17	4.5	1
10592	PCB-1260	11096-82-5	160	17	4.0	1
10592	PCB-1262	37324-23-5	17 U	17	3.4	1
10592	PCB-1268	11100-14-4	17 U	17	3.4	1
GC Petroleum Hydrocarbons SW-846 8015B modified						
12952	EFH (C12-C14)	n.a.	5.1 U	5.1	2.0	1
12952	EFH (C15-C20)	n.a.	6.3	5.1	2.0	1
12952	EFH (C21-C30)	n.a.	32	5.1	2.0	1
12952	EFH (C30-C40)	n.a.	70	10	4.1	1
12952	EFH (C8-C11)	n.a.	5.1 U	5.1	2.0	1
Metals SW-846 6010C						
01643	Aluminum	7429-90-5	23,500	40.8	7.35	1
06944	Antimony	7440-36-0	19.4	4.08	0.754	1
06935	Arsenic	7440-38-2	17.9	4.08	0.714	1
06946	Barium	7440-39-3	300	1.02	0.0336	1
06947	Beryllium	7440-41-7	5.95	1.02	0.0683	1
07914	Boron	7440-42-8	204	10.2	0.856	1
06949	Cadmium	7440-43-9	5.95	1.02	0.0775	1
01650	Calcium	7440-70-2	4,080	20.4	3.40	1
06951	Chromium	7440-47-3	44.2	3.06	0.163	1
06952	Cobalt	7440-48-4	55.5	1.02	0.101	1
06953	Copper	7440-50-8	44.8	2.04	0.296	1
01654	Iron	7439-89-6	22,300	40.8	3.69	1
06955	Lead	7439-92-1	35.8	3.06	0.510	1
01656	Lithium	7439-93-2	124	4.1	0.35	1
01657	Magnesium	7439-95-4	4,640	10.2	1.70	1
06958	Manganese	7439-96-5	355	1.02	0.0846	1
06960	Molybdenum	7439-98-7	201	2.04	0.173	1
06961	Nickel	7440-02-0	63.5	2.04	0.133	1
10145	Phosphorus	7723-14-0	568	10.2	2.95	1
01662	Potassium	7440-09-7	4,800	102	8.50	1
01667	Sodium	7440-23-5	1,110	102	17.0	1
06969	Tin	7440-31-5	369	10.2	0.224	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-583-SA8-SB-0.0-0.5MSD Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7152830
LL Group # 1409714
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/06/2013 12:20 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/07/2013 09:15
Reported: 08/21/2013 14:07

SL583 SDG#: PH085-05MSD

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals						
		SW-846 6010C	mg/kg	mg/kg	mg/kg	
06970	Titanium	7440-32-6	1,360	1.02	0.173	1
06971	Vanadium	7440-62-2	97.9	1.02	0.133	1
06972	Zinc	7440-66-6	206	4.08	0.204	1
10146	Zirconium	7440-67-7	99.2	5.10	0.856	1
		SW-846 6020A	mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	2.91	0.408	0.102	2
06142	Silver	7440-22-4	15.6	0.204	0.0265	2
06144	Strontium	7440-24-6	48.4	0.408	0.0693	2
06145	Thallium	7440-28-0	1.01	0.204	0.0306	2
		SW-846 7471B	mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.229	0.0168	0.0101	1
Wet Chemistry						
		EPA 160.3 modified	%	%	%	
11625	14a Moisture Content by 160.3	n.a.	1.9	0.10	0.10	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-583-SA8-SB-0.0-0.5MSD Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7152830
LL Group # 1409714
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/06/2013 12:20 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/07/2013 09:15
Reported: 08/21/2013 14:07

SL583 SDG#: PH085-05MSD

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
Dioxins/Furans			EPA 1613B		ng/kg	
11031	2378-TCDD	1746-01-6	20.4	1.00	0.116	1
11031	12378-PeCDD	40321-76-4	105	B 5.01	0.133	1
11031	123478-HxCDD	39227-28-6	94.5	5.01	0.119	1
11031	123678-HxCDD	57653-85-7	95.4	B 5.01	0.134	1
11031	123789-HxCDD	19408-74-3	94.8	5.01	0.134	1
11031	1234678-HpCDD	35822-46-9	113	B 5.01	0.129	1
11031	OCDD	3268-87-9	410	B 10.0	0.0579	1
11031	2378-TCDF	51207-31-9	20.1	1.00	0.188	1
11031	12378-PeCDF	57117-41-6	98.0	5.01	0.119	1
11031	23478-PeCDF	57117-31-4	94.9	B 5.01	0.127	1
11031	123478-HxCDF	70648-26-9	89.0	5.01	0.114	1
11031	123678-HxCDF	57117-44-9	89.3	5.01	0.109	1
11031	123789-HxCDF	72918-21-9	87.9	5.01	0.122	1
11031	234678-HxCDF	60851-34-5	88.7	5.01	0.107	1
11031	1234678-HpCDF	67562-39-4	90.6	B 5.01	0.0803	1
11031	1234789-HpCDF	55673-89-7	87.5	B 5.01	0.127	1
11031	OCDF	39001-02-0	177	B 10.0	0.0785	1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	62	25 - 164
13C12-12378-PeCDD	81	25 - 181
13C12-123478-HxCDD	73	32 - 141
13C12-123678-HxCDD	77	28 - 130
13C12-123789-HxCDD	74	28 - 130
13C12-1234678-HpCDD	80	23 - 140
13C12-OCDD	79	17 - 157
13C12-2378-TCDF	65	24 - 169
13C12-12378-PeCDF	84	24 - 185
13C12-23478-PeCDF	76	21 - 178
13C12-123478-HxCDF	59	26 - 152
13C12-123678-HxCDF	63	26 - 123
13C12-234678-HxCDF	62	28 - 136
13C12-123789-HxCDF	67	29 - 147
13C12-1234678-HpCDF	77	28 - 143
13C12-1234789-HpCDF	64	26 - 138
13C12-OCDF	59	17 - 157

Dioxins/Furans Data Qualifiers:

- B Detected in Method Blank
- U Undetected
- J Estimated concentration between Estimated Detection Limit and Minimum Level
- E Exceeds calibration range
- C Confirmed quantitation on secondary GC column
- Q EMPC - Estimated Maximum Possible Concentration
- F Interference is present
- S Saturation of detection signal

*=This limit was used in the evaluation of the final result

Sample Description: SL-583-SA8-SB-0.0-0.5MSD Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7152830
LL Group # 1409714
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/06/2013 12:20 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/07/2013 09:15
Reported: 08/21/2013 14:07

SL583 SDG#: PH085-05MSD

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10726	8a SVOCs by EPA 8270D	SW-846 8270D	1	13225SLB026	08/19/2013 12:23	Linda M Hartenstine	1
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13225SLA026	08/15/2013 11:49	Mark A Clark	1
10813	BNA Soil Microwave APP IX	SW-846 3546	1	13225SLB026	08/14/2013 08:30	Anna E Stager	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	13225SLA026	08/14/2013 08:30	Anna E Stager	1
10401	21a Herbicides by EPA 8151A	SW-846 8151A	1	132250009A	08/16/2013 14:30	Melissa McDermott	1
10590	20a Pesticides by EPA 8081B	SW-846 8081B	1	132250011A	08/19/2013 18:25	Jamie L Brillhart	1
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132250001A	08/14/2013 22:27	Monica M Souders	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132250001A	08/13/2013 16:25	JoElla L Rice	1
10496	PPL Pest. Microwave Extraction	SW-846 3546	2	132250011A	08/14/2013 03:00	Sherry L Morrow	1
04181	Herbicide Soil Extraction	SW-846 3550B/SW-846 8151A	1	132250009A	08/14/2013 05:30	Roman Kuropatkin	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132220004A	08/13/2013 00:51	Heather E Williams	1
12959	EFH soil ext. (microwave)	SW-846 3546	1	132220004A	08/11/2013 11:45	Sherry L Morrow	1
11031	23a Dioxin/Furan by EPA 1613B	EPA 1613B	1	13224001	08/15/2013 19:02	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	13224001	08/12/2013 11:30	Deborah M Zimmerman	1
01643	Aluminum	SW-846 6010C	1	132200637001	08/16/2013 12:04	Eric L Eby	1
06944	Antimony	SW-846 6010C	1	132200637001	08/16/2013 12:04	Eric L Eby	1
06935	Arsenic	SW-846 6010C	1	132200637001	08/16/2013 12:04	Eric L Eby	1
06946	Barium	SW-846 6010C	1	132200637001	08/16/2013 12:04	Eric L Eby	1
06947	Beryllium	SW-846 6010C	1	132200637001	08/16/2013 12:04	Eric L Eby	1
07914	Boron	SW-846 6010C	1	132200637001	08/16/2013 12:04	Eric L Eby	1
06949	Cadmium	SW-846 6010C	1	132200637001	08/16/2013 12:04	Eric L Eby	1
01650	Calcium	SW-846 6010C	1	132200637001	08/16/2013 12:04	Eric L Eby	1
06951	Chromium	SW-846 6010C	1	132200637001	08/16/2013 12:04	Eric L Eby	1
06952	Cobalt	SW-846 6010C	1	132200637001	08/16/2013 12:04	Eric L Eby	1
06953	Copper	SW-846 6010C	1	132200637001	08/16/2013 12:04	Eric L Eby	1
01654	Iron	SW-846 6010C	1	132200637001	08/16/2013 12:04	Eric L Eby	1
06955	Lead	SW-846 6010C	1	132200637001	08/16/2013 12:04	Eric L Eby	1
01656	Lithium	SW-846 6010C	1	132200637001	08/16/2013 12:04	Eric L Eby	1
01657	Magnesium	SW-846 6010C	1	132200637001	08/16/2013 12:04	Eric L Eby	1
06958	Manganese	SW-846 6010C	1	132200637001	08/16/2013 12:04	Eric L Eby	1
06960	Molybdenum	SW-846 6010C	1	132200637001	08/16/2013 12:04	Eric L Eby	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-583-SA8-SB-0.0-0.5MSD Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7152830
LL Group # 1409714
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/06/2013 12:20 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/07/2013 09:15

Reported: 08/21/2013 14:07

SL583 SDG#: PH085-05MSD

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
06961	Nickel	SW-846 6010C	1	132200637001	08/16/2013	12:04	Eric L Eby	1
10145	Phosphorus	SW-846 6010C	1	132200637001	08/16/2013	12:04	Eric L Eby	1
01662	Potassium	SW-846 6010C	1	132200637001	08/16/2013	12:04	Eric L Eby	1
01667	Sodium	SW-846 6010C	1	132200637001	08/16/2013	12:04	Eric L Eby	1
06969	Tin	SW-846 6010C	1	132200637001	08/16/2013	12:04	Eric L Eby	1
06970	Titanium	SW-846 6010C	1	132200637001	08/16/2013	12:04	Eric L Eby	1
06971	Vanadium	SW-846 6010C	1	132200637001	08/16/2013	12:04	Eric L Eby	1
06972	Zinc	SW-846 6010C	1	132200637001	08/16/2013	12:04	Eric L Eby	1
10146	Zirconium	SW-846 6010C	1	132200637001	08/16/2013	12:04	Eric L Eby	1
06141	Selenium	SW-846 6020A	1	132200637001B	08/14/2013	12:56	Choon Y Tian	2
06142	Silver	SW-846 6020A	1	132200637001A	08/14/2013	12:56	Choon Y Tian	2
06144	Strontium	SW-846 6020A	1	132200637001A	08/14/2013	12:56	Choon Y Tian	2
06145	Thallium	SW-846 6020A	1	132200637001A	08/14/2013	12:56	Choon Y Tian	2
00159	3a Mercury 7471A	SW-846 7471B	1	132200638001	08/15/2013	14:21	Parker D Lindstrom	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132200637001	08/09/2013	09:35	Denise K Conners	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132200638001	08/09/2013	11:25	Denise K Conners	1
11625	14a Moisture Content by 160.3	EPA 160.3 modified	1	13221162402A	08/09/2013	23:20	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-583-SA8-SB-0.0-0.5DUP Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7152831
LL Group # 1409714
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/06/2013 12:20 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/07/2013 09:15
Reported: 08/21/2013 14:07

SL583 SDG#: PH085-05DUP

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals						
		SW-846 6010C	mg/kg	mg/kg	mg/kg	
01643	Aluminum	7429-90-5	18,800	40.8	7.35	1
06944	Antimony	7440-36-0	4.08 U	4.08	0.754	1
06935	Arsenic	7440-38-2	2.40 J	4.08	0.714	1
06946	Barium	7440-39-3	91.3	1.02	0.0336	1
06947	Beryllium	7440-41-7	0.626 J	1.02	0.0683	1
07914	Boron	7440-42-8	11.9	10.2	0.856	1
06949	Cadmium	7440-43-9	0.507 J	1.02	0.0775	1
01650	Calcium	7440-70-2	3,360	20.4	3.40	1
06951	Chromium	7440-47-3	20.2	3.06	0.163	1
06952	Cobalt	7440-48-4	5.46	1.02	0.101	1
06953	Copper	7440-50-8	14.9	2.04	0.296	1
01654	Iron	7439-89-6	20,400	40.8	3.69	1
06955	Lead	7439-92-1	15.1	3.06	0.510	1
01656	Lithium	7439-93-2	20.1	4.1	0.35	1
01657	Magnesium	7439-95-4	4,100	10.2	1.70	1
06958	Manganese	7439-96-5	272	1.02	0.0846	1
06960	Molybdenum	7439-98-7	0.478 J	2.04	0.173	1
06961	Nickel	7440-02-0	11.8	2.04	0.133	1
10145	Phosphorus	7723-14-0	409	10.2	2.95	1
01662	Potassium	7440-09-7	3,350	102	8.50	1
01667	Sodium	7440-23-5	60.0 J	102	17.0	1
06969	Tin	7440-31-5	2.94 J	10.2	0.224	1
06970	Titanium	7440-32-6	1,040	1.02	0.173	1
06971	Vanadium	7440-62-2	37.6	1.02	0.133	1
06972	Zinc	7440-66-6	98.0	4.08	0.204	1
10146	Zirconium	7440-67-7	3.30 J	5.10	0.856	1
		SW-846 6020A	mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	0.163 J	0.408	0.102	2
06142	Silver	7440-22-4	0.0489 J	0.204	0.0265	2
06144	Strontium	7440-24-6	30.2	0.408	0.0693	2
06145	Thallium	7440-28-0	0.357	0.204	0.0306	2
		SW-846 7471B	mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.0221	0.0167	0.0100	1
Wet Chemistry						
		SW-846 9045D modified	Std. Units	Std. Units	Std. Units	
00394	15a pH by 9045D The pH was measured in water at 22 C.	n.a.	6.52	0.0100	0.0100	1
Wet Chemistry						
		EPA 160.3 modified	%	%	%	
11625	14a Moisture Content by 160.3	n.a.	1.9	0.10	0.10	1
11626	14a Moisture Content by 160.3	n.a.	1.7	0.10	0.10	1
The duplicate moisture value is provided to assess the precision of the moisture test. For comparability purposes, the initial moisture determination is the value used to perform dry weight calculations.						

*=This limit was used in the evaluation of the final result

Sample Description: SL-583-SA8-SB-0.0-0.5DUP Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7152831
LL Group # 1409714
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/06/2013 12:20 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/07/2013 09:15
Reported: 08/21/2013 14:07

SL583 SDG#: PH085-05DUP

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
01643	Aluminum	SW-846 6010C	1	132200637001	08/16/2013	11:56	Eric L Eby	1
06944	Antimony	SW-846 6010C	1	132200637001	08/16/2013	11:56	Eric L Eby	1
06935	Arsenic	SW-846 6010C	1	132200637001	08/16/2013	11:56	Eric L Eby	1
06946	Barium	SW-846 6010C	1	132200637001	08/16/2013	11:56	Eric L Eby	1
06947	Beryllium	SW-846 6010C	1	132200637001	08/16/2013	11:56	Eric L Eby	1
07914	Boron	SW-846 6010C	1	132200637001	08/16/2013	11:56	Eric L Eby	1
06949	Cadmium	SW-846 6010C	1	132200637001	08/16/2013	11:56	Eric L Eby	1
01650	Calcium	SW-846 6010C	1	132200637001	08/16/2013	11:56	Eric L Eby	1
06951	Chromium	SW-846 6010C	1	132200637001	08/16/2013	11:56	Eric L Eby	1
06952	Cobalt	SW-846 6010C	1	132200637001	08/16/2013	11:56	Eric L Eby	1
06953	Copper	SW-846 6010C	1	132200637001	08/16/2013	11:56	Eric L Eby	1
01654	Iron	SW-846 6010C	1	132200637001	08/16/2013	11:56	Eric L Eby	1
06955	Lead	SW-846 6010C	1	132200637001	08/16/2013	11:56	Eric L Eby	1
01656	Lithium	SW-846 6010C	1	132200637001	08/16/2013	11:56	Eric L Eby	1
01657	Magnesium	SW-846 6010C	1	132200637001	08/16/2013	11:56	Eric L Eby	1
06958	Manganese	SW-846 6010C	1	132200637001	08/16/2013	11:56	Eric L Eby	1
06960	Molybdenum	SW-846 6010C	1	132200637001	08/16/2013	11:56	Eric L Eby	1
06961	Nickel	SW-846 6010C	1	132200637001	08/16/2013	11:56	Eric L Eby	1
10145	Phosphorus	SW-846 6010C	1	132200637001	08/16/2013	11:56	Eric L Eby	1
01662	Potassium	SW-846 6010C	1	132200637001	08/16/2013	11:56	Eric L Eby	1
01667	Sodium	SW-846 6010C	1	132200637001	08/16/2013	11:56	Eric L Eby	1
06969	Tin	SW-846 6010C	1	132200637001	08/16/2013	11:56	Eric L Eby	1
06970	Titanium	SW-846 6010C	1	132200637001	08/16/2013	11:56	Eric L Eby	1
06971	Vanadium	SW-846 6010C	1	132200637001	08/16/2013	11:56	Eric L Eby	1
06972	Zinc	SW-846 6010C	1	132200637001	08/16/2013	11:56	Eric L Eby	1
10146	Zirconium	SW-846 6010C	1	132200637001	08/16/2013	11:56	Eric L Eby	1
06141	Selenium	SW-846 6020A	1	132200637001B	08/14/2013	12:51	Choon Y Tian	2
06142	Silver	SW-846 6020A	1	132200637001A	08/14/2013	12:51	Choon Y Tian	2
06144	Strontium	SW-846 6020A	1	132200637001A	08/14/2013	12:51	Choon Y Tian	2
06145	Thallium	SW-846 6020A	1	132200637001A	08/14/2013	12:51	Choon Y Tian	2
00159	3a Mercury 7471A	SW-846 7471B	1	132200638001	08/15/2013	14:16	Parker D Lindstrom	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132200637001	08/09/2013	09:35	Denise K Conners	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132200638001	08/09/2013	11:25	Denise K Conners	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13219039401A	08/07/2013	18:30	Clayton C Litchmore	1
11625	14a Moisture Content by 160.3	EPA 160.3 modified	1	13221162402A	08/09/2013	23:20	Scott W Freisher	1
11626	14a Moisture Content by 160.3	EPA 160.3 modified	1	13221162402A	08/09/2013	23:20	Scott W Freisher	1

*-This limit was used in the evaluation of the final result

Sample Description: SL-883-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7152832
LL Group # 1409714
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/06/2013 12:25 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/07/2013 09:15
Reported: 08/21/2013 14:07

SL883 SDG#: PH085-06

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D	ug/kg	ug/kg	ug/kg	
10726	Aniline	62-53-3	340	U 340	170	1
10726	Anthracene	120-12-7	3	J 17	3	1
10726	Benzydine	92-87-5	1,700	U 1,700	710	1
10726	Benzo(a)anthracene	56-55-3	5	J 17	3	1
10726	Benzo(a)pyrene	50-32-8	8	J 17	3	1
10726	Benzo(b)fluoranthene	205-99-2	9	J 17	3	1
10726	Benzo(g,h,i)perylene	191-24-2	6	J 17	3	1
10726	Benzo(k)fluoranthene	207-08-9	4	J 17	3	1
10726	Benzoic acid	65-85-0	510	U 510	170	1
10726	Benzyl alcohol	100-51-6	340	U 340	170	1
10726	1,1'-Biphenyl	92-52-4	34	U 34	17	1
10726	4-Bromophenyl-phenylether	101-55-3	34	U 34	17	1
10726	2-butoxy-Ethanol	111-76-2	170	U 170	170	1
2-butoxy-Ethanol was quantified using a single point calibration analyzed at the beginning of each 12 hour tune period.						
10726	Carbazole	86-74-8	34	U 34	17	1
10726	4-Chloro-3-methylphenol	59-50-7	34	U 34	17	1
10726	4-Chloroaniline	106-47-8	34	U 34	17	1
10726	bis(2-Chloroethoxy)methane	111-91-1	34	U 34	17	1
10726	bis(2-Chloroethyl)ether	111-44-4	34	U 34	17	1
10726	bis(2-Chloroisopropyl)ether	39638-32-9	34	U 34	17	1
Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.						
10726	2-Chloronaphthalene	91-58-7	34	U 34	7	1
10726	2-Chlorophenol	95-57-8	34	U 34	17	1
10726	4-Chlorophenyl-phenylether	7005-72-3	34	U 34	17	1
10726	Dibenzofuran	132-64-9	34	U 34	17	1
10726	1,2-Dichlorobenzene	95-50-1	34	U 34	17	1
10726	1,3-Dichlorobenzene	541-73-1	34	U 34	17	1
10726	1,4-Dichlorobenzene	106-46-7	34	U 34	17	1
10726	3,3'-Dichlorobenzidine	91-94-1	340	U 340	100	1
10726	2,4-Dichlorophenol	120-83-2	34	U 34	17	1
10726	2,6-Dichlorophenol	87-65-0	34	U 34	17	1
10726	2,4-Dimethylphenol	105-67-9	34	U 34	17	1
10726	3,5-Dimethylphenol	108-68-9	170	U 170	34	1
10726	4,6-Dinitro-2-methylphenol	534-52-1	510	U 510	170	1
10726	2,4-Dinitrophenol	51-28-5	670	U 670	310	1
10726	1,2-Diphenylhydrazine	122-66-7	34	U 34	17	1
10726	Fluoranthene	206-44-0	8	J 17	3	1
10726	Hexachlorobenzene	118-74-1	17	U 17	3	1
10726	Hexachlorobutadiene	87-68-3	34	U 34	17	1
10726	Hexachlorocyclopentadiene	77-47-4	510	U 510	170	1
10726	Hexachloroethane	67-72-1	170	U 170	34	1
10726	Indeno(1,2,3-cd)pyrene	193-39-5	5	J 17	3	1
10726	Isophorone	78-59-1	34	U 34	17	1
10726	2-Methylphenol	95-48-7	34	U 34	17	1
10726	4-Methylphenol	106-44-5	34	U 34	17	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-883-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7152832
LL Group # 1409714
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/06/2013 12:25 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/07/2013 09:15
Reported: 08/21/2013 14:07

SL883 SDG#: PH085-06

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D	ug/kg	ug/kg	ug/kg	
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10726	NDPA as diphenylamine	n.a.	170	U 170	34	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	2-Nitroaniline	88-74-4	34	U 34	17	1
10726	3-Nitroaniline	99-09-2	170	U 170	68	1
10726	4-Nitroaniline	100-01-6	170	U 170	68	1
10726	Nitrobenzene	98-95-3	34	U 34	17	1
10726	2-Nitrophenol	88-75-5	34	U 34	17	1
10726	4-Nitrophenol	100-02-7	510	U 510	170	1
10726	N-Nitroso-di-n-propylamine	621-64-7	34	U 34	17	1
10726	N-Nitrosodiphenylamine	86-30-6	34	U 34	17	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Pentachlorophenol	87-86-5	170	U 170	34	1
10726	Phenanthrene	85-01-8	6	J 17	3	1
10726	Phenol	108-95-2	34	U 34	17	1
10726	2-phenoxy-Ethanol	122-99-6	170	U 170	170	1
	2-phenoxy-Ethanol was quantified using a single point calibration analyzed at the beginning of each 12 hour tune period.					
10726	Pyrene	129-00-0	10	J 17	3	1
10726	Pyridine	110-86-1	170	U 170	68	1
10726	1,2,3,4-Tetrahydronaphthalene	119-64-2	170	U 170	34	1
	1,2,3,4-Tetrahydronaphthalene (Tetralin) was quantified using a single point calibration analyzed at the beginning of each 12 hour tune period.					
10726	1,2,4-Trichlorobenzene	120-82-1	34	U 34	17	1
10726	2,4,5-Trichlorophenol	95-95-4	34	U 34	17	1
10726	2,4,6-Trichlorophenol	88-06-2	34	U 34	17	1
	The recovery for the sample internal standard is outside the QC acceptance limits. The following corrective action was taken: The sample was re-analyzed and internal standard areas are again outside of the QC acceptance limits, indicating a matrix effect. The reported data is from the initial analysis of the sample.					
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	1.7	U 1.7	0.68	1
12969	Acenaphthylene	208-96-8	1.7	U 1.7	0.34	1
12969	Benzo(e)pyrene	192-97-2	4.5	J 17	3.4	1
12969	Butylbenzylphthalate	85-68-7	27	U 18	6.1	1
12969	Di-n-butylphthalate	84-74-2	18	U 18	6.1	1
12969	Chrysene	218-01-9	11	U 1.7	0.34	1
12969	Dibenz(a,h)anthracene	53-70-3	0.69	J 1.7	0.68	1
12969	Diethylphthalate	84-66-2	18	U 18	6.1	1
12969	Dimethylphthalate	131-11-3	18	U 18	6.1	1
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	29	U 18	6.1	1
12969	Fluorene	86-73-7	1.7	U 1.7	0.68	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-883-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7152832
LL Group # 1409714
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/06/2013 12:25 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/07/2013 09:15
Reported: 08/21/2013 14:07

SL883 SDG#: PH085-06

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	1-Methylnaphthalene	90-12-0	0.79 J	1.7	0.68	1
12969	2-Methylnaphthalene	91-57-6	2.2	1.7	0.68	1
12969	Naphthalene	91-20-3	2.3	1.7	0.68	1
12969	N-Nitrosodimethylamine	62-75-9	1.7 U	1.7	0.68	1
12969	Di-n-octylphthalate	117-84-0	18 U	18	6.1	1

Herbicides		SW-846 8151A	ug/kg	ug/kg	ug/kg	
10401	2,4-D	94-75-7	23 J	37	12	1
10401	Dalapon	75-99-0	92 U	92	84	1
10401	2,4-DB	94-82-6	35 U	35	35	1
10401	Dicamba	1918-00-9	12 U	12	4.1	1
10401	Dinoseb	88-85-7	24 U	24	9.2	1
The QC window for dinoseb is advisory due to the erratic performance of the analyte using this method.						
10401	2,4-DP (Dichlorprop)	120-36-5	17 U	17	9.2	1
10401	MCPA	94-74-6	2,600 U	2,600	780	1
10401	MCPA (Mecoprop)	93-65-2	2,600 U	2,600	770	1
10401	2,4,5-T	93-76-5	2.3	1.7	0.84	1
10401	2,4,5-TP	93-72-1	1.7 U	1.7	0.77	1
Reporting limits were raised due to interference from the sample matrix.						

Pesticides/PCBs		SW-846 8081B	ug/kg	ug/kg	ug/kg	
10590	Aldrin	309-00-2	0.85 U	0.85	0.17	1
10590	Alpha BHC	319-84-6	0.85 U	0.85	0.17	1
10590	Beta BHC	319-85-7	1.9 U	1.9	0.98	1
10590	Gamma BHC - Lindane	58-89-9	0.85 U	0.85	0.17	1
10590	Chlordane	57-74-9	17 U	17	4.1	1
10590	p,p-DDD	72-54-8	1.7 U	1.7	0.34	1
10590	p,p-DDE	72-55-9	1.7 U	1.7	0.87	1
10590	p,p-DDT	50-29-3	1.7 U	1.7	0.36	1
10590	Delta BHC	319-86-8	0.85 U	0.85	0.46	1
10590	Dieldrin	60-57-1	1.8 U	1.8	1.8	1
10590	Endosulfan I	959-98-8	0.85 U	0.85	0.22	1
10590	Endosulfan II	33213-65-9	1.7 U	1.7	0.38	1
10590	Endosulfan Sulfate	1031-07-8	1.7 U	1.7	0.34	1
10590	Endrin	72-20-8	1.7 U	1.7	0.50	1
10590	Endrin Aldehyde	7421-93-4	1.7 U	1.7	0.52	1
10590	Endrin Ketone	53494-70-5	1.8 U	1.8	0.61	1
10590	Heptachlor	76-44-8	0.85 U	0.85	0.17	1
10590	Heptachlor Epoxide	1024-57-3	0.85 U	0.85	0.21	1
10590	Methoxychlor	72-43-5	6.8 U	6.8	1.7	1
10590	Mirex	2385-85-5	1.7 U	1.7	0.36	1
10590	Toxaphene	8001-35-2	34 U	34	14	1
Reporting limits were raised due to interference from the sample matrix.						

Pesticides/PCBs		SW-846 8082A	ug/kg	ug/kg	ug/kg	
10592	Aroclor 5432	63496-31-1	34 U	34	10	1
10592	Aroclor 5442	12642-23-8	34 U	34	10	1
10592	Aroclor 5460	11126-42-4	22 J	34	10	1
10592	PCB-1016	12674-11-2	17 U	17	3.4	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-883-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7152832
LL Group # 1409714
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/06/2013 12:25 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/07/2013 09:15
Reported: 08/21/2013 14:07

SL883 SDG#: PH085-06

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs						
	SW-846 8082A		ug/kg	ug/kg	ug/kg	
10592	PCB-1221	11104-28-2	17 U	17	5.2	1
10592	PCB-1232	11141-16-5	17 U	17	4.2	1
10592	PCB-1242	53469-21-9	17 U	17	4.2	1
10592	PCB-1248	12672-29-6	17 U	17	3.4	1
10592	PCB-1254	11097-69-1	96	17	4.5	1
10592	PCB-1260	11096-82-5	17 U	17	4.0	1
10592	PCB-1262	37324-23-5	17 U	17	3.4	1
10592	PCB-1268	11100-14-4	17 U	17	3.4	1
GC Petroleum						
	SW-846 8015B modified		mg/kg	mg/kg	mg/kg	
Hydrocarbons						
12952	EFH (C12-C14)	n.a.	5.1 U	5.1	2.0	1
12952	EFH (C15-C20)	n.a.	2.4 J	5.1	2.0	1
12952	EFH (C21-C30)	n.a.	24	5.1	2.0	1
12952	EFH (C30-C40)	n.a.	66	10	4.1	1
12952	EFH (C8-C11)	n.a.	5.1 U	5.1	2.0	1
Metals						
	SW-846 6010C		mg/kg	mg/kg	mg/kg	
01643	Aluminum	7429-90-5	18,800	40.9	7.38	1
06944	Antimony	7440-36-0	8.98	4.09	0.757	1
06935	Arsenic	7440-38-2	2.32 J	4.09	0.716	1
06946	Barium	7440-39-3	93.7	1.02	0.0338	1
06947	Beryllium	7440-41-7	0.614 J	1.02	0.0686	1
07914	Boron	7440-42-8	12.9	10.2	0.860	1
06949	Cadmium	7440-43-9	1.39	1.02	0.0778	1
01650	Calcium	7440-70-2	3,400	20.5	3.42	1
06951	Chromium	7440-47-3	22.6	3.07	0.164	1
06952	Cobalt	7440-48-4	5.76	1.02	0.101	1
06953	Copper	7440-50-8	17.2	2.05	0.297	1
01654	Iron	7439-89-6	21,000	40.9	3.71	1
06955	Lead	7439-92-1	27.3	3.07	0.512	1
01656	Lithium	7439-93-2	20.4	4.1	0.35	1
01657	Magnesium	7439-95-4	4,130	10.2	1.71	1
06958	Manganese	7439-96-5	296	1.02	0.0850	1
06960	Molybdenum	7439-98-7	0.380 J	2.05	0.174	1
06961	Nickel	7440-02-0	12.8	2.05	0.133	1
10145	Phosphorus	7723-14-0	443	10.2	2.96	1
01662	Potassium	7440-09-7	3,440	102	8.54	1
01667	Sodium	7440-23-5	66.7 J	102	17.1	1
06969	Tin	7440-31-5	4.14 J	10.2	0.225	1
06970	Titanium	7440-32-6	1,050	1.02	0.174	1
06971	Vanadium	7440-62-2	39.0	1.02	0.133	1
06972	Zinc	7440-66-6	219	4.09	0.205	1
10146	Zirconium	7440-67-7	1.94 J	5.12	0.860	1
	SW-846 6020A		mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	0.215 J	0.409	0.102	2
06142	Silver	7440-22-4	0.101 J	0.205	0.0266	2
06144	Strontium	7440-24-6	34.7	0.409	0.0696	2
06145	Thallium	7440-28-0	0.381	0.205	0.0307	2

*=This limit was used in the evaluation of the final result

Sample Description: SL-883-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7152832
LL Group # 1409714
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/06/2013 12:25 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/07/2013 09:15

Reported: 08/21/2013 14:07

SL883 SDG#: PH085-06

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals						
00159	3a Mercury 7471A	7439-97-6	0.0359	0.0164	0.0098	1
Wet Chemistry						
00394	15a pH by 9045D The pH was measured in water at 22 C.	n.a.	6.71	0.0100	0.0100	1
Wet Chemistry						
11624	14a Moisture Content by 160.3 Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.	n.a.	2.3	0.10	0.10	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-883-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7152832
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Project Name: SSFL Phase 3 Sampling

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Submitted: 08/07/2013 09:15
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SL883 SDG#: PH085-06

CAT No.	Analysis Name	CAS Number	Dry Result		Dry MRL*	Dry EDL	Dilution Factor
Dioxins/Furans					ng/kg	ng/kg	
EPA 1613B					ng/kg		
11031	2378-TCDD	1746-01-6	0.0550	J	0.997	0.0532	1
11031	12378-PeCDD	40321-76-4	0.548	JB	4.98	0.135	1
11031	123478-HxCDD	39227-28-6	0.778	J	4.98	0.115	1
11031	123678-HxCDD	57653-85-7	2.27	JB	4.98	0.120	1
11031	123789-HxCDD	19408-74-3	1.93	J	4.98	0.121	1
11031	1234678-HpCDD	35822-46-9	45.6	B	4.98	0.118	1
11031	OCDD	3268-87-9	414	B	9.97	0.0605	1
11650	2378-TCDF-Conf	51207-31-9	2.32	C	0.997	0.152	1
11031	12378-PeCDF	57117-41-6	5.96	B	4.98	0.122	1
11031	23478-PeCDF	57117-31-4	1.66	J	4.98	0.105	1
11031	123478-HxCDF	70648-26-9	1.37	JB	4.98	0.0745	1
11031	123678-HxCDF	57117-44-9	1.11	JB	4.98	0.0798	1
11031	123789-HxCDF	72918-21-9	0.642	JB	4.98	0.0854	1
11031	234678-HxCDF	60851-34-5	0.767	JB	4.98	0.0750	1
11031	1234678-HpCDF	67562-39-4	5.73	B	4.98	0.0586	1
11031	1234789-HpCDF	55673-89-7	0.551	JQ	4.98	0.0793	1
11031	OCDF	39001-02-0	11.5	B	9.97	0.0592	1
Toxic Equivalents					ng/kg	ng/kg	
EPA 1613B					ng/kg		
11031	TEQ WHO 2005 - EDLx0.0	n.a.	3.04				1

Dioxins/Furans Data Qualifiers:

- B* Detected in Method Blank
- U* Undetected
- J* Estimated concentration between Estimated Detection Limit and Minimum Level
- E* Exceeds calibration range
- C* Confirmed quantitation on secondary GC column
- Q* EMPC - Estimated Maximum Possible Concentration
- F* Interference is present
- S* Saturation of detection signal

*=This limit was used in the evaluation of the final result

Sample Description: SL-883-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7152832
LL Group # 1409714
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/06/2013 12:25 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/07/2013 09:15
Reported: 08/21/2013 14:07

SL883 SDG#: PH085-06

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10726	8a SVOCs by EPA 8270D	SW-846 8270D	1	13225SLB026	08/19/2013 12:47	Linda M Hartenstine	1
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13225SLA026	08/16/2013 13:55	Mark A Clark	1
10813	BNA Soil Microwave APP IX	SW-846 3546	1	13225SLB026	08/14/2013 08:30	Anna E Stager	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	13225SLA026	08/14/2013 08:30	Anna E Stager	1
10401	21a Herbicides by EPA 8151A	SW-846 8151A	1	132250009A	08/16/2013 15:51	Melissa McDermott	1
10590	20a Pesticides by EPA 8081B	SW-846 8081B	1	132250011A	08/19/2013 18:40	Jamie L Brillhart	1
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132250001A	08/14/2013 22:45	Monica M Souders	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132250001A	08/13/2013 16:25	JoElla L Rice	1
10496	PPL Pest. Microwave Extraction	SW-846 3546	2	132250011A	08/14/2013 03:00	Sherry L Morrow	1
04181	Herbicide Soil Extraction	SW-846 3550B/SW-846 8151A	1	132250009A	08/14/2013 05:30	Roman Kuropatkin	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132220004A	08/13/2013 02:14	Heather E Williams	1
12959	EFH soil ext. (microwave)	SW-846 3546	1	132220004A	08/11/2013 11:45	Sherry L Morrow	1
11031	23a Dioxin/Furan by EPA 1613B	EPA 1613B	1	13227001	08/17/2013 09:04	Joseph D Anderson	1
11650	Dioxins/Furans in Solids- Conf	EPA 1613B	1	13227001	08/19/2013 14:00	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	13227001	08/15/2013 14:00	Brett M Weidman	1
01643	Aluminum	SW-846 6010C	1	132200637001	08/16/2013 12:30	Eric L Eby	1
06944	Antimony	SW-846 6010C	1	132200637001	08/16/2013 12:30	Eric L Eby	1
06935	Arsenic	SW-846 6010C	1	132200637001	08/16/2013 12:30	Eric L Eby	1
06946	Barium	SW-846 6010C	1	132200637001	08/16/2013 12:30	Eric L Eby	1
06947	Beryllium	SW-846 6010C	1	132200637001	08/16/2013 12:30	Eric L Eby	1
07914	Boron	SW-846 6010C	1	132200637001	08/16/2013 12:30	Eric L Eby	1
06949	Cadmium	SW-846 6010C	1	132200637001	08/16/2013 12:30	Eric L Eby	1
01650	Calcium	SW-846 6010C	1	132200637001	08/16/2013 12:30	Eric L Eby	1
06951	Chromium	SW-846 6010C	1	132200637001	08/16/2013 12:30	Eric L Eby	1
06952	Cobalt	SW-846 6010C	1	132200637001	08/16/2013 12:30	Eric L Eby	1
06953	Copper	SW-846 6010C	1	132200637001	08/16/2013 12:30	Eric L Eby	1
01654	Iron	SW-846 6010C	1	132200637001	08/16/2013 12:30	Eric L Eby	1
06955	Lead	SW-846 6010C	1	132200637001	08/16/2013 12:30	Eric L Eby	1
01656	Lithium	SW-846 6010C	1	132200637001	08/16/2013 12:30	Eric L Eby	1
01657	Magnesium	SW-846 6010C	1	132200637001	08/16/2013 12:30	Eric L Eby	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-883-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7152832
LL Group # 1409714
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/06/2013 12:25 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/07/2013 09:15

Reported: 08/21/2013 14:07

SL883 SDG#: PH085-06

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
06958	Manganese	SW-846 6010C	1	132200637001	08/16/2013	12:30	Eric L Eby	1
06960	Molybdenum	SW-846 6010C	1	132200637001	08/16/2013	12:30	Eric L Eby	1
06961	Nickel	SW-846 6010C	1	132200637001	08/16/2013	12:30	Eric L Eby	1
10145	Phosphorus	SW-846 6010C	1	132200637001	08/16/2013	12:30	Eric L Eby	1
01662	Potassium	SW-846 6010C	1	132200637001	08/16/2013	12:30	Eric L Eby	1
01667	Sodium	SW-846 6010C	1	132200637001	08/16/2013	12:30	Eric L Eby	1
06969	Tin	SW-846 6010C	1	132200637001	08/16/2013	12:30	Eric L Eby	1
06970	Titanium	SW-846 6010C	1	132200637001	08/16/2013	12:30	Eric L Eby	1
06971	Vanadium	SW-846 6010C	1	132200637001	08/16/2013	12:30	Eric L Eby	1
06972	Zinc	SW-846 6010C	1	132200637001	08/16/2013	12:30	Eric L Eby	1
10146	Zirconium	SW-846 6010C	1	132200637001	08/16/2013	12:30	Eric L Eby	1
06141	Selenium	SW-846 6020A	1	132200637001B	08/14/2013	13:12	Choon Y Tian	2
06142	Silver	SW-846 6020A	1	132200637001A	08/14/2013	13:12	Choon Y Tian	2
06144	Strontium	SW-846 6020A	1	132200637001A	08/14/2013	13:12	Choon Y Tian	2
06145	Thallium	SW-846 6020A	1	132200637001A	08/14/2013	13:12	Choon Y Tian	2
00159	3a Mercury 7471A	SW-846 7471B	1	132200638001	08/15/2013	14:29	Parker D Lindstrom	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132200637001	08/09/2013	09:35	Denise K Conners	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132200638001	08/09/2013	11:25	Denise K Conners	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13219039401A	08/07/2013	18:30	Clayton C Litchmore	1
11624	14a Moisture Content by 160.3	EPA 160.3 modified	1	13221162402A	08/09/2013	23:20	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-584-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7152833
LL Group # 1409714
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/06/2013 14:15 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/07/2013 09:15
Reported: 08/21/2013 14:07

SL584 SDG#: PH085-07*

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	1.7 U	1.7	0.67	1
12969	Acenaphthylene	208-96-8	1.7 U	1.7	0.34	1
12969	Anthracene	120-12-7	1.7 U	1.7	0.34	1
12969	Benzo(a)anthracene	56-55-3	1.7 U	1.7	0.67	1
12969	Benzo(a)pyrene	50-32-8	1.7 U	1.7	0.67	1
12969	Benzo(b)fluoranthene	205-99-2	1.0 J	1.7	0.67	1
12969	Benzo(e)pyrene	192-97-2	17 U	17	3.4	1
12969	Benzo(g,h,i)perylene	191-24-2	1.7 U	1.7	0.67	1
12969	Benzo(k)fluoranthene	207-08-9	1.7 U	1.7	0.67	1
12969	Butylbenzylphthalate	85-68-7	18 U	18	6.1	1
12969	Di-n-butylphthalate	84-74-2	18 U	18	6.1	1
12969	Chrysene	218-01-9	1.1 J	1.7	0.34	1
12969	Dibenz(a,h)anthracene	53-70-3	1.7 U	1.7	0.67	1
12969	Diethylphthalate	84-66-2	18 U	18	6.1	1
12969	Dimethylphthalate	131-11-3	18 U	18	6.1	1
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	18 U	18	6.1	1
12969	Fluoranthene	206-44-0	1.1 J	1.7	0.67	1
12969	Fluorene	86-73-7	1.7 U	1.7	0.67	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	1.7 U	1.7	0.67	1
12969	1-Methylnaphthalene	90-12-0	1.7 U	1.7	0.67	1
12969	2-Methylnaphthalene	91-57-6	1.7 U	1.7	0.67	1
12969	Naphthalene	91-20-3	1.7 U	1.7	0.67	1
12969	N-Nitrosodimethylamine	62-75-9	1.7 U	1.7	0.67	1
12969	Di-n-octylphthalate	117-84-0	18 U	18	6.1	1
12969	Phenanthrene	85-01-8	0.78 J	1.7	0.67	1
12969	Pyrene	129-00-0	0.93 J	1.7	0.67	1
Pesticides/PCBs	SW-846 8082A		ug/kg	ug/kg	ug/kg	
10592	Aroclor 5432	63496-31-1	33 U	33	10	1
10592	Aroclor 5442	12642-23-8	33 U	33	10	1
10592	Aroclor 5460	11126-42-4	33 U	33	10	1
10592	PCB-1016	12674-11-2	17 U	17	3.3	1
10592	PCB-1221	11104-28-2	17 U	17	5.2	1
10592	PCB-1232	11141-16-5	17 U	17	4.2	1
10592	PCB-1242	53469-21-9	17 U	17	4.2	1
10592	PCB-1248	12672-29-6	17 U	17	3.3	1
10592	PCB-1254	11097-69-1	17 U	17	4.5	1
10592	PCB-1260	11096-82-5	17 U	17	4.0	1
10592	PCB-1262	37324-23-5	17 U	17	3.3	1
10592	PCB-1268	11100-14-4	17 U	17	3.3	1
GC Petroleum	SW-846 8015B modified		mg/kg	mg/kg	mg/kg	
Hydrocarbons						
12952	EFH (C12-C14)	n.a.	5.0 U	5.0	2.0	1
12952	EFH (C15-C20)	n.a.	5.0 U	5.0	2.0	1
12952	EFH (C21-C30)	n.a.	9.2	5.0	2.0	1
12952	EFH (C30-C40)	n.a.	27	10	4.0	1
12952	EFH (C8-C11)	n.a.	5.0 U	5.0	2.0	1
Metals	SW-846 6010C		mg/kg	mg/kg	mg/kg	

*=This limit was used in the evaluation of the final result

Sample Description: SL-584-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7152833
LL Group # 1409714
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/06/2013 14:15 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/07/2013 09:15
Reported: 08/21/2013 14:07

SL584 SDG#: PH085-07*

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals						
		SW-846 6010C	mg/kg	mg/kg	mg/kg	
01643	Aluminum	7429-90-5	21,000	40.1	7.23	1
06944	Antimony	7440-36-0	4.01 U	4.01	0.742	1
06935	Arsenic	7440-38-2	2.82 J	4.01	0.702	1
06946	Barium	7440-39-3	111	1.00	0.0331	1
06947	Beryllium	7440-41-7	0.674 J	1.00	0.0672	1
07914	Boron	7440-42-8	12.6	10.0	0.843	1
06949	Cadmium	7440-43-9	0.164 J	1.00	0.0762	1
01650	Calcium	7440-70-2	2,260	20.1	3.35	1
06951	Chromium	7440-47-3	18.1	3.01	0.161	1
06952	Cobalt	7440-48-4	5.11	1.00	0.0993	1
06953	Copper	7440-50-8	13.0	2.01	0.291	1
01654	Iron	7439-89-6	20,800	40.1	3.63	1
06955	Lead	7439-92-1	8.83	3.01	0.502	1
01656	Lithium	7439-93-2	23.1	4.0	0.34	1
01657	Magnesium	7439-95-4	3,890	10.0	1.68	1
06958	Manganese	7439-96-5	300	1.00	0.0833	1
06960	Molybdenum	7439-98-7	0.634 J	2.01	0.171	1
06961	Nickel	7440-02-0	10.9	2.01	0.130	1
10145	Phosphorus	7723-14-0	359	10.0	2.90	1
01662	Potassium	7440-09-7	3,560	100	8.37	1
01667	Sodium	7440-23-5	64.0 J	100	16.8	1
06969	Tin	7440-31-5	2.66 J	10.0	0.221	1
06970	Titanium	7440-32-6	1,070	1.00	0.171	1
06971	Vanadium	7440-62-2	35.1	1.00	0.130	1
06972	Zinc	7440-66-6	117	4.01	0.201	1
10146	Zirconium	7440-67-7	0.847 J	5.02	0.843	1
		SW-846 6020A	mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	0.241 J	0.401	0.100	2
06142	Silver	7440-22-4	0.0339 J	0.201	0.0261	2
06144	Strontium	7440-24-6	31.0	0.401	0.0682	2
06145	Thallium	7440-28-0	0.338	0.201	0.0301	2
		SW-846 7471B	mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.0183	0.0163	0.0098	1
Wet Chemistry						
		SW-846 9045D modified	Std. Units	Std. Units	Std. Units	
00394	15a pH by 9045D The pH was measured in water at 22 C.	n.a.	6.10	0.0100	0.0100	1
Wet Chemistry						
		EPA 160.3 modified	%	%	%	
11624	14a Moisture Content by 160.3 Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.	n.a.	1.3	0.10	0.10	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-584-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7152833
LL Group # 1409714
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/06/2013 14:15 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/07/2013 09:15
Reported: 08/21/2013 14:07

SL584 SDG#: PH085-07*

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
Dioxins/Furans			ng/kg	ng/kg	ng/kg	
EPA 1613B						
11031	2378-TCDD	1746-01-6	0.972 U	0.972	0.0546	1
11031	12378-PeCDD	40321-76-4	0.0953 JBQ	4.86	0.0532	1
11031	123478-HxCDD	39227-28-6	0.0701 J	4.86	0.0379	1
11031	123678-HxCDD	57653-85-7	0.489 JBQ	4.86	0.0409	1
11031	123789-HxCDD	19408-74-3	0.584 J	4.86	0.0399	1
11031	1234678-HpCDD	35822-46-9	1.60 JB	4.86	0.0559	1
11031	OCDD	3268-87-9	14.4 B	9.72	0.0310	1
11031	2378-TCDF	51207-31-9	0.972 U	0.972	0.0519	1
11031	12378-PeCDF	57117-41-6	0.143 JB	4.86	0.0280	1
11031	23478-PeCDF	57117-31-4	0.0809 JQ	4.86	0.0273	1
11031	123478-HxCDF	70648-26-9	0.0585 JBQ	4.86	0.0214	1
11031	123678-HxCDF	57117-44-9	0.0440 JBQ	4.86	0.0211	1
11031	123789-HxCDF	72918-21-9	0.352 JB	4.86	0.0262	1
11031	234678-HxCDF	60851-34-5	0.0696 JBQ	4.86	0.0201	1
11031	1234678-HpCDF	67562-39-4	0.326 JB	4.86	0.0201	1
11031	1234789-HpCDF	55673-89-7	0.0350 J	4.86	0.0280	1
11031	OCDF	39001-02-0	0.646 JBQ	9.72	0.0424	1

Toxic Equivalents		EPA 1613B	ng/kg	ng/kg	ng/kg	
11031	TEQ WHO 2005 - EDLx0.0	n.a.	0.129			1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	63	25 - 164
13C12-12378-PeCDD	78	25 - 181
13C12-123478-HxCDD	69	32 - 141
13C12-123678-HxCDD	71	28 - 130
13C12-123789-HxCDD	72	28 - 130
13C12-1234678-HpCDD	78	23 - 140
13C12-OCDD	79	17 - 157
13C12-2378-TCDF	66	24 - 169
13C12-12378-PeCDF	82	24 - 185
13C12-23478-PeCDF	79	21 - 178
13C12-123478-HxCDF	60	26 - 152
13C12-123678-HxCDF	65	26 - 123
13C12-234678-HxCDF	64	28 - 136
13C12-123789-HxCDF	66	29 - 147
13C12-1234678-HpCDF	80	28 - 143
13C12-1234789-HpCDF	70	26 - 138
13C12-OCDF	61	17 - 157

Dioxins/Furans Data Qualifiers:

- B Detected in Method Blank
- U Undetected
- J Estimated concentration between Estimated Detection Limit and Minimum Level
- E Exceeds calibration range
- C Confirmed quantitation on secondary GC column
- Q EMPC - Estimated Maximum Possible Concentration

*=This limit was used in the evaluation of the final result

Sample Description: SL-584-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7152833
LL Group # 1409714
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/06/2013 14:15 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/07/2013 09:15

Reported: 08/21/2013 14:07

SL584 SDG#: PH085-07*

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
F	Interference is present					
S	Saturation of detection signal					

*=This limit was used in the evaluation of the final result

Sample Description: SL-584-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7152833
LL Group # 1409714
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/06/2013 14:15 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/07/2013 09:15
Reported: 08/21/2013 14:07

SL584 SDG#: PH085-07*

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13225SLA026	08/15/2013 06:18	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	13225SLA026	08/14/2013 08:30	Anna E Stager	1
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132250001A	08/14/2013 23:04	Monica M Souders	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132250001A	08/13/2013 16:25	JoElla L Rice	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132220004A	08/12/2013 23:27	Heather E Williams	1
12959	EFH soil ext. (microwave)	SW-846 3546	1	132220004A	08/11/2013 11:45	Sherry L Morrow	1
11031	23a Dioxin/Furan by EPA 1613B	EPA 1613B	1	13227001	08/17/2013 10:00	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	13227001	08/15/2013 14:00	Brett M Weidman	1
01643	Aluminum	SW-846 6010C	1	132200637001	08/16/2013 12:34	Eric L Eby	1
06944	Antimony	SW-846 6010C	1	132200637001	08/16/2013 12:34	Eric L Eby	1
06935	Arsenic	SW-846 6010C	1	132200637001	08/16/2013 12:34	Eric L Eby	1
06946	Barium	SW-846 6010C	1	132200637001	08/16/2013 12:34	Eric L Eby	1
06947	Beryllium	SW-846 6010C	1	132200637001	08/16/2013 12:34	Eric L Eby	1
07914	Boron	SW-846 6010C	1	132200637001	08/16/2013 12:34	Eric L Eby	1
06949	Cadmium	SW-846 6010C	1	132200637001	08/16/2013 12:34	Eric L Eby	1
01650	Calcium	SW-846 6010C	1	132200637001	08/16/2013 12:34	Eric L Eby	1
06951	Chromium	SW-846 6010C	1	132200637001	08/16/2013 12:34	Eric L Eby	1
06952	Cobalt	SW-846 6010C	1	132200637001	08/16/2013 12:34	Eric L Eby	1
06953	Copper	SW-846 6010C	1	132200637001	08/16/2013 12:34	Eric L Eby	1
01654	Iron	SW-846 6010C	1	132200637001	08/16/2013 12:34	Eric L Eby	1
06955	Lead	SW-846 6010C	1	132200637001	08/16/2013 12:34	Eric L Eby	1
01656	Lithium	SW-846 6010C	1	132200637001	08/16/2013 12:34	Eric L Eby	1
01657	Magnesium	SW-846 6010C	1	132200637001	08/16/2013 12:34	Eric L Eby	1
06958	Manganese	SW-846 6010C	1	132200637001	08/16/2013 12:34	Eric L Eby	1
06960	Molybdenum	SW-846 6010C	1	132200637001	08/16/2013 12:34	Eric L Eby	1
06961	Nickel	SW-846 6010C	1	132200637001	08/16/2013 12:34	Eric L Eby	1
10145	Phosphorus	SW-846 6010C	1	132200637001	08/16/2013 12:34	Eric L Eby	1
01662	Potassium	SW-846 6010C	1	132200637001	08/16/2013 12:34	Eric L Eby	1
01667	Sodium	SW-846 6010C	1	132200637001	08/16/2013 12:34	Eric L Eby	1
06969	Tin	SW-846 6010C	1	132200637001	08/16/2013 12:34	Eric L Eby	1
06970	Titanium	SW-846 6010C	1	132200637001	08/16/2013 12:34	Eric L Eby	1
06971	Vanadium	SW-846 6010C	1	132200637001	08/16/2013 12:34	Eric L Eby	1
06972	Zinc	SW-846 6010C	1	132200637001	08/16/2013 12:34	Eric L Eby	1
10146	Zirconium	SW-846 6010C	1	132200637001	08/16/2013 12:34	Eric L Eby	1
06141	Selenium	SW-846 6020A	1	132200637001B	08/14/2013 13:14	Choon Y Tian	2
06142	Silver	SW-846 6020A	1	132200637001A	08/14/2013 13:14	Choon Y Tian	2
06144	Strontium	SW-846 6020A	1	132200637001A	08/14/2013 13:14	Choon Y Tian	2
06145	Thallium	SW-846 6020A	1	132200637001A	08/14/2013 13:14	Choon Y Tian	2

*=This limit was used in the evaluation of the final result

Sample Description: SL-584-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7152833
LL Group # 1409714
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/06/2013 14:15 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/07/2013 09:15

Reported: 08/21/2013 14:07

SL584 SDG#: PH085-07*

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00159	3a Mercury 7471A	SW-846 7471B	1	132200638001	08/15/2013 14:31	Parker D Lindstrom	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132200637001	08/09/2013 09:35	Denise K Conners	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132200638001	08/09/2013 11:25	Denise K Conners	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13219039401A	08/07/2013 18:30	Clayton C Litchmore	1
11624	14a Moisture Content by 160.3	EPA 160.3 modified	1	13221162402A	08/09/2013 23:20	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/21/13 at 02:07 PM

Group Number: 1409714

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ**</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>	
Batch number: B132252AA	Sample number(s): 7152827									
Acetone	20	U	20.	7	ug/kg	113	106	18-197	7	30
Acrolein	100	U	100.	20	ug/kg	100	89	50-137	11	30
Acrylonitrile	20	U	20.	4	ug/kg	90	86	60-133	5	30
t-Amyl methyl ether	5	U	5.	1	ug/kg	110	102	63-130	7	30
Benzene	5	U	5.	0.5	ug/kg	109	98	80-120	11	30
Bromobenzene	5	U	5.	1	ug/kg	112	101	79-120	10	30
Bromochloromethane	5	U	5.	1	ug/kg	106	97	82-133	9	30
Bromodichloromethane	5	U	5.	1	ug/kg	108	100	75-114	8	30
Bromoform	5	U	5.	1	ug/kg	105	98	70-120	7	30
Bromomethane	5	U	5.	2	ug/kg	95	85	32-162	11	30
2-Butanone	10	U	10.	4	ug/kg	104	101	38-146	3	30
t-Butyl alcohol	50	U	50.	20	ug/kg	112	109	60-149	3	30
n-Butylbenzene	5	U	5.	1	ug/kg	104	95	72-120	9	30
sec-Butylbenzene	5	U	5.	1	ug/kg	111	100	75-120	11	30
tert-Butylbenzene	5	U	5.	1	ug/kg	107	94	75-120	13	30
Carbon Disulfide	5	U	5.	1	ug/kg	107	95	59-129	12	30
Carbon Tetrachloride	5	U	5.	1	ug/kg	116	103	69-122	12	30
Chlorobenzene	5	U	5.	1	ug/kg	109	98	80-120	10	30
Chloroethane	5	U	5.	2	ug/kg	89	79	37-154	12	30
2-Chloroethyl Vinyl Ether	10	U	10.	2	ug/kg	99	94	44-137	6	30
Chloroform	5	U	5.	1	ug/kg	113	102	80-120	10	30
1-Chlorohexane	5	U	5.	1	ug/kg	119	106	70-130	11	30
Chloromethane	5	U	5.	2	ug/kg	92	80	56-120	14	30
2-Chlorotoluene	5	U	5.	1	ug/kg	113	98	78-120	15	30
4-Chlorotoluene	5	U	5.	1	ug/kg	109	96	79-120	13	30
Chlorotrifluoroethene	5	U	5.	2	ug/kg	97	87	22-131	10	30
1,2-Dibromo-3-chloropropane	5	U	5.	2	ug/kg	103	103	55-128	0	30
Dibromochloromethane	5	U	5.	1	ug/kg	110	103	77-120	7	30
1,2-Dibromoethane	5	U	5.	1	ug/kg	113	104	80-120	9	30
Dibromomethane	5	U	5.	1	ug/kg	107	99	80-120	8	30
1,2-Dichlorobenzene	5	U	5.	1	ug/kg	107	98	80-120	9	30
1,3-Dichlorobenzene	5	U	5.	1	ug/kg	107	97	80-120	10	30
1,4-Dichlorobenzene	5	U	5.	1	ug/kg	109	97	80-120	12	30
Dichlorodifluoromethane	5	U	5.	2	ug/kg	95	86	32-120	10	30
1,1-Dichloroethane	5	U	5.	1	ug/kg	111	99	80-120	11	30
1,2-Dichloroethane	5	U	5.	1	ug/kg	116	106	72-126	9	30
1,1-Dichloroethene	5	U	5.	1	ug/kg	114	101	73-129	12	30
cis-1,2-Dichloroethene	5	U	5.	1	ug/kg	109	98	80-120	10	30
trans-1,2-Dichloroethene	5	U	5.	1	ug/kg	113	100	79-120	12	30
1,2-Dichloropropane	5	U	5.	1	ug/kg	113	102	77-120	11	30
1,3-Dichloropropane	5	U	5.	1	ug/kg	111	101	80-120	9	30
2,2-Dichloropropane	5	U	5.	1	ug/kg	106	93	72-123	12	30

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

- (1) The result for one or both determinations was less than five times the LOQ / MRL.
- (2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/21/13 at 02:07 PM

Group Number: 1409714

Analysis Name	Blank Result	Blank LOQ**	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
1,1-Dichloropropene	5 U	5.	1	ug/kg	115	101	77-120	13	30
cis-1,3-Dichloropropene	5 U	5.	1	ug/kg	107	98	74-120	9	30
trans-1,3-Dichloropropene	5 U	5.	1	ug/kg	112	103	77-120	8	30
Ethyl t-butyl ether	5 U	5.	1	ug/kg	109	100	64-124	9	30
Ethylbenzene	5 U	5.	1	ug/kg	109	97	80-120	12	30
Freon 113	5 U	5.	2	ug/kg	109	100	64-137	9	30
Freon 133a	5 U	5.	2	ug/kg	100	91	78-120	9	30
Hexachlorobutadiene	5 U	5.	2	ug/kg	90	87	46-130	4	30
2-Hexanone	10 U	10.	3	ug/kg	105	102	40-129	2	30
di-Isopropyl ether	5 U	5.	1	ug/kg	114	103	68-128	10	30
Isopropylbenzene	5 U	5.	1	ug/kg	108	98	76-120	10	30
p-Isopropyltoluene	5 U	5.	1	ug/kg	105	95	75-120	10	30
Methyl Iodide	5 U	5.	3	ug/kg	116	103	72-130	12	30
Methyl Tertiary Butyl Ether	5 U	5.	0.5	ug/kg	112	104	74-121	7	30
4-Methyl-2-pentanone	10 U	10.	3	ug/kg	107	102	52-125	4	30
Methylene Chloride	5 U	5.	2	ug/kg	114	102	76-124	10	30
n-Propylbenzene	5 U	5.	1	ug/kg	115	100	77-120	14	30
Styrene	5 U	5.	1	ug/kg	105	99	76-120	7	30
1,1,1,2-Tetrachloroethane	5 U	5.	1	ug/kg	112	100	80-120	12	30
1,1,2,2-Tetrachloroethane	5 U	5.	1	ug/kg	116	107	71-123	8	30
Tetrachloroethene	5 U	5.	1	ug/kg	111	100	78-126	10	30
Toluene	5 U	5.	1	ug/kg	111	98	80-120	13	30
1,2,3-Trichlorobenzene	5 U	5.	1	ug/kg	90	91	64-120	2	30
1,2,4-Trichlorobenzene	5 U	5.	1	ug/kg	92	91	68-113	1	30
1,1,1-Trichloroethane	5 U	5.	1	ug/kg	100	89	71-125	12	30
1,1,2-Trichloroethane	5 U	5.	1	ug/kg	112	102	80-120	9	30
Trichloroethene	5 U	5.	1	ug/kg	112	99	80-120	12	30
Trichlorofluoromethane	5 U	5.	2	ug/kg	102	91	58-133	12	30
1,2,3-Trichloropropane	5 U	5.	1	ug/kg	121	112	71-123	9	30
1,2,4-Trimethylbenzene	5 U	5.	1	ug/kg	110	101	79-120	9	30
1,3,5-Trimethylbenzene	5 U	5.	1	ug/kg	113	100	78-120	12	30
Vinyl Acetate	10 U	10.	2	ug/kg	61	56	29-111	10	30
Vinyl Chloride	5 U	5.	1	ug/kg	98	86	53-120	12	30
m+p-Xylene	5 U	5.	1	ug/kg	106	96	80-120	10	30
o-Xylene	5 U	5.	1	ug/kg	106	97	80-120	9	30

Batch number: Y132202AA

Sample number(s): 7152824

Acetone	20 U	20.	6	ug/l	115	108	35-181	6	30
Acrolein	100 U	100.	40	ug/l	88	89	46-146	1	30
Acrylonitrile	20 U	20.	4	ug/l	89	87	61-130	2	30
t-Amyl methyl ether	5 U	5.	0.8	ug/l	106	104	66-120	1	30
Benzene	5 U	5.	0.5	ug/l	102	102	77-121	0	30
Bromobenzene	5 U	5.	1	ug/l	103	102	80-120	1	30
Bromochloromethane	5 U	5.	1	ug/l	116	113	80-121	3	30
Bromodichloromethane	5 U	5.	1	ug/l	110	109	73-120	1	30
Bromoform	5 U	5.	1	ug/l	110	109	61-120	1	30
Bromomethane	5 U	5.	1	ug/l	91	90	51-120	1	30
2-Butanone	10 U	10.	3	ug/l	98	93	57-141	5	30
t-Butyl alcohol	50 U	50.	10	ug/l	108	110	75-120	1	30
n-Butylbenzene	5 U	5.	1	ug/l	106	105	73-130	1	30
sec-Butylbenzene	5 U	5.	1	ug/l	109	109	74-124	0	30
tert-Butylbenzene	5 U	5.	1	ug/l	103	104	80-120	1	30
Carbon Disulfide	5 U	5.	1	ug/l	96	96	68-121	1	30
Carbon Tetrachloride	5 U	5.	1	ug/l	121	117	65-137	3	30
Chlorobenzene	5 U	5.	0.8	ug/l	109	109	80-120	0	30

*- Outside of specification

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- (1) The result for one or both determinations was less than five times the LOQ / MRL.
- (2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/21/13 at 02:07 PM

Group Number: 1409714

Analysis Name	Blank Result	Blank LOQ**	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Chloroethane	5 U	5.	1	ug/l	82	77	60-120	6	30
2-Chloroethyl Vinyl Ether	10 U	10.	2	ug/l	103	100	52-127	2	30
Chloroform	5 U	5.	0.8	ug/l	113	112	77-122	1	30
1-Chlorohexane	5 U	5.	1	ug/l	106	106	70-130	0	30
Chloromethane	5 U	5.	1	ug/l	88	88	54-123	1	30
2-Chlorotoluene	5 U	5.	1	ug/l	103	104	80-120	1	30
4-Chlorotoluene	5 U	5.	1	ug/l	103	103	80-120	0	30
Chlorotrifluoroethene	5 U	5.	2	ug/l	53	54	47-120	2	30
1,2-Dibromo-3-chloropropane	5 U	5.	2	ug/l	108	108	56-120	0	30
Dibromochloromethane	5 U	5.	1	ug/l	106	103	72-120	2	30
1,2-Dibromoethane	5 U	5.	1	ug/l	111	109	76-120	2	30
Dibromomethane	5 U	5.	1	ug/l	108	107	80-120	1	30
1,2-Dichlorobenzene	5 U	5.	1	ug/l	110	110	80-120	0	30
1,3-Dichlorobenzene	5 U	5.	1	ug/l	107	107	80-120	0	30
1,4-Dichlorobenzene	5 U	5.	1	ug/l	108	107	80-120	0	30
Dichlorodifluoromethane	5 U	5.	2	ug/l	104	102	35-122	2	30
1,1-Dichloroethane	5 U	5.	1	ug/l	101	101	79-120	0	30
1,2-Dichloroethane	5 U	5.	1	ug/l	116	114	64-130	2	30
1,1-Dichloroethene	5 U	5.	0.8	ug/l	110	108	76-124	2	30
cis-1,2-Dichloroethene	5 U	5.	0.8	ug/l	107	107	80-120	0	30
trans-1,2-Dichloroethene	5 U	5.	0.8	ug/l	109	109	80-120	1	30
1,2-Dichloropropane	5 U	5.	1	ug/l	100	100	80-120	0	30
1,3-Dichloropropane	5 U	5.	1	ug/l	100	99	80-120	1	30
2,2-Dichloropropane	5 U	5.	1	ug/l	113	113	67-124	0	30
1,1-Dichloropropene	5 U	5.	1	ug/l	109	109	80-120	1	30
cis-1,3-Dichloropropene	5 U	5.	1	ug/l	110	110	78-120	0	30
trans-1,3-Dichloropropene	5 U	5.	1	ug/l	100	99	66-124	1	30
Ethyl t-butyl ether	5 U	5.	0.8	ug/l	101	100	66-120	1	30
Ethylbenzene	5 U	5.	0.8	ug/l	104	104	79-120	0	30
Freon 113	5 U	5.	2	ug/l	113	111	69-128	2	30
Freon 133a	5 U	5.	2	ug/l	86	88	64-120	2	30
Hexachlorobutadiene	5 U	5.	2	ug/l	112	115	58-120	3	30
2-Hexanone	10 U	10.	3	ug/l	91	88	59-125	3	30
di-Isopropyl ether	5 U	5.	0.8	ug/l	92	92	65-120	0	30
Isopropylbenzene	5 U	5.	1	ug/l	109	108	77-120	0	30
p-Isopropyltoluene	5 U	5.	1	ug/l	107	107	77-121	0	30
Methyl Iodide	5 U	5.	1	ug/l	111	110	71-122	1	30
Methyl Tertiary Butyl Ether	5 U	5.	0.5	ug/l	109	107	68-121	2	30
4-Methyl-2-pentanone	10 U	10.	3	ug/l	92	90	65-122	2	30
Methylene Chloride	5 U	5.	2	ug/l	108	107	84-118	0	30
n-Propylbenzene	5 U	5.	1	ug/l	107	107	77-130	0	30
Styrene	5 U	5.	1	ug/l	106	105	77-120	2	30
1,1,1,2-Tetrachloroethane	5 U	5.	1	ug/l	111	110	79-120	1	30
1,1,2,2-Tetrachloroethane	5 U	5.	1	ug/l	103	103	70-129	0	30
Tetrachloroethene	5 U	5.	0.8	ug/l	109	108	79-120	1	30
Toluene	5 U	5.	0.7	ug/l	105	105	79-120	0	30
1,2,3-Trichlorobenzene	5 U	5.	1	ug/l	113	117	67-120	3	30
1,2,4-Trichlorobenzene	5 U	5.	1	ug/l	112	115	65-120	3	30
1,1,1-Trichloroethane	5 U	5.	0.8	ug/l	110	107	66-126	2	30
1,1,2-Trichloroethane	5 U	5.	0.8	ug/l	110	107	80-120	2	30
Trichloroethene	5 U	5.	1	ug/l	113	111	80-120	2	30
Trichlorofluoromethane	5 U	5.	2	ug/l	111	108	65-130	3	30
1,2,3-Trichloropropane	5 U	5.	1	ug/l	107	105	76-120	2	30
1,2,4-Trimethylbenzene	5 U	5.	1	ug/l	110	109	69-122	0	30
1,3,5-Trimethylbenzene	5 U	5.	1	ug/l	108	108	68-124	0	30
Vinyl Acetate	10 U	10.	2	ug/l	75	75	57-147	0	30

*- Outside of specification

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- (2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/21/13 at 02:07 PM

Group Number: 1409714

Analysis Name	Blank Result	Blank LOQ**	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Vinyl Chloride	5 U	5.	1	ug/l	92	90	63-120	3	30
m+p-Xylene	5 U	5.	0.8	ug/l	106	105	77-120	1	30
o-Xylene	5 U	5.	0.8	ug/l	104	104	77-120	0	30

Batch number: 13225SLA026	Sample number(s): 7152825-7152830, 7152832-7152833
Acenaphthene	1.7 U 1.7 0.67 ug/kg 102 77-116
Acenaphthylene	1.7 U 1.7 0.33 ug/kg 107 78-120
Anthracene	1.7 U 1.7 0.33 ug/kg 105 80-116
Benzo(a)anthracene	1.7 U 1.7 0.67 ug/kg 102 83-119
Benzo(a)pyrene	1.7 U 1.7 0.67 ug/kg 104 80-122
Benzo(b)fluoranthene	1.7 U 1.7 0.67 ug/kg 116 82-135
Benzo(e)pyrene	17 U 17. 3.3 ug/kg 95 81-110
Benzo(g,h,i)perylene	1.7 U 1.7 0.67 ug/kg 107 79-121
Benzo(k)fluoranthene	1.7 U 1.7 0.67 ug/kg 104 79-123
Butylbenzylphthalate	18 U 18. 6.0 ug/kg 111 77-123
Di-n-butylphthalate	18 U 18. 6.0 ug/kg 115 78-125
Chrysene	1.7 U 1.7 0.33 ug/kg 101 84-113
Dibenz(a,h)anthracene	1.7 U 1.7 0.67 ug/kg 111 78-124
Diethylphthalate	18 U 18. 6.0 ug/kg 108 77-130
Dimethylphthalate	18 U 18. 6.0 ug/kg 106 85-122
Bis(2-Ethylhexyl)phthalate	18 U 18. 6.0 ug/kg 105 79-121
Fluoranthene	1.7 U 1.7 0.67 ug/kg 104 85-116
Fluorene	1.7 U 1.7 0.67 ug/kg 105 81-126
Indeno(1,2,3-cd)pyrene	1.7 U 1.7 0.67 ug/kg 109 77-124
1-Methylnaphthalene	1.7 U 1.7 0.67 ug/kg 107 78-119
2-Methylnaphthalene	1.7 U 1.7 0.67 ug/kg 108 78-121
Naphthalene	1.7 U 1.7 0.67 ug/kg 99 79-113
N-Nitrosodimethylamine	1.7 U 1.7 0.67 ug/kg 88 71-124
Di-n-octylphthalate	18 U 18. 6.0 ug/kg 110 76-131
Phenanthrene	1.7 U 1.7 0.67 ug/kg 100 72-110
Pyrene	1.7 U 1.7 0.67 ug/kg 101 79-112

Batch number: 13225SLB026	Sample number(s): 7152828-7152830, 7152832
Acenaphthene	17 U 17. 3 ug/kg 100 83-111
Acenaphthylene	17 U 17. 3 ug/kg 109 83-127
Aniline	330 U 330. 170 ug/kg 85 43-110
Anthracene	17 U 17. 3 ug/kg 102 82-118
Benzidine	1,700 U 1,700. 700 ug/kg 37 25-74
Benzo(a)anthracene	17 U 17. 3 ug/kg 93 81-117
Benzo(a)pyrene	17 U 17. 3 ug/kg 105 84-122
Benzo(b)fluoranthene	17 U 17. 3 ug/kg 108 76-124
Benzo(g,h,i)perylene	17 U 17. 3 ug/kg 105 77-122
Benzo(k)fluoranthene	17 U 17. 3 ug/kg 104 80-125
Benzoic acid	500 U 500. 170 ug/kg 72 41-122
Benzyl alcohol	330 U 330. 170 ug/kg 99 78-115
1,1'-Biphenyl	33 U 33. 17 ug/kg 92 76-117
4-Bromophenyl-phenylether	33 U 33. 17 ug/kg 103 84-120
2-butoxy-Ethanol	170 U 170. 170 ug/kg
Butylbenzylphthalate	170 U 170. 67 ug/kg 103 80-118
Di-n-butylphthalate	170 U 170. 67 ug/kg 102 84-120

*- Outside of specification

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/21/13 at 02:07 PM

Group Number: 1409714

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ**</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Carbazole	33	U	33.	17	ug/kg	97	84-119		
4-Chloro-3-methylphenol	33	U	33.	17	ug/kg	105	80-124		
4-Chloroaniline	33	U	33.	17	ug/kg	53	10-100		
bis(2-Chloroethoxy)methane	33	U	33.	17	ug/kg	98	71-121		
bis(2-Chloroethyl) ether	33	U	33.	17	ug/kg	98	77-115		
bis(2-Chloroisopropyl) ether	33	U	33.	17	ug/kg	95	68-118		
2-Chloronaphthalene	33	U	33.	7	ug/kg	86	56-144		
2-Chlorophenol	33	U	33.	17	ug/kg	109	80-122		
4-Chlorophenyl-phenylether	33	U	33.	17	ug/kg	101	83-115		
Chrysene	17	U	17.	3	ug/kg	94	77-116		
Dibenz(a,h)anthracene	17	U	17.	3	ug/kg	102	81-123		
Dibenzofuran	33	U	33.	17	ug/kg	102	85-115		
1,2-Dichlorobenzene	33	U	33.	17	ug/kg	99	79-112		
1,3-Dichlorobenzene	33	U	33.	17	ug/kg	95	79-113		
1,4-Dichlorobenzene	33	U	33.	17	ug/kg	98	79-112		
3,3'-Dichlorobenzidine	330	U	330.	100	ug/kg	88	10-119		
2,4-Dichlorophenol	33	U	33.	17	ug/kg	112	81-123		
2,6-Dichlorophenol	33	U	33.	17	ug/kg	111	77-113		
Diethylphthalate	170	U	170.	67	ug/kg	102	82-113		
2,4-Dimethylphenol	33	U	33.	17	ug/kg	110	83-120		
3,5-Dimethylphenol	170	U	170.	33	ug/kg	106	70-130	0	30
Dimethylphthalate	170	U	170.	67	ug/kg	102	82-113		
4,6-Dinitro-2-methylphenol	500	U	500.	170	ug/kg	98	56-132		
2,4-Dinitrophenol	660	U	660.	300	ug/kg	79	24-136		
1,2-Diphenylhydrazine	33	U	33.	17	ug/kg	107	77-111		
bis(2-Ethylhexyl) phthalate	170	U	170.	67	ug/kg	102	75-124		
Fluoranthene	17	U	17.	3	ug/kg	92	79-123		
Fluorene	17	U	17.	3	ug/kg	102	86-118		
Hexachlorobenzene	17	U	17.	3	ug/kg	102	80-121		
Hexachlorobutadiene	33	U	33.	17	ug/kg	102	76-115		
Hexachlorocyclopentadiene	500	U	500.	170	ug/kg	120	70-138		
Hexachloroethane	170	U	170.	33	ug/kg	98	76-109		
Indeno(1,2,3-cd)pyrene	17	U	17.	3	ug/kg	104	77-122		
Isophorone	33	U	33.	17	ug/kg	102	77-119		
1-Methylnaphthalene	17	U	17.	3	ug/kg	101	77-115		
2-Methylnaphthalene	17	U	17.	3	ug/kg	96	80-114		
2-Methylphenol	33	U	33.	17	ug/kg	107	82-125		
4-Methylphenol	33	U	33.	17	ug/kg	103	73-124		
Naphthalene	17	U	17.	3	ug/kg	99	83-112		
NDPA as diphenylamine	170	U	170.	33	ug/kg	104	70-130		
2-Nitroaniline	33	U	33.	17	ug/kg	99	84-126		
3-Nitroaniline	170	U	170.	67	ug/kg	94	69-122		
4-Nitroaniline	170	U	170.	67	ug/kg	89	51-107		

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/21/13 at 02:07 PM

Group Number: 1409714

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ**</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Nitrobenzene	33 U	33.	17	ug/kg	102		73-118		
2-Nitrophenol	33 U	33.	17	ug/kg	103		83-125		
4-Nitrophenol	500 U	500.	170	ug/kg	81		55-133		
N-Nitroso-di-n-propylamine	33 U	33.	17	ug/kg	100		70-113		
N-Nitrosodimethylamine	170 U	170.	67	ug/kg	96		67-116		
N-Nitrosodiphenylamine	33 U	33.	17	ug/kg	105		83-118		
Di-n-octylphthalate	170 U	170.	67	ug/kg	114		75-136		
Pentachlorophenol	170 U	170.	33	ug/kg	86		56-132		
Phenanthrene	17 U	17.	3	ug/kg	100		85-116		
Phenol	33 U	33.	17	ug/kg	106		76-124		
2-phenoxy-Ethanol	170 U	170.	170	ug/kg					
Pyrene	17 U	17.	3	ug/kg	103		81-114		
Pyridine	170 U	170.	67	ug/kg	86		45-113		
1,2,3,4-Tetrahydronaphthalene	170 U	170.	33	ug/kg					
1,2,4-Trichlorobenzene	33 U	33.	17	ug/kg	102		84-119		
2,4,5-Trichlorophenol	33 U	33.	17	ug/kg	101		86-123		
2,4,6-Trichlorophenol	33 U	33.	17	ug/kg	101		81-123		
Batch number: 13224A16A	Sample number(s): 7152827								
11a TPH by EPA 8015B GRO	1.0 U	1.0	0.2	mg/kg	95		67-119		
Batch number: 13224A20A	Sample number(s): 7152824								
TPH-GRO S.CA water C5-C12	50 U	50.	20	ug/l	102	102	75-135	0	30
Batch number: 132250009A	Sample number(s): 7152825,7152828-7152830,7152832								
2,4-D	36 U	36.	12	ug/kg	103		59-122		
Dalapon	90 U	90.	44	ug/kg	45		25-100		
2,4-DB	17 U	17.	6.2	ug/kg	108		54-131		
Dicamba	12 U	12.	4.0	ug/kg	83		60-123		
Dinoseb	24 U	24.	9.0	ug/kg	12		10-36		
2,4-DP (Dichlorprop)	17 U	17.	9.0	ug/kg	132		65-158		
MCPA	2,500 U	2,500.	760	ug/kg	85		60-127		
MCPP (Mecoprop)	2,500 U	2,500.	750	ug/kg	93		54-134		
2,4,5-T	1.7 U	1.7	0.82	ug/kg	105		58-135		
2,4,5-TP	1.7 U	1.7	0.75	ug/kg	111		63-130		
Batch number: 132250001A	Sample number(s): 7152825-7152830,7152832-7152833								
Aroclor 5432	33 U	33.	10	ug/kg					
Aroclor 5442	33 U	33.	10	ug/kg	76	73	36-106	4	30
Aroclor 5460	33 U	33.	10	ug/kg					
PCB-1016	17 U	17.	3.3	ug/kg	97		80-120		
PCB-1221	17 U	17.	5.1	ug/kg					
PCB-1232	17 U	17.	4.1	ug/kg					
PCB-1242	17 U	17.	4.1	ug/kg					
PCB-1248	17 U	17.	3.3	ug/kg					
PCB-1254	17 U	17.	4.4	ug/kg					
PCB-1260	17 U	17.	3.9	ug/kg	102		72-120		

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/21/13 at 02:07 PM

Group Number: 1409714

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ**</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
PCB-1262	17 U	17.	3.3	ug/kg					
PCB-1268	17 U	17.	3.3	ug/kg					
Batch number: 132250011A	Sample number(s): 7152825,7152828-7152830,7152832								
Aldrin	0.83 U	0.83	0.17	ug/kg	107		73-119		
Alpha BHC	0.83 U	0.83	0.17	ug/kg	110		72-126		
Beta BHC	1.9 U	1.9	0.96	ug/kg	116		76-123		
Gamma BHC - Lindane	0.83 U	0.83	0.17	ug/kg	111		72-128		
Chlordane	17 U	17.	4.0	ug/kg					
p,p-DDD	1.7 U	1.7	0.33	ug/kg	119		76-138		
p,p-DDE	1.7 U	1.7	0.33	ug/kg	121		76-126		
p,p-DDT	1.7 U	1.7	0.35	ug/kg	118		72-131		
Delta BHC	0.83 U	0.83	0.45	ug/kg	117		73-128		
Dieldrin	1.7 U	1.7	0.33	ug/kg	115		78-135		
Endosulfan I	0.83 U	0.83	0.22	ug/kg	109		62-125		
Endosulfan II	1.7 U	1.7	0.33	ug/kg	118		68-128		
Endosulfan Sulfate	1.7 U	1.7	0.33	ug/kg	126		72-138		
Endrin	1.7 U	1.7	0.33	ug/kg	108		75-130		
Endrin Aldehyde	1.7 U	1.7	0.33	ug/kg	112		55-132		
Endrin Ketone	1.8 U	1.8	0.60	ug/kg	121		74-127		
Heptachlor	0.83 U	0.83	0.17	ug/kg	107		69-125		
Heptachlor Epoxide	0.83 U	0.83	0.17	ug/kg	114		78-125		
Methoxychlor	6.7 U	6.7	1.7	ug/kg	117		59-125		
Mirex	1.7 U	1.7	0.35	ug/kg					
Toxaphene	33 U	33.	14	ug/kg					
Batch number: 132220004A	Sample number(s): 7152825-7152830,7152832-7152833								
EFH (C12-C14)	5.0 U	5.0	2.0	mg/kg	101		70-123		
EFH (C15-C20)	5.0 U	5.0	2.0	mg/kg	107		75-128		
EFH (C21-C30)	5.0 U	5.0	2.0	mg/kg	110		64-134		
EFH (C30-C40)	10 U	10.	4.0	mg/kg	70		65-128		
EFH (C8-C11)	5.0 U	5.0	2.0	mg/kg	88		49-107		
Batch number: 132200637001	Sample number(s): 7152825-7152833								
Aluminum	40.0 U	40.0	7.21	mg/kg	103		80-120		
Antimony	4.00 U	4.00	0.740	mg/kg	104		80-120		
Arsenic	4.00 U	4.00	0.700	mg/kg	100		80-120		
Barium	1.00 U	1.00	0.0330	mg/kg	102		80-120		
Beryllium	1.00 U	1.00	0.0670	mg/kg	100		80-120		
Boron	10.0 U	10.0	0.840	mg/kg	93		80-120		
Cadmium	1.00 U	1.00	0.0760	mg/kg	100		80-120		
Calcium	3.70 J	20.0	3.34	mg/kg	104		80-120		
Chromium	3.00 U	3.00	0.160	mg/kg	102		80-120		
Cobalt	1.00 U	1.00	0.0990	mg/kg	103		80-120		
Copper	2.00 U	2.00	0.290	mg/kg	107		80-120		
Iron	40.0 U	40.0	3.62	mg/kg	103		80-120		
Lead	3.00 U	3.00	0.500	mg/kg	104		80-120		
Lithium	0.85 J	4.0	0.34	mg/kg	102		80-120		
Magnesium	10.0 U	10.0	1.67	mg/kg	104		80-120		
Manganese	1.00 U	1.00	0.0830	mg/kg	103		80-120		
Molybdenum	2.00 U	2.00	0.170	mg/kg	102		80-120		
Nickel	2.00 U	2.00	0.130	mg/kg	105		80-120		
Phosphorus	10.0 U	10.0	2.89	mg/kg	103		80-120		
Potassium	100 U	100.	8.34	mg/kg	102		80-120		
Sodium	100 U	100.	16.7	mg/kg	101		80-120		

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/21/13 at 02:07 PM

Group Number: 1409714

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ**</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCS %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Tin	1.92 J	10.0	0.220	mg/kg	99		80-120		
Titanium	1.00 U	1.00	0.170	mg/kg	104		80-120		
Vanadium	1.00 U	1.00	0.130	mg/kg	102		80-120		
Zinc	0.422 J	4.00	0.200	mg/kg	101		80-120		
Zirconium	5.00 U	5.00	0.840	mg/kg	103		80-120		
Batch number: 132200637001A	Sample number(s): 7152825-7152833								
Silver	0.200 U	0.200	0.0260	mg/kg	110		80-120		
Strontium	0.400 U	0.400	0.0680	mg/kg	102		80-120		
Thallium	0.200 U	0.200	0.0300	mg/kg	103		80-120		
Batch number: 132200637001B	Sample number(s): 7152825-7152833								
Selenium	0.400 U	0.400	0.100	mg/kg	106		80-120		
Batch number: 132200638001	Sample number(s): 7152825-7152833								
3a Mercury 7471A	0.0167 U	0.0167	0.0100	mg/kg	114		85-120		
Batch number: 13219039401A	Sample number(s): 7152825-7152828, 7152831-7152833								
15a pH by 9045D					99		95-105		
Batch number: 13221162402A	Sample number(s): 7152825-7152833								
14a Moisture Content by 160.3					100		80-120		
14a Moisture Content by 160.3					100		80-120		
14a Moisture Content by 160.3					100		80-120		

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MRL**</u>	<u>Blank EDL</u>	<u>Report Units</u>	<u>OPR %REC</u>	<u>OPR %REC</u>	<u>OPR/OPRD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 13224001	Sample number(s): 7152825-7152830								
2378-TCDD	1.00 U	1.00	0.0847	ng/kg	112		67-158		
12378-PeCDD	0.0780 J	5.00	0.0697	ng/kg	107		70-142		
123478-HxCDD	5.00 U	5.00	0.0276	ng/kg	103		70-164		
123678-HxCDD	0.0377 J	5.00	0.0296	ng/kg	99		76-134		
123789-HxCDD	5.00 U	5.00	0.0314	ng/kg	98		64-162		
1234678-HpCDD	0.0637 J	5.00	0.0424	ng/kg	96		70-140		
OCDD	0.252 J	10.0	0.0359	ng/kg	98		78-144		
2378-TCDF	1.00 U	1.00	0.0768	ng/kg	105		75-158		
12378-PeCDF	5.00 U	5.00	0.0383	ng/kg	98		80-134		
23478-PeCDF	0.0474 J	5.00	0.0383	ng/kg	101		68-160		
123478-HxCDF	5.00 U	5.00	0.0235	ng/kg	97		72-134		
123678-HxCDF	5.00 U	5.00	0.0222	ng/kg	100		84-130		
123789-HxCDF	5.00 U	5.00	0.0320	ng/kg	95		78-130		
234678-HxCDF	5.00 U	5.00	0.0215	ng/kg	97		70-156		
1234678-HpCDF	0.0267 J	5.00	0.0139	ng/kg	96		82-122		
1234789-HpCDF	0.0434 J	5.00	0.0326	ng/kg	94		78-138		
OCDF	0.202 J	10.0	0.0706	ng/kg	94		63-170		
Batch number: 13227001	Sample number(s): 7152832-7152833								
2378-TCDD	1.00 U	1.00	0.0760	ng/kg	99		67-158		
12378-PeCDD	0.0796 J	5.00	0.0681	ng/kg	103		70-142		
123478-HxCDD	5.00 U	5.00	0.0263	ng/kg	99		70-164		
123678-HxCDD	0.0344 J	5.00	0.0291	ng/kg	92		76-134		
123789-HxCDD	5.00 U	5.00	0.0306	ng/kg	94		64-162		
1234678-HpCDD	0.0682 J	5.00	0.0395	ng/kg	91		70-140		

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/21/13 at 02:07 PM

Group Number: 1409714

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MRL**</u>	<u>Blank EDL</u>	<u>Report Units</u>	<u>OPR %REC</u>	<u>OPRD %REC</u>	<u>OPR/OPRD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
OCDD	0.286 J	10.0	0.0305	ng/kg	91		78-144		
2378-TCDF	1.00 U	1.00	0.0678	ng/kg	98		75-158		
2378-TCDF-Conf	1.00 U	1.00	0.0418	ng/kg	98		75-158		
12378-PeCDF	0.0421 J	5.00	0.0314	ng/kg	95		80-134		
23478-PeCDF	0.0576 J	5.00	0.0324	ng/kg	93		68-160		
123478-HxCDF	0.0398 J	5.00	0.0242	ng/kg	94		72-134		
123678-HxCDF	0.0310 J	5.00	0.0233	ng/kg	93		84-130		
123789-HxCDF	0.0558 J	5.00	0.0306	ng/kg	93		78-130		
234678-HxCDF	0.0316 J	5.00	0.0229	ng/kg	93		70-156		
1234678-HpCDF	0.0368 J	5.00	0.0134	ng/kg	93		82-122		
1234789-HpCDF	5.00 U	5.00	0.0225	ng/kg	91		78-138		
OCDF	0.112 J	10.0	0.0583	ng/kg	90		63-170		

Batch number: 13224001
TEQ WHO 2005 - EDLx0.0

Sample number(s): 7152825-7152830
U ng/kg

Batch number: 13227001
TEQ WHO 2005 - EDLx0.0

Sample number(s): 7152832-7152833
0.0110 ng/kg

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

<u>Analysis Name</u>	<u>MS %REC</u>	<u>MSD %REC</u>	<u>MS/MSD Limits</u>	<u>RPD</u>	<u>BKG Conc</u>	<u>DUP Conc</u>	<u>DUP RPD</u>	<u>Dup RPD Max</u>
Batch number: 13225SLA026	Sample number(s): 7152825-7152830, 7152832-7152833 UNSPK: 7152828							
Acenaphthene	96	97	48-127	2	30			
Acenaphthylene	101	103	49-121	2	30			
Anthracene	100	102	52-126	3	30			
Benzo(a)anthracene	96	98	44-143	3	30			
Benzo(a)pyrene	90	92	44-140	2	30			
Benzo(b)fluoranthene	124	124	26-142	2	30			
Benzo(e)pyrene	94	96	70-130	3	30			
Benzo(g,h,i)perylene	43	42	33-141	1	30			
Benzo(k)fluoranthene	97	98	54-142	3	30			
Butylbenzylphthalate	149	145	49-151	2	30			
Di-n-butylphthalate	125	130	52-147	4	30			
Chrysene	93	95	29-148	3	30			
Dibenz(a,h)anthracene	56	55	20-137	1	30			
Diethylphthalate	107	109	43-145	3	30			
Dimethylphthalate	102	104	58-129	2	30			
Bis(2-Ethylhexyl)phthalate	133	129	39-167	2	30			
Fluoranthene	99	103	40-148	4	30			
Fluorene	98	100	51-137	3	30			
Indeno(1,2,3-cd)pyrene	54	53	17-136	0	30			
1-Methylnaphthalene	103	107	50-131	5	30			
2-Methylnaphthalene	102	105	35-152	4	30			
Naphthalene	96	99	31-148	3	30			

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Quality Control Summary

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Reported: 08/21/13 at 02:07 PM

Group Number: 1409714

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

<u>Analysis Name</u>	<u>MS</u> <u>%REC</u>	<u>MSD</u> <u>%REC</u>	<u>MS/MSD</u> <u>Limits</u>	<u>RPD</u> <u>RPD</u>	<u>BKG</u> <u>Conc</u>	<u>DUP</u> <u>Conc</u>	<u>DUP</u> <u>RPD</u>	<u>Dup RPD</u> <u>Max</u>
N-Nitrosodimethylamine	94	95	48-113	2	30			
Di-n-octylphthalate	184*	183*	52-162	0	30			
Phenanthrene	94	97	29-142	4	30			
Pyrene	106	109	26-143	3	30			
Batch number: 13225SLB026 Sample number(s): 7152828-7152830,7152832 UNSPK: 7152828								
Acenaphthene	93	92	61-128	2	30			
Acenaphthylene	100	100	67-130	1	30			
Aniline	46	36	10-131	25	30			
Anthracene	92	90	41-142	3	30			
Benzidine	0*	0*	35-141	0	30			
Benzo(a)anthracene	78	75	32-150	6	30			
Benzo(a)pyrene	83	83	36-151	1	30			
Benzo(b)fluoranthene	108	103	29-150	6	30			
Benzo(g,h,i)perylene	86	82	41-147	6	30			
Benzo(k)fluoranthene	101	99	44-145	3	30			
Benzoic acid	45	38	23-170	17	30			
Benzyl alcohol	90	88	32-145	3	30			
1,1'-Biphenyl	87	85	64-120	3	30			
4-Bromophenyl-phenylether	98	99	66-122	0	30			
Butylbenzylphthalate	93	92	67-126	2	30			
Di-n-butylphthalate	88	86	70-124	3	30			
Carbazole	85	85	63-126	2	30			
4-Chloro-3-methylphenol	91	89	61-131	4	30			
4-Chloroaniline	44	37	11-114	18	30			
bis(2-Chloroethoxy)methane	88	86	58-122	4	30			
bis(2-Chloroethyl)ether	89	89	66-122	1	30			
bis(2-Chloroisopropyl)ether	90	89	50-115	2	30			
2-Chloronaphthalene	80	76	50-140	6	30			
2-Chlorophenol	96	95	71-130	2	30			
4-Chlorophenyl-phenylether	90	90	65-117	1	30			
Chrysene	77	74	28-146	6	30			
Dibenz(a,h)anthracene	100	95	54-142	6	30			
Dibenzofuran	91	90	65-124	2	30			
1,2-Dichlorobenzene	94	90	72-114	5	30			
1,3-Dichlorobenzene	88	87	67-118	1	30			
1,4-Dichlorobenzene	90	89	68-119	3	30			
3,3'-Dichlorobenzidine	57	48	10-143	18	30			
2,4-Dichlorophenol	101	97	54-135	5	30			
2,6-Dichlorophenol	96	93	56-133	4	30			
Diethylphthalate	93	91	66-120	3	30			
2,4-Dimethylphenol	89	84	62-132	7	30			
Dimethylphthalate	93	92	69-119	2	30			
4,6-Dinitro-2-methylphenol	79	75	10-148	7	30			
2,4-Dinitrophenol	58	50	20-143	16	30			
1,2-Diphenylhydrazine	101	103	51-145	1	30			
bis(2-Ethylhexyl)phthalate	87	87	60-134	1	30			
Fluoranthene	78	75	30-151	5	30			
Fluorene	92	90	55-128	3	30			
Hexachlorobenzene	94	93	46-132	3	30			
Hexachlorobutadiene	98	97	65-125	2	30			
Hexachlorocyclopentadiene	104	95	10-153	10	30			

*- Outside of specification

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/21/13 at 02:07 PM

Group Number: 1409714

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

<u>Analysis Name</u>	<u>MS</u> <u>%REC</u>	<u>MSD</u> <u>%REC</u>	<u>MS/MSD</u> <u>Limits</u>	<u>RPD</u> <u>RPD</u>	<u>RPD</u> <u>MAX</u>	<u>BKG</u> <u>Conc</u>	<u>DUP</u> <u>Conc</u>	<u>DUP</u> <u>RPD</u>	<u>Dup RPD</u> <u>Max</u>
Hexachloroethane	94	91	24-138	5	30				
Indeno(1,2,3-cd)pyrene	99	91	44-147	9	30				
Isophorone	91	89	68-119	4	30				
1-Methylnaphthalene	92	90	82-115	3	30				
2-Methylnaphthalene	86	85	39-140	2	30				
2-Methylphenol	97	92	62-133	7	30				
4-Methylphenol	92	84	59-132	10	30				
Naphthalene	91	92	44-142	0	30				
NDPA as diphenylamine	96	96	70-130	1	30				
2-Nitroaniline	90	91	64-131	0	30				
3-Nitroaniline	82	77	31-145	8	30				
4-Nitroaniline	74	70	30-131	5	30				
Nitrobenzene	94	91	63-125	4	30				
2-Nitrophenol	94	89	45-146	6	30				
4-Nitrophenol	87	85	25-142	4	30				
N-Nitroso-di-n-propylamine	90	89	58-126	3	30				
N-Nitrosodimethylamine	80	73	52-117	10	30				
N-Nitrosodiphenylamine	96	96	59-135	1	30				
Di-n-octylphthalate	117	115	48-155	2	30				
Pentachlorophenol	83	86	23-145	3	30				
Phenanthrene	89	89	34-147	0	30				
Phenol	92	87	61-130	7	30				
Pyrene	93	92	29-148	2	30				
Pyridine	38	31	16-108	21	30				
1,2,4-Trichlorobenzene	93	95	66-116	1	30				
2,4,5-Trichlorophenol	95	94	64-131	3	30				
2,4,6-Trichlorophenol	96	94	60-136	3	30				

Batch number: 13224A16A Sample number(s): 7152827 UNSPK: P156754
11a TPH by EPA 8015B GRO 64 77 39-118 30 30

Batch number: 132250009A Sample number(s): 7152825,7152828-7152830,7152832 UNSPK: 7152828
2,4-D 79 79 42-143 0 35
Dalapon 29 0* 19-109 200* 50
2,4-DB 121 116 10-179 4 50
Dicamba 98 92 45-147 6 50
Dinoseb 26 26 10-52 1 35
2,4-DP (Dichlorprop) 133 130 32-171 2 50
MCPA 94 89 23-169 5 50
MCPP (Mecoprop) 82 82 24-164 1 50
2,4,5-T 91 87 12-172 4 35
2,4,5-TP 112 106 10-142 6 35

Batch number: 132250001A Sample number(s): 7152825-7152830,7152832-7152833 UNSPK: 7152828
PCB-1016 89 87 16-146 3 50
PCB-1260 91 89 40-134 2 50

Batch number: 132250011A Sample number(s): 7152825,7152828-7152830,7152832 UNSPK: 7152828
Aldrin 109 97 16-126 11 50
Alpha BHC 102 95 14-140 7 50
Beta BHC 107 100 10-173 6 50
Gamma BHC - Lindane 112 96 30-137 15 50

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/21/13 at 02:07 PM

Group Number: 1409714

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

<u>Analysis Name</u>	<u>MS</u> <u>%REC</u>	<u>MSD</u> <u>%REC</u>	<u>MS/MSD</u> <u>Limits</u>	<u>RPD</u> <u>RPD</u>	<u>BKG</u> <u>MAX</u>	<u>BKG</u> <u>Conc</u>	<u>DUP</u> <u>Conc</u>	<u>DUP</u> <u>RPD</u>	<u>Dup RPD</u> <u>Max</u>
p,p-DDD	114	105	43-149	8	50				
p,p-DDE	136	119	18-161	13	50				
p,p-DDT	188	147	12-193	25	50				
Delta BHC	112	115	13-153	2	50				
Dieldrin	116	105	19-154	10	50				
Endosulfan I	106	96	16-137	10	50				
Endosulfan II	135	117	10-156	14	50				
Endosulfan Sulfate	117	107	10-181	9	50				
Endrin	112	101	30-152	11	50				
Endrin Aldehyde	106	95	10-152	11	35				
Endrin Ketone	107	100	10-160	7	50				
Heptachlor	118	97	16-152	20	50				
Heptachlor Epoxide	138	113	17-167	20	50				
Methoxychlor	111	104	34-168	7	50				

Batch number: 132220004A	Sample number(s): 7152825-7152830,7152832-7152833 UNSPK: 7152828
EFH (C12-C14)	113 0* 49-123 200* 20
EFH (C15-C20)	178* 246* 49-123 32* 20
EFH (C21-C30)	478* 436* 49-123 5 20
EFH (C30-C40)	267 (2) 703 (2) 49-123 38* 20
EFH (C8-C11)	104 0* 49-123 200* 20

Batch number: 132200637001	Sample number(s): 7152825-7152833 UNSPK: 7152828 BKG: 7152828
Aluminum	3208 2690 75-125 4 20 17,700 18,400 4 20
Antimony	34* 38* 75-125 14 20 3.92 U 4.00 U 0 (1) 20
Arsenic	107 106 75-125 1 20 1.69 J 2.35 J 33* (1) 20
Barium	104 102 75-125 0 20 90.4 89.5 1 20
Beryllium	106 105 75-125 0 20 0.609 J 0.614 J 1 (1) 20
Boron	95 94 75-125 0 20 11.9 11.7 2 (1) 20
Cadmium	98 105 75-125 8 20 0.573 J 0.497 J 14 (1) 20
Calcium	210 (2) 171 (2) 75-125 4 20 3,310 3,300 0 20
Chromium	121 118 75-125 1 20 19.6 19.8 1 20
Cobalt	98 98 75-125 1 20 5.35 5.36 0 20
Copper	115 117 75-125 2 20 14.6 14.6 1 20
Iron	1992 1863 75-125 1 20 20,000 20,000 0 20
Lead	107 133* 75-125 13 20 15.1 14.8 2 (1) 20
Lithium	103 102 75-125 0 20 19.3 19.7 2 (1) 20
Magnesium	361 (2) 296 (2) 75-125 3 20 3,960 4,020 1 20
Manganese	125 (2) 133 (2) 75-125 1 20 282 267 5 20
Molybdenum	97 98 75-125 2 20 0.837 J 0.469 J 56* (1) 20
Nickel	101 101 75-125 1 20 11.6 11.6 0 20
Phosphorus	110 (2) 149 (2) 75-125 7 20 408 401 2 20
Potassium	157* 149* 75-125 2 20 3,220 3,290 2 20
Sodium	104 103 75-125 0 20 63.3 J 58.9 J 7 (1) 20
Tin	90 90 75-125 1 20 2.70 J 2.88 J 7 (1) 20
Titanium	391 (2) 369 (2) 75-125 1 20 961 1,020 6 20
Vanadium	120 119 75-125 0 20 36.3 36.9 1 20
Zinc	105 198* 75-125 26* 20 104 96.1 7 20
Zirconium	96 95 75-125 0 20 2.48 J 3.24 J 27* (1) 20

*- Outside of specification

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/21/13 at 02:07 PM

Group Number: 1409714

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 132200637001A	Sample number(s): 7152825-7152833 UNSPK: 7152828 BKG: 7152828								
Silver	120	152*	75-125	25*	20	0.0424 J	0.0480 J	13 (1)	20
Strontium	145*	307*	75-125	32*	20	22.9	29.6	25*	20
Thallium	122	182*	75-125	29*	20	0.257	0.350	31* (1)	20
Batch number: 132200637001B	Sample number(s): 7152825-7152833 UNSPK: 7152828 BKG: 7152828								
Selenium	112	136*	75-125	19	20	0.141 J	0.160 J	13 (1)	20
Batch number: 132200638001	Sample number(s): 7152825-7152833 UNSPK: 7152828 BKG: 7152828								
3a Mercury 7471A	119	123	65-135	6	20	0.0221	0.0217	2 (1)	20
Batch number: 13219039401A	Sample number(s): 7152825-7152828, 7152831-7152833 BKG: 7152828								
15a pH by 9045D						6.52	6.52	0	3
Batch number: 13221162402A	Sample number(s): 7152825-7152833 BKG: 7152828								
14a Moisture Content by 160.3						1.9	1.7	8	20
14a Moisture Content by 160.3						1.9	1.7	8	20
14a Moisture Content by 160.3						1.9	1.7	8	20
Batch number: 13224001	Sample number(s): 7152825-7152830 UNSPK: 7152828								
2378-TCDD	102	102	40-135	1	20				
12378-PeCDD	105	105	40-135	1	20				
123478-HxCDD	95	94	40-135	2	20				
123678-HxCDD	96	94	40-135	2	20				
123789-HxCDD	92	94	40-135	0	20				
1234678-HpCDD	91	101	40-135	8	20				
OCDD	90	143*	40-135	29*	20				
2378-TCDF	97	97	40-135	1	20				
12378-PeCDF	93	96	40-135	2	20				
23478-PeCDF	94	95	40-135	1	20				
123478-HxCDF	92	89	40-135	5	20				
123678-HxCDF	92	89	40-135	5	20				
123789-HxCDF	88	87	40-135	2	20				
234678-HxCDF	90	88	40-135	3	20				
1234678-HpCDF	87	89	40-135	1	20				
1234789-HpCDF	87	87	40-135	1	20				
OCDF	88	87	40-135	2	20				

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: 12a Volatile Organics EPA8260B

Batch number: B132252AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7152827	102	106	101	98
Blank	100	102	101	99

*- Outside of specification

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/21/13 at 02:07 PM

Group Number: 1409714

Surrogate Quality Control

LCS	100	104	102	99
LCSD	100	99	101	100
Limits:	80-120	80-120	81-117	74-121

Analysis Name: 12b Volatile Organics EPA8260B

Batch number: Y132202AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7152824	106	103	99	95
Blank	106	102	98	94
LCS	105	105	100	103
LCSD	104	105	100	103

Limits:	86-118	80-120	88-110	86-115
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Analysis Name: 7a SVOC SIM EPA 8270D

Batch number: 13225SLA026

	Fluoranthene-d10	Benzo(a)pyrene-d12	1-Methylnaphthalene-d10
7152825	82	78	97
7152826	87	91	100
7152827	87	91	104
7152828	77	75	90
7152829	88	88	101
7152830	87	89	105
7152832	93	91	111
7152833	85	88	100
Blank	74	81	88
LCS	90	98	105
MS	88	88	101
MSD	87	89	105

Limits:	54-129	59-125	61-125
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Analysis Name: 8a SVOCs by EPA 8270D

Batch number: 13225SLB026

	Phenol-d6	2-Fluorophenol	2,4,6-Tribromophenol	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
7152828	89	93	88	90	101	104
7152829	93	96	88	89	96	102
7152830	87	91	81	87	95	98
7152832	74	78	72	77	87	87
Blank	99	107	115	99	109	116
LCS	101	105	97	95	99	110
LCSD	89	97	104			
MS	93	96	88	89	96	102
MSD	87	91	81	87	95	98

Limits:	25-120	25-130	35-130	40-130	45-130	45-130
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Analysis Name: 11a TPH by EPA 8015B GRO

Batch number: 13224A16A

Trifluorotoluene-F

*- Outside of specification

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/21/13 at 02:07 PM

Group Number: 1409714

Surrogate Quality Control

7152827 72
Blank 78
LCS 83
MS 67
MSD 76

Limits: 61-122

Analysis Name: 11b TPH by EPA 8015B GRO
Batch number: 13224A20A
Trifluorotoluene-F

7152824 86
Blank 86
LCS 122
LCSD 116

Limits: 63-135

Analysis Name: 19a PCBs and PCTs 8082A
Batch number: 132250001A
Tetrachloro-m-xylene Decachlorobiphenyl

7152825	109	102
7152826	109	99
7152827	111	108
7152828	105	102
7152829	101	96
7152830	95	92
7152832	95	86
7152833	104	99
Blank	109	109
LCS	105	106
LCSD	113	115
MS	101	96
MSD	95	92

Limits: 45-120 45-120

Analysis Name: 21a Herbicides by EPA 8151A
Batch number: 132250009A
2,4-Dichlorophenylacetic acid

7152825 62
7152828 59
7152829 66
7152830 64
7152832 60
Blank 61
LCS 71
MS 66
MSD 64

Limits: 50-150

*- Outside of specification

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/21/13 at 02:07 PM

Group Number: 1409714

Surrogate Quality Control

Analysis Name: 20a Pesticides by EPA 8081B
Batch number: 132250011A

	Tetrachloro-m-xylene	Decachlorobiphenyl
7152825	103	124*
7152828	97	111
7152829	103	114
7152830	95	107
7152832	93	102
Blank	109	130*
LCS	110	133*
MS	103	114
MSD	95	107

Limits: 50-130 20-120

Analysis Name: 10a TPH by EPA 8015B (DRO)
Batch number: 132220004A

	Chlorobenzene	Orthoterphenyl
7152825	95	103
7152826	92	100
7152827	99	105
7152828	94	103
7152829	103	108
7152830	100	106
7152832	95	103
7152833	95	101
Blank	99	105
LCS	100	108
MS	103	108
MSD	100	106

Limits: 37-125 66-123

Analysis Name: 23a Dioxin/Furan by EPA 1613B
Batch number: 13224001

	13C12-2378-TCDD	13C12-23478-PeCDF	13C12-123478-HxCDF	13C12-123678-HxCDF	13C12-234678-HxCDF	13C12-123789-HxCDF
7152825	60	78	60	67	65	62
7152826	62	72	60	66	63	65
7152827	54	73	58	63	61	61
7152828	60	75	61	67	62	67
7152829	62	74	62	70	64	58
7152830	62	76	59	63	62	67
Blank	51	64	55	65	62	58
MS	62	74	62	70	64	58
MSD	62	76	59	63	62	67
OPR	43	59	52	59	55	49

Limits: 25-164 21-178 26-152 26-123 28-136 29-147

	13C12-1234678-HpCDF	13C12-1234789-HpCDF	13C12-OCDF	13C12-12378-PeCDD	13C12-123478-HxCDD	13C12-123678-HxCDD
7152825	82	69	66	85	74	78
7152826	75	63	60	75	70	71

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/21/13 at 02:07 PM

Group Number: 1409714

Surrogate Quality Control

7152827	78	67	59	76	67	72
7152828	83	61	57	78	72	76
7152829	81	58	56	77	75	77
7152830	77	64	59	81	73	77
Blank	86	51	48	67	68	74
MS	81	58	56	77	75	77
MSD	77	64	59	81	73	77
OPR	78	51	48	64	61	66
Limits:	28-143	26-138	17-157	25-181	32-141	28-130
	13C12-123789-HxCDD	13C12-1234678-HpCDD	13C12-OCDD	13C12-2378-TCDF	13C12-12378-PeCDF	
7152825	78	88	87	60	79	
7152826	73	76	78	61	80	
7152827	71	78	78	53	72	
7152828	72	77	77	61	80	
7152829	77	79	80	62	80	
7152830	74	80	79	65	84	
Blank	71	75	74	48	69	
MS	77	79	80	62	80	
MSD	74	80	79	65	84	
OPR	65	69	68	41	64	
Limits:	28-130	23-140	17-157	24-169	24-185	
Analysis Name: 23a Dioxin/Furan by EPA 1613B						
Batch number: 13227001						
	13C12-2378-TCDD	13C12-23478-PeCDF	13C12-123478-HxCDF	13C12-123678-HxCDF	13C12-234678-HxCDF	13C12-123789-HxCDF
7152832	76	76	60	63	60	69
7152833	63	79	60	65	64	66
Blank	66	76	61	69	68	69
OPR	60	76	54	57	59	66
Limits:	25-164	21-178	26-152	26-123	28-136	29-147
	13C12-1234678-HpCDF	13C12-1234789-HpCDF	13C12-OCDF	13C12-12378-PeCDD	13C12-123478-HxCDD	13C12-123678-HxCDD
7152832	61	59	55	70	65	67
7152833	80	70	61	78	69	71
Blank	81	64	60	81	73	81
OPR	68	59	54	77	66	69
Limits:	28-143	26-138	17-157	25-181	32-141	28-130
	13C12-123789-HxCDD	13C12-1234678-HpCDD	13C12-OCDD	13C12-2378-TCDF	13C12-12378-PeCDF	13C12-2378-TCDF-Conf
7152832	67	64	70		71	75
7152833	72	78	79	66	82	
Blank	78	83	79	63	82	66
OPR	69	73	68	56	73	56
Limits:	28-130	23-140	17-157	24-169	24-185	24-169

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/21/13 at 02:07 PM

Group Number: 1409714

*- Outside of specification

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acct# 13013 Cp# 1409714 Sample# 7152824-33

SSFL Phase 3 Chain of Custody

CDM Smith

Date Shipped: 8/6/2013

Carrier Name: FedEx

Airbill No: 796405811865

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

COC No: 20130806-01

Cooler #: 1

Lab: Lancaster

Lab Phone: 717-556-7259

Lab Address: 2425 New Holland Pike
Lancaster, PA 17601

Sample	Date/Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Methyl Mercury 1630	Organotin	NDMA 1625	Formaldehyde 8315	Cyanide 9012	Energetics 8330	Nitrates 300.0/9056	Terphenyls 8015	Alcohols 8015	Glycols 8015	TPH-EFH 8015	TPH-GRO 8015	1,4 Dioxane 8260 SIM	VOCs 8260	Pesticides 8081	Herbicides 8151	Hex Cr 7196/7199	pH 9040 (Water)	pH 9045 (Soil)	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	PCBs/PCTs 8082	Dioxins 1613	1,4 Dioxane 8270 SIM	PAHs 8270 SIM	TIC 8270	SVOC 8270	Fluoride 300.0/9056	Mercury 7470 (Water)	Mercury 7471 (Soil)	Metals 6010 and 6020	Other Analysis/Notes				
TB-080613	8/6/13 08:00	WQ	HCl	6 - 40 mL Vial	10 day																																				
SL-564-SA8-SB-0.0-0.5	8/6/13 10:00	SO	None	2 - SS-Sleeve	10 day	X	X																																		
SL-564-SA8-SB-0.0-0.5	8/6/13 10:00	SO	None	1 - 4 oz glass	10 day																																				
SL-582-SA8-SB-0.0-0.5	8/6/13 07:45	SO	None	2 - SS-Sleeve	10 day	X	X																																		
SL-582-SA8-SB-0.0-0.5	8/6/13 07:45	SO	None	1 - 4 oz glass	10 day																																				
SL-582-SA8-SB-2.5-3.5	8/6/13 08:50	SO	None	2 - 16 oz glass	10 day	X	X																																		
SL-582-SA8-SB-2.5-3.5	8/6/13 08:50	SO	None	1 - 4 oz glass	10 day																																				
SL-582-SA8-SB-2.5-3.5	8/6/13 08:50	SO	None	5 - Encore	10 day															X	X																				
SL-583-SA8-SB-0.0-0.5MS	8/6/13 12:20	SO	None	6 - SS-Sleeve	10 day	X	X													X	X																			TIC for Tetralin only. MS/MSD	
SL-583-SA8-SB-0.0-0.5MS	8/6/13 12:20	SO	None	1 - 16 oz glass	10 day																																			MS/MSD	
SL-883-SA8-SB-0.0-0.5	8/6/13 12:25	SO	None	2 - SS-Sleeve	10 day	X	X													X	X																		TIC for Tetralin only		
SL-883-SA8-SB-0.0-0.5	8/6/13 12:25	SO	None	1 - 4 oz glass	10 day																																				
SL-584-SA8-SB-0.0-0.5	8/6/13 14:15	SO	None	2 - SS-Sleeve	10 day	X	X																																		
SL-584-SA8-SB-0.0-0.5	8/6/13 14:15	SO	None	1 - 4 oz glass	10 day																																				

Special Instructions:

Sampler:

Steven Mence

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
<i>Steve Mence</i>	8/10/2013	1600									

Branchley 8-7-13 9:15
Branchley

Environmental Sample Administration
Receipt Documentation Log

Client/Project: CDM
 Date of Receipt: 8.7.13
 Time of Receipt: 9:15
 Source Code: 50-1

Shipping Container Sealed: YES NO
 Custody Seal Present * : YES NO
 * Custody seal was intact unless otherwise noted in the discrepancy section
 Package: Chilled Not Chilled

Temperature of Shipping Containers

Cooler #	Thermometer ID	Temperature (°C)	Temp Bottle (TB) or Surface Temp (ST)	Wet Ice (WI) or Dry Ice (DI) or Ice Packs (IP)	Ice Present? Y/N	Loose (L) Bagged Ice (B) or NA	Comments
1	DH46	1.1	TB	WI	X	B	
2							
3							
4							
5							
6							

Number of Trip Blanks received NOT listed on chain of custody: 0

Paperwork Discrepancy/Unpacking Problems:

Unpacker Signature/Emp#: Brandy Barclay 2299 Date/Time: 8.7.13 9:33

Issued by Dept. 6042 Management

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	BMQL	Below Minimum Quantitation Level
N.D.	none detected	MPN	Most Probable Number
TNTC	Too Numerous To Count	CP Units	cobalt-chloroplatinate units
IU	International Units	NTU	nephelometric turbidity units
umhos/cm	micromhos/cm	ng	nanogram(s)
C	degrees Celsius	F	degrees Fahrenheit
meq	milliequivalents	lb.	pound(s)
g	gram(s)	kg	kilogram(s)
µg	microgram(s)	mg	milligram(s)
mL	milliliter(s)	L	liter(s)
m³	cubic meter(s)	µL	microliter(s)
		pg/L	picogram/liter

< less than - The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Data Qualifiers:

C – result confirmed by reanalysis.

J - estimated value – The result is \geq the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ).

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers

- A** TIC is a possible aldol-condensation product
- B** Analyte was also detected in the blank
- C** Pesticide result confirmed by GC/MS
- D** Compound quantitated on a diluted sample
- E** Concentration exceeds the calibration range of the instrument
- N** Presumptive evidence of a compound (TICs only)
- P** Concentration difference between primary and confirmation columns $>25\%$
- U** Compound was not detected
- X,Y,Z** Defined in case narrative

Inorganic Qualifiers

- B** Value is $<$ CRDL, but \geq IDL
- E** Estimated due to interference
- M** Duplicate injection precision not met
- N** Spike sample not within control limits
- S** Method of standard additions (MSA) used for calculation
- U** Compound was not detected
- W** Post digestion spike out of control limits
- *** Duplicate analysis not within control limits
- +** Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

SAMPLE DELIVERY GROUP

PH086

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

August 21, 2013

Project: SSFL Phase 3 Sampling

Submittal Date: 08/08/2013
Group Number: 1409993
SDG: PH086
PO Number: 1204-002-001-AL
State of Sample Origin: CA

<u>Client Sample Description</u>	<u>Lancaster Labs (LL) #</u>
EB-080713 Water	7154020
TB-080713 Water	7154021
SL-575-SA8-SB-0.0-0.5 Soil	7154022
SL-575-SA8-SB-4.0-5.0 Soil	7154023
SL-575-SA8-SB-9.0-10.0 Soil	7154024
SL-566-SA8-SB-0.0-0.5 Soil	7154025
SL-566-SA8-SB-4.0-5.0 Soil	7154026

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC Eurofins Lancaster Labs
COPY TO

Attn: Natalie Luciano

Respectfully Submitted,



Natalie R. Luciano
Senior Specialist

(717) 556-7258

Sample Description: **EB-080713 Water**
SSFL Phase 3 Subarea 8

LL Sample # **WW 7154020**
LL Group # **1409993**
Account # **13013**

Project Name: **SSFL Phase 3 Sampling**

Collected: 08/07/2013 15:00 by PH

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/08/2013 09:15
Reported: 08/21/2013 14:13

EB807 SDG#: PH086-01EB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/l	ug/l	ug/l	
10335	Acetone	67-64-1	8	J	20	6
10335	Acrolein	107-02-8	100	U	100	40
10335	Acrylonitrile	107-13-1	20	U	20	4
10335	t-Amyl methyl ether	994-05-8	5	U	5	0.8
10335	Benzene	71-43-2	5	U	5	0.5
10335	Bromobenzene	108-86-1	5	U	5	1
10335	Bromochloromethane	74-97-5	5	U	5	1
10335	Bromodichloromethane	75-27-4	5	U	5	1
10335	Bromoform	75-25-2	5	U	5	1
10335	Bromomethane	74-83-9	5	U	5	1
10335	2-Butanone	78-93-3	10	U	10	3
10335	t-Butyl alcohol	75-65-0	50	U	50	10
10335	n-Butylbenzene	104-51-8	5	U	5	1
10335	sec-Butylbenzene	135-98-8	5	U	5	1
10335	tert-Butylbenzene	98-06-6	5	U	5	1
10335	Carbon Disulfide	75-15-0	5	U	5	1
10335	Carbon Tetrachloride	56-23-5	5	U	5	1
10335	Chlorobenzene	108-90-7	5	U	5	0.8
10335	Chloroethane	75-00-3	5	U	5	1
10335	2-Chloroethyl Vinyl Ether	110-75-8	10	U	10	2
	2-Chloroethyl vinyl ether may not be recovered if acid was used to preserve this sample.					
10335	Chloroform	67-66-3	5	U	5	0.8
10335	1-Chlorohexane	544-10-5	5	U	5	1
10335	Chloromethane	74-87-3	5	U	5	1
10335	2-Chlorotoluene	95-49-8	5	U	5	1
10335	4-Chlorotoluene	106-43-4	5	U	5	1
10335	Chlorotrifluoroethene	79-38-9	5	U	5	2
10335	1,2-Dibromo-3-chloropropane	96-12-8	5	U	5	2
10335	Dibromochloromethane	124-48-1	5	U	5	1
10335	1,2-Dibromoethane	106-93-4	5	U	5	1
10335	Dibromomethane	74-95-3	5	U	5	1
10335	1,2-Dichlorobenzene	95-50-1	5	U	5	1
10335	1,3-Dichlorobenzene	541-73-1	5	U	5	1
10335	1,4-Dichlorobenzene	106-46-7	5	U	5	1
10335	Dichlorodifluoromethane	75-71-8	5	U	5	2
10335	1,1-Dichloroethane	75-34-3	5	U	5	1
10335	1,2-Dichloroethane	107-06-2	5	U	5	1
10335	1,1-Dichloroethene	75-35-4	5	U	5	0.8
10335	cis-1,2-Dichloroethene	156-59-2	5	U	5	0.8
10335	trans-1,2-Dichloroethene	156-60-5	5	U	5	0.8
10335	1,2-Dichloropropane	78-87-5	5	U	5	1
10335	1,3-Dichloropropane	142-28-9	5	U	5	1
10335	2,2-Dichloropropane	594-20-7	5	U	5	1
10335	1,1-Dichloropropene	563-58-6	5	U	5	1
10335	cis-1,3-Dichloropropene	10061-01-5	5	U	5	1
10335	trans-1,3-Dichloropropene	10061-02-6	5	U	5	1
10335	Ethyl t-butyl ether	637-92-3	5	U	5	0.8
10335	Ethylbenzene	100-41-4	5	U	5	0.8
10335	Freon 113	76-13-1	5	U	5	2
10335	Freon 133a	75-88-7	5	U	5	2

*=This limit was used in the evaluation of the final result

Sample Description: **EB-080713 Water**
SSFL Phase 3 Subarea 8

LL Sample # **WW 7154020**
LL Group # **1409993**
Account # **13013**

Project Name: **SSFL Phase 3 Sampling**

Collected: 08/07/2013 15:00 by PH

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/08/2013 09:15
Reported: 08/21/2013 14:13

EB807 SDG#: PH086-01EB

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Limit of Quantitation*	As Received Method Detection Limit	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/l		ug/l	ug/l	
10335	Hexachlorobutadiene	87-68-3	5	U	5	2	1
10335	2-Hexanone	591-78-6	10	U	10	3	1
10335	di-Isopropyl ether	108-20-3	5	U	5	0.8	1
10335	Isopropylbenzene	98-82-8	5	U	5	1	1
10335	p-Isopropyltoluene	99-87-6	5	U	5	1	1
10335	Methyl Iodide	74-88-4	5	U	5	1	1
10335	Methyl Tertiary Butyl Ether	1634-04-4	5	U	5	0.5	1
10335	4-Methyl-2-pentanone	108-10-1	10	U	10	3	1
10335	Methylene Chloride	75-09-2	5	U	5	2	1
10335	n-Propylbenzene	103-65-1	5	U	5	1	1
10335	Styrene	100-42-5	5	U	5	1	1
10335	1,1,1,2-Tetrachloroethane	630-20-6	5	U	5	1	1
10335	1,1,2,2-Tetrachloroethane	79-34-5	5	U	5	1	1
10335	Tetrachloroethene	127-18-4	5	U	5	0.8	1
10335	Toluene	108-88-3	5	U	5	0.7	1
10335	1,2,3-Trichlorobenzene	87-61-6	5	U	5	1	1
10335	1,2,4-Trichlorobenzene	120-82-1	5	U	5	1	1
10335	1,1,1-Trichloroethane	71-55-6	5	U	5	0.8	1
10335	1,1,2-Trichloroethane	79-00-5	5	U	5	0.8	1
10335	Trichloroethene	79-01-6	5	U	5	1	1
10335	Trichlorofluoromethane	75-69-4	5	U	5	2	1
10335	1,2,3-Trichloropropane	96-18-4	5	U	5	1	1
10335	1,2,4-Trimethylbenzene	95-63-6	5	U	5	1	1
10335	1,3,5-Trimethylbenzene	108-67-8	5	U	5	1	1
10335	Vinyl Acetate	108-05-4	10	U	10	2	1
10335	Vinyl Chloride	75-01-4	5	U	5	1	1
10335	m+p-Xylene	179601-23-1	5	U	5	0.8	1
10335	o-Xylene	95-47-6	5	U	5	0.8	1
GC/MS	Semivolatiles	SW-846 8270D	ug/l		ug/l	ug/l	
10461	Aniline	62-53-3	1	U	1	0.5	1
10461	Benzidine	92-87-5	62	U	62	21	1
10461	Benzoic acid	65-85-0	16	U	16	6	1
10461	Benzyl alcohol	100-51-6	16	U	16	5	1
10461	1,1'-Biphenyl	92-52-4	1	U	1	0.5	1
10461	4-Bromophenyl-phenylether	101-55-3	1	U	1	0.5	1
10461	2-butoxy-Ethanol	111-76-2	5	U	5	5	1
2-butoxy-Ethanol was quantified using a single point calibration analyzed at the beginning of each 12 hour tune period.							
10461	Carbazole	86-74-8	1	U	1	0.5	1
10461	4-Chloro-3-methylphenol	59-50-7	1	U	1	0.5	1
10461	4-Chloroaniline	106-47-8	1	U	1	0.5	1
10461	bis(2-Chloroethoxy)methane	111-91-1	1	U	1	0.5	1
10461	bis(2-Chloroethyl)ether	111-44-4	1	U	1	0.5	1
10461	bis(2-Chloroisopropyl)ether	39638-32-9	1	U	1	0.5	1
Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.							
10461	2-Chloronaphthalene	91-58-7	1	U	1	0.4	1
10461	2-Chlorophenol	95-57-8	1	U	1	0.5	1

*=This limit was used in the evaluation of the final result

Sample Description: EB-080713 Water
SSFL Phase 3 Subarea 8

LL Sample # WW 7154020
LL Group # 1409993
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/07/2013 15:00 by PH

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/08/2013 09:15
Reported: 08/21/2013 14:13

EB807 SDG#: PH086-01EB

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Limit of Quantitation*	As Received Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles SW-846 8270D		ug/l		ug/l	ug/l	
10461	4-Chlorophenyl-phenylether	7005-72-3	1	U	1	0.5	1
10461	Dibenzofuran	132-64-9	1	U	1	0.5	1
10461	1,2-Dichlorobenzene	95-50-1	1	U	1	0.5	1
10461	1,3-Dichlorobenzene	541-73-1	1	U	1	0.5	1
10461	1,4-Dichlorobenzene	106-46-7	1	U	1	0.5	1
10461	3,3'-Dichlorobenzidine	91-94-1	5	U	5	2	1
10461	2,4-Dichlorophenol	120-83-2	1	U	1	0.5	1
10461	2,6-Dichlorophenol	87-65-0	1	U	1	0.5	1
10461	2,4-Dimethylphenol	105-67-9	1	U	1	0.5	1
10461	3,5-Dimethylphenol	108-68-9	10	U	10	3	1
10461	4,6-Dinitro-2-methylphenol	534-52-1	16	U	16	5	1
10461	2,4-Dinitrophenol	51-28-5	31	U	31	10	1
10461	1,2-Diphenylhydrazine	122-66-7	1	U	1	0.5	1
10461	Hexachlorobenzene	118-74-1	0.5	U	0.5	0.1	1
10461	Hexachlorobutadiene	87-68-3	1	U	1	0.5	1
10461	Hexachlorocyclopentadiene	77-47-4	16	U	16	5	1
10461	Hexachloroethane	67-72-1	5	U	5	1	1
10461	Isophorone	78-59-1	1	U	1	0.5	1
10461	2-Methylphenol	95-48-7	1	U	1	0.5	1
10461	4-Methylphenol	106-44-5	1	U	1	0.5	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.						
10461	NDPA as diphenylamine	n.a.	5	U	5	2	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.						
10461	2-Nitroaniline	88-74-4	1	U	1	0.5	1
10461	3-Nitroaniline	99-09-2	1	U	1	0.5	1
10461	4-Nitroaniline	100-01-6	1	U	1	0.5	1
10461	Nitrobenzene	98-95-3	1	U	1	0.5	1
10461	2-Nitrophenol	88-75-5	1	U	1	0.5	1
10461	4-Nitrophenol	100-02-7	31	U	31	10	1
10461	N-Nitroso-di-n-propylamine	621-64-7	1	U	1	0.5	1
10461	N-Nitrosodiphenylamine	86-30-6	1	U	1	0.5	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.						
10461	Pentachlorophenol	87-86-5	5	U	5	1	1
10461	Phenol	108-95-2	1	U	1	0.5	1
10461	2-phenoxy-Ethanol	122-99-6	5	U	5	5	1
	2-phenoxy-Ethanol was quantified using a single point calibration analyzed at the beginning of each 12 hour tune period.						
10461	Pyridine	110-86-1	5	U	5	2	1
10461	1,2,3,4-Tetrahydronaphthalene	119-64-2	5	U	5	5	1
	1,2,3,4-Tetrahydronaphthalene (Tetralin) was quantified using a single point calibration analyzed at the beginning of each 12 hour tune period.						
10461	1,2,4-Trichlorobenzene	120-82-1	1	U	1	0.5	1
10461	2,4,5-Trichlorophenol	95-95-4	1	U	1	0.5	1
10461	2,4,6-Trichlorophenol	88-06-2	1	U	1	0.5	1

*=This limit was used in the evaluation of the final result

Sample Description: **EB-080713 Water**
SSFL Phase 3 Subarea 8

LL Sample # **WW 7154020**
LL Group # **1409993**
Account # **13013**

Project Name: **SSFL Phase 3 Sampling**

Collected: 08/07/2013 15:00 by PH

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/08/2013 09:15
Reported: 08/21/2013 14:13

EB807 SDG#: PH086-01EB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/l	ug/l	ug/l	
12971	Acenaphthene	83-32-9	0.052 U	0.052	0.010	1
12971	Acenaphthylene	208-96-8	0.052 U	0.052	0.010	1
12971	Anthracene	120-12-7	0.052 U	0.052	0.010	1
12971	Benzo(a)anthracene	56-55-3	0.052 U	0.052	0.010	1
12971	Benzo(a)pyrene	50-32-8	0.052 U	0.052	0.010	1
12971	Benzo(b)fluoranthene	205-99-2	0.052 U	0.052	0.010	1
12971	Benzo(e)pyrene	192-97-2	0.052 U	0.052	0.010	1
12971	Benzo(g,h,i)perylene	191-24-2	0.052 U	0.052	0.010	1
12971	Benzo(k)fluoranthene	207-08-9	0.052 U	0.052	0.010	1
12971	Butylbenzylphthalate	85-68-7	1.0 U	1.0	0.052	1
12971	Di-n-butylphthalate	84-74-2	0.18 J	1.0	0.052	1
12971	Chrysene	218-01-9	0.052 U	0.052	0.010	1
12971	Dibenz(a,h)anthracene	53-70-3	0.052 U	0.052	0.010	1
12971	Diethylphthalate	84-66-2	0.44 J	1.0	0.052	1
12971	Dimethylphthalate	131-11-3	1.0 U	1.0	0.052	1
12971	Bis(2-Ethylhexyl)phthalate	117-81-7	1.0 U	1.0	0.052	1
12971	Fluoranthene	206-44-0	0.052 U	0.052	0.010	1
12971	Fluorene	86-73-7	0.052 U	0.052	0.010	1
12971	Indeno(1,2,3-cd)pyrene	193-39-5	0.052 U	0.052	0.010	1
12971	1-Methylnaphthalene	90-12-0	0.052 U	0.052	0.010	1
12971	2-Methylnaphthalene	91-57-6	0.012 J	0.052	0.010	1
12971	Naphthalene	91-20-3	0.035 J	0.052	0.031	1
12971	N-Nitrosodimethylamine	62-75-9	0.052 U	0.052	0.010	1
12971	Di-n-octylphthalate	117-84-0	1.0 U	1.0	0.052	1
12971	Phenanthrene	85-01-8	0.052 U	0.052	0.031	1
12971	Pyrene	129-00-0	0.052 U	0.052	0.010	1

Target analytes were detected in the method blank associated with the samples as noted on the QC Summary. Since the result is within the acceptance range allowed by the method, the data is reported.

GC Volatiles	TPH GRO SW-8015B	ug/l	ug/l	ug/l
08229	TPH-GRO S.CA water C5-C12 n.a.	50 U	50	20

Herbicides	SW-846 8151A	ug/l	ug/l	ug/l
10407	2,4-D	94-75-7	0.49 U	0.49
10407	Dalapon	75-99-0	1.2 U	1.2
10407	2,4-DB	94-82-6	0.98 U	0.98
10407	Dicamba	1918-00-9	0.29 U	0.29
10407	Dinoseb	88-85-7	0.49 U	0.49

The QC window for dinoseb is advisory due to the erratic performance of the analyte using this method.

10407	2,4-DP (Dichlorprop)	120-36-5	0.49 U	0.49	0.16	1
10407	MCPA	94-74-6	200 U	200	49	1
10407	MCPP	93-65-2	200 U	200	49	1
10407	2,4,5-T	93-76-5	0.049 U	0.049	0.015	1
10407	2,4,5-TP	93-72-1	0.049 U	0.049	0.0098	1

Pesticides/PCBs	SW-846 8081B	ug/l	ug/l	ug/l		
10589	Aldrin	309-00-2	0.0085 U	0.0085	0.0017	1

*=This limit was used in the evaluation of the final result

Sample Description: EB-080713 Water
SSFL Phase 3 Subarea 8

LL Sample # WW 7154020
LL Group # 1409993
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/07/2013 15:00 by PH

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/08/2013 09:15
Reported: 08/21/2013 14:13

EB807 SDG#: PH086-01EB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Dilution Factor
Pesticides/PCBs SW-846 8081B						
10589	Alpha BHC	319-84-6	0.0085 U	0.0085	0.0026	1
10589	Beta BHC	319-85-7	0.0085 U	0.0085	0.0029	1
10589	Gamma BHC - Lindane	58-89-9	0.0085 U	0.0085	0.0017	1
10589	Chlordane	57-74-9	0.43 U	0.43	0.14	1
10589	p,p-DDD	72-54-8	0.017 U	0.017	0.0043	1
10589	p,p-DDE	72-55-9	0.017 U	0.017	0.0043	1
10589	p,p-DDT	50-29-3	0.017 U	0.017	0.0044	1
10589	Delta BHC	319-86-8	0.0085 U	0.0085	0.0029	1
10589	Dieldrin	60-57-1	0.017 U	0.017	0.0045	1
10589	Endosulfan I	959-98-8	0.0085 U	0.0085	0.0037	1
10589	Endosulfan II	33213-65-9	0.017 U	0.017	0.013	1
10589	Endosulfan Sulfate	1031-07-8	0.017 U	0.017	0.0049	1
10589	Endrin	72-20-8	0.017 U	0.017	0.0069	1
10589	Endrin Aldehyde	7421-93-4	0.085 U	0.085	0.017	1
10589	Endrin Ketone	53494-70-5	0.017 U	0.017	0.0043	1
10589	Heptachlor	76-44-8	0.0085 U	0.0085	0.0017	1
10589	Heptachlor Epoxide	1024-57-3	0.0085 U	0.0085	0.0020	1
10589	Methoxychlor	72-43-5	0.085 U	0.085	0.026	1
10589	Mirex	2385-85-5	0.21 U	0.21	0.072	1
10589	Toxaphene	8001-35-2	2.6 U	2.6	0.85	1
Pesticides/PCBs SW-846 8082A						
10591	Aroclor 5432	63496-31-1	0.43 U	0.43	0.085	1
10591	Aroclor 5442	12642-23-8	0.43 U	0.43	0.085	1
10591	Aroclor 5460	11126-42-4	0.43 U	0.43	0.094	1
10591	PCB-1016	12674-11-2	0.43 U	0.43	0.085	1
10591	PCB-1221	11104-28-2	0.43 U	0.43	0.085	1
10591	PCB-1232	11141-16-5	0.43 U	0.43	0.17	1
10591	PCB-1242	53469-21-9	0.43 U	0.43	0.085	1
10591	PCB-1248	12672-29-6	0.43 U	0.43	0.085	1
10591	PCB-1254	11097-69-1	0.43 U	0.43	0.085	1
10591	PCB-1260	11096-82-5	0.43 U	0.43	0.13	1
10591	PCB-1262	37324-23-5	0.43 U	0.43	0.17	1
10591	PCB-1268	11100-14-4	0.43 U	0.43	0.14	1
GC Petroleum Hydrocarbons SW-846 8015B modified						
10365	EFH (C12-C14)	n.a.	0.10 U	0.10	0.050	1
10365	EFH (C15-C20)	n.a.	0.10 U	0.10	0.050	1
10365	EFH (C21-C30)	n.a.	0.10 U	0.10	0.050	1
10365	EFH (C30 - C40)	n.a.	0.50 U	0.50	0.10	1
10365	EFH (C8-C11)	n.a.	0.10 U	0.10	0.050	1
The stated QC limits are advisory only until sufficient data points can be obtained to calculate statistical limits.						
Metals SW-846 6010C						
01743	Aluminum	7429-90-5	0.143 J	0.400	0.0828	1
07044	Antimony	7440-36-0	0.0400 U	0.0400	0.0053	1
07035	Arsenic	7440-38-2	0.0400 U	0.0400	0.0068	1
07046	Barium	7440-39-3	0.0100 U	0.0100	0.00033	1

*=This limit was used in the evaluation of the final result

Sample Description: EB-080713 Water
SSFL Phase 3 Subarea 8

LL Sample # WW 7154020
LL Group # 1409993
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/07/2013 15:00 by PH

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/08/2013 09:15
Reported: 08/21/2013 14:13

EB807 SDG#: PH086-01EB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Dilution Factor
Metals						
		SW-846 6010C	mg/l	mg/l	mg/l	
07047	Beryllium	7440-41-7	0.0100 U	0.0100	0.00067	1
08014	Boron	7440-42-8	0.100 U	0.100	0.0084	1
07049	Cadmium	7440-43-9	0.0100 U	0.0100	0.00076	1
01750	Calcium	7440-70-2	0.400 U	0.400	0.0334	1
07051	Chromium	7440-47-3	0.0300 U	0.0300	0.0016	1
07052	Cobalt	7440-48-4	0.0100 U	0.0100	0.0013	1
07053	Copper	7440-50-8	0.0200 U	0.0200	0.0027	1
01754	Iron	7439-89-6	0.400 U	0.400	0.0430	1
07055	Lead	7439-92-1	0.0300 U	0.0300	0.0047	1
01756	Lithium	7439-93-2	0.0400 U	0.0400	0.0047	1
01757	Magnesium	7439-95-4	0.200 U	0.200	0.0167	1
07058	Manganese	7439-96-5	0.0100 U	0.0100	0.00083	1
07060	Molybdenum	7439-98-7	0.0098 J	0.0200	0.0017	1
07061	Nickel	7440-02-0	0.0200 U	0.0200	0.0015	1
10143	Phosphorus	7723-14-0	0.200 U	0.200	0.0418	1
01762	Potassium	7440-09-7	1.00 U	1.00	0.0980	1
01767	Sodium	7440-23-5	2.00 U	2.00	0.167	1
07069	Tin	7440-31-5	0.0029 J	0.0400	0.0029	1
07070	Titanium	7440-32-6	0.0200 U	0.0200	0.0017	1
07071	Vanadium	7440-62-2	0.0100 U	0.0100	0.0020	1
07072	Zinc	7440-66-6	0.0400 U	0.0400	0.0020	1
10144	Zirconium	7440-67-7	0.100 U	0.100	0.0084	1
		SW-846 6020A	mg/l	mg/l	mg/l	
06041	Selenium	7782-49-2	0.0040 U	0.0040	0.00050	1
06042	Silver	7440-22-4	0.0010 U	0.0010	0.00011	1
06044	Strontium	7440-24-6	0.0020 U	0.0020	0.00034	1
06045	Thallium	7440-28-0	0.0010 U	0.0010	0.00015	1
		SW-846 7470A	mg/l	mg/l	mg/l	
00259	3b Mercury 7470A	7439-97-6	0.00020 U	0.00020	0.000060	1
		SW-846 9040C	Std. Units	Std. Units	Std. Units	
12152	28b pH (9040B and 9040C)	n.a.	5.5	0.010	0.010	1

*=This limit was used in the evaluation of the final result

Sample Description: EB-080713 Water
SSFL Phase 3 Subarea 8

LL Sample # WW 7154020
LL Group # 1409993
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/07/2013 15:00 by PH

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/08/2013 09:15
Reported: 08/21/2013 14:13

EB807 SDG#: PH086-01EB

CAT No.	Analysis Name	CAS Number	As Received Result		As Received MRL*	As Received EDL	Dilution Factor
Dioxins/Furans		EPA 1613B	pg/l		pg/l	pg/l	
10915	2378-TCDD	1746-01-6	1.93	U	1.93	0.537	1
10915	12378-PeCDD	40321-76-4	9.67	U	9.67	0.686	1
10915	123478-HxCDD	39227-28-6	9.67	U	9.67	0.243	1
10915	123678-HxCDD	57653-85-7	0.476	JBQ	9.67	0.269	1
10915	123789-HxCDD	19408-74-3	9.67	U	9.67	0.276	1
10915	1234678-HpCDD	35822-46-9	0.687	JB	9.67	0.329	1
10915	OCDD	3268-87-9	1.65	JBQ	19.3	0.332	1
10915	2378-TCDF	51207-31-9	1.93	U	1.93	0.377	1
10915	12378-PeCDF	57117-41-6	0.451	JBQ	9.67	0.239	1
10915	23478-PeCDF	57117-31-4	0.403	JBQ	9.67	0.229	1
10915	123478-HxCDF	70648-26-9	0.396	JBQ	9.67	0.153	1
10915	123678-HxCDF	57117-44-9	0.426	JB	9.67	0.167	1
10915	123789-HxCDF	72918-21-9	9.67	U	9.67	0.162	1
10915	234678-HxCDF	60851-34-5	9.67	U	9.67	0.142	1
10915	1234678-HpCDF	67562-39-4	0.427	JBQ	9.67	0.111	1
10915	1234789-HpCDF	55673-89-7	0.258	JBQ	9.67	0.144	1
10915	OCDF	39001-02-0	1.13	JBQ	19.3	0.293	1

Toxic Equivalents		EPA 1613B	pg/l	pg/l	pg/l	
10915	TEQ WHO 2005 - EDLx0.0	n.a.	0.0495			1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	57	25 - 164
13C12-12378-PeCDD	73	25 - 181
13C12-123478-HxCDD	66	32 - 141
13C12-123678-HxCDD	72	28 - 130
13C12-123789-HxCDD	69	28 - 130
13C12-1234678-HpCDD	75	23 - 140
13C12-OCDD	76	17 - 157
13C12-2378-TCDF	67	24 - 169
13C12-12378-PeCDF	82	24 - 185
13C12-23478-PeCDF	81	21 - 178
13C12-123478-HxCDF	70	26 - 152
13C12-123678-HxCDF	74	26 - 123
13C12-234678-HxCDF	76	28 - 136
13C12-123789-HxCDF	92	29 - 147
13C12-1234678-HpCDF	77	28 - 143
13C12-1234789-HpCDF	76	26 - 138
13C12-OCDF	78	17 - 157

Dioxins/Furans Data Qualifiers:

- B Detected in Method Blank
- U Undetected
- J Estimated concentration between Estimated Detection Limit and Minimum Level
- E Exceeds calibration range
- C Confirmed quantitation on secondary GC column
- Q EMPC - Estimated Maximum Possible Concentration

*=This limit was used in the evaluation of the final result

Sample Description: EB-080713 Water
SSFL Phase 3 Subarea 8

LL Sample # WW 7154020
LL Group # 1409993
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/07/2013 15:00 by PH

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/08/2013 09:15

Reported: 08/21/2013 14:13

EB807 SDG#: PH086-01EB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received MRL*	As Received EDL	Dilution Factor
F	Interference is present					
S	Saturation of detection signal					

*=This limit was used in the evaluation of the final result

Sample Description: EB-080713 Water
SSFL Phase 3 Subarea 8

LL Sample # WW 7154020
LL Group # 1409993
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/07/2013 15:00 by PH

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/08/2013 09:15
Reported: 08/21/2013 14:13

EB807 SDG#: PH086-01EB

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	12b Volatile Organics EPA8260B	SW-846 8260B	1	Y132281AA	08/16/2013 12:17	Angela D Sneringer	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Y132281AA	08/16/2013 12:17	Angela D Sneringer	1
10461	8b SVOCs by EPA 8270D	SW-846 8270D	1	13225WAI026	08/21/2013 02:51	Holly Berry	1
12971	7b SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13225WAH026	08/20/2013 01:21	Brian K Graham	1
10466	BNA Water Extraction SIM	SW-846 3510C	1	13225WAH026	08/14/2013 09:45	Kerrie A Freeburn	1
11010	8270D BNA Extraction	SW-846 3510C	1	13225WAI026	08/14/2013 09:45	Kerrie A Freeburn	1
08229	11b TPH by EPA 8015B GRO	TPH GRO SW-8015B	1	13224A20A	08/12/2013 12:22	Catherine J Schwarz	1
01146	GC VOA Water Prep	SW-846 5030B	1	13224A20A	08/12/2013 12:22	Catherine J Schwarz	1
10407	24b Herbicides by EPA 8151A	SW-846 8151A	1	132220010A	08/16/2013 08:42	Melissa McDermott	1
10589	22b Pesticides by EPA 8081B	SW-846 8081B	1	132260003A	08/16/2013 05:38	Lisa A Reinert	1
10591	21b PCBs and PCTs 8082A	SW-846 8082A	1	132260004A	08/15/2013 05:13	Monica M Souders	1
11121	PCB Waters Update IV Ext	SW-846 3510C	1	132260004A	08/14/2013 15:00	Seth A Farrier	1
11120	Pesticide Waters Update IV Ext	SW-846 3510C	1	132260003A	08/14/2013 15:00	Seth A Farrier	1
00816	Water Sample Herbicide Extract	SW-846 8151A	1	132220010A	08/12/2013 08:50	Katheryne V Sponheimer	1
10365	10b TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132250021A	08/15/2013 00:45	Heather E Williams	1
11203	EFH Waters Extraction	SW-846 3510C	1	132250021A	08/14/2013 12:00	William H Saadeh	1
10915	17b Dioxin/Furan by EPA 1613B	EPA 1613B	1	13228001	08/20/2013 13:29	Joseph D Anderson	1
10914	Dioxins/Furans in Water - SepF	EPA 1613B	1	13228001	08/16/2013 08:15	Deborah M Zimmerman	1
01743	Aluminum	SW-846 6010C	1	132250635001	08/19/2013 00:49	Eric L Eby	1
07044	Antimony	SW-846 6010C	1	132250635001	08/19/2013 00:49	Eric L Eby	1
07035	Arsenic	SW-846 6010C	1	132250635001	08/19/2013 00:49	Eric L Eby	1
07046	Barium	SW-846 6010C	1	132250635001	08/19/2013 00:49	Eric L Eby	1
07047	Beryllium	SW-846 6010C	1	132250635001	08/19/2013 00:49	Eric L Eby	1
08014	Boron	SW-846 6010C	1	132250635001	08/19/2013 00:49	Eric L Eby	1
07049	Cadmium	SW-846 6010C	1	132250635001	08/19/2013 00:49	Eric L Eby	1
01750	Calcium	SW-846 6010C	1	132250635001	08/19/2013 00:49	Eric L Eby	1
07051	Chromium	SW-846 6010C	1	132250635001	08/19/2013 00:49	Eric L Eby	1
07052	Cobalt	SW-846 6010C	1	132250635001	08/19/2013 00:49	Eric L Eby	1
07053	Copper	SW-846 6010C	1	132250635001	08/20/2013 10:01	Eric L Eby	1
01754	Iron	SW-846 6010C	1	132250635001	08/19/2013 00:49	Eric L Eby	1

*=This limit was used in the evaluation of the final result

Sample Description: EB-080713 Water
SSFL Phase 3 Subarea 8

LL Sample # WW 7154020
LL Group # 1409993
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/07/2013 15:00 by PH

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/08/2013 09:15
Reported: 08/21/2013 14:13

EB807 SDG#: PH086-01EB

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
07055	Lead	SW-846 6010C	1	132250635001	08/20/2013	10:01	Eric L Eby	1
01756	Lithium	SW-846 6010C	1	132250635001	08/20/2013	10:01	Eric L Eby	1
01757	Magnesium	SW-846 6010C	1	132250635001	08/19/2013	00:49	Eric L Eby	1
07058	Manganese	SW-846 6010C	1	132250635001	08/19/2013	00:49	Eric L Eby	1
07060	Molybdenum	SW-846 6010C	1	132250635001	08/19/2013	00:49	Eric L Eby	1
07061	Nickel	SW-846 6010C	1	132250635001	08/19/2013	00:49	Eric L Eby	1
10143	Phosphorus	SW-846 6010C	1	132250635001	08/19/2013	00:49	Eric L Eby	1
01762	Potassium	SW-846 6010C	1	132250635001	08/19/2013	00:49	Eric L Eby	1
01767	Sodium	SW-846 6010C	1	132250635001	08/19/2013	00:49	Eric L Eby	1
07069	Tin	SW-846 6010C	1	132250635001	08/19/2013	00:49	Eric L Eby	1
07070	Titanium	SW-846 6010C	1	132250635001	08/19/2013	00:49	Eric L Eby	1
07071	Vanadium	SW-846 6010C	1	132250635001	08/19/2013	00:49	Eric L Eby	1
07072	Zinc	SW-846 6010C	1	132250635001	08/19/2013	00:49	Eric L Eby	1
10144	Zirconium	SW-846 6010C	1	132250635001	08/19/2013	00:49	Eric L Eby	1
06041	Selenium	SW-846 6020A	1	132250639001B	08/16/2013	08:48	Choon Y Tian	1
06042	Silver	SW-846 6020A	1	132250639001A	08/16/2013	08:48	Choon Y Tian	1
06044	Strontium	SW-846 6020A	1	132250639001A	08/16/2013	08:48	Choon Y Tian	1
06045	Thallium	SW-846 6020A	1	132250639001A	08/16/2013	08:48	Choon Y Tian	1
00259	3b Mercury 7470A	SW-846 7470A	1	132255713002	08/14/2013	14:30	Parker D Lindstrom	1
10635	WW SW846(IV) ICP Dig (tot rec)	SW-846 3005A	1	132250635001	08/14/2013	09:50	James L Mertz	1
10639	ICP/MS SW846 (IV) Water Digest	SW-846 3010A modified	1	132250639001	08/14/2013	10:40	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132255713002	08/13/2013	17:30	Nelli S Markaryan	1
12152	28b pH (9040B and 9040C)	SW-846 9040C	1	13220121522A	08/08/2013	20:45	Michelle L Lalli	1

*=This limit was used in the evaluation of the final result

Sample Description: TB-080713 Water
SSFL Phase 3 Subarea 8

LL Sample # WW 7154021
LL Group # 1409993
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/07/2013 08:00

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/08/2013 09:15

Reported: 08/21/2013 14:13

TB807 SDG#: PH086-02TB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Dilution Factor
GC Volatiles						
	TPH GRO SW-8015B		ug/l	ug/l	ug/l	
08229	TPH-GRO S.CA water C5-C12	n.a.	50 U	50	20	1

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08229	11b TPH by EPA 8015B GRO	TPH GRO SW-8015B	1	13224A20A	08/12/2013 12:44	Catherine J Schwarz	1
01146	GC VOA Water Prep	SW-846 5030B	1	13224A20A	08/12/2013 12:44	Catherine J Schwarz	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-575-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7154022
LL Group # 1409993
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/07/2013 07:40 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/08/2013 09:15
Reported: 08/21/2013 14:13

57500 SDG#: PH086-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	19 U	19	7.4	10
12969	Acenaphthylene	208-96-8	19 U	19	3.7	10
12969	Anthracene	120-12-7	21	19	3.7	10
12969	Benzo(a)anthracene	56-55-3	980	19	7.4	10
12969	Benzo(a)pyrene	50-32-8	810	19	7.4	10
12969	Benzo(b)fluoranthene	205-99-2	1,300	19	7.4	10
12969	Benzo(e)pyrene	192-97-2	500	190	37	10
12969	Benzo(g,h,i)perylene	191-24-2	130	19	7.4	10
12969	Benzo(k)fluoranthene	207-08-9	580	19	7.4	10
12969	Butylbenzylphthalate	85-68-7	200 U	200	67	10
12969	Di-n-butylphthalate	84-74-2	200 U	200	67	10
12969	Chrysene	218-01-9	1,200	19	3.7	10
12969	Dibenz(a,h)anthracene	53-70-3	67	19	7.4	10
12969	Diethylphthalate	84-66-2	200 U	200	67	10
12969	Dimethylphthalate	131-11-3	200 U	200	67	10
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	200 U	200	67	10
12969	Fluoranthene	206-44-0	350	19	7.4	10
12969	Fluorene	86-73-7	19 U	19	7.4	10
12969	Indeno(1,2,3-cd)pyrene	193-39-5	150	19	7.4	10
12969	1-Methylnaphthalene	90-12-0	19 U	19	7.4	10
12969	2-Methylnaphthalene	91-57-6	19 U	19	7.4	10
12969	Naphthalene	91-20-3	19 U	19	7.4	10
12969	N-Nitrosodimethylamine	62-75-9	19 U	19	7.4	10
12969	Di-n-octylphthalate	117-84-0	200 U	200	67	10
12969	Phenanthrene	85-01-8	28	19	7.4	10
12969	Pyrene	129-00-0	550	19	7.4	10
Herbicides	SW-846 8151A	ug/kg	ug/kg	ug/kg		
10401	2,4-D	94-75-7	40 U	40	13	1
10401	Dalapon	75-99-0	99 U	99	48	1
10401	2,4-DB	94-82-6	19 U	19	6.8	1
10401	Dicamba	1918-00-9	13 U	13	4.4	1
10401	Dinoseb	88-85-7	26 U	26	9.9	1
The QC window for dinoseb is advisory due to the erratic performance of the analyte using this method.						
10401	2,4-DP (Dichlorprop)	120-36-5	19 U	19	9.9	1
10401	MCPA	94-74-6	2,800 U	2,800	840	1
10401	MCPP (Mecoprop)	93-65-2	2,800 U	2,800	830	1
10401	2,4,5-T	93-76-5	1.9 U	1.9	0.90	1
10401	2,4,5-TP	93-72-1	1.9 U	1.9	0.83	1
Pesticides/PCBs	SW-846 8081B	ug/kg	ug/kg	ug/kg		
10590	Aldrin	309-00-2	0.92 U	0.92	0.19	1
10590	Alpha BHC	319-84-6	0.92 U	0.92	0.19	1
10590	Beta BHC	319-85-7	2.1 U	2.1	1.1	1
10590	Gamma BHC - Lindane	58-89-9	0.92 U	0.92	0.19	1
10590	Chlordane	57-74-9	19 U	19	4.4	1
10590	p,p-DDD	72-54-8	1.9 U	1.9	0.37	1
10590	p,p-DDE	72-55-9	1.9 U	1.9	0.37	1
10590	p,p-DDT	50-29-3	1.9 U	1.9	0.39	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-575-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7154022
LL Group # 1409993
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/07/2013 07:40 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/08/2013 09:15
Reported: 08/21/2013 14:13

57500 SDG#: PH086-03

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs SW-846 8081B							
			ug/kg		ug/kg	ug/kg	
10590	Delta BHC	319-86-8	0.92	U	0.92	0.50	1
10590	Dieldrin	60-57-1	1.9	U	1.9	0.37	1
10590	Endosulfan I	959-98-8	0.92	U	0.92	0.24	1
10590	Endosulfan II	33213-65-9	1.9	U	1.9	0.37	1
10590	Endosulfan Sulfate	1031-07-8	1.9	U	1.9	0.37	1
10590	Endrin	72-20-8	1.9	U	1.9	0.37	1
10590	Endrin Aldehyde	7421-93-4	1.9	U	1.9	0.37	1
10590	Endrin Ketone	53494-70-5	2.0	U	2.0	0.67	1
10590	Heptachlor	76-44-8	0.92	U	0.92	0.19	1
10590	Heptachlor Epoxide	1024-57-3	0.92	U	0.92	0.19	1
10590	Methoxychlor	72-43-5	7.5	U	7.5	1.9	1
10590	Mirex	2385-85-5	1.9	U	1.9	0.39	1
10590	Toxaphene	8001-35-2	37	U	37	16	1
Pesticides/PCBs SW-846 8082A							
			ug/kg		ug/kg	ug/kg	
10592	Aroclor 5432	63496-31-1	37	U	37	11	1
10592	Aroclor 5442	12642-23-8	37	U	37	11	1
10592	Aroclor 5460	11126-42-4	37	U	37	11	1
10592	PCB-1016	12674-11-2	19	U	19	3.7	1
10592	PCB-1221	11104-28-2	19	U	19	5.7	1
10592	PCB-1232	11141-16-5	19	U	19	4.6	1
10592	PCB-1242	53469-21-9	19	U	19	4.6	1
10592	PCB-1248	12672-29-6	19	U	19	3.7	1
10592	PCB-1254	11097-69-1	19	U	19	4.9	1
10592	PCB-1260	11096-82-5	19	U	19	4.4	1
10592	PCB-1262	37324-23-5	19	U	19	3.7	1
10592	PCB-1268	11100-14-4	19	U	19	3.7	1
GC Petroleum SW-846 8015B modified							
			mg/kg		mg/kg	mg/kg	
12952	EFH (C12-C14)	n.a.	28	U	28	11	5
12952	EFH (C15-C20)	n.a.	28	U	28	11	5
12952	EFH (C21-C30)	n.a.	78		28	11	5
12952	EFH (C30-C40)	n.a.	250		56	22	5
12952	EFH (C8-C11)	n.a.	28	U	28	11	5
Metals SW-846 6010C							
			mg/kg		mg/kg	mg/kg	
01643	Aluminum	7429-90-5	29,500		43.3	7.81	1
06944	Antimony	7440-36-0	4.33	U	4.33	0.802	1
06935	Arsenic	7440-38-2	2.89	J	4.33	0.758	1
06946	Barium	7440-39-3	130		1.08	0.0358	1
06947	Beryllium	7440-41-7	0.931	J	1.08	0.0726	1
07914	Boron	7440-42-8	16.6		10.8	0.910	1
06949	Cadmium	7440-43-9	0.337	J	1.08	0.0824	1
01650	Calcium	7440-70-2	6,930		21.7	3.62	1
06951	Chromium	7440-47-3	35.2		3.25	0.173	1
06952	Cobalt	7440-48-4	10.0		1.08	0.107	1
06953	Copper	7440-50-8	21.8		2.17	0.314	1
01654	Iron	7439-89-6	32,500		217	19.6	5
06955	Lead	7439-92-1	14.2		3.25	0.542	1

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Sample Description: SL-575-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7154022
LL Group # 1409993
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/07/2013 07:40 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/08/2013 09:15
Reported: 08/21/2013 14:13

57500 SDG#: PH086-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals						
		SW-846 6010C	mg/kg	mg/kg	mg/kg	
01656	Lithium	7439-93-2	24.8	4.3	0.37	1
01657	Magnesium	7439-95-4	6,350	10.8	1.81	1
06958	Manganese	7439-96-5	500	1.08	0.0899	1
06960	Molybdenum	7439-98-7	2.17 U	2.17	0.184	1
06961	Nickel	7440-02-0	21.1	2.17	0.141	1
10145	Phosphorus	7723-14-0	280	10.8	3.13	1
01662	Potassium	7440-09-7	4,290	108	9.04	1
01667	Sodium	7440-23-5	75.5 J	108	18.1	1
06969	Tin	7440-31-5	3.54 J	10.8	0.238	1
06970	Titanium	7440-32-6	1,160	1.08	0.184	1
06971	Vanadium	7440-62-2	66.1	1.08	0.141	1
06972	Zinc	7440-66-6	88.4	4.33	0.217	1
10146	Zirconium	7440-67-7	3.13 J	5.42	0.910	1
		SW-846 6020A	mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	0.262 J	0.433	0.108	2
06142	Silver	7440-22-4	0.0579 J	0.217	0.0282	2
06144	Strontium	7440-24-6	48.2	0.433	0.0737	2
06145	Thallium	7440-28-0	0.464	0.217	0.0325	2
		SW-846 7471B	mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.0110 J	0.0180	0.0108	1
Wet Chemistry						
		SW-846 9045D modified	Std. Units	Std. Units	Std. Units	
00394	15a pH by 9045D The pH was measured in water at 21.6 C.	n.a.	6.91	0.0100	0.0100	1
Wet Chemistry						
		EPA 160.3 modified	%	%	%	
11624	14a Moisture Content by 160.3 Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.	n.a.	10.4	0.10	0.10	1

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Sample Description: SL-575-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7154022
LL Group # 1409993
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/07/2013 07:40 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/08/2013 09:15
Reported: 08/21/2013 14:13

57500 SDG#: PH086-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
Dioxins/Furans		EPA 1613B	ng/kg	ng/kg	ng/kg	
11031	2378-TCDD	1746-01-6	1.08 U	1.08	0.0555	1
11031	12378-PeCDD	40321-76-4	0.0992 JBQ	5.39	0.0689	1
11031	123478-HxCDD	39227-28-6	0.0707 JQ	5.39	0.0474	1
11031	123678-HxCDD	57653-85-7	0.420 JB	5.39	0.0489	1
11031	123789-HxCDD	19408-74-3	0.616 J	5.39	0.0501	1
11031	1234678-HpCDD	35822-46-9	3.71 JB	5.39	0.0520	1
11031	OCDD	3268-87-9	61.6 B	10.8	0.0333	1
11031	2378-TCDF	51207-31-9	1.08 U	1.08	0.0650	1
11031	12378-PeCDF	57117-41-6	0.239 JBQ	5.39	0.0350	1
11031	23478-PeCDF	57117-31-4	0.116 JQ	5.39	0.0287	1
11031	123478-HxCDF	70648-26-9	0.0771 JBQ	5.39	0.0294	1
11031	123678-HxCDF	57117-44-9	0.119 JB	5.39	0.0308	1
11031	123789-HxCDF	72918-21-9	0.503 JB	5.39	0.0311	1
11031	234678-HxCDF	60851-34-5	0.0589 JBQ	5.39	0.0271	1
11031	1234678-HpCDF	67562-39-4	0.711 JB	5.39	0.0310	1
11031	1234789-HpCDF	55673-89-7	0.0411 JQ	5.39	0.0333	1
11031	OCDF	39001-02-0	1.73 JB	10.8	0.0388	1

Toxic Equivalents		EPA 1613B	ng/kg	ng/kg	ng/kg	
11031	TEQ WHO 2005 - EDLx0.0	n.a.	0.229			1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	75	25 - 164
13C12-12378-PeCDD	105	25 - 181
13C12-123478-HxCDD	77	32 - 141
13C12-123678-HxCDD	79	28 - 130
13C12-123789-HxCDD	80	28 - 130
13C12-1234678-HpCDD	91	23 - 140
13C12-OCDD	93	17 - 157
13C12-2378-TCDF	77	24 - 169
13C12-12378-PeCDF	96	24 - 185
13C12-23478-PeCDF	104	21 - 178
13C12-123478-HxCDF	66	26 - 152
13C12-123678-HxCDF	67	26 - 123
13C12-234678-HxCDF	71	28 - 136
13C12-123789-HxCDF	78	29 - 147
13C12-1234678-HpCDF	76	28 - 143
13C12-1234789-HpCDF	87	26 - 138
13C12-OCDF	84	17 - 157

Dioxins/Furans Data Qualifiers:

- B Detected in Method Blank
- U Undetected
- J Estimated concentration between Estimated Detection Limit and Minimum Level
- E Exceeds calibration range
- C Confirmed quantitation on secondary GC column
- Q EMPC - Estimated Maximum Possible Concentration

*=This limit was used in the evaluation of the final result

Sample Description: SL-575-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7154022
LL Group # 1409993
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/07/2013 07:40 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/08/2013 09:15

Reported: 08/21/2013 14:13

57500 SDG#: PH086-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
F	Interference is present					
S	Saturation of detection signal					

*=This limit was used in the evaluation of the final result

Sample Description: SL-575-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7154022
LL Group # 1409993
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/07/2013 07:40 by SM

CDM Federal Programs Corp.
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Submitted: 08/08/2013 09:15
Reported: 08/21/2013 14:13

57500 SDG#: PH086-03

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13225SLA026	08/15/2013 12:56	Mark A Clark	10
10811	BNA Soil Microwave SIM	SW-846 3546	1	13225SLA026	08/14/2013 08:30	Anna E Stager	1
10401	21a Herbicides by EPA 8151A	SW-846 8151A	1	132250009A	08/16/2013 16:17	Melissa McDermott	1
10590	20a Pesticides by EPA 8081B	SW-846 8081B	1	132250011A	08/19/2013 19:10	Jamie L Brillhart	1
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132250001A	08/14/2013 23:22	Monica M Souders	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132250001A	08/13/2013 16:25	JoElla L Rice	1
10496	PPL Pest. Microwave Extraction	SW-846 3546	2	132250011A	08/14/2013 03:00	Sherry L Morrow	1
04181	Herbicide Soil Extraction	SW-846 3550B/SW-846 8151A	1	132250009A	08/14/2013 05:30	Roman Kuropatkin	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132260015A	08/16/2013 00:54	Heather E Williams	5
12959	EPH soil ext. (microwave)	SW-846 3546	1	132260015A	08/15/2013 02:30	Sherry L Morrow	1
11031	23a Dioxin/Furan by EPA 1613B	EPA 1613B	1	13227001	08/17/2013 10:57	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	13227001	08/15/2013 14:00	Brett M Weidman	1
01643	Aluminum	SW-846 6010C	1	132200637001	08/16/2013 12:38	Eric L Eby	1
06944	Antimony	SW-846 6010C	1	132200637001	08/16/2013 12:38	Eric L Eby	1
06935	Arsenic	SW-846 6010C	1	132200637001	08/16/2013 12:38	Eric L Eby	1
06946	Barium	SW-846 6010C	1	132200637001	08/16/2013 12:38	Eric L Eby	1
06947	Beryllium	SW-846 6010C	1	132200637001	08/16/2013 12:38	Eric L Eby	1
07914	Boron	SW-846 6010C	1	132200637001	08/16/2013 12:38	Eric L Eby	1
06949	Cadmium	SW-846 6010C	1	132200637001	08/16/2013 12:38	Eric L Eby	1
01650	Calcium	SW-846 6010C	1	132200637001	08/16/2013 12:38	Eric L Eby	1
06951	Chromium	SW-846 6010C	1	132200637001	08/16/2013 12:38	Eric L Eby	1
06952	Cobalt	SW-846 6010C	1	132200637001	08/16/2013 12:38	Eric L Eby	1
06953	Copper	SW-846 6010C	1	132200637001	08/16/2013 12:38	Eric L Eby	1
01654	Iron	SW-846 6010C	1	132200637001	08/16/2013 23:52	John W Yanzuk II	5
06955	Lead	SW-846 6010C	1	132200637001	08/16/2013 12:38	Eric L Eby	1
01656	Lithium	SW-846 6010C	1	132200637001	08/16/2013 12:38	Eric L Eby	1
01657	Magnesium	SW-846 6010C	1	132200637001	08/16/2013 12:38	Eric L Eby	1
06958	Manganese	SW-846 6010C	1	132200637001	08/16/2013 12:38	Eric L Eby	1
06960	Molybdenum	SW-846 6010C	1	132200637001	08/16/2013 12:38	Eric L Eby	1
06961	Nickel	SW-846 6010C	1	132200637001	08/16/2013 12:38	Eric L Eby	1
10145	Phosphorus	SW-846 6010C	1	132200637001	08/16/2013 12:38	Eric L Eby	1
01662	Potassium	SW-846 6010C	1	132200637001	08/16/2013 12:38	Eric L Eby	1
01667	Sodium	SW-846 6010C	1	132200637001	08/16/2013 12:38	Eric L Eby	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-575-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7154022
LL Group # 1409993
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/07/2013 07:40 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/08/2013 09:15
Reported: 08/21/2013 14:13

57500 SDG#: PH086-03

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
06969	Tin	SW-846 6010C	1	132200637001	08/16/2013	12:38	Eric L Eby	1
06970	Titanium	SW-846 6010C	1	132200637001	08/16/2013	12:38	Eric L Eby	1
06971	Vanadium	SW-846 6010C	1	132200637001	08/16/2013	12:38	Eric L Eby	1
06972	Zinc	SW-846 6010C	1	132200637001	08/16/2013	12:38	Eric L Eby	1
10146	Zirconium	SW-846 6010C	1	132200637001	08/16/2013	12:38	Eric L Eby	1
06141	Selenium	SW-846 6020A	1	132200637001B	08/14/2013	13:17	Choon Y Tian	2
06142	Silver	SW-846 6020A	1	132200637001A	08/14/2013	13:17	Choon Y Tian	2
06144	Strontium	SW-846 6020A	1	132200637001A	08/14/2013	13:17	Choon Y Tian	2
06145	Thallium	SW-846 6020A	1	132200637001A	08/14/2013	13:17	Choon Y Tian	2
00159	3a Mercury 7471A	SW-846 7471B	1	132200638001	08/15/2013	14:33	Parker D Lindstrom	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132200637001	08/09/2013	09:35	Denise K Conners	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132200638001	08/09/2013	11:25	Denise K Conners	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13220039402A	08/08/2013	21:30	Michelle L Lalli	1
11624	14a Moisture Content by 160.3	EPA 160.3 modified	1	13221162402B	08/09/2013	23:20	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-575-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7154023
LL Group # 1409993
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/07/2013 08:20 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/08/2013 09:15
Reported: 08/21/2013 14:13

57540 SDG#: PH086-04

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	19 U	19	7.6	10
12969	Acenaphthylene	208-96-8	19 U	19	3.8	10
12969	Anthracene	120-12-7	19 U	19	3.8	10
12969	Benzo(a)anthracene	56-55-3	19 U	19	7.6	10
12969	Benzo(a)pyrene	50-32-8	19 U	19	7.6	10
12969	Benzo(b)fluoranthene	205-99-2	19 U	19	7.6	10
12969	Benzo(e)pyrene	192-97-2	190 U	190	38	10
12969	Benzo(g,h,i)perylene	191-24-2	19 U	19	7.6	10
12969	Benzo(k)fluoranthene	207-08-9	19 U	19	7.6	10
12969	Butylbenzylphthalate	85-68-7	210 U	210	69	10
12969	Di-n-butylphthalate	84-74-2	210 U	210	69	10
12969	Chrysene	218-01-9	5.6 J	19	3.8	10
12969	Dibenz(a,h)anthracene	53-70-3	19 U	19	7.6	10
12969	Diethylphthalate	84-66-2	210 U	210	69	10
12969	Dimethylphthalate	131-11-3	210 U	210	69	10
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	210 U	210	69	10
12969	Fluoranthene	206-44-0	19 U	19	7.6	10
12969	Fluorene	86-73-7	19 U	19	7.6	10
12969	Indeno(1,2,3-cd)pyrene	193-39-5	19 U	19	7.6	10
12969	1-Methylnaphthalene	90-12-0	19 U	19	7.6	10
12969	2-Methylnaphthalene	91-57-6	19 U	19	7.6	10
12969	Naphthalene	91-20-3	19 U	19	7.6	10
12969	N-Nitrosodimethylamine	62-75-9	19 U	19	7.6	10
12969	Di-n-octylphthalate	117-84-0	210 U	210	69	10
12969	Phenanthrene	85-01-8	19 U	19	7.6	10
12969	Pyrene	129-00-0	19 U	19	7.6	10

Reporting limits were raised due to interference from the sample matrix.

GC Volatiles	TPH GRO SW-846 8015B mod	mg/kg	mg/kg	mg/kg		
05551	11a TPH by EPA 8015B GRO	n.a.	1.0 U	1.0	0.2	22.69

Herbicides	SW-846 8151A	ug/kg	ug/kg	ug/kg		
10401	2,4-D	94-75-7	41 U	41	14	1
10401	Dalapon	75-99-0	100 U	100	50	1
10401	2,4-DB	94-82-6	19 U	19	7.0	1
10401	Dicamba	1918-00-9	14 U	14	4.5	1
10401	Dinoseb	88-85-7	27 U	27	10	1
The QC window for dinoseb is advisory due to the erratic performance of the analyte using this method.						
10401	2,4-DP (Dichlorprop)	120-36-5	19 U	19	10	1
10401	MCPA	94-74-6	2,800 U	2,800	860	1
10401	MCPP (Mecoprop)	93-65-2	2,800 U	2,800	850	1
10401	2,4,5-T	93-76-5	1.9 U	1.9	0.93	1
10401	2,4,5-TP	93-72-1	1.9 U	1.9	0.85	1

Pesticides/PCBs	SW-846 8081B	ug/kg	ug/kg	ug/kg		
10590	Aldrin	309-00-2	0.96 U	0.96	0.20	1
10590	Alpha BHC	319-84-6	0.96 U	0.96	0.20	1
10590	Beta BHC	319-85-7	2.2 U	2.2	1.1	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-575-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7154023
LL Group # 1409993
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/07/2013 08:20 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/08/2013 09:15
Reported: 08/21/2013 14:13

57540 SDG#: PH086-04

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs SW-846 8081B							
10590	Gamma BHC - Lindane	58-89-9	0.96	U	0.96	0.20	1
10590	Chlordane	57-74-9	20	U	20	4.6	1
10590	p,p-DDD	72-54-8	2.0	U	2.0	0.38	1
10590	p,p-DDE	72-55-9	2.0	U	2.0	0.38	1
10590	p,p-DDT	50-29-3	2.0	U	2.0	0.40	1
10590	Delta BHC	319-86-8	0.96	U	0.96	0.52	1
10590	Dieldrin	60-57-1	2.0	U	2.0	0.38	1
10590	Endosulfan I	959-98-8	0.96	U	0.96	0.25	1
10590	Endosulfan II	33213-65-9	2.0	U	2.0	0.38	1
10590	Endosulfan Sulfate	1031-07-8	2.0	U	2.0	0.38	1
10590	Endrin	72-20-8	2.0	U	2.0	0.38	1
10590	Endrin Aldehyde	7421-93-4	2.0	U	2.0	0.38	1
10590	Endrin Ketone	53494-70-5	2.1	U	2.1	0.69	1
10590	Heptachlor	76-44-8	0.96	U	0.96	0.20	1
10590	Heptachlor Epoxide	1024-57-3	0.96	U	0.96	0.20	1
10590	Methoxychlor	72-43-5	7.7	U	7.7	2.0	1
10590	Mirex	2385-85-5	2.0	U	2.0	0.40	1
10590	Toxaphene	8001-35-2	38	U	38	16	1
Pesticides/PCBs SW-846 8082A							
10592	Aroclor 5432	63496-31-1	38	U	38	12	1
10592	Aroclor 5442	12642-23-8	38	U	38	12	1
10592	Aroclor 5460	11126-42-4	38	U	38	12	1
10592	PCB-1016	12674-11-2	20	U	20	3.8	1
10592	PCB-1221	11104-28-2	20	U	20	5.9	1
10592	PCB-1232	11141-16-5	20	U	20	4.7	1
10592	PCB-1242	53469-21-9	20	U	20	4.7	1
10592	PCB-1248	12672-29-6	20	U	20	3.8	1
10592	PCB-1254	11097-69-1	20	U	20	5.1	1
10592	PCB-1260	11096-82-5	20	U	20	4.5	1
10592	PCB-1262	37324-23-5	20	U	20	3.8	1
10592	PCB-1268	11100-14-4	20	U	20	3.8	1
GC Petroleum SW-846 8015B modified							
Hydrocarbons							
12952	EFH (C12-C14)	n.a.	11	U	11	4.6	2
12952	EFH (C15-C20)	n.a.	11	U	11	4.6	2
12952	EFH (C21-C30)	n.a.	24		11	4.6	2
12952	EFH (C30-C40)	n.a.	86		23	9.2	2
12952	EFH (C8-C11)	n.a.	11	U	11	4.6	2
Metals SW-846 6010C							
01643	Aluminum	7429-90-5	21,900		45.7	8.24	1
06944	Antimony	7440-36-0	6.48		4.57	0.846	1
06935	Arsenic	7440-38-2	4.38	J	4.57	0.800	1
06946	Barium	7440-39-3	87.3		1.14	0.0377	1
06947	Beryllium	7440-41-7	0.312	J	1.14	0.0766	1
07914	Boron	7440-42-8	13.5		11.4	0.960	1
06949	Cadmium	7440-43-9	0.136	J	1.14	0.0869	1
01650	Calcium	7440-70-2	182,000		114	19.1	5

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Sample Description: SL-575-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7154023
LL Group # 1409993
Account # 13013

Project Name: SSFL Phase 3 Sampling

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Submitted: 08/08/2013 09:15
Reported: 08/21/2013 14:13

57540 SDG#: PH086-04

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals						
		SW-846 6010C	mg/kg	mg/kg	mg/kg	
06951	Chromium	7440-47-3	24.1	3.43	0.183	1
06952	Cobalt	7440-48-4	5.24	1.14	0.113	1
06953	Copper	7440-50-8	13.7	2.29	0.332	1
01654	Iron	7439-89-6	20,000	45.7	4.14	1
06955	Lead	7439-92-1	6.98	3.43	0.572	1
01656	Lithium	7439-93-2	20.6	4.6	0.39	1
01657	Magnesium	7439-95-4	4,500	11.4	1.91	1
06958	Manganese	7439-96-5	235	1.14	0.0949	1
06960	Molybdenum	7439-98-7	3.29	2.29	0.194	1
06961	Nickel	7440-02-0	11.8	2.29	0.149	1
10145	Phosphorus	7723-14-0	184	11.4	3.30	1
01662	Potassium	7440-09-7	2,120	114	9.54	1
01667	Sodium	7440-23-5	106	J 114	19.1	1
06969	Tin	7440-31-5	2.72	J 11.4	0.252	1
06970	Titanium	7440-32-6	802	1.14	0.194	1
06971	Vanadium	7440-62-2	43.6	1.14	0.149	1
06972	Zinc	7440-66-6	40.2	4.57	0.229	1
10146	Zirconium	7440-67-7	2.65	J 5.72	0.960	1
		SW-846 6020A	mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	0.457 U	0.457	0.114	2
06142	Silver	7440-22-4	0.0864 J	0.229	0.0297	2
06144	Strontium	7440-24-6	78.8	1.14	0.194	5
06145	Thallium	7440-28-0	0.352	0.229	0.0343	2
		SW-846 7471B	mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.0163 J	0.0186	0.0112	1
Wet Chemistry						
		SW-846 9045D modified	Std. Units	Std. Units	Std. Units	
00394	15a pH by 9045D The pH was measured in water at 21.8 C.	n.a.	8.00	0.0100	0.0100	1
Wet Chemistry						
		EPA 160.3 modified	%	%	%	
11624	14a Moisture Content by 160.3 Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.	n.a.	13.4	0.10	0.10	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-575-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7154023
LL Group # 1409993
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/07/2013 08:20 by SM

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3201 Jermantown Road
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Submitted: 08/08/2013 09:15
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57540 SDG#: PH086-04

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
Dioxins/Furans			ng/kg	ng/kg	ng/kg	
EPA 1613B						
11031	2378-TCDD	1746-01-6	1.11 U	1.11	0.0528	1
11031	12378-PeCDD	40321-76-4	0.0646 JBQ	5.57	0.0499	1
11031	123478-HxCDD	39227-28-6	5.57 U	5.57	0.0299	1
11031	123678-HxCDD	57653-85-7	0.0423 JBQ	5.57	0.0344	1
11031	123789-HxCDD	19408-74-3	0.0711 JQ	5.57	0.0314	1
11031	1234678-HpCDD	35822-46-9	0.237 JB	5.57	0.0403	1
11031	OCDD	3268-87-9	1.59 JB	11.1	0.0580	1
11031	2378-TCDF	51207-31-9	1.11 U	1.11	0.0390	1
11031	12378-PeCDF	57117-41-6	0.0603 JBQ	5.57	0.0247	1
11031	23478-PeCDF	57117-31-4	5.57 U	5.57	0.0216	1
11031	123478-HxCDF	70648-26-9	5.57 U	5.57	0.0184	1
11031	123678-HxCDF	57117-44-9	0.0183 JBQ	5.57	0.0178	1
11031	123789-HxCDF	72918-21-9	0.0554 JBQ	5.57	0.0182	1
11031	234678-HxCDF	60851-34-5	5.57 U	5.57	0.0163	1
11031	1234678-HpCDF	67562-39-4	0.0844 JB	5.57	0.0170	1
11031	1234789-HpCDF	55673-89-7	0.0286 J	5.57	0.0196	1
11031	OCDF	39001-02-0	0.127 JB	11.1	0.0518	1

Toxic Equivalents		EPA 1613B	ng/kg	ng/kg	ng/kg	
11031	TEQ WHO 2005 - EDLx0.0	n.a.	0.00393			1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	62	25 - 164
13C12-12378-PeCDD	79	25 - 181
13C12-123478-HxCDD	68	32 - 141
13C12-123678-HxCDD	67	28 - 130
13C12-123789-HxCDD	68	28 - 130
13C12-1234678-HpCDD	76	23 - 140
13C12-OCDD	79	17 - 157
13C12-2378-TCDF	65	24 - 169
13C12-12378-PeCDF	77	24 - 185
13C12-23478-PeCDF	78	21 - 178
13C12-123478-HxCDF	55	26 - 152
13C12-123678-HxCDF	56	26 - 123
13C12-234678-HxCDF	56	28 - 136
13C12-123789-HxCDF	65	29 - 147
13C12-1234678-HpCDF	66	28 - 143
13C12-1234789-HpCDF	71	26 - 138
13C12-OCDF	64	17 - 157

Dioxins/Furans Data Qualifiers:

- B Detected in Method Blank
- U Undetected
- J Estimated concentration between Estimated Detection Limit and Minimum Level
- E Exceeds calibration range
- C Confirmed quantitation on secondary GC column
- Q EMPC - Estimated Maximum Possible Concentration

*=This limit was used in the evaluation of the final result

Sample Description: SL-575-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7154023
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Project Name: SSFL Phase 3 Sampling

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57540 SDG#: PH086-04

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
F	Interference is present					
S	Saturation of detection signal					

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Sample Description: SL-575-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7154023
LL Group # 1409993
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Project Name: SSFL Phase 3 Sampling

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57540 SDG#: PH086-04

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13225SLA026	08/15/2013 13:29	Mark A Clark	10
10811	BNA Soil Microwave SIM	SW-846 3546	1	13225SLA026	08/14/2013 08:30	Anna E Stager	1
05551	11a TPH by EPA 8015B GRO	TPH GRO SW-846 8015B mod	1	13224A16A	08/12/2013 22:03	Laura M Krieger	22.69
06130	GC - 5 g HL Encore Prep	SW-846 5035A	1	201322031992	08/08/2013 14:19	Mitchell R Washel	n.a.
06130	GC - 5 g HL Encore Prep	SW-846 5035A	2	201322031992	08/08/2013 14:20	Mitchell R Washel	n.a.
10401	21a Herbicides by EPA 8151A	SW-846 8151A	1	132250009A	08/16/2013 16:44	Melissa McDermott	1
10590	20a Pesticides by EPA 8081B	SW-846 8081B	1	132240016A	08/19/2013 22:29	Jamie L Brillhart	1
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132250001A	08/14/2013 23:41	Monica M Souders	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132250001A	08/13/2013 16:25	JoElla L Rice	1
10496	PPL Pest. Microwave Extraction	SW-846 3546	1	132240016A	08/13/2013 16:25	JoElla L Rice	1
04181	Herbicide Soil Extraction	SW-846 3550B/SW-846 8151A	1	132250009A	08/14/2013 05:30	Roman Kuropatkin	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132260015A	08/16/2013 00:34	Heather E Williams	2
12959	EFH soil ext. (microwave)	SW-846 3546	1	132260015A	08/15/2013 02:30	Sherry L Morrow	1
11031	23a Dioxin/Furan by EPA 1613B	EPA 1613B	1	13227001	08/17/2013 11:54	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	13227001	08/15/2013 14:00	Brett M Weidman	1
01643	Aluminum	SW-846 6010C	1	132200637001	08/16/2013 12:42	Eric L Eby	1
06944	Antimony	SW-846 6010C	1	132200637001	08/16/2013 12:42	Eric L Eby	1
06935	Arsenic	SW-846 6010C	1	132200637001	08/16/2013 12:42	Eric L Eby	1
06946	Barium	SW-846 6010C	1	132200637001	08/16/2013 12:42	Eric L Eby	1
06947	Beryllium	SW-846 6010C	1	132200637001	08/16/2013 12:42	Eric L Eby	1
07914	Boron	SW-846 6010C	1	132200637001	08/16/2013 12:42	Eric L Eby	1
06949	Cadmium	SW-846 6010C	1	132200637001	08/16/2013 12:42	Eric L Eby	1
01650	Calcium	SW-846 6010C	1	132200637001	08/16/2013 23:55	John W Yanzuk II	5
06951	Chromium	SW-846 6010C	1	132200637001	08/16/2013 12:42	Eric L Eby	1
06952	Cobalt	SW-846 6010C	1	132200637001	08/16/2013 12:42	Eric L Eby	1
06953	Copper	SW-846 6010C	1	132200637001	08/16/2013 12:42	Eric L Eby	1
01654	Iron	SW-846 6010C	1	132200637001	08/16/2013 12:42	Eric L Eby	1
06955	Lead	SW-846 6010C	1	132200637001	08/16/2013 12:42	Eric L Eby	1
01656	Lithium	SW-846 6010C	1	132200637001	08/16/2013 12:42	Eric L Eby	1
01657	Magnesium	SW-846 6010C	1	132200637001	08/16/2013 12:42	Eric L Eby	1
06958	Manganese	SW-846 6010C	1	132200637001	08/16/2013 12:42	Eric L Eby	1
06960	Molybdenum	SW-846 6010C	1	132200637001	08/16/2013 12:42	Eric L Eby	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-575-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7154023
LL Group # 1409993
Account # 13013

Project Name: SSFL Phase 3 Sampling

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57540 SDG#: PH086-04

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
06961	Nickel	SW-846 6010C	1	132200637001	08/16/2013	12:42	Eric L Eby	1
10145	Phosphorus	SW-846 6010C	1	132200637001	08/16/2013	12:42	Eric L Eby	1
01662	Potassium	SW-846 6010C	1	132200637001	08/16/2013	12:42	Eric L Eby	1
01667	Sodium	SW-846 6010C	1	132200637001	08/16/2013	12:42	Eric L Eby	1
06969	Tin	SW-846 6010C	1	132200637001	08/16/2013	12:42	Eric L Eby	1
06970	Titanium	SW-846 6010C	1	132200637001	08/16/2013	12:42	Eric L Eby	1
06971	Vanadium	SW-846 6010C	1	132200637001	08/16/2013	12:42	Eric L Eby	1
06972	Zinc	SW-846 6010C	1	132200637001	08/16/2013	12:42	Eric L Eby	1
10146	Zirconium	SW-846 6010C	1	132200637001	08/16/2013	12:42	Eric L Eby	1
06141	Selenium	SW-846 6020A	1	132200637001B	08/14/2013	13:19	Choon Y Tian	2
06142	Silver	SW-846 6020A	1	132200637001A	08/14/2013	13:19	Choon Y Tian	2
06144	Strontium	SW-846 6020A	1	132200637001A	08/19/2013	06:17	Choon Y Tian	5
06145	Thallium	SW-846 6020A	1	132200637001A	08/14/2013	13:19	Choon Y Tian	2
00159	3a Mercury 7471A	SW-846 7471B	1	132200638001	08/15/2013	14:35	Parker D Lindstrom	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132200637001	08/09/2013	09:35	Denise K Connors	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132200638001	08/09/2013	11:25	Denise K Connors	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13220039402A	08/08/2013	21:30	Michelle L Lalli	1
11624	14a Moisture Content by 160.3	EPA 160.3 modified	1	13221162402B	08/09/2013	23:20	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-575-SA8-SB-9.0-10.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7154024
LL Group # 1409993
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/07/2013 09:15 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/08/2013 09:15
Reported: 08/21/2013 14:13

57590 SDG#: PH086-05

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	19 U	19	7.5	10
12969	Acenaphthylene	208-96-8	19 U	19	3.8	10
12969	Anthracene	120-12-7	19 U	19	3.8	10
12969	Benzo(a)anthracene	56-55-3	19 U	19	7.5	10
12969	Benzo(a)pyrene	50-32-8	19 U	19	7.5	10
12969	Benzo(b)fluoranthene	205-99-2	19 U	19	7.5	10
12969	Benzo(e)pyrene	192-97-2	190 U	190	38	10
12969	Benzo(g,h,i)perylene	191-24-2	19 U	19	7.5	10
12969	Benzo(k)fluoranthene	207-08-9	19 U	19	7.5	10
12969	Butylbenzylphthalate	85-68-7	200 U	200	68	10
12969	Di-n-butylphthalate	84-74-2	200 U	200	68	10
12969	Chrysene	218-01-9	19 U	19	3.8	10
12969	Dibenz(a,h)anthracene	53-70-3	19 U	19	7.5	10
12969	Diethylphthalate	84-66-2	200 U	200	68	10
12969	Dimethylphthalate	131-11-3	200 U	200	68	10
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	200 U	200	68	10
12969	Fluoranthene	206-44-0	19 U	19	7.5	10
12969	Fluorene	86-73-7	19 U	19	7.5	10
12969	Indeno(1,2,3-cd)pyrene	193-39-5	19 U	19	7.5	10
12969	1-Methylnaphthalene	90-12-0	19 U	19	7.5	10
12969	2-Methylnaphthalene	91-57-6	19 U	19	7.5	10
12969	Naphthalene	91-20-3	19 U	19	7.5	10
12969	N-Nitrosodimethylamine	62-75-9	19 U	19	7.5	10
12969	Di-n-octylphthalate	117-84-0	200 U	200	68	10
12969	Phenanthrene	85-01-8	19 U	19	7.5	10
12969	Pyrene	129-00-0	19 U	19	7.5	10

Reporting limits were raised due to interference from the sample matrix.

GC Volatiles	TPH GRO SW-846 8015B mod	mg/kg	mg/kg	mg/kg		
05551	11a TPH by EPA 8015B GRO	n.a.	1.1 U	1.1	0.2	23.58

Herbicides	SW-846 8151A	ug/kg	ug/kg	ug/kg		
10401	2,4-D	94-75-7	40 U	40	13	1
10401	Dalapon	75-99-0	100 U	100	49	1
10401	2,4-DB	94-82-6	19 U	19	7.0	1
10401	Dicamba	1918-00-9	13 U	13	4.5	1
10401	Dinoseb	88-85-7	27 U	27	10	1
The QC window for dinoseb is advisory due to the erratic performance of the analyte using this method.						
10401	2,4-DP (Dichlorprop)	120-36-5	19 U	19	10	1
10401	MCPA	94-74-6	2,800 U	2,800	850	1
10401	MCPP (Mecoprop)	93-65-2	2,800 U	2,800	840	1
10401	2,4,5-T	93-76-5	1.9 U	1.9	0.92	1
10401	2,4,5-TP	93-72-1	1.9 U	1.9	0.84	1

Pesticides/PCBs	SW-846 8081B	ug/kg	ug/kg	ug/kg		
10590	Aldrin	309-00-2	0.94 U	0.94	0.19	1
10590	Alpha BHC	319-84-6	0.22 J	0.94	0.19	1
10590	Beta BHC	319-85-7	2.1 U	2.1	1.1	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-575-SA8-SB-9.0-10.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7154024
LL Group # 1409993
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/07/2013 09:15 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/08/2013 09:15

Reported: 08/21/2013 14:13

57590 SDG#: PH086-05

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs SW-846 8081B						
10590	Gamma BHC - Lindane	58-89-9	0.94 U	0.94	0.19	1
10590	Chlordane	57-74-9	19 U	19	4.5	1
10590	p,p-DDD	72-54-8	1.9 U	1.9	0.37	1
10590	p,p-DDE	72-55-9	1.9 U	1.9	0.37	1
10590	p,p-DDT	50-29-3	1.9 U	1.9	0.39	1
10590	Delta BHC	319-86-8	0.94 U	0.94	0.51	1
10590	Dieldrin	60-57-1	1.9 U	1.9	0.37	1
10590	Endosulfan I	959-98-8	0.94 U	0.94	0.25	1
10590	Endosulfan II	33213-65-9	1.9 U	1.9	0.37	1
10590	Endosulfan Sulfate	1031-07-8	1.9 U	1.9	0.37	1
10590	Endrin	72-20-8	1.9 U	1.9	0.37	1
10590	Endrin Aldehyde	7421-93-4	1.9 U	1.9	0.37	1
10590	Endrin Ketone	53494-70-5	2.0 U	2.0	0.68	1
10590	Heptachlor	76-44-8	0.94 U	0.94	0.19	1
10590	Heptachlor Epoxide	1024-57-3	0.94 U	0.94	0.19	1
10590	Methoxychlor	72-43-5	7.6 U	7.6	1.9	1
10590	Mirex	2385-85-5	1.9 U	1.9	0.39	1
10590	Toxaphene	8001-35-2	37 U	37	16	1
Pesticides/PCBs SW-846 8082A						
10592	Aroclor 5432	63496-31-1	37 U	37	11	1
10592	Aroclor 5442	12642-23-8	37 U	37	11	1
10592	Aroclor 5460	11126-42-4	37 U	37	11	1
10592	PCB-1016	12674-11-2	19 U	19	3.7	1
10592	PCB-1221	11104-28-2	19 U	19	5.8	1
10592	PCB-1232	11141-16-5	19 U	19	4.6	1
10592	PCB-1242	53469-21-9	19 U	19	4.6	1
10592	PCB-1248	12672-29-6	19 U	19	3.7	1
10592	PCB-1254	11097-69-1	19 U	19	5.0	1
10592	PCB-1260	11096-82-5	19 U	19	4.4	1
10592	PCB-1262	37324-23-5	19 U	19	3.7	1
10592	PCB-1268	11100-14-4	19 U	19	3.7	1
GC Petroleum SW-846 8015B modified						
Hydrocarbons						
12952	EFH (C12-C14)	n.a.	5.6 U	5.6	2.3	1
12952	EFH (C15-C20)	n.a.	5.6 U	5.6	2.3	1
12952	EFH (C21-C30)	n.a.	9.0	5.6	2.3	1
12952	EFH (C30-C40)	n.a.	16	11	4.5	1
12952	EFH (C8-C11)	n.a.	5.6 U	5.6	2.3	1
Metals SW-846 6010C						
01643	Aluminum	7429-90-5	18,800	44.8	8.08	1
06944	Antimony	7440-36-0	4.48 U	4.48	0.829	1
06935	Arsenic	7440-38-2	2.29 J	4.48	0.784	1
06946	Barium	7440-39-3	82.9	1.12	0.0370	1
06947	Beryllium	7440-41-7	0.709 J	1.12	0.0750	1
07914	Boron	7440-42-8	12.1	11.2	0.941	1
06949	Cadmium	7440-43-9	0.115 J	1.12	0.0851	1
01650	Calcium	7440-70-2	8,860	22.4	3.74	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-575-SA8-SB-9.0-10.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7154024
LL Group # 1409993
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/07/2013 09:15 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/08/2013 09:15
Reported: 08/21/2013 14:13

57590 SDG#: PH086-05

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals						
		SW-846 6010C	mg/kg	mg/kg	mg/kg	
06951	Chromium	7440-47-3	23.2	3.36	0.179	1
06952	Cobalt	7440-48-4	6.19	1.12	0.111	1
06953	Copper	7440-50-8	16.3	2.24	0.325	1
01654	Iron	7439-89-6	24,000	44.8	4.05	1
06955	Lead	7439-92-1	5.90	3.36	0.560	1
01656	Lithium	7439-93-2	21.2	4.5	0.38	1
01657	Magnesium	7439-95-4	4,970	11.2	1.87	1
06958	Manganese	7439-96-5	312	1.12	0.0930	1
06960	Molybdenum	7439-98-7	2.24 U	2.24	0.190	1
06961	Nickel	7440-02-0	13.2	2.24	0.146	1
10145	Phosphorus	7723-14-0	436	11.2	3.24	1
01662	Potassium	7440-09-7	2,720	112	9.34	1
01667	Sodium	7440-23-5	106 J	112	18.7	1
06969	Tin	7440-31-5	3.21 J	11.2	0.246	1
06970	Titanium	7440-32-6	1,280	1.12	0.190	1
06971	Vanadium	7440-62-2	47.4	1.12	0.146	1
06972	Zinc	7440-66-6	49.4	4.48	0.224	1
10146	Zirconium	7440-67-7	2.01 J	5.60	0.941	1
		SW-846 6020A	mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	0.448 U	0.448	0.112	2
06142	Silver	7440-22-4	0.0470 J	0.224	0.0291	2
06144	Strontium	7440-24-6	43.4	0.448	0.0762	2
06145	Thallium	7440-28-0	0.369	0.224	0.0336	2
		SW-846 7471B	mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.0163 J	0.0181	0.0109	1
Wet Chemistry						
		SW-846 9045D modified	Std. Units	Std. Units	Std. Units	
00394	15a pH by 9045D The pH was measured in water at 22.7 C.	n.a.	8.16	0.0100	0.0100	1
Wet Chemistry						
		EPA 160.3 modified	%	%	%	
11624	14a Moisture Content by 160.3 Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.	n.a.	11.6	0.10	0.10	1

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

*=This limit was used in the evaluation of the final result

Sample Description: SL-575-SA8-SB-9.0-10.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7154024
LL Group # 1409993
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/07/2013 09:15 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/08/2013 09:15
Reported: 08/21/2013 14:13

57590 SDG#: PH086-05

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13225SLA026	08/15/2013 14:03	Mark A Clark	10
10811	BNA Soil Microwave SIM	SW-846 3546	1	13225SLA026	08/14/2013 08:30	Anna E Stager	1
05551	11a TPH by EPA 8015B GRO	TPH GRO SW-846 8015B mod	1	13224A16A	08/12/2013 22:41	Laura M Krieger	23.58
06130	GC - 5 g HL Encore Prep	SW-846 5035A	1	201322031992	08/08/2013 14:21	Mitchell R Washel	n.a.
06130	GC - 5 g HL Encore Prep	SW-846 5035A	2	201322031992	08/08/2013 14:22	Mitchell R Washel	n.a.
10401	21a Herbicides by EPA 8151A	SW-846 8151A	1	132250009A	08/16/2013 17:11	Melissa McDermott	1
10590	20a Pesticides by EPA 8081B	SW-846 8081B	1	132250011A	08/19/2013 19:26	Jamie L Brillhart	1
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132250001A	08/14/2013 23:59	Monica M Souders	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132250001A	08/13/2013 16:25	JoElla L Rice	1
10496	PPL Pest. Microwave Extraction	SW-846 3546	2	132250011A	08/14/2013 03:00	Sherry L Morrow	1
04181	Herbicide Soil Extraction	SW-846 3550B/SW-846 8151A	1	132250009A	08/14/2013 05:30	Roman Kuropatkin	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132260015A	08/16/2013 18:27	Heather E Williams	1
12959	EPH soil ext. (microwave)	SW-846 3546	1	132260015A	08/15/2013 02:30	Sherry L Morrow	1
01643	Aluminum	SW-846 6010C	1	132200637001	08/16/2013 12:46	Eric L Eby	1
06944	Antimony	SW-846 6010C	1	132200637001	08/16/2013 12:46	Eric L Eby	1
06935	Arsenic	SW-846 6010C	1	132200637001	08/16/2013 12:46	Eric L Eby	1
06946	Barium	SW-846 6010C	1	132200637001	08/16/2013 12:46	Eric L Eby	1
06947	Beryllium	SW-846 6010C	1	132200637001	08/16/2013 12:46	Eric L Eby	1
07914	Boron	SW-846 6010C	1	132200637001	08/16/2013 12:46	Eric L Eby	1
06949	Cadmium	SW-846 6010C	1	132200637001	08/16/2013 12:46	Eric L Eby	1
01650	Calcium	SW-846 6010C	1	132200637001	08/16/2013 12:46	Eric L Eby	1
06951	Chromium	SW-846 6010C	1	132200637001	08/16/2013 12:46	Eric L Eby	1
06952	Cobalt	SW-846 6010C	1	132200637001	08/16/2013 12:46	Eric L Eby	1
06953	Copper	SW-846 6010C	1	132200637001	08/16/2013 12:46	Eric L Eby	1
01654	Iron	SW-846 6010C	1	132200637001	08/16/2013 12:46	Eric L Eby	1
06955	Lead	SW-846 6010C	1	132200637001	08/16/2013 12:46	Eric L Eby	1
01656	Lithium	SW-846 6010C	1	132200637001	08/16/2013 12:46	Eric L Eby	1
01657	Magnesium	SW-846 6010C	1	132200637001	08/16/2013 12:46	Eric L Eby	1
06958	Manganese	SW-846 6010C	1	132200637001	08/16/2013 12:46	Eric L Eby	1
06960	Molybdenum	SW-846 6010C	1	132200637001	08/16/2013 12:46	Eric L Eby	1
06961	Nickel	SW-846 6010C	1	132200637001	08/16/2013 12:46	Eric L Eby	1
10145	Phosphorus	SW-846 6010C	1	132200637001	08/16/2013 12:46	Eric L Eby	1
01662	Potassium	SW-846 6010C	1	132200637001	08/16/2013 12:46	Eric L Eby	1
01667	Sodium	SW-846 6010C	1	132200637001	08/16/2013 12:46	Eric L Eby	1
06969	Tin	SW-846 6010C	1	132200637001	08/16/2013 12:46	Eric L Eby	1
06970	Titanium	SW-846 6010C	1	132200637001	08/16/2013 12:46	Eric L Eby	1
06971	Vanadium	SW-846 6010C	1	132200637001	08/16/2013 12:46	Eric L Eby	1
06972	Zinc	SW-846 6010C	1	132200637001	08/16/2013 12:46	Eric L Eby	1
10146	Zirconium	SW-846 6010C	1	132200637001	08/16/2013 12:46	Eric L Eby	1
06141	Selenium	SW-846 6020A	1	132200637001B	08/14/2013 13:21	Choon Y Tian	2
06142	Silver	SW-846 6020A	1	132200637001A	08/14/2013 13:21	Choon Y Tian	2
06144	Strontium	SW-846 6020A	1	132200637001A	08/14/2013 13:21	Choon Y Tian	2

*=This limit was used in the evaluation of the final result

Sample Description: SL-575-SA8-SB-9.0-10.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7154024
LL Group # 1409993
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/07/2013 09:15 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/08/2013 09:15

Reported: 08/21/2013 14:13

57590 SDG#: PH086-05

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
06145	Thallium	SW-846 6020A	1	132200637001A	08/14/2013	13:21	Choon Y Tian	2
00159	3a Mercury 7471A	SW-846 7471B	1	132200638001	08/15/2013	14:37	Parker D Lindstrom	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132200637001	08/09/2013	09:35	Denise K Conners	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132200638001	08/09/2013	11:25	Denise K Conners	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13220039402A	08/08/2013	21:30	Michelle L Lalli	1
11624	14a Moisture Content by 160.3	EPA 160.3 modified	1	13221162402B	08/09/2013	23:20	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-566-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7154025
LL Group # 1409993
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/07/2013 12:00 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/08/2013 09:15
Reported: 08/21/2013 14:13

56600 SDG#: PH086-06

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	1.7 U	1.7	0.68	1
12969	Acenaphthylene	208-96-8	1.7 U	1.7	0.34	1
12969	Anthracene	120-12-7	1.7 U	1.7	0.34	1
12969	Benzo(a)anthracene	56-55-3	1.7 U	1.7	0.68	1
12969	Benzo(a)pyrene	50-32-8	1.7 U	1.7	0.68	1
12969	Benzo(b)fluoranthene	205-99-2	1.2 J	1.7	0.68	1
12969	Benzo(e)pyrene	192-97-2	17 U	17	3.4	1
12969	Benzo(g,h,i)perylene	191-24-2	1.7 U	1.7	0.68	1
12969	Benzo(k)fluoranthene	207-08-9	1.7 U	1.7	0.68	1
12969	Butylbenzylphthalate	85-68-7	18 U	18	6.1	1
12969	Di-n-butylphthalate	84-74-2	18 U	18	6.1	1
12969	Chrysene	218-01-9	1.4 J	1.7	0.34	1
12969	Dibenz(a,h)anthracene	53-70-3	1.7 U	1.7	0.68	1
12969	Diethylphthalate	84-66-2	18 U	18	6.1	1
12969	Dimethylphthalate	131-11-3	18 U	18	6.1	1
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	18 U	18	6.1	1
12969	Fluoranthene	206-44-0	1.4 J	1.7	0.68	1
12969	Fluorene	86-73-7	1.7 U	1.7	0.68	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	1.7 U	1.7	0.68	1
12969	1-Methylnaphthalene	90-12-0	1.6 J	1.7	0.68	1
12969	2-Methylnaphthalene	91-57-6	0.76 J	1.7	0.68	1
12969	Naphthalene	91-20-3	0.95 J	1.7	0.68	1
12969	N-Nitrosodimethylamine	62-75-9	1.7 U	1.7	0.68	1
12969	Di-n-octylphthalate	117-84-0	18 U	18	6.1	1
12969	Phenanthrene	85-01-8	1.2 J	1.7	0.68	1
12969	Pyrene	129-00-0	1.1 J	1.7	0.68	1
Pesticides/PCBs	SW-846 8082A		ug/kg	ug/kg	ug/kg	
10592	Aroclor 5432	63496-31-1	34 U	34	10	1
10592	Aroclor 5442	12642-23-8	34 U	34	10	1
10592	Aroclor 5460	11126-42-4	34 U	34	10	1
10592	PCB-1016	12674-11-2	17 U	17	3.4	1
10592	PCB-1221	11104-28-2	17 U	17	5.2	1
10592	PCB-1232	11141-16-5	17 U	17	4.2	1
10592	PCB-1242	53469-21-9	17 U	17	4.2	1
10592	PCB-1248	12672-29-6	17 U	17	3.4	1
10592	PCB-1254	11097-69-1	17 U	17	4.5	1
10592	PCB-1260	11096-82-5	17 U	17	4.0	1
10592	PCB-1262	37324-23-5	17 U	17	3.4	1
10592	PCB-1268	11100-14-4	17 U	17	3.4	1
GC Petroleum	SW-846 8015B modified		mg/kg	mg/kg	mg/kg	
Hydrocarbons						
12952	EFH (C12-C14)	n.a.	5.1 U	5.1	2.0	1
12952	EFH (C15-C20)	n.a.	3.1 J	5.1	2.0	1
12952	EFH (C21-C30)	n.a.	20	5.1	2.0	1
12952	EFH (C30-C40)	n.a.	40	10	4.1	1
12952	EFH (C8-C11)	n.a.	5.1 U	5.1	2.0	1
Metals	SW-846 6010C		mg/kg	mg/kg	mg/kg	

*=This limit was used in the evaluation of the final result

Sample Description: SL-566-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7154025
LL Group # 1409993
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/07/2013 12:00 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/08/2013 09:15
Reported: 08/21/2013 14:13

56600 SDG#: PH086-06

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals						
		SW-846 6010C	mg/kg	mg/kg	mg/kg	
01643	Aluminum	7429-90-5	31,400	40.3	7.27	1
06944	Antimony	7440-36-0	4.03 U	4.03	0.746	1
06935	Arsenic	7440-38-2	3.69 J	4.03	0.706	1
06946	Barium	7440-39-3	144	1.01	0.0333	1
06947	Beryllium	7440-41-7	1.02	1.01	0.0676	1
07914	Boron	7440-42-8	16.9	10.1	0.847	1
06949	Cadmium	7440-43-9	0.268 J	1.01	0.0766	1
01650	Calcium	7440-70-2	6,860	20.2	3.37	1
06951	Chromium	7440-47-3	37.3	3.02	0.161	1
06952	Cobalt	7440-48-4	9.89	1.01	0.0998	1
06953	Copper	7440-50-8	22.8	2.02	0.292	1
01654	Iron	7439-89-6	33,600	202	18.2	5
06955	Lead	7439-92-1	12.2	3.02	0.504	1
01656	Lithium	7439-93-2	25.7	4.0	0.34	1
01657	Magnesium	7439-95-4	6,680	10.1	1.68	1
06958	Manganese	7439-96-5	482	1.01	0.0837	1
06960	Molybdenum	7439-98-7	2.02 U	2.02	0.171	1
06961	Nickel	7440-02-0	20.7	2.02	0.131	1
10145	Phosphorus	7723-14-0	304	10.1	2.91	1
01662	Potassium	7440-09-7	5,190	101	8.41	1
01667	Sodium	7440-23-5	85.2 J	101	16.8	1
06969	Tin	7440-31-5	3.12 J	10.1	0.222	1
06970	Titanium	7440-32-6	1,230	1.01	0.171	1
06971	Vanadium	7440-62-2	69.2	1.01	0.131	1
06972	Zinc	7440-66-6	72.3	4.03	0.202	1
10146	Zirconium	7440-67-7	4.39 J	5.04	0.847	1
		SW-846 6020A	mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	0.326 J	0.403	0.101	2
06142	Silver	7440-22-4	0.0772 J	0.202	0.0262	2
06144	Strontium	7440-24-6	48.7	0.403	0.0686	2
06145	Thallium	7440-28-0	0.445	0.202	0.0302	2
		SW-846 7471B	mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.0131 J	0.0169	0.0102	1
Wet Chemistry						
		SW-846 9045D modified	Std. Units	Std. Units	Std. Units	
00394	15a pH by 9045D The pH was measured in water at 22 C.	n.a.	7.34	0.0100	0.0100	1
Wet Chemistry						
		EPA 160.3 modified	%	%	%	
11624	14a Moisture Content by 160.3 Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.	n.a.	1.8	0.10	0.10	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-566-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7154025
LL Group # 1409993
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/07/2013 12:00 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/08/2013 09:15
Reported: 08/21/2013 14:13

56600 SDG#: PH086-06

CAT No.	Analysis Name	CAS Number	Dry Result		Dry MRL*	Dry EDL	Dilution Factor
Dioxins/Furans			ng/kg		ng/kg	ng/kg	
EPA 1613B							
11031	2378-TCDD	1746-01-6	1.00	U	1.00	0.0499	1
11031	12378-PeCDD	40321-76-4	5.00	U	5.00	0.0534	1
11031	123478-HxCDD	39227-28-6	0.0923	J	5.00	0.0458	1
11031	123678-HxCDD	57653-85-7	0.420	JB	5.00	0.0507	1
11031	123789-HxCDD	19408-74-3	0.556	JQ	5.00	0.0492	1
11031	1234678-HpCDD	35822-46-9	4.88	JB	5.00	0.0733	1
11031	OCDD	3268-87-9	45.9	B	10.0	0.0466	1
11031	2378-TCDF	51207-31-9	1.00	U	1.00	0.0494	1
11031	12378-PeCDF	57117-41-6	0.233	JB	5.00	0.0284	1
11031	23478-PeCDF	57117-31-4	0.0731	J	5.00	0.0257	1
11031	123478-HxCDF	70648-26-9	0.0551	JBQ	5.00	0.0228	1
11031	123678-HxCDF	57117-44-9	0.0898	JBQ	5.00	0.0225	1
11031	123789-HxCDF	72918-21-9	0.811	JB	5.00	0.0300	1
11031	234678-HxCDF	60851-34-5	0.0659	JB	5.00	0.0226	1
11031	1234678-HpCDF	67562-39-4	0.637	JB	5.00	0.0277	1
11031	1234789-HpCDF	55673-89-7	0.0906	JQ	5.00	0.0360	1
11031	OCDF	39001-02-0	1.53	JB	10.0	0.0498	1

Toxic Equivalents		EPA 1613B	ng/kg	ng/kg	ng/kg	
11031	TEQ WHO 2005 - EDLx0.0	n.a.	0.237			1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	64	25 - 164
13C12-12378-PeCDD	82	25 - 181
13C12-123478-HxCDD	73	32 - 141
13C12-123678-HxCDD	78	28 - 130
13C12-123789-HxCDD	77	28 - 130
13C12-1234678-HpCDD	84	23 - 140
13C12-OCDD	86	17 - 157
13C12-2378-TCDF	67	24 - 169
13C12-12378-PeCDF	81	24 - 185
13C12-23478-PeCDF	81	21 - 178
13C12-123478-HxCDF	65	26 - 152
13C12-123678-HxCDF	66	26 - 123
13C12-234678-HxCDF	66	28 - 136
13C12-123789-HxCDF	67	29 - 147
13C12-1234678-HpCDF	75	28 - 143
13C12-1234789-HpCDF	74	26 - 138
13C12-OCDF	71	17 - 157

Dioxins/Furans Data Qualifiers:

- B Detected in Method Blank
- U Undetected
- J Estimated concentration between Estimated Detection Limit and Minimum Level
- E Exceeds calibration range
- C Confirmed quantitation on secondary GC column
- Q EMPC - Estimated Maximum Possible Concentration

*=This limit was used in the evaluation of the final result

Sample Description: SL-566-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7154025
LL Group # 1409993
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/07/2013 12:00 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/08/2013 09:15

Reported: 08/21/2013 14:13

56600 SDG#: PH086-06

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
F	Interference is present					
S	Saturation of detection signal					

*=This limit was used in the evaluation of the final result

Sample Description: SL-566-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7154025
LL Group # 1409993
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/07/2013 12:00 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/08/2013 09:15

Reported: 08/21/2013 14:13

56600 SDG#: PH086-06

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13225SLA026	08/15/2013 06:51	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	13225SLA026	08/14/2013 08:30	Anna E Stager	1
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132250001A	08/15/2013 00:18	Monica M Souders	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132250001A	08/13/2013 16:25	JoElla L Rice	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132260015A	08/15/2013 22:51	Heather E Williams	1
12959	EFH soil ext. (microwave)	SW-846 3546	1	132260015A	08/15/2013 02:30	Sherry L Morrow	1
11031	23a Dioxin/Furan by EPA 1613B	EPA 1613B	1	13227001	08/17/2013 12:51	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	13227001	08/15/2013 14:00	Brett M Weidman	1
01643	Aluminum	SW-846 6010C	1	132200637001	08/16/2013 12:50	Eric L Eby	1
06944	Antimony	SW-846 6010C	1	132200637001	08/16/2013 12:50	Eric L Eby	1
06935	Arsenic	SW-846 6010C	1	132200637001	08/16/2013 12:50	Eric L Eby	1
06946	Barium	SW-846 6010C	1	132200637001	08/16/2013 12:50	Eric L Eby	1
06947	Beryllium	SW-846 6010C	1	132200637001	08/16/2013 12:50	Eric L Eby	1
07914	Boron	SW-846 6010C	1	132200637001	08/16/2013 12:50	Eric L Eby	1
06949	Cadmium	SW-846 6010C	1	132200637001	08/16/2013 12:50	Eric L Eby	1
01650	Calcium	SW-846 6010C	1	132200637001	08/16/2013 12:50	Eric L Eby	1
06951	Chromium	SW-846 6010C	1	132200637001	08/16/2013 12:50	Eric L Eby	1
06952	Cobalt	SW-846 6010C	1	132200637001	08/16/2013 12:50	Eric L Eby	1
06953	Copper	SW-846 6010C	1	132200637001	08/16/2013 12:50	Eric L Eby	1
01654	Iron	SW-846 6010C	1	132200637001	08/16/2013 23:59	John W Yanzuk II	5
06955	Lead	SW-846 6010C	1	132200637001	08/16/2013 12:50	Eric L Eby	1
01656	Lithium	SW-846 6010C	1	132200637001	08/16/2013 12:50	Eric L Eby	1
01657	Magnesium	SW-846 6010C	1	132200637001	08/16/2013 12:50	Eric L Eby	1
06958	Manganese	SW-846 6010C	1	132200637001	08/16/2013 12:50	Eric L Eby	1
06960	Molybdenum	SW-846 6010C	1	132200637001	08/16/2013 12:50	Eric L Eby	1
06961	Nickel	SW-846 6010C	1	132200637001	08/16/2013 12:50	Eric L Eby	1
10145	Phosphorus	SW-846 6010C	1	132200637001	08/16/2013 12:50	Eric L Eby	1
01662	Potassium	SW-846 6010C	1	132200637001	08/16/2013 12:50	Eric L Eby	1
01667	Sodium	SW-846 6010C	1	132200637001	08/16/2013 12:50	Eric L Eby	1
06969	Tin	SW-846 6010C	1	132200637001	08/16/2013 12:50	Eric L Eby	1
06970	Titanium	SW-846 6010C	1	132200637001	08/16/2013 12:50	Eric L Eby	1
06971	Vanadium	SW-846 6010C	1	132200637001	08/16/2013 12:50	Eric L Eby	1
06972	Zinc	SW-846 6010C	1	132200637001	08/16/2013 12:50	Eric L Eby	1
10146	Zirconium	SW-846 6010C	1	132200637001	08/16/2013 12:50	Eric L Eby	1
06141	Selenium	SW-846 6020A	1	132200637001B	08/14/2013 13:24	Choon Y Tian	2
06142	Silver	SW-846 6020A	1	132200637001A	08/14/2013 13:24	Choon Y Tian	2
06144	Strontium	SW-846 6020A	1	132200637001A	08/14/2013 13:24	Choon Y Tian	2
06145	Thallium	SW-846 6020A	1	132200637001A	08/14/2013 13:24	Choon Y Tian	2

*=This limit was used in the evaluation of the final result

Sample Description: SL-566-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7154025
LL Group # 1409993
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/07/2013 12:00 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/08/2013 09:15

Reported: 08/21/2013 14:13

56600 SDG#: PH086-06

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00159	3a Mercury 7471A	SW-846 7471B	1	132200638001	08/15/2013 14:39	Parker D Lindstrom	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132200637001	08/09/2013 09:35	Denise K Conners	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132200638001	08/09/2013 11:25	Denise K Conners	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13220039402A	08/08/2013 21:30	Michelle L Lalli	1
11624	14a Moisture Content by 160.3	EPA 160.3 modified	1	13221162402B	08/09/2013 23:20	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-566-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7154026
LL Group # 1409993
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/07/2013 12:40 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/08/2013 09:15
Reported: 08/21/2013 14:13

56640 SDG#: PH086-07*

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	1.8 U	1.8	0.73	1
12969	Acenaphthylene	208-96-8	1.8 U	1.8	0.36	1
12969	Anthracene	120-12-7	1.8 U	1.8	0.36	1
12969	Benzo(a)anthracene	56-55-3	1.8 U	1.8	0.73	1
12969	Benzo(a)pyrene	50-32-8	1.8 U	1.8	0.73	1
12969	Benzo(b)fluoranthene	205-99-2	1.8 U	1.8	0.73	1
12969	Benzo(e)pyrene	192-97-2	19 U	19	3.6	1
12969	Benzo(g,h,i)perylene	191-24-2	1.8 U	1.8	0.73	1
12969	Benzo(k)fluoranthene	207-08-9	1.8 U	1.8	0.73	1
12969	Butylbenzylphthalate	85-68-7	20 U	20	6.6	1
12969	Di-n-butylphthalate	84-74-2	20 U	20	6.6	1
12969	Chrysene	218-01-9	0.49 J	1.8	0.36	1
12969	Dibenz(a,h)anthracene	53-70-3	1.8 U	1.8	0.73	1
12969	Diethylphthalate	84-66-2	20 U	20	6.6	1
12969	Dimethylphthalate	131-11-3	20 U	20	6.6	1
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	20 U	20	6.6	1
12969	Fluoranthene	206-44-0	1.8 U	1.8	0.73	1
12969	Fluorene	86-73-7	1.8 U	1.8	0.73	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	1.8 U	1.8	0.73	1
12969	1-Methylnaphthalene	90-12-0	1.8 U	1.8	0.73	1
12969	2-Methylnaphthalene	91-57-6	1.8 U	1.8	0.73	1
12969	Naphthalene	91-20-3	0.74 J	1.8	0.73	1
12969	N-Nitrosodimethylamine	62-75-9	1.8 U	1.8	0.73	1
12969	Di-n-octylphthalate	117-84-0	20 U	20	6.6	1
12969	Phenanthrene	85-01-8	1.8 U	1.8	0.73	1
12969	Pyrene	129-00-0	1.8 U	1.8	0.73	1
GC Volatiles	TPH GRO SW-846 8015B mod	mg/kg	mg/kg	mg/kg		
05551	11a TPH by EPA 8015B GRO	n.a.	1.4 U	1.4	0.3	32.55
Pesticides/PCBs	SW-846 8082A	ug/kg	ug/kg	ug/kg		
10592	Aroclor 5432	63496-31-1	36 U	36	11	1
10592	Aroclor 5442	12642-23-8	36 U	36	11	1
10592	Aroclor 5460	11126-42-4	36 U	36	11	1
10592	PCB-1016	12674-11-2	19 U	19	3.6	1
10592	PCB-1221	11104-28-2	19 U	19	5.6	1
10592	PCB-1232	11141-16-5	19 U	19	4.5	1
10592	PCB-1242	53469-21-9	19 U	19	4.5	1
10592	PCB-1248	12672-29-6	19 U	19	3.6	1
10592	PCB-1254	11097-69-1	19 U	19	4.8	1
10592	PCB-1260	11096-82-5	19 U	19	4.3	1
10592	PCB-1262	37324-23-5	19 U	19	3.6	1
10592	PCB-1268	11100-14-4	19 U	19	3.6	1
GC Petroleum	SW-846 8015B modified	mg/kg	mg/kg	mg/kg		
Hydrocarbons						
12952	EFH (C12-C14)	n.a.	5.4 U	5.4	2.2	1
12952	EFH (C15-C20)	n.a.	2.2 J	5.4	2.2	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-566-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7154026
LL Group # 1409993
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/07/2013 12:40 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/08/2013 09:15
Reported: 08/21/2013 14:13

56640 SDG#: PH086-07*

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC Petroleum						
Hydrocarbons						
		SW-846 8015B modified	mg/kg	mg/kg	mg/kg	
12952	EFH (C21-C30)	n.a.	7.0	5.4	2.2	1
12952	EFH (C30-C40)	n.a.	12	11	4.4	1
12952	EFH (C8-C11)	n.a.	5.4 U	5.4	2.2	1
Metals						
		SW-846 6010C	mg/kg	mg/kg	mg/kg	
01643	Aluminum	7429-90-5	31,200	43.5	7.84	1
06944	Antimony	7440-36-0	4.35 U	4.35	0.805	1
06935	Arsenic	7440-38-2	4.11 J	4.35	0.762	1
06946	Barium	7440-39-3	135	1.09	0.0359	1
06947	Beryllium	7440-41-7	1.01 J	1.09	0.0729	1
07914	Boron	7440-42-8	16.3	10.9	0.914	1
06949	Cadmium	7440-43-9	0.104 J	1.09	0.0827	1
01650	Calcium	7440-70-2	11,100	21.8	3.63	1
06951	Chromium	7440-47-3	32.8	3.26	0.174	1
06952	Cobalt	7440-48-4	8.32	1.09	0.108	1
06953	Copper	7440-50-8	17.1	2.18	0.316	1
01654	Iron	7439-89-6	30,600	218	19.7	5
06955	Lead	7439-92-1	9.45	3.26	0.544	1
01656	Lithium	7439-93-2	30.2	4.4	0.37	1
01657	Magnesium	7439-95-4	6,090	10.9	1.82	1
06958	Manganese	7439-96-5	417	1.09	0.0903	1
06960	Molybdenum	7439-98-7	2.18 U	2.18	0.185	1
06961	Nickel	7440-02-0	19.3	2.18	0.141	1
10145	Phosphorus	7723-14-0	164	10.9	3.14	1
01662	Potassium	7440-09-7	3,070	109	9.07	1
01667	Sodium	7440-23-5	546	109	18.2	1
06969	Tin	7440-31-5	3.33 J	10.9	0.239	1
06970	Titanium	7440-32-6	1,260	1.09	0.185	1
06971	Vanadium	7440-62-2	60.5	1.09	0.141	1
06972	Zinc	7440-66-6	57.6	4.35	0.218	1
10146	Zirconium	7440-67-7	3.15 J	5.44	0.914	1
		SW-846 6020A	mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	0.132 J	0.435	0.109	2
06142	Silver	7440-22-4	0.0838 J	0.218	0.0283	2
06144	Strontium	7440-24-6	51.5	0.435	0.0740	2
06145	Thallium	7440-28-0	0.374	0.218	0.0326	2
		SW-846 7471B	mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.0189	0.0171	0.0103	1
Wet Chemistry						
		SW-846 9045D modified	Std. Units	Std. Units	Std. Units	
00394	15a pH by 9045D The pH was measured in water at 21.8 C.	n.a.	8.31	0.0100	0.0100	1
Wet Chemistry						
		EPA 160.3 modified	%	%	%	
11624	14a Moisture Content by 160.3	n.a.	9.0	0.10	0.10	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-566-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7154026
LL Group # 1409993
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/07/2013 12:40 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/08/2013 09:15

Reported: 08/21/2013 14:13

56640 SDG#: PH086-07*

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Wet Chemistry	EPA 160.3 modified		%	%	%	
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

*=This limit was used in the evaluation of the final result

Sample Description: SL-566-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7154026
LL Group # 1409993
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/07/2013 12:40 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/08/2013 09:15
Reported: 08/21/2013 14:13

56640 SDG#: PH086-07*

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
Dioxins/Furans			ng/kg	ng/kg	ng/kg	
EPA 1613B						
11031	2378-TCDD	1746-01-6	1.09 U	1.09	0.0521	1
11031	12378-PeCDD	40321-76-4	5.43 U	5.43	0.0618	1
11031	123478-HxCDD	39227-28-6	0.0633 JQ	5.43	0.0299	1
11031	123678-HxCDD	57653-85-7	0.117 JBQ	5.43	0.0337	1
11031	123789-HxCDD	19408-74-3	0.145 JQ	5.43	0.0345	1
11031	1234678-HpCDD	35822-46-9	0.915 JB	5.43	0.0575	1
11031	OCDD	3268-87-9	7.14 JB	10.9	0.0313	1
11031	2378-TCDF	51207-31-9	0.0575 JQ	1.09	0.0460	1
11031	12378-PeCDF	57117-41-6	0.104 JBQ	5.43	0.0299	1
11031	23478-PeCDF	57117-31-4	0.159 JQ	5.43	0.0249	1
11031	123478-HxCDF	70648-26-9	0.0505 JBQ	5.43	0.0208	1
11031	123678-HxCDF	57117-44-9	0.0444 JBQ	5.43	0.0186	1
11031	123789-HxCDF	72918-21-9	0.168 JB	5.43	0.0229	1
11031	234678-HxCDF	60851-34-5	0.0269 JBQ	5.43	0.0185	1
11031	1234678-HpCDF	67562-39-4	0.159 JB	5.43	0.0207	1
11031	1234789-HpCDF	55673-89-7	0.0504 JQ	5.43	0.0299	1
11031	OCDF	39001-02-0	0.319 JB	10.9	0.0455	1

Toxic Equivalents		EPA 1613B	ng/kg	ng/kg	ng/kg	
11031	TEQ WHO 2005 - EDLx0.0	n.a.	0.0297			1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	83	25 - 164
13C12-12378-PeCDD	92	25 - 181
13C12-123478-HxCDD	81	32 - 141
13C12-123678-HxCDD	83	28 - 130
13C12-123789-HxCDD	81	28 - 130
13C12-1234678-HpCDD	87	23 - 140
13C12-OCDD	86	17 - 157
13C12-2378-TCDF	79	24 - 169
13C12-12378-PeCDF	92	24 - 185
13C12-23478-PeCDF	95	21 - 178
13C12-123478-HxCDF	68	26 - 152
13C12-123678-HxCDF	75	26 - 123
13C12-234678-HxCDF	72	28 - 136
13C12-123789-HxCDF	76	29 - 147
13C12-1234678-HpCDF	85	28 - 143
13C12-1234789-HpCDF	74	26 - 138
13C12-OCDF	64	17 - 157

Dioxins/Furans Data Qualifiers:

- B Detected in Method Blank
- U Undetected
- J Estimated concentration between Estimated Detection Limit and Minimum Level
- E Exceeds calibration range
- C Confirmed quantitation on secondary GC column
- Q EMPC - Estimated Maximum Possible Concentration

*=This limit was used in the evaluation of the final result

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Sample Description: SL-566-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7154026
LL Group # 1409993
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/07/2013 12:40 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/08/2013 09:15

Reported: 08/21/2013 14:13

56640 SDG#: PH086-07*

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
F	Interference is present					
S	Saturation of detection signal					

*=This limit was used in the evaluation of the final result

Sample Description: SL-566-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7154026
LL Group # 1409993
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/07/2013 12:40 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
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Submitted: 08/08/2013 09:15
Reported: 08/21/2013 14:13

56640 SDG#: PH086-07*

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13225SLA026	08/15/2013 07:24	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	13225SLA026	08/14/2013 08:30	Anna E Stager	1
05551	11a TPH by EPA 8015B GRO	TPH GRO SW-846 8015B mod	1	13224A16A	08/12/2013 23:19	Laura M Krieger	32.55
06130	GC - 5 g HL Encore Prep	SW-846 5035A	1	201322031992	08/08/2013 14:23	Mitchell R Washel	n.a.
06130	GC - 5 g HL Encore Prep	SW-846 5035A	2	201322031992	08/08/2013 14:23	Mitchell R Washel	n.a.
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132250001A	08/15/2013 00:36	Monica M Souders	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132250001A	08/13/2013 16:25	JoElla L Rice	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132260015A	08/15/2013 21:49	Heather E Williams	1
12959	EPH soil ext. (microwave)	SW-846 3546	1	132260015A	08/15/2013 02:30	Sherry L Morrow	1
11031	23a Dioxin/Furan by EPA 1613B	EPA 1613B	1	13227001	08/17/2013 13:47	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	13227001	08/15/2013 14:00	Brett M Weidman	1
01643	Aluminum	SW-846 6010C	1	132200637001	08/16/2013 12:53	Eric L Eby	1
06944	Antimony	SW-846 6010C	1	132200637001	08/16/2013 12:53	Eric L Eby	1
06935	Arsenic	SW-846 6010C	1	132200637001	08/16/2013 12:53	Eric L Eby	1
06946	Barium	SW-846 6010C	1	132200637001	08/16/2013 12:53	Eric L Eby	1
06947	Beryllium	SW-846 6010C	1	132200637001	08/16/2013 12:53	Eric L Eby	1
07914	Boron	SW-846 6010C	1	132200637001	08/16/2013 12:53	Eric L Eby	1
06949	Cadmium	SW-846 6010C	1	132200637001	08/16/2013 12:53	Eric L Eby	1
01650	Calcium	SW-846 6010C	1	132200637001	08/16/2013 12:53	Eric L Eby	1
06951	Chromium	SW-846 6010C	1	132200637001	08/16/2013 12:53	Eric L Eby	1
06952	Cobalt	SW-846 6010C	1	132200637001	08/16/2013 12:53	Eric L Eby	1
06953	Copper	SW-846 6010C	1	132200637001	08/16/2013 12:53	Eric L Eby	1
01654	Iron	SW-846 6010C	1	132200637001	08/17/2013 00:03	John W Yanzuk II	5
06955	Lead	SW-846 6010C	1	132200637001	08/16/2013 12:53	Eric L Eby	1
01656	Lithium	SW-846 6010C	1	132200637001	08/16/2013 12:53	Eric L Eby	1
01657	Magnesium	SW-846 6010C	1	132200637001	08/16/2013 12:53	Eric L Eby	1
06958	Manganese	SW-846 6010C	1	132200637001	08/16/2013 12:53	Eric L Eby	1
06960	Molybdenum	SW-846 6010C	1	132200637001	08/16/2013 12:53	Eric L Eby	1
06961	Nickel	SW-846 6010C	1	132200637001	08/16/2013 12:53	Eric L Eby	1
10145	Phosphorus	SW-846 6010C	1	132200637001	08/16/2013 12:53	Eric L Eby	1
01662	Potassium	SW-846 6010C	1	132200637001	08/16/2013 12:53	Eric L Eby	1
01667	Sodium	SW-846 6010C	1	132200637001	08/16/2013 12:53	Eric L Eby	1
06969	Tin	SW-846 6010C	1	132200637001	08/16/2013 12:53	Eric L Eby	1
06970	Titanium	SW-846 6010C	1	132200637001	08/16/2013 12:53	Eric L Eby	1
06971	Vanadium	SW-846 6010C	1	132200637001	08/16/2013 12:53	Eric L Eby	1
06972	Zinc	SW-846 6010C	1	132200637001	08/16/2013 12:53	Eric L Eby	1
10146	Zirconium	SW-846 6010C	1	132200637001	08/16/2013 12:53	Eric L Eby	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-566-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7154026
LL Group # 1409993
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/07/2013 12:40 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/08/2013 09:15

Reported: 08/21/2013 14:13

56640 SDG#: PH086-07*

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
06141	Selenium	SW-846 6020A	1	132200637001B	08/14/2013	13:26	Choon Y Tian	2
06142	Silver	SW-846 6020A	1	132200637001A	08/14/2013	13:26	Choon Y Tian	2
06144	Strontium	SW-846 6020A	1	132200637001A	08/14/2013	13:26	Choon Y Tian	2
06145	Thallium	SW-846 6020A	1	132200637001A	08/14/2013	13:26	Choon Y Tian	2
00159	3a Mercury 7471A	SW-846 7471B	1	132200638001	08/15/2013	14:41	Parker D Lindstrom	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132200637001	08/09/2013	09:35	Denise K Conners	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132200638001	08/09/2013	11:25	Denise K Conners	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13220039402A	08/08/2013	21:30	Michelle L Lalli	1
11624	14a Moisture Content by 160.3	EPA 160.3 modified	1	13221162402B	08/09/2013	23:20	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/21/13 at 02:13 PM

Group Number: 1409993

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ**</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>	
Batch number: Y132281AA										
Sample number(s): 7154020										
Acetone	20	U	20.	6	ug/l	134	118	35-181	13	30
Acrolein	100	U	100.	40	ug/l	96	97	46-146	1	30
Acrylonitrile	20	U	20.	4	ug/l	84	82	61-130	3	30
t-Amyl methyl ether	5	U	5.	0.8	ug/l	97	98	66-120	2	30
Benzene	5	U	5.	0.5	ug/l	102	102	77-121	0	30
Bromobenzene	5	U	5.	1	ug/l	102	103	80-120	1	30
Bromochloromethane	5	U	5.	1	ug/l	120	118	80-121	1	30
Bromodichloromethane	5	U	5.	1	ug/l	107	106	73-120	1	30
Bromoform	5	U	5.	1	ug/l	110	108	61-120	1	30
Bromomethane	5	U	5.	1	ug/l	89	89	51-120	0	30
2-Butanone	10	U	10.	3	ug/l	115	106	57-141	8	30
t-Butyl alcohol	50	U	50.	10	ug/l	112	109	75-120	2	30
n-Butylbenzene	5	U	5.	1	ug/l	99	102	73-130	3	30
sec-Butylbenzene	5	U	5.	1	ug/l	101	104	74-124	3	30
tert-Butylbenzene	5	U	5.	1	ug/l	97	99	80-120	2	30
Carbon Disulfide	5	U	5.	1	ug/l	74	76	68-121	3	30
Carbon Tetrachloride	5	U	5.	1	ug/l	115	114	65-137	1	30
Chlorobenzene	5	U	5.	0.8	ug/l	110	111	80-120	1	30
Chloroethane	5	U	5.	1	ug/l	80	81	60-120	2	30
2-Chloroethyl Vinyl Ether	10	U	10.	2	ug/l	98	104	52-127	6	30
Chloroform	5	U	5.	0.8	ug/l	112	111	77-122	1	30
1-Chlorohexane	5	U	5.	1	ug/l	103	106	70-130	3	30
Chloromethane	5	U	5.	1	ug/l	86	90	54-123	5	30
2-Chlorotoluene	5	U	5.	1	ug/l	101	103	80-120	2	30
4-Chlorotoluene	5	U	5.	1	ug/l	100	103	80-120	3	30
Chlorotrifluoroethene	5	U	5.	2	ug/l	76	77	47-120	2	30
1,2-Dibromo-3-chloropropane	5	U	5.	2	ug/l	100	99	56-120	2	30
Dibromochloromethane	5	U	5.	1	ug/l	105	105	72-120	0	30
1,2-Dibromoethane	5	U	5.	1	ug/l	110	109	76-120	0	30
Dibromomethane	5	U	5.	1	ug/l	108	107	80-120	0	30
1,2-Dichlorobenzene	5	U	5.	1	ug/l	110	111	80-120	0	30
1,3-Dichlorobenzene	5	U	5.	1	ug/l	106	107	80-120	1	30
1,4-Dichlorobenzene	5	U	5.	1	ug/l	108	109	80-120	1	30
Dichlorodifluoromethane	5	U	5.	2	ug/l	99	101	35-122	2	30
1,1-Dichloroethane	5	U	5.	1	ug/l	102	101	79-120	1	30
1,2-Dichloroethane	5	U	5.	1	ug/l	117	114	64-130	2	30
1,1-Dichloroethene	5	U	5.	0.8	ug/l	95	94	76-124	0	30
cis-1,2-Dichloroethene	5	U	5.	0.8	ug/l	106	104	80-120	2	30
trans-1,2-Dichloroethene	5	U	5.	0.8	ug/l	101	99	80-120	1	30
1,2-Dichloropropane	5	U	5.	1	ug/l	103	105	80-120	2	30
1,3-Dichloropropane	5	U	5.	1	ug/l	101	103	80-120	2	30
2,2-Dichloropropane	5	U	5.	1	ug/l	107	108	67-124	1	30

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

- (1) The result for one or both determinations was less than five times the LOQ / MRL.
- (2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/21/13 at 02:13 PM

Group Number: 1409993

Analysis Name	Blank Result	Blank LOQ**	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
1,1-Dichloropropene	5 U	5.	1	ug/l	105	107	80-120	2	30
cis-1,3-Dichloropropene	5 U	5.	1	ug/l	104	106	78-120	2	30
trans-1,3-Dichloropropene	5 U	5.	1	ug/l	95	96	66-124	2	30
Ethyl t-butyl ether	5 U	5.	0.8	ug/l	94	96	66-120	2	30
Ethylbenzene	5 U	5.	0.8	ug/l	101	103	79-120	3	30
Freon 113	5 U	5.	2	ug/l	99	99	69-128	0	30
Freon 133a	5 U	5.	2	ug/l	93	97	64-120	4	30
Hexachlorobutadiene	5 U	5.	2	ug/l	105	109	58-120	4	30
2-Hexanone	10 U	10.	3	ug/l	98	96	59-125	2	30
di-Isopropyl ether	5 U	5.	0.8	ug/l	93	94	65-120	1	30
Isopropylbenzene	5 U	5.	1	ug/l	103	105	77-120	2	30
p-Isopropyltoluene	5 U	5.	1	ug/l	101	103	77-121	2	30
Methyl Iodide	5 U	5.	1	ug/l	104	103	71-122	2	30
Methyl Tertiary Butyl Ether	5 U	5.	0.5	ug/l	97	96	68-121	1	30
4-Methyl-2-pentanone	10 U	10.	3	ug/l	97	95	65-122	2	30
Methylene Chloride	5 U	5.	2	ug/l	98	98	84-118	0	30
n-Propylbenzene	5 U	5.	1	ug/l	100	102	77-130	2	30
Styrene	5 U	5.	1	ug/l	104	105	77-120	1	30
1,1,1,2-Tetrachloroethane	5 U	5.	1	ug/l	111	112	79-120	1	30
1,1,2,2-Tetrachloroethane	5 U	5.	1	ug/l	99	100	70-129	1	30
Tetrachloroethene	5 U	5.	0.8	ug/l	110	113	79-120	2	30
Toluene	5 U	5.	0.7	ug/l	103	105	79-120	1	30
1,2,3-Trichlorobenzene	5 U	5.	1	ug/l	112	113	67-120	1	30
1,2,4-Trichlorobenzene	5 U	5.	1	ug/l	108	108	65-120	0	30
1,1,1-Trichloroethane	5 U	5.	0.8	ug/l	102	103	66-126	2	30
1,1,2-Trichloroethane	5 U	5.	0.8	ug/l	110	110	80-120	0	30
Trichloroethene	5 U	5.	1	ug/l	112	110	80-120	2	30
Trichlorofluoromethane	5 U	5.	2	ug/l	107	106	65-130	1	30
1,2,3-Trichloropropane	5 U	5.	1	ug/l	104	104	76-120	0	30
1,2,4-Trimethylbenzene	5 U	5.	1	ug/l	102	104	69-122	2	30
1,3,5-Trimethylbenzene	5 U	5.	1	ug/l	102	105	68-124	3	30
Vinyl Acetate	10 U	10.	2	ug/l	76	79	57-147	3	30
Vinyl Chloride	5 U	5.	1	ug/l	86	91	63-120	5	30
m+p-Xylene	5 U	5.	0.8	ug/l	105	107	77-120	2	30
o-Xylene	5 U	5.	0.8	ug/l	101	103	77-120	3	30

Batch number: 13225SLA026

Sample number(s): 7154022-7154026

Acenaphthene	1.7 U	1.7	0.67	ug/kg	102		77-116		
Acenaphthylene	1.7 U	1.7	0.33	ug/kg	107		78-120		
Anthracene	1.7 U	1.7	0.33	ug/kg	105		80-116		
Benzo(a)anthracene	1.7 U	1.7	0.67	ug/kg	102		83-119		
Benzo(a)pyrene	1.7 U	1.7	0.67	ug/kg	104		80-122		
Benzo(b)fluoranthene	1.7 U	1.7	0.67	ug/kg	116		82-135		
Benzo(e)pyrene	17 U	17.	3.3	ug/kg	95		81-110		
Benzo(g,h,i)perylene	1.7 U	1.7	0.67	ug/kg	107		79-121		
Benzo(k)fluoranthene	1.7 U	1.7	0.67	ug/kg	104		79-123		
Butylbenzylphthalate	18 U	18.	6.0	ug/kg	111		77-123		
Di-n-butylphthalate	18 U	18.	6.0	ug/kg	115		78-125		
Chrysene	1.7 U	1.7	0.33	ug/kg	101		84-113		
Dibenz(a,h)anthracene	1.7 U	1.7	0.67	ug/kg	111		78-124		
Diethylphthalate	18 U	18.	6.0	ug/kg	108		77-130		
Dimethylphthalate	18 U	18.	6.0	ug/kg	106		85-122		
Bis(2-Ethylhexyl)phthalate	18 U	18.	6.0	ug/kg	105		79-121		
Fluoranthene	1.7 U	1.7	0.67	ug/kg	104		85-116		
Fluorene	1.7 U	1.7	0.67	ug/kg	105		81-126		
Indeno(1,2,3-cd)pyrene	1.7 U	1.7	0.67	ug/kg	109		77-124		

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

- (1) The result for one or both determinations was less than five times the LOQ / MRL.
- (2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/21/13 at 02:13 PM

Group Number: 1409993

Analysis Name	Blank Result	Blank LOQ**	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
1-Methylnaphthalene	1.7 U	1.7	0.67	ug/kg	107		78-119		
2-Methylnaphthalene	1.7 U	1.7	0.67	ug/kg	108		78-121		
Naphthalene	1.7 U	1.7	0.67	ug/kg	99		79-113		
N-Nitrosodimethylamine	1.7 U	1.7	0.67	ug/kg	88		71-124		
Di-n-octylphthalate	18 U	18.	6.0	ug/kg	110		76-131		
Phenanthrene	1.7 U	1.7	0.67	ug/kg	100		72-110		
Pyrene	1.7 U	1.7	0.67	ug/kg	101		79-112		

Batch number: 13225WAH026	Sample number (s): 7154020								
Acenaphthene	0.050 U	0.050	0.010	ug/l	104	100	77-118	4	30
Acenaphthylene	0.050 U	0.050	0.010	ug/l	119	114	80-123	4	30
Anthracene	0.050 U	0.050	0.010	ug/l	107	101	78-123	6	30
Benzo(a)anthracene	0.050 U	0.050	0.010	ug/l	98	95	73-127	3	30
Benzo(a)pyrene	0.050 U	0.050	0.010	ug/l	98	96	72-120	3	30
Benzo(b)fluoranthene	0.050 U	0.050	0.010	ug/l	99	100	79-136	0	30
Benzo(e)pyrene	0.050 U	0.050	0.010	ug/l	97	93	70-130	4	30
Benzo(g,h,i)perylene	0.050 U	0.050	0.010	ug/l	107	102	64-130	4	30
Benzo(k)fluoranthene	0.050 U	0.050	0.010	ug/l	115	105	73-131	9	30
Butylbenzylphthalate	1.0 U	1.0	0.050	ug/l	77	65	40-138	18	30
Di-n-butylphthalate	0.14 J	1.0	0.050	ug/l	112	97	64-141	14	30
Chrysene	0.050 U	0.050	0.010	ug/l	106	102	76-125	4	30
Dibenz(a,h)anthracene	0.050 U	0.050	0.010	ug/l	107	103	58-131	4	30
Diethylphthalate	0.077 J	1.0	0.050	ug/l	116	108	64-128	7	30
Dimethylphthalate	1.0 U	1.0	0.050	ug/l	97	86	23-139	12	30
Bis(2-Ethylhexyl)phthalate	0.077 J	1.0	0.050	ug/l	93	81	70-143	13	30
Fluoranthene	0.050 U	0.050	0.010	ug/l	108	85	79-124	23	30
Fluorene	0.050 U	0.050	0.010	ug/l	107	103	74-115	3	30
Indeno(1,2,3-cd)pyrene	0.050 U	0.050	0.010	ug/l	102	96	62-130	7	30
1-Methylnaphthalene	0.050 U	0.050	0.010	ug/l	115	111	80-126	3	30
2-Methylnaphthalene	0.050 U	0.050	0.010	ug/l	113	106	81-124	6	30
Naphthalene	0.050 U	0.050	0.030	ug/l	112	107	75-120	5	30
N-Nitrosodimethylamine	0.050 U	0.050	0.010	ug/l	76	76	36-120	0	30
Di-n-octylphthalate	1.0 U	1.0	0.050	ug/l	76	72	57-145	5	30
Phenanthrene	0.050 U	0.050	0.030	ug/l	104	100	75-120	5	30
Pyrene	0.050 U	0.050	0.010	ug/l	110	102	71-130	7	30

Batch number: 13225WAI026	Sample number (s): 7154020								
Aniline	1 U	1.	0.5	ug/l	68	59	44-101	15	30
Benzidine	60 U	60.	20	ug/l	37	28	20-82	28	30
Benzoic acid	15 U	15.	6	ug/l	40	51	10-69	23	30
Benzyl alcohol	15 U	15.	5	ug/l	97	98	59-114	1	30
1,1'-Biphenyl	1 U	1.	0.5	ug/l	94	91	60-120	2	30
4-Bromophenyl-phenylether	1 U	1.	0.5	ug/l	96	94	75-115	2	30
2-butoxy-Ethanol	5 U	5.	5	ug/l					
Carbazole	1 U	1.	0.5	ug/l	101	95	70-128	7	30
4-Chloro-3-methylphenol	1 U	1.	0.5	ug/l	105	99	67-131	6	30
4-Chloroaniline	1 U	1.	0.5	ug/l	80	68	46-112	16	30
bis(2-Chloroethoxy)methane	1 U	1.	0.5	ug/l	101	98	65-125	3	30
bis(2-Chloroethyl) ether	1 U	1.	0.5	ug/l	99	98	73-112	2	30
bis(2-Chloroisopropyl) ether	1 U	1.	0.5	ug/l	94	93	67-115	2	30
2-Chloronaphthalene	1 U	1.	0.4	ug/l	94	95	60-138	1	30
2-Chlorophenol	1 U	1.	0.5	ug/l	101	97	76-111	4	30
4-Chlorophenyl-phenylether	1 U	1.	0.5	ug/l	96	92	77-114	4	30
Dibenzofuran	1 U	1.	0.5	ug/l	97	96	81-110	1	30
1,2-Dichlorobenzene	1 U	1.	0.5	ug/l	94	91	69-107	3	30
1,3-Dichlorobenzene	1 U	1.	0.5	ug/l	93	90	57-115	3	30

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- (1) The result for one or both determinations was less than five times the LOQ / MRL.
- (2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/21/13 at 02:13 PM

Group Number: 1409993

Analysis Name	Blank Result	Blank LOQ**	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
1,4-Dichlorobenzene	1 U	1.	0.5	ug/l	93	89	61-109	4	30
3,3'-Dichlorobenzidine	5 U	5.	2	ug/l	90	84	47-108	6	30
2,4-Dichlorophenol	1 U	1.	0.5	ug/l	105	96	84-114	9	30
2,6-Dichlorophenol	1 U	1.	0.5	ug/l	101	94	80-116	6	30
2,4-Dimethylphenol	1 U	1.	0.5	ug/l	100	96	66-125	4	30
3,5-Dimethylphenol	10 U	10.	3	ug/l	108	106	70-130	1	30
4,6-Dinitro-2-methylphenol	15 U	15.	5	ug/l	94	84	68-131	12	30
2,4-Dinitrophenol	30 U	30.	10	ug/l	88	85	43-137	3	30
1,2-Diphenylhydrazine	1 U	1.	0.5	ug/l	101	97	68-127	3	30
Hexachlorobenzene	0.5 U	0.5	0.1	ug/l	90	87	74-126	4	30
Hexachlorobutadiene	1 U	1.	0.5	ug/l	90	86	56-119	4	30
Hexachlorocyclopentadiene	15 U	15.	5	ug/l	53	55	21-126	4	30
Hexachloroethane	5 U	5.	1	ug/l	92	89	55-109	3	30
Isophorone	1 U	1.	0.5	ug/l	106	102	68-124	4	30
2-Methylphenol	1 U	1.	0.5	ug/l	96	94	61-118	3	30
4-Methylphenol	1 U	1.	0.5	ug/l	93	97	54-112	4	30
NDPA as diphenylamine	5 U	5.	2	ug/l	101	97	70-130	4	30
2-Nitroaniline	1 U	1.	0.5	ug/l	109	109	84-122	1	30
3-Nitroaniline	1 U	1.	0.5	ug/l	94	86	70-118	9	30
4-Nitroaniline	1 U	1.	0.5	ug/l	95	87	61-110	8	30
Nitrobenzene	1 U	1.	0.5	ug/l	103	99	67-123	4	30
2-Nitrophenol	1 U	1.	0.5	ug/l	106	94	84-118	12	30
4-Nitrophenol	30 U	30.	10	ug/l	86	81	16-91	5	30
N-Nitroso-di-n-propylamine	1 U	1.	0.5	ug/l	99	99	71-117	0	30
N-Nitrosodiphenylamine	1 U	1.	0.5	ug/l	101	97	80-115	4	30
Pentachlorophenol	5 U	5.	1	ug/l	92	83	50-129	10	30
Phenol	1 U	1.	0.5	ug/l	69	69	23-82	1	30
2-phenoxy-Ethanol	5 U	5.	5	ug/l					
Pyridine	5 U	5.	2	ug/l	79	77	22-96	3	30
1,2,3,4-Tetrahydronaphthalene	5 U	5.	5	ug/l					
1,2,4-Trichlorobenzene	1 U	1.	0.5	ug/l	96	93	71-112	4	30
2,4,5-Trichlorophenol	1 U	1.	0.5	ug/l	103	92	81-121	12	30
2,4,6-Trichlorophenol	1 U	1.	0.5	ug/l	102	96	84-119	6	30

Batch number: 13224A16A Sample number(s): 7154023-7154024,7154026
11a TPH by EPA 8015B GRO 1.0 U 1.0 0.2 mg/kg 95 67-119

Batch number: 13224A20A Sample number(s): 7154020-7154021
TPH-GRO S.CA water C5-C12 50 U 50. 20 ug/l 102 102 75-135 0 30

Batch number: 132220010A Sample number(s): 7154020

2,4-D	0.50 U	0.50	0.16	ug/l	106	110	68-155	4	30
Dalapon	1.3 U	1.3	0.25	ug/l	76	65	39-115	14	30
2,4-DB	1.0 U	1.0	0.30	ug/l	106	106	50-163	1	30
Dicamba	0.30 U	0.30	0.080	ug/l	91	93	55-163	2	30
Dinoseb	0.50 U	0.50	0.12	ug/l	127	112	16-163	13	30
2,4-DP (Dichlorprop)	0.50 U	0.50	0.16	ug/l	140	141	89-162	1	30
MCPA	200 U	200.	50	ug/l	94	94	68-154	0	30
MCPP	200 U	200.	50	ug/l	91	91	46-173	1	30
2,4,5-T	0.050 U	0.050	0.015	ug/l	105	105	55-169	0	30
2,4,5-TP	0.050 U	0.050	0.010	ug/l	115	121	58-155	5	30

Batch number: 132250009A Sample number(s): 7154022-7154024
2,4-D 36 U 36. 12 ug/kg 103 59-122

*- Outside of specification

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/21/13 at 02:13 PM

Group Number: 1409993

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ**</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Dalapon	90 U	90.	44	ug/kg	45		25-100		
2,4-DB	17 U	17.	6.2	ug/kg	108		54-131		
Dicamba	12 U	12.	4.0	ug/kg	83		60-123		
Dinoseb	24 U	24.	9.0	ug/kg	12		10-36		
2,4-DP (Dichlorprop)	17 U	17.	9.0	ug/kg	132		65-158		
MCPA	2,500 U	2,500.	760	ug/kg	85		60-127		
MCPP (Mecoprop)	2,500 U	2,500.	750	ug/kg	93		54-134		
2,4,5-T	1.7 U	1.7	0.82	ug/kg	105		58-135		
2,4,5-TP	1.7 U	1.7	0.75	ug/kg	111		63-130		
Batch number: 132240016A	Sample number(s): 7154023								
Aldrin	0.83 U	0.83	0.17	ug/kg	96		73-119		
Alpha BHC	0.83 U	0.83	0.17	ug/kg	104		72-126		
Beta BHC	1.9 U	1.9	0.96	ug/kg	107		76-123		
Gamma BHC - Lindane	0.83 U	0.83	0.17	ug/kg	103		72-128		
Chlordane	17 U	17.	4.0	ug/kg					
p,p-DDD	1.7 U	1.7	0.33	ug/kg	106		76-138		
p,p-DDE	1.7 U	1.7	0.33	ug/kg	107		76-126		
p,p-DDT	1.7 U	1.7	0.35	ug/kg	101		72-131		
Delta BHC	0.83 U	0.83	0.45	ug/kg	108		73-128		
Dieldrin	1.7 U	1.7	0.33	ug/kg	106		78-135		
Endosulfan I	0.83 U	0.83	0.22	ug/kg	101		62-125		
Endosulfan II	1.7 U	1.7	0.33	ug/kg	107		68-128		
Endosulfan Sulfate	1.7 U	1.7	0.33	ug/kg	112		72-138		
Endrin	1.7 U	1.7	0.33	ug/kg	95		75-130		
Endrin Aldehyde	1.7 U	1.7	0.33	ug/kg	100		55-132		
Endrin Ketone	1.8 U	1.8	0.60	ug/kg	112		74-127		
Heptachlor	0.83 U	0.83	0.17	ug/kg	98		69-125		
Heptachlor Epoxide	0.83 U	0.83	0.17	ug/kg	104		78-125		
Methoxychlor	6.7 U	6.7	1.7	ug/kg	105		59-125		
Mirex	1.7 U	1.7	0.35	ug/kg					
Toxaphene	33 U	33.	14	ug/kg					
Batch number: 132250001A	Sample number(s): 7154022-7154026								
Aroclor 5432	33 U	33.	10	ug/kg					
Aroclor 5442	33 U	33.	10	ug/kg	76	73	36-106	4	30
Aroclor 5460	33 U	33.	10	ug/kg					
PCB-1016	17 U	17.	3.3	ug/kg	97		80-120		
PCB-1221	17 U	17.	5.1	ug/kg					
PCB-1232	17 U	17.	4.1	ug/kg					
PCB-1242	17 U	17.	4.1	ug/kg					
PCB-1248	17 U	17.	3.3	ug/kg					
PCB-1254	17 U	17.	4.4	ug/kg					
PCB-1260	17 U	17.	3.9	ug/kg	102		72-120		
PCB-1262	17 U	17.	3.3	ug/kg					
PCB-1268	17 U	17.	3.3	ug/kg					
Batch number: 132250011A	Sample number(s): 7154022,7154024								
Aldrin	0.83 U	0.83	0.17	ug/kg	107		73-119		
Alpha BHC	0.83 U	0.83	0.17	ug/kg	110		72-126		
Beta BHC	1.9 U	1.9	0.96	ug/kg	116		76-123		
Gamma BHC - Lindane	0.83 U	0.83	0.17	ug/kg	111		72-128		
Chlordane	17 U	17.	4.0	ug/kg					
p,p-DDD	1.7 U	1.7	0.33	ug/kg	119		76-138		

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/21/13 at 02:13 PM

Group Number: 1409993

Analysis Name	Blank Result	Blank LOQ**	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
p,p-DDE	1.7 U	1.7	0.33	ug/kg	121		76-126		
p,p-DDT	1.7 U	1.7	0.35	ug/kg	118		72-131		
Delta BHC	0.83 U	0.83	0.45	ug/kg	117		73-128		
Dieldrin	1.7 U	1.7	0.33	ug/kg	115		78-135		
Endosulfan I	0.83 U	0.83	0.22	ug/kg	109		62-125		
Endosulfan II	1.7 U	1.7	0.33	ug/kg	118		68-128		
Endosulfan Sulfate	1.7 U	1.7	0.33	ug/kg	126		72-138		
Endrin	1.7 U	1.7	0.33	ug/kg	108		75-130		
Endrin Aldehyde	1.7 U	1.7	0.33	ug/kg	112		55-132		
Endrin Ketone	1.8 U	1.8	0.60	ug/kg	121		74-127		
Heptachlor	0.83 U	0.83	0.17	ug/kg	107		69-125		
Heptachlor Epoxide	0.83 U	0.83	0.17	ug/kg	114		78-125		
Methoxychlor	6.7 U	6.7	1.7	ug/kg	117		59-125		
Mirex	1.7 U	1.7	0.35	ug/kg					
Toxaphene	33 U	33.	14	ug/kg					

Batch number: 132260003A	Sample number(s): 7154020								
Aldrin	0.0080 U	0.0080	0.0016	ug/l	78	73	55-126	7	30
Alpha BHC	0.0080 U	0.0080	0.0024	ug/l	90	85	63-132	6	30
Beta BHC	0.0080 U	0.0080	0.0027	ug/l	96	91	63-132	5	30
Gamma BHC - Lindane	0.0080 U	0.0080	0.0016	ug/l	89	83	68-128	8	30
Chlordane	0.40 U	0.40	0.13	ug/l					
p,p-DDD	0.016 U	0.016	0.0040	ug/l	100	94	62-143	7	30
p,p-DDE	0.016 U	0.016	0.0040	ug/l	93	85	56-137	9	30
p,p-DDT	0.016 U	0.016	0.0042	ug/l	92	79	45-134	16	30
Delta BHC	0.0080 U	0.0080	0.0027	ug/l	93	87	63-131	7	30
Dieldrin	0.016 U	0.016	0.0042	ug/l	92	85	65-135	8	30
Endosulfan I	0.0080 U	0.0080	0.0034	ug/l	90	83	48-124	8	30
Endosulfan II	0.016 U	0.016	0.012	ug/l	93	86	53-123	7	30
Endosulfan Sulfate	0.016 U	0.016	0.0046	ug/l	87	82	60-129	6	30
Endrin	0.016 U	0.016	0.0065	ug/l	85	78	43-139	8	30
Endrin Aldehyde	0.080 U	0.080	0.016	ug/l	91	82	55-123	11	20
Endrin Ketone	0.016 U	0.016	0.0040	ug/l	94	88	51-138	7	30
Heptachlor	0.0080 U	0.0080	0.0016	ug/l	80	75	57-126	5	30
Heptachlor Epoxide	0.0080 U	0.0080	0.0018	ug/l	91	84	65-128	8	30
Methoxychlor	0.080 U	0.080	0.024	ug/l	95	86	46-134	11	30
Mirex	0.20 U	0.20	0.068	ug/l					
Toxaphene	2.4 U	2.4	0.80	ug/l					

Batch number: 132260004A	Sample number(s): 7154020								
Aroclor 5432	0.40 U	0.40	0.080	ug/l					
Aroclor 5442	0.40 U	0.40	0.080	ug/l	60	67	35-84	12	30
Aroclor 5460	0.40 U	0.40	0.088	ug/l					
PCB-1016	0.40 U	0.40	0.080	ug/l	93	90	69-120	3	30
PCB-1221	0.40 U	0.40	0.080	ug/l					
PCB-1232	0.40 U	0.40	0.16	ug/l					
PCB-1242	0.40 U	0.40	0.080	ug/l					
PCB-1248	0.40 U	0.40	0.080	ug/l					
PCB-1254	0.40 U	0.40	0.080	ug/l					
PCB-1260	0.40 U	0.40	0.12	ug/l	100	101	69-128	1	30
PCB-1262	0.40 U	0.40	0.16	ug/l					
PCB-1268	0.40 U	0.40	0.13	ug/l					

Batch number: 132250021A	Sample number(s): 7154020								
EFH (C12-C14)	0.10 U	0.10	0.050	mg/l	101	102	70-130	1	30
EFH (C15-C20)	0.10 U	0.10	0.050	mg/l	105	106	70-130	1	30

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/21/13 at 02:13 PM

Group Number: 1409993

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ**</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
EFH (C21-C30)	0.10 U	0.10	0.050	mg/l	107	109	70-130	1	30
EFH (C30 - C40)	0.50 U	0.50	0.10	mg/l	108	107	70-130	2	30
EFH (C8-C11)	0.10 U	0.10	0.050	mg/l	92	91	70-130	1	30
Batch number: 132260015A	Sample number(s): 7154022-7154026								
EFH (C12-C14)	5.0 U	5.0	2.0	mg/kg	101		70-123		
EFH (C15-C20)	5.0 U	5.0	2.0	mg/kg	103		75-128		
EFH (C21-C30)	5.0 U	5.0	2.0	mg/kg	105		64-134		
EFH (C30-C40)	10 U	10.	4.0	mg/kg	73		65-128		
EFH (C8-C11)	5.0 U	5.0	2.0	mg/kg	92		49-107		
Batch number: 132200637001	Sample number(s): 7154022-7154026								
Aluminum	40.0 U	40.0	7.21	mg/kg	103		80-120		
Antimony	4.00 U	4.00	0.740	mg/kg	104		80-120		
Arsenic	4.00 U	4.00	0.700	mg/kg	100		80-120		
Barium	1.00 U	1.00	0.0330	mg/kg	102		80-120		
Beryllium	1.00 U	1.00	0.0670	mg/kg	100		80-120		
Boron	10.0 U	10.0	0.840	mg/kg	93		80-120		
Cadmium	1.00 U	1.00	0.0760	mg/kg	100		80-120		
Calcium	3.70 J	20.0	3.34	mg/kg	104		80-120		
Chromium	3.00 U	3.00	0.160	mg/kg	102		80-120		
Cobalt	1.00 U	1.00	0.0990	mg/kg	103		80-120		
Copper	2.00 U	2.00	0.290	mg/kg	107		80-120		
Iron	40.0 U	40.0	3.62	mg/kg	103		80-120		
Lead	3.00 U	3.00	0.500	mg/kg	104		80-120		
Lithium	0.85 J	4.0	0.34	mg/kg	102		80-120		
Magnesium	10.0 U	10.0	1.67	mg/kg	104		80-120		
Manganese	1.00 U	1.00	0.0830	mg/kg	103		80-120		
Molybdenum	2.00 U	2.00	0.170	mg/kg	102		80-120		
Nickel	2.00 U	2.00	0.130	mg/kg	105		80-120		
Phosphorus	10.0 U	10.0	2.89	mg/kg	103		80-120		
Potassium	100 U	100.	8.34	mg/kg	102		80-120		
Sodium	100 U	100.	16.7	mg/kg	101		80-120		
Tin	1.92 J	10.0	0.220	mg/kg	99		80-120		
Titanium	1.00 U	1.00	0.170	mg/kg	104		80-120		
Vanadium	1.00 U	1.00	0.130	mg/kg	102		80-120		
Zinc	0.422 J	4.00	0.200	mg/kg	101		80-120		
Zirconium	5.00 U	5.00	0.840	mg/kg	103		80-120		
Batch number: 132200637001A	Sample number(s): 7154022-7154026								
Silver	0.200 U	0.200	0.0260	mg/kg	110		80-120		
Strontium	0.400 U	0.400	0.0680	mg/kg	102		80-120		
Thallium	0.200 U	0.200	0.0300	mg/kg	103		80-120		
Batch number: 132200637001B	Sample number(s): 7154022-7154026								
Selenium	0.400 U	0.400	0.100	mg/kg	106		80-120		
Batch number: 132200638001	Sample number(s): 7154022-7154026								
3a Mercury 7471A	0.0167 U	0.0167	0.0100	mg/kg	114		85-120		
Batch number: 132250635001	Sample number(s): 7154020								
Aluminum	0.400 U	0.400	0.0828	mg/l	105	104	80-120	1	20
Antimony	0.0400 U	0.0400	0.0053	mg/l	119	120	80-120	1	20
Arsenic	0.0400 U	0.0400	0.0068	mg/l	97	98	80-120	2	20

*- Outside of specification

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- (2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/21/13 at 02:13 PM

Group Number: 1409993

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ**</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Barium	0.0100 U	0.0100	0.00033	mg/l	104	104	80-120	0	20
Beryllium	0.0100 U	0.0100	0.00067	mg/l	100	101	80-120	0	20
Boron	0.100 U	0.100	0.0084	mg/l	98	98	80-120	1	20
Cadmium	0.0100 U	0.0100	0.00076	mg/l	104	105	80-120	0	20
Calcium	0.400 U	0.400	0.0334	mg/l	105	106	80-120	2	20
Chromium	0.0300 U	0.0300	0.0016	mg/l	103	104	80-120	1	20
Cobalt	0.0100 U	0.0100	0.0013	mg/l	107	107	80-120	0	20
Copper	0.0200 U	0.0200	0.0027	mg/l	101	101	80-120	0	20
Iron	0.400 U	0.400	0.0430	mg/l	103	106	80-120	3	20
Lead	0.0300 U	0.0300	0.0047	mg/l	98	97	80-120	2	20
Lithium	0.0400 U	0.0400	0.0047	mg/l	102	101	80-120	1	20
Magnesium	0.200 U	0.200	0.0167	mg/l	104	105	80-120	0	20
Manganese	0.0100 U	0.0100	0.00083	mg/l	104	104	80-120	1	20
Molybdenum	0.0200 U	0.0200	0.0017	mg/l	110	111	80-120	1	20
Nickel	0.0200 U	0.0200	0.0015	mg/l	108	109	80-120	1	20
Phosphorus	0.200 U	0.200	0.0418	mg/l	108	107	80-120	0	20
Potassium	1.00 U	1.00	0.0980	mg/l	102	104	80-120	2	20
Sodium	2.00 U	2.00	0.167	mg/l	102	104	80-120	2	20
Tin	0.0400 U	0.0400	0.0029	mg/l	105	105	80-120	0	20
Titanium	0.0200 U	0.0200	0.0017	mg/l	106	107	80-120	1	20
Vanadium	0.0100 U	0.0100	0.0020	mg/l	105	105	80-120	0	20
Zinc	0.0400 U	0.0400	0.0020	mg/l	107	106	80-120	1	20
Zirconium	0.100 U	0.100	0.0084	mg/l	102	104	80-120	2	20

Batch number: 132250639001A	Sample number(s): 7154020								
Silver	0.0010 U	0.0010	0.00011	mg/l	94	95	90-115	1	20
Strontium	0.0020 U	0.0020	0.00034	mg/l	93	97	80-120	4	20
Thallium	0.0010 U	0.0010	0.00015	mg/l	103	101	80-120	2	20

Batch number: 132250639001B	Sample number(s): 7154020								
Selenium	0.0040 U	0.0040	0.00050	mg/l	102	105	80-120	2	20

Batch number: 132255713002	Sample number(s): 7154020								
3b Mercury 7470A	0.00020 U	0.00020	0.00006	mg/l	103	104	90-115	1	20

Batch number: 13220039402A	Sample number(s): 7154022-7154026								
15a pH by 9045D					100		95-105		

Batch number: 13220121522A	Sample number(s): 7154020								
28b pH (9040B and 9040C)					100		99-103		

Batch number: 13221162402B	Sample number(s): 7154022-7154026								
14a Moisture Content by 160.3					100		80-120		

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MRL**</u>	<u>Blank EDL</u>	<u>Report Units</u>	<u>OPR %REC</u>	<u>OPRD %REC</u>	<u>OPR/OPRD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 13227001	Sample number(s): 7154022-7154023, 7154025-7154026								
2378-TCDD	1.00 U	1.00	0.0760	ng/kg	99		67-158		
12378-PeCDD	0.0796 J	5.00	0.0681	ng/kg	103		70-142		
123478-HxCDD	5.00 U	5.00	0.0263	ng/kg	99		70-164		
123678-HxCDD	0.0344 J	5.00	0.0291	ng/kg	92		76-134		
123789-HxCDD	5.00 U	5.00	0.0306	ng/kg	94		64-162		
1234678-HpCDD	0.0682 J	5.00	0.0395	ng/kg	91		70-140		

*- Outside of specification

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/21/13 at 02:13 PM

Group Number: 1409993

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MRL**</u>	<u>Blank EDL</u>	<u>Report Units</u>	<u>OPR %REC</u>	<u>OPRD %REC</u>	<u>OPR/OPRD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
OCDD	0.286 J	10.0	0.0305	ng/kg	91		78-144		
2378-TCDF	1.00 U	1.00	0.0678	ng/kg	98		75-158		
12378-PeCDF	0.0421 J	5.00	0.0314	ng/kg	95		80-134		
23478-PeCDF	0.0576 J	5.00	0.0324	ng/kg	93		68-160		
123478-HxCDF	0.0398 J	5.00	0.0242	ng/kg	94		72-134		
123678-HxCDF	0.0310 J	5.00	0.0233	ng/kg	93		84-130		
123789-HxCDF	0.0558 J	5.00	0.0306	ng/kg	93		78-130		
234678-HxCDF	0.0316 J	5.00	0.0229	ng/kg	93		70-156		
1234678-HpCDF	0.0368 J	5.00	0.0134	ng/kg	93		82-122		
1234789-HpCDF	5.00 U	5.00	0.0225	ng/kg	91		78-138		
OCDF	0.112 J	10.0	0.0583	ng/kg	90		63-170		

Batch number: 13228001

Sample number(s): 7154020

2378-TCDD	1.00 J	2.00	0.570	pg/l	102		60-150		
12378-PeCDD	2.06 J	10.0	0.587	pg/l	109		60-150		
123478-HxCDD	2.40 J	10.0	0.347	pg/l	106		60-150		
123678-HxCDD	2.98 J	10.0	0.373	pg/l	99		60-150		
123789-HxCDD	2.30 J	10.0	0.394	pg/l	102		60-150		
1234678-HpCDD	2.77 J	10.0	0.362	pg/l	100		60-150		
OCDD	7.37 J	20.0	0.313	pg/l	103		60-150		
2378-TCDF	2.00 U	2.00	0.386	pg/l	108		60-150		
12378-PeCDF	1.79 J	10.0	0.263	pg/l	110		60-150		
23478-PeCDF	1.38 J	10.0	0.240	pg/l	109		60-150		
123478-HxCDF	2.10 J	10.0	0.209	pg/l	104		60-150		
123678-HxCDF	2.29 J	10.0	0.210	pg/l	105		60-150		
123789-HxCDF	1.61 J	10.0	0.224	pg/l	101		60-150		
234678-HxCDF	2.02 J	10.0	0.199	pg/l	102		60-150		
1234678-HpCDF	2.23 J	10.0	0.176	pg/l	102		60-150		
1234789-HpCDF	2.18 J	10.0	0.209	pg/l	100		60-150		
OCDF	6.01 J	20.0	0.366	pg/l	99		60-150		

Batch number: 13227001
TEQ WHO 2005 - EDLx0.0

Sample number(s): 7154022-7154023, 7154025-7154026
0.0110 ng/kg

Batch number: 13228001
TEQ WHO 2005 - EDLx0.0

Sample number(s): 7154020
2.16 pg/l

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

<u>Analysis Name</u>	<u>MS %REC</u>	<u>MSD %REC</u>	<u>MS/MSD Limits</u>	<u>RPD</u>	<u>BKG MAX</u>	<u>BKG Conc</u>	<u>DUP Conc</u>	<u>DUP RPD</u>	<u>Dup RPD Max</u>
Batch number: 13225SLA026	Sample number(s): 7154022-7154026 UNSPK: P152828								
Acenaphthene	96	97	48-127	2	30				
Acenaphthylene	101	103	49-121	2	30				
Anthracene	100	102	52-126	3	30				
Benzo (a) anthracene	96	98	44-143	3	30				

*- Outside of specification

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/21/13 at 02:13 PM

Group Number: 1409993

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

<u>Analysis Name</u>	<u>MS</u> <u>%REC</u>	<u>MSD</u> <u>%REC</u>	<u>MS/MSD</u> <u>Limits</u>	<u>RPD</u> <u>RPD</u>	<u>BKG</u> <u>Conc</u>	<u>DUP</u> <u>Conc</u>	<u>DUP</u> <u>RPD</u>	<u>Dup RPD</u> <u>Max</u>
Benzo(a)pyrene	90	92	44-140	2	30			
Benzo(b)fluoranthene	124	124	26-142	2	30			
Benzo(e)pyrene	94	96	70-130	3	30			
Benzo(g,h,i)perylene	43	42	33-141	1	30			
Benzo(k)fluoranthene	97	98	54-142	3	30			
Butylbenzylphthalate	149	145	49-151	2	30			
Di-n-butylphthalate	125	130	52-147	4	30			
Chrysene	93	95	29-148	3	30			
Dibenz(a,h)anthracene	56	55	20-137	1	30			
Diethylphthalate	107	109	43-145	3	30			
Dimethylphthalate	102	104	58-129	2	30			
Bis(2-Ethylhexyl)phthalate	133	129	39-167	2	30			
Fluoranthene	99	103	40-148	4	30			
Fluorene	98	100	51-137	3	30			
Indeno(1,2,3-cd)pyrene	54	53	17-136	0	30			
1-Methylnaphthalene	103	107	50-131	5	30			
2-Methylnaphthalene	102	105	35-152	4	30			
Naphthalene	96	99	31-148	3	30			
N-Nitrosodimethylamine	94	95	48-113	2	30			
Di-n-octylphthalate	184*	183*	52-162	0	30			
Phenanthrene	94	97	29-142	4	30			
Pyrene	106	109	26-143	3	30			

Batch number: 13224A16A Sample number(s): 7154023-7154024,7154026 UNSPK: P156754
11a TPH by EPA 8015B GRO 64 77 39-118 30 30

Batch number: 132250009A Sample number(s): 7154022-7154024 UNSPK: P152828
2,4-D 79 79 42-143 0 35
Dalapon 29 0* 19-109 200* 50
2,4-DB 121 116 10-179 4 50
Dicamba 98 92 45-147 6 50
Dinoseb 26 26 10-52 1 35
2,4-DP (Dichlorprop) 133 130 32-171 2 50
MCPA 94 89 23-169 5 50
MCPA (Mecoprop) 82 82 24-164 1 50
2,4,5-T 91 87 12-172 4 35
2,4,5-TP 112 106 10-142 6 35

Batch number: 132240016A Sample number(s): 7154023 UNSPK: 7154023
Aldrin 92 99 16-126 7 50
Alpha BHC 91 98 14-140 7 50
Beta BHC 97 102 10-173 5 50
Gamma BHC - Lindane 93 97 30-137 5 50
p,p-DDD 91 101 43-149 10 50
p,p-DDE 96 107 18-161 11 50
p,p-DDT 89 97 12-193 8 50
Delta BHC 93 97 13-153 4 50
Dieldrin 90 98 19-154 8 50
Endosulfan I 86 94 16-137 10 50
Endosulfan II 89 99 10-156 10 50
Endosulfan Sulfate 93 97 10-181 4 50
Endrin 87 93 30-152 7 50

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/21/13 at 02:13 PM

Group Number: 1409993

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

<u>Analysis Name</u>	<u>MS</u> <u>%REC</u>	<u>MSD</u> <u>%REC</u>	<u>MS/MSD</u> <u>Limits</u>	<u>RPD</u> <u>RPD</u>	<u>RPD</u> <u>MAX</u>	<u>BKG</u> <u>Conc</u>	<u>DUP</u> <u>Conc</u>	<u>DUP</u> <u>RPD</u>	<u>Dup RPD</u> <u>Max</u>
Endrin Aldehyde	78	84	10-152	6	35				
Endrin Ketone	86	89	10-160	4	50				
Heptachlor	90	97	16-152	7	50				
Heptachlor Epoxide	92	98	17-167	7	50				
Methoxychlor	92	99	34-168	7	50				
Batch number: 132250001A Sample number(s): 7154022-7154026 UNSPK: P152828									
PCB-1016	89	87	16-146	3	50				
PCB-1260	91	89	40-134	2	50				
Batch number: 132250011A Sample number(s): 7154022,7154024 UNSPK: P152828									
Aldrin	109	97	16-126	11	50				
Alpha BHC	102	95	14-140	7	50				
Beta BHC	107	100	10-173	6	50				
Gamma BHC - Lindane	112	96	30-137	15	50				
p,p-DDD	114	105	43-149	8	50				
p,p-DDE	136	119	18-161	13	50				
p,p-DDT	188	147	12-193	25	50				
Delta BHC	112	115	13-153	2	50				
Dieldrin	116	105	19-154	10	50				
Endosulfan I	106	96	16-137	10	50				
Endosulfan II	135	117	10-156	14	50				
Endosulfan Sulfate	117	107	10-181	9	50				
Endrin	112	101	30-152	11	50				
Endrin Aldehyde	106	95	10-152	11	35				
Endrin Ketone	107	100	10-160	7	50				
Heptachlor	118	97	16-152	20	50				
Heptachlor Epoxide	138	113	17-167	20	50				
Methoxychlor	111	104	34-168	7	50				
Batch number: 132260015A Sample number(s): 7154022-7154026 UNSPK: P156754									
EFH (C12-C14)	0*	0*	49-123	0	20				
EFH (C15-C20)	169*	117	49-123	37*	20				
EFH (C21-C30)	279*	-24*	49-123	109*	20				
EFH (C30-C40)	635*	9*	49-123	146*	20				
EFH (C8-C11)	0*	0*	49-123	0	20				
Batch number: 132200637001 Sample number(s): 7154022-7154026 UNSPK: P152828 BKG: P152828									
Aluminum	3208	2690	75-125	4	20	17,700	18,400	4	20
	(2)	(2)							
Antimony	34*	38*	75-125	14	20	3.92 U	4.00 U	0 (1)	20
Arsenic	107	106	75-125	1	20	1.69 J	2.35 J	33* (1)	20
Barium	104	102	75-125	0	20	90.4	89.5	1	20
Beryllium	106	105	75-125	0	20	0.609 J	0.614 J	1 (1)	20
Boron	95	94	75-125	0	20	11.9	11.7	2 (1)	20
Cadmium	98	105	75-125	8	20	0.573 J	0.497 J	14 (1)	20
Calcium	210 (2)	171 (2)	75-125	4	20	3,310	3,300	0	20
Chromium	121	118	75-125	1	20	19.6	19.8	1	20
Cobalt	98	98	75-125	1	20	5.35	5.36	0	20
Copper	115	117	75-125	2	20	14.6	14.6	1	20
Iron	1992	1863	75-125	1	20	20,000	20,000	0	20
	(2)	(2)							

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/21/13 at 02:13 PM

Group Number: 1409993

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

<u>Analysis Name</u>	<u>MS</u> <u>%REC</u>	<u>MSD</u> <u>%REC</u>	<u>MS/MSD</u> <u>Limits</u>	<u>RPD</u> <u>RPD</u>	<u>RPD</u> <u>MAX</u>	<u>BKG</u> <u>Conc</u>	<u>DUP</u> <u>Conc</u>	<u>DUP</u> <u>RPD</u>	<u>Dup</u> <u>RPD</u>	<u>RPD</u> <u>Max</u>
Lead	107	133*	75-125	13	20	15.1	14.8	2 (1)	20	20
Lithium	103	102	75-125	0	20	19.3	19.7	2 (1)	20	20
Magnesium	361 (2)	296 (2)	75-125	3	20	3,960	4,020	1	20	20
Manganese	125 (2)	133 (2)	75-125	1	20	282	267	5	20	20
Molybdenum	97	98	75-125	2	20	0.837 J	0.469 J	56* (1)	20	20
Nickel	101	101	75-125	1	20	11.6	11.6	0	20	20
Phosphorus	110 (2)	149 (2)	75-125	7	20	408	401	2	20	20
Potassium	157*	149*	75-125	2	20	3,220	3,290	2	20	20
Sodium	104	103	75-125	0	20	63.3 J	58.9 J	7 (1)	20	20
Tin	90	90	75-125	1	20	2.70 J	2.88 J	7 (1)	20	20
Titanium	391 (2)	369 (2)	75-125	1	20	961	1,020	6	20	20
Vanadium	120	119	75-125	0	20	36.3	36.9	1	20	20
Zinc	105	198*	75-125	26*	20	104	96.1	7	20	20
Zirconium	96	95	75-125	0	20	2.48 J	3.24 J	27* (1)	20	20
Batch number: 132200637001A	Sample number(s): 7154022-7154026 UNSPK: P152828 BKG: P152828									
Silver	120	152*	75-125	25*	20	0.0424 J	0.0480 J	13 (1)	20	20
Strontium	145*	307*	75-125	32*	20	22.9	29.6	25*	20	20
Thallium	122	182*	75-125	29*	20	0.257	0.350	31* (1)	20	20
Batch number: 132200637001B	Sample number(s): 7154022-7154026 UNSPK: P152828 BKG: P152828									
Selenium	112	136*	75-125	19	20	0.141 J	0.160 J	13 (1)	20	20
Batch number: 132200638001	Sample number(s): 7154022-7154026 UNSPK: P152828 BKG: P152828									
3a Mercury 7471A	119	123	65-135	6	20	0.0221	0.0217	2 (1)	20	20
Batch number: 13220039402A	Sample number(s): 7154022-7154026 BKG: 7154022									
15a pH by 9045D						6.91	6.99	1	3	3
Batch number: 13220121522A	Sample number(s): 7154020 BKG: 7154020									
28b pH (9040B and 9040C)						5.5	5.5	0	3	3
Batch number: 13221162402B	Sample number(s): 7154022-7154026 BKG: 7154023									
14a Moisture Content by 160.3						13.4	12.9	4	20	20

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: 12b Volatile Organics EPA8260B

Batch number: Y132281AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7154020	109	106	97	91
Blank	111	105	98	90
LCS	107	105	100	98
LCSD	106	106	101	100

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ / MRL.

(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/21/13 at 02:13 PM

Group Number: 1409993

Surrogate Quality Control

Limits:	86-118	80-120	88-110	86-115
Analysis Name:	7a SVOC SIM EPA 8270D			
Batch number:	13225SLA026			
	Fluoranthene-d10	Benzo(a)pyrene-d12	1-Methylnaphthalene-d10	
7154022	93	101	98	
7154023	93	103	103	
7154024	89	98	101	
7154025	86	91	102	
7154026	89	98	104	
Blank	74	81	88	
LCS	90	98	105	
MS	88	88	101	
MSD	87	89	105	

Limits:	54-129	59-125	61-125
Analysis Name:	7b SVOC SIM EPA 8270D		
Batch number:	13225WAH026		
	Fluoranthene-d10	Benzo(a)pyrene-d12	1-Methylnaphthalene-d10
7154020	66	79	96
Blank	79	83	84
LCS	93	96	110
LCSD	73	93	104

Limits:	44-137	62-141	51-136			
Analysis Name:	8b SVOCs by EPA 8270D					
Batch number:	13225WAI026					
	Phenol-d6	2-Fluorophenol	2,4,6-Tribromophenol	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
7154020	45	67	95	90	92	106
Blank	48	65	74	76	78	92
LCS	63	81	101	98	95	105
LCSD	63	80	90	94	93	102

Limits:	20-110	20-110	30-110	40-130	45-130	45-130
Analysis Name:	11a TPH by EPA 8015B GRO					
Batch number:	13224A16A					
	Trifluorotoluene-F					
7154023	71					
7154024	72					
7154026	71					
Blank	78					
LCS	83					
MS	67					
MSD	76					

Limits: 61-122

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/21/13 at 02:13 PM

Group Number: 1409993

Surrogate Quality Control

Analysis Name: 11b TPH by EPA 8015B GRO
Batch number: 13224A20A
Trifluorotoluene-F

7154020	87
7154021	86
Blank	86
LCS	122
LCSD	116

Limits: 63-135

Analysis Name: 24b Herbicides by EPA 8151A
Batch number: 132220010A
2,4-Dichlorophenylacetic acid

7154020	61
Blank	62
LCS	75
LCSD	76

Limits: 50-150

Analysis Name: 20a Pesticides by EPA 8081B
Batch number: 132240016A
Tetrachloro-m-xylene Decachlorobiphenyl

7154023	92	95
Blank	105	125*
LCS	107	124*
MS	95	91
MSD	102	98

Limits: 50-130 20-120

Analysis Name: 19a PCBs and PCTs 8082A
Batch number: 132250001A
Tetrachloro-m-xylene Decachlorobiphenyl

7154022	92	71
7154023	83	65
7154024	79	54
7154025	100	89
7154026	111	100
Blank	109	109
LCS	105	106
LCSD	113	115
MS	101	96
MSD	95	92

Limits: 45-120 45-120

Analysis Name: 21a Herbicides by EPA 8151A
Batch number: 132250009A
2,4-Dichlorophenylacetic

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

- (1) The result for one or both determinations was less than five times the LOQ / MRL.
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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/21/13 at 02:13 PM

Group Number: 1409993

Surrogate Quality Control

acid

7154022	65
7154023	62
7154024	62
Blank	61
LCS	71
MS	66
MSD	64

Limits: 50-150

Analysis Name: 20a Pesticides by EPA 8081B
Batch number: 132250011A

Tetrachloro-m-xylene Decachlorobiphenyl

7154022	99	100
7154024	99	106
Blank	109	130*
LCS	110	133*
MS	103	114
MSD	95	107

Limits: 50-130 20-120

Analysis Name: 22b Pesticides by EPA 8081B
Batch number: 132260003A

Tetrachloro-m-xylene Decachlorobiphenyl

7154020	83	78
Blank	90	96
LCS	87	100
LCSD	83	95

Limits: 60-140 20-120

Analysis Name: 21b PCBs and PCTs 8082A
Batch number: 132260004A

Tetrachloro-m-xylene Decachlorobiphenyl

7154020	79	61
Blank	91	88
LCS	105	91
LCSD	105	99

Limits: 45-120 45-120

Analysis Name: 10b TPH by EPA 8015B (DRO)
Batch number: 132250021A

Chlorobenzene Orthoterphenyl

7154020	104	91
Blank	93	100
LCS	99	107
LCSD	104	110

*- Outside of specification

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/21/13 at 02:13 PM

Group Number: 1409993

Surrogate Quality Control

Limits: 45-126 69-119

Analysis Name: 10a TPH by EPA 8015B (DRO)

Batch number: 132260015A

	Chlorobenzene	Orthoterphenyl
7154022	84	71
7154023	90	81
7154024	96	95
7154025	98	105
7154026	100	97
Blank	97	103
LCS	101	107
MS	103	111
MSD	97	101

Limits: 37-125 66-123

Analysis Name: 23a Dioxin/Furan by EPA 1613B

Batch number: 13227001

	13C12-2378-TCDD	13C12-23478-PeCDF	13C12-123478-HxCDF	13C12-123678-HxCDF	13C12-234678-HxCDF	13C12-123789-HxCDF
7154022	75	104	66	67	71	78
7154023	62	78	55	56	56	65
7154025	64	81	65	66	66	67
7154026	83	95	68	75	72	76
Blank	66	76	61	69	68	69
OPR	60	76	54	57	59	66

Limits: 25-164 21-178 26-152 26-123 28-136 29-147

	13C12-1234678-HpCDF	13C12-1234789-HpCDF	13C12-OCDF	13C12-12378-PeCDD	13C12-123478-HxCDD	13C12-123678-HxCDD
7154022	76	87	84	105	77	79
7154023	66	71	64	79	68	67
7154025	75	74	71	82	73	78
7154026	85	74	64	92	81	83
Blank	81	64	60	81	73	81
OPR	68	59	54	77	66	69

Limits: 28-143 26-138 17-157 25-181 32-141 28-130

	13C12-123789-HxCDD	13C12-1234678-HpCDD	13C12-OCDD	13C12-2378-TCDF	13C12-12378-PeCDF
7154022	80	91	93	77	96
7154023	68	76	79	65	77
7154025	77	84	86	67	81
7154026	81	87	86	79	92
Blank	78	83	79	63	82
OPR	69	73	68	56	73

Limits: 28-130 23-140 17-157 24-169 24-185

Analysis Name: 17b Dioxin/Furan by EPA 1613B

Batch number: 13228001

	13C12-2378-TCDD	13C12-23478-PeCDF	13C12-123478-HxCDF	13C12-123678-HxCDF	13C12-234678-HxCDF	13C12-123789-HxCDF
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*- Outside of specification

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- (1) The result for one or both determinations was less than five times the LOQ / MRL.
- (2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/21/13 at 02:13 PM

Group Number: 1409993

Surrogate Quality Control

7154020	57	81	70	74	76	92
Blank	61	90	75	76	76	92
OPR	69	97	78	80	82	90
Limits:	25-164	21-178	26-152	26-123	28-136	29-147
	13C12-1234678-HpCDF	13C12-1234789-HpCDF	13C12-OCDF	13C12-12378-PeCDD	13C12-123478-HxCDD	13C12-123678-HxCDD
7154020	77	76	78	73	66	72
Blank	82	84	86	81	70	76
OPR	82	87	91	90	77	81
Limits:	28-143	26-138	17-157	25-181	32-141	28-130
	13C12-123789-HxCDD	13C12-1234678-HpCDD	13C12-OCDD	13C12-2378-TCDF	13C12-12378-PeCDF	
7154020	69	75	76	67	82	
Blank	73	83	85	70	88	
OPR	81	85	88	74	90	
Limits:	28-130	23-140	17-157	24-169	24-185	

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

- (1) The result for one or both determinations was less than five times the LOQ / MRL.
- (2) The unspiked result was more than four times the spike added.

SSFL Phase 3 Chain of Custody

13013 1409993 7154020-26

CDM Smith
 Date Shipped: 8/7/2013
 Carrier Name: FedEx
 Airbill No: 796416013175

Contact Name: Pam Hartman
 Contact Phone: (818)466-8007

COC No: 20130807-01
 Cooler #: 1
 Lab: Lancaster
 Lab Phone: 717-556-7259
 Lab Address: 2425 New Holland Pike
 Lancaster, PA 17601

Sample	Date/Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes						
EB-080713	8/7/13 15:00	WQ	HNO3 pH<2	1 - 250 mL Poly	10 day	X	X																																			
EB-080713	8/7/13 15:00	WQ	None	5 - 250 mL Amber	10 day					X	X	X			X							X																				TIC for Tetralin only
EB-080713	8/7/13 15:00	WQ	None	4 - 1 L Amber	10 day									X								X																				
EB-080713	8/7/13 15:00	WQ	None	1 - 250 mL Poly	10 day														X																							
EB-080713	8/7/13 15:00	WQ	HCl	2 - 1 L Amber	10 day																					X																
EB-080713	8/7/13 15:00	WQ	HCl	6 - 40 mL Vial	10 day																		X	X																		

Special Instructions: Sampler: *P. Hartman*

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
<i>Steph...</i>	8/7/2013	1600									

Buenaly 8-8-13 915
Buenaly

10/1

SSFL Phase 3 Chain of Custody

13013 1409993 7154020-26

CDM Smith
 DateShipped: 8/7/2013
 CarrierName: FedEx
 AirbillNo: 796416013175

Contact Name: Pam Hartman
 Contact Phone: (818)466-8007

COC No: 20130807-02
 Cooler #: 2
 Lab: Lancaster
 Lab Phone: 717-556-7259
 Lab Address: 2425 New Holland Pike
 Lancaster, PA 17601

Sample	Date/Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Fluoride 300.0/9056	Mercury 7470 (Water)	Mercury 7471 (Soil)	Metals 6010 and 6020	TIC 8270	SVOC 8270	1,4 Dioxane 8270 SIM	PAHs 8270 SIM	Dioxins 1613	PCBs/PCTS 8082	Perchlorate Confirm 6850/6860	Perchlorate 314.0/331	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-LEH 8015	Alcohols 8015	Glycols 8015	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes		
TB-080713	8/7/13 08:00	WQ	HCl	3 - 40 mL Vial	10 day																													
SL-575-SA8-SB-0.0-0.5	8/7/13 07:40	SO	None	2 - SS-Sleeve	10 day	X	X					X	X	X	X																			
SL-575-SA8-SB-0.0-0.5	8/7/13 07:40	SO	None	1 - 4 oz glass	10 day										X																			
SL-575-SA8-SB-4.0-5.0	8/7/13 08:20	SO	None	2 - SS-Sleeve	10 day	X	X					X	X	X	X																			
SL-575-SA8-SB-4.0-5.0	8/7/13 08:20	SO	None	1 - 4 oz glass	10 day										X																			
SL-575-SA8-SB-4.0-5.0	8/7/13 08:20	SO	None	2 - Encore	10 day																X													
SL-575-SA8-SB-9.0-10.0	8/7/13 09:15	SO	None	2 - SS-Sleeve	10 day	X	X					X	X	X	X						X													
SL-575-SA8-SB-9.0-10.0	8/7/13 09:15	SO	None	1 - 4 oz glass	10 day										X																			
SL-575-SA8-SB-9.0-10.0	8/7/13 09:15	SO	None	2 - Encore	10 day																X													
SL-566-SA8-SB-0.0-0.5	8/7/13 12:00	SO	None	2 - SS-Sleeve	10 day	X	X					X	X	X	X						X													
SL-566-SA8-SB-0.0-0.5	8/7/13 12:00	SO	None	1 - 4 oz glass	10 day										X																			
SL-566-SA8-SB-4.0-5.0	8/7/13 12:40	SO	None	2 - SS-Sleeve	10 day	X	X					X	X	X	X						X													
SL-566-SA8-SB-4.0-5.0	8/7/13 12:40	SO	None	1 - 4 oz glass	10 day										X																			
SL-566-SA8-SB-4.0-5.0	8/7/13 12:40	SO	None	2 - Encore	10 day																X													

Special Instructions: _____ Sampler: *Sten M...*

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
<i>Stef Myer</i>	8/7/13	10:00									

Brunely 8.8.13 9:15
Brun

Environmental Sample Administration
Receipt Documentation Log

1409993

Client/Project: CDM

Shipping Container Sealed: YES NO

Date of Receipt: 8-8-13

Custody Seal Present * : YES NO

Time of Receipt: 915

* Custody seal was intact unless otherwise noted in the discrepancy section

Source Code: 50-1

Package: Chilled Not Chilled

Temperature of Shipping Containers

Cooler #	Thermometer ID	Temperature (°C)	Temp Bottle (TB) or Surface Temp (ST)	Wet Ice (WI) or Dry Ice (DI) or Ice Packs (IP)	Ice Present? Y/N	Loose (L) Bagged Ice (B) or NA	Comments
1	D1146	4.4	TB	WI	Y	B	
2	↓	1.6	↓	↓	↓	↓	
3	/						
4	/						
5	/						
6	/						

Number of Trip Blanks received NOT listed on chain of custody: 0

Paperwork Discrepancy/Unpacking Problems:

Unpacker Signature/Emp#: Brendy Barclay 2299 Date/Time: 8-8-13 952

Issued by Dept. 6042 Management

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	BMQL	Below Minimum Quantitation Level
N.D.	none detected	MPN	Most Probable Number
TNTC	Too Numerous To Count	CP Units	cobalt-chloroplatinate units
IU	International Units	NTU	nephelometric turbidity units
umhos/cm	micromhos/cm	ng	nanogram(s)
C	degrees Celsius	F	degrees Fahrenheit
meq	milliequivalents	lb.	pound(s)
g	gram(s)	kg	kilogram(s)
µg	microgram(s)	mg	milligram(s)
mL	milliliter(s)	L	liter(s)
m³	cubic meter(s)	µL	microliter(s)
		pg/L	picogram/liter

< less than - The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Data Qualifiers:

C – result confirmed by reanalysis.

J - estimated value – The result is \geq the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ).

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers

- A** TIC is a possible aldol-condensation product
- B** Analyte was also detected in the blank
- C** Pesticide result confirmed by GC/MS
- D** Compound quantitated on a diluted sample
- E** Concentration exceeds the calibration range of the instrument
- N** Presumptive evidence of a compound (TICs only)
- P** Concentration difference between primary and confirmation columns $>25\%$
- U** Compound was not detected
- X,Y,Z** Defined in case narrative

Inorganic Qualifiers

- B** Value is $<$ CRDL, but \geq IDL
- E** Estimated due to interference
- M** Duplicate injection precision not met
- N** Spike sample not within control limits
- S** Method of standard additions (MSA) used for calculation
- U** Compound was not detected
- W** Post digestion spike out of control limits
- *** Duplicate analysis not within control limits
- +** Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

SAMPLE DELIVERY GROUP

PH087

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

August 22, 2013

Project: SSFL Phase 3 Sampling

Submittal Date: 08/09/2013
Group Number: 1410304
SDG: PH087
PO Number: 1204-002-001-AL
State of Sample Origin: CA

<u>Client Sample Description</u>	<u>Lancaster Labs (LL) #</u>
TB-080813 Water	7155504
SL-565-SA8-SB-0.0-0.5 Soil	7155505
SL-565-SA8-SB-4.0-5.0 Soil	7155506
SL-567-SA8-SB-0.0-0.5 Soil	7155507
SL-567-SA8-SB-4.0-5.0 Soil	7155508
SL-567-SA8-SB-9.0-10.0 Soil	7155509

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC Eurofins Lancaster Labs
COPY TO

Attn: Natalie Luciano

Respectfully Submitted,



Natalie R. Luciano
Senior Specialist

(717) 556-7258

Sample Description: TB-080813 Water
SSFL Phase 3 Subarea 8

LL Sample # WW 7155504
LL Group # 1410304
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/08/2013 08:00
Submitted: 08/09/2013 09:05
Reported: 08/22/2013 07:46

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

TB808 SDG#: PH087-01TB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Dilution Factor
GC Volatiles						
	TPH GRO SW-8015B		ug/l	ug/l	ug/l	
08229	TPH-GRO S.CA water C5-C12	n.a.	50 U	50	20	1

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08229	11b TPH by EPA 8015B GRO	TPH GRO SW-8015B	1	13224A20A	08/12/2013 13:06	Catherine J Schwarz	1
01146	GC VOA Water Prep	SW-846 5030B	1	13224A20A	08/12/2013 13:06	Catherine J Schwarz	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-565-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7155505
LL Group # 1410304
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/08/2013 07:40 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/09/2013 09:05
Reported: 08/22/2013 07:46

56500 SDG#: PH087-02

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	1.8 U	1.8	0.70	1
12969	Acenaphthylene	208-96-8	1.8 U	1.8	0.35	1
12969	Anthracene	120-12-7	0.50 J	1.8	0.35	1
12969	Benzo(a)anthracene	56-55-3	1.1 J	1.8	0.70	1
12969	Benzo(a)pyrene	50-32-8	1.1 J	1.8	0.70	1
12969	Benzo(b)fluoranthene	205-99-2	4.0	1.8	0.70	1
12969	Benzo(e)pyrene	192-97-2	18 U	18	3.5	1
12969	Benzo(g,h,i)perylene	191-24-2	0.86 J	1.8	0.70	1
12969	Benzo(k)fluoranthene	207-08-9	1.2 J	1.8	0.70	1
12969	Butylbenzylphthalate	85-68-7	19 U	19	6.3	1
12969	Di-n-butylphthalate	84-74-2	19 U	19	6.3	1
12969	Chrysene	218-01-9	3.9	1.8	0.35	1
12969	Dibenz(a,h)anthracene	53-70-3	1.8 U	1.8	0.70	1
12969	Diethylphthalate	84-66-2	19 U	19	6.3	1
12969	Dimethylphthalate	131-11-3	19 U	19	6.3	1
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	19 U	19	6.3	1
12969	Fluoranthene	206-44-0	4.7	1.8	0.70	1
12969	Fluorene	86-73-7	1.8 U	1.8	0.70	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	0.71 J	1.8	0.70	1
12969	1-Methylnaphthalene	90-12-0	1.8 U	1.8	0.70	1
12969	2-Methylnaphthalene	91-57-6	1.0 J	1.8	0.70	1
12969	Naphthalene	91-20-3	1.3 J	1.8	0.70	1
12969	N-Nitrosodimethylamine	62-75-9	1.8 U	1.8	0.70	1
12969	Di-n-octylphthalate	117-84-0	19 U	19	6.3	1
12969	Phenanthrene	85-01-8	2.4	1.8	0.70	1
12969	Pyrene	129-00-0	3.3	1.8	0.70	1
Pesticides/PCBs	SW-846 8082A		ug/kg	ug/kg	ug/kg	
10592	Aroclor 5432	63496-31-1	35 U	35	11	1
10592	Aroclor 5442	12642-23-8	35 U	35	11	1
10592	Aroclor 5460	11126-42-4	35 U	35	11	1
10592	PCB-1016	12674-11-2	18 U	18	3.5	1
10592	PCB-1221	11104-28-2	18 U	18	5.4	1
10592	PCB-1232	11141-16-5	18 U	18	4.3	1
10592	PCB-1242	53469-21-9	18 U	18	4.3	1
10592	PCB-1248	12672-29-6	18 U	18	3.5	1
10592	PCB-1254	11097-69-1	18 U	18	4.6	1
10592	PCB-1260	11096-82-5	6.2 J	18	4.1	1
10592	PCB-1262	37324-23-5	18 U	18	3.5	1
10592	PCB-1268	11100-14-4	18 U	18	3.5	1
GC Petroleum	SW-846 8015B modified		mg/kg	mg/kg	mg/kg	
Hydrocarbons						
12952	EFH (C12-C14)	n.a.	5.3 U	5.3	2.1	1
12952	EFH (C15-C20)	n.a.	4.1 J	5.3	2.1	1
12952	EFH (C21-C30)	n.a.	38	5.3	2.1	1
12952	EFH (C30-C40)	n.a.	92	11	4.2	1
12952	EFH (C8-C11)	n.a.	5.3 U	5.3	2.1	1
Metals	SW-846 6010C		mg/kg	mg/kg	mg/kg	

*=This limit was used in the evaluation of the final result

Sample Description: SL-565-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7155505
LL Group # 1410304
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/08/2013 07:40 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/09/2013 09:05
Reported: 08/22/2013 07:46

56500 SDG#: PH087-02

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals						
SW-846 6010C			mg/kg	mg/kg	mg/kg	
01643	Aluminum	7429-90-5	28,900	40.6	7.31	1
06944	Antimony	7440-36-0	4.06 U	4.06	0.751	1
06935	Arsenic	7440-38-2	4.15	4.06	0.710	1
06946	Barium	7440-39-3	127	1.01	0.0335	1
06947	Beryllium	7440-41-7	0.910 J	1.01	0.0680	1
07914	Boron	7440-42-8	8.92 J	10.1	0.852	1
06949	Cadmium	7440-43-9	1.28	1.01	0.0771	1
01650	Calcium	7440-70-2	6,410	20.3	3.39	1
06951	Chromium	7440-47-3	33.4	3.04	0.162	1
06952	Cobalt	7440-48-4	8.48	1.01	0.100	1
06953	Copper	7440-50-8	21.3	2.03	0.294	1
01654	Iron	7439-89-6	30,800	203	18.4	5
06955	Lead	7439-92-1	11.5	3.04	0.507	1
01656	Lithium	7439-93-2	30.5	4.1	0.34	1
01657	Magnesium	7439-95-4	6,000	10.1	1.69	1
06958	Manganese	7439-96-5	425	1.01	0.0842	1
06960	Molybdenum	7439-98-7	0.535 J	2.03	0.172	1
06961	Nickel	7440-02-0	18.2	2.03	0.132	1
10145	Phosphorus	7723-14-0	297	10.1	2.93	1
01662	Potassium	7440-09-7	4,990	101	8.46	1
01667	Sodium	7440-23-5	100 J	101	16.9	1
06969	Tin	7440-31-5	3.47 J	10.1	0.223	1
06970	Titanium	7440-32-6	1,530	1.01	0.172	1
06971	Vanadium	7440-62-2	64.3	1.01	0.132	1
06972	Zinc	7440-66-6	76.4	4.06	0.203	1
10146	Zirconium	7440-67-7	4.54 J	5.07	0.852	1
SW-846 6020A			mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	0.245 J	0.406	0.101	2
06142	Silver	7440-22-4	0.0483 J	0.203	0.0264	2
06144	Strontium	7440-24-6	33.0	0.406	0.0690	2
06145	Thallium	7440-28-0	0.356	0.203	0.0304	2
SW-846 7471B			mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.0160 J	0.0172	0.0103	1
Wet Chemistry						
SW-846 9045D modified			Std. Units	Std. Units	Std. Units	
00394	15a pH by 9045D The pH was measured in water at 22.2 C.	n.a.	7.50	0.0100	0.0100	1
Wet Chemistry						
EPA 160.3 modified			%	%	%	
11624	14a Moisture Content by 160.3 Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.	n.a.	5.2	0.10	0.10	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-565-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7155505
LL Group # 1410304
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/08/2013 07:40 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/09/2013 09:05
Reported: 08/22/2013 07:46

56500 SDG#: PH087-02

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
Dioxins/Furans			ng/kg	ng/kg	ng/kg	
EPA 1613B						
11031	2378-TCDD	1746-01-6	0.0747 JQ	1.03	0.0507	1
11031	12378-PeCDD	40321-76-4	0.175 JBQ	5.16	0.0688	1
11031	123478-HxCDD	39227-28-6	0.356 JQ	5.16	0.0774	1
11031	123678-HxCDD	57653-85-7	1.03 JB	5.16	0.0840	1
11031	123789-HxCDD	19408-74-3	0.843 J	5.16	0.0838	1
11031	1234678-HpCDD	35822-46-9	23.3 B	5.16	0.0941	1
11031	OCDD	3268-87-9	198 B	10.3	0.0475	1
11031	2378-TCDF	51207-31-9	0.283 J	1.03	0.0774	1
11031	12378-PeCDF	57117-41-6	0.890 JB	5.16	0.0501	1
11031	23478-PeCDF	57117-31-4	0.451 J	5.16	0.0494	1
11031	123478-HxCDF	70648-26-9	0.323 JBQ	5.16	0.0414	1
11031	123678-HxCDF	57117-44-9	0.273 JB	5.16	0.0426	1
11031	123789-HxCDF	72918-21-9	0.475 JB	5.16	0.0435	1
11031	234678-HxCDF	60851-34-5	0.275 JBQ	5.16	0.0402	1
11031	1234678-HpCDF	67562-39-4	2.64 JB	5.16	0.0360	1
11031	1234789-HpCDF	55673-89-7	0.297 J	5.16	0.0455	1
11031	OCDF	39001-02-0	5.11 JB	10.3	0.0397	1

Toxic Equivalents		EPA 1613B	ng/kg	ng/kg	ng/kg	
11031	TEQ WHO 2005 - EDLx0.0	n.a.	0.776			1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	77	25 - 164
13C12-12378-PeCDD	87	25 - 181
13C12-123478-HxCDD	72	32 - 141
13C12-123678-HxCDD	78	28 - 130
13C12-123789-HxCDD	76	28 - 130
13C12-1234678-HpCDD	87	23 - 140
13C12-OCDD	89	17 - 157
13C12-2378-TCDF	74	24 - 169
13C12-12378-PeCDF	89	24 - 185
13C12-23478-PeCDF	86	21 - 178
13C12-123478-HxCDF	63	26 - 152
13C12-123678-HxCDF	69	26 - 123
13C12-234678-HxCDF	67	28 - 136
13C12-123789-HxCDF	81	29 - 147
13C12-1234678-HpCDF	77	28 - 143
13C12-1234789-HpCDF	79	26 - 138
13C12-OCDF	71	17 - 157

Dioxins/Furans Data Qualifiers:

- B Detected in Method Blank
- U Undetected
- J Estimated concentration between Estimated Detection Limit and Minimum Level
- E Exceeds calibration range
- C Confirmed quantitation on secondary GC column
- Q EMPC - Estimated Maximum Possible Concentration

*=This limit was used in the evaluation of the final result

Sample Description: SL-565-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7155505
LL Group # 1410304
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/08/2013 07:40 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/09/2013 09:05

Reported: 08/22/2013 07:46

56500 SDG#: PH087-02

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
F	Interference is present					
S	Saturation of detection signal					

*=This limit was used in the evaluation of the final result

Sample Description: SL-565-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7155505
LL Group # 1410304
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/08/2013 07:40 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/09/2013 09:05
Reported: 08/22/2013 07:46

56500 SDG#: PH087-02

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13225SLA026	08/16/2013 14:30	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	13225SLA026	08/14/2013 08:30	Anna E Stager	1
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132250001A	08/15/2013 00:55	Monica M Souders	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132250001A	08/13/2013 16:25	JoElla L Rice	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132260015A	08/15/2013 23:52	Heather E Williams	1
12959	EFH soil ext.(microwave)	SW-846 3546	1	132260015A	08/15/2013 02:30	Sherry L Morrow	1
11031	23a Dioxin/Furan by EPA 1613B	EPA 1613B	1	13227001	08/17/2013 14:44	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	13227001	08/15/2013 14:00	Brett M Weidman	1
01643	Aluminum	SW-846 6010C	1	132230637001	08/20/2013 06:37	Deborah A Krady	1
06944	Antimony	SW-846 6010C	1	132230637001	08/20/2013 06:37	Deborah A Krady	1
06935	Arsenic	SW-846 6010C	1	132230637001	08/20/2013 06:37	Deborah A Krady	1
06946	Barium	SW-846 6010C	1	132230637001	08/20/2013 06:37	Deborah A Krady	1
06947	Beryllium	SW-846 6010C	1	132230637001	08/20/2013 06:37	Deborah A Krady	1
07914	Boron	SW-846 6010C	1	132230637001	08/21/2013 17:38	Katlin N Cataldi	1
06949	Cadmium	SW-846 6010C	1	132230637001	08/20/2013 06:37	Deborah A Krady	1
01650	Calcium	SW-846 6010C	1	132230637001	08/20/2013 06:37	Deborah A Krady	1
06951	Chromium	SW-846 6010C	1	132230637001	08/20/2013 06:37	Deborah A Krady	1
06952	Cobalt	SW-846 6010C	1	132230637001	08/20/2013 06:37	Deborah A Krady	1
06953	Copper	SW-846 6010C	1	132230637001	08/20/2013 06:37	Deborah A Krady	1
01654	Iron	SW-846 6010C	1	132230637001	08/21/2013 17:41	Katlin N Cataldi	5
06955	Lead	SW-846 6010C	1	132230637001	08/20/2013 06:37	Deborah A Krady	1
01656	Lithium	SW-846 6010C	1	132230637001	08/20/2013 06:37	Deborah A Krady	1
01657	Magnesium	SW-846 6010C	1	132230637001	08/20/2013 06:37	Deborah A Krady	1
06958	Manganese	SW-846 6010C	1	132230637001	08/20/2013 06:37	Deborah A Krady	1
06960	Molybdenum	SW-846 6010C	1	132230637001	08/20/2013 06:37	Deborah A Krady	1
06961	Nickel	SW-846 6010C	1	132230637001	08/20/2013 06:37	Deborah A Krady	1
10145	Phosphorus	SW-846 6010C	1	132230637001	08/20/2013 06:37	Deborah A Krady	1
01662	Potassium	SW-846 6010C	1	132230637001	08/20/2013 06:37	Deborah A Krady	1
01667	Sodium	SW-846 6010C	1	132230637001	08/20/2013 06:37	Deborah A Krady	1
06969	Tin	SW-846 6010C	1	132230637001	08/20/2013 06:37	Deborah A Krady	1
06970	Titanium	SW-846 6010C	1	132230637001	08/20/2013 06:37	Deborah A Krady	1
06971	Vanadium	SW-846 6010C	1	132230637001	08/20/2013 06:37	Deborah A Krady	1
06972	Zinc	SW-846 6010C	1	132230637001	08/20/2013 06:37	Deborah A Krady	1
10146	Zirconium	SW-846 6010C	1	132230637001	08/20/2013 06:37	Deborah A Krady	1
06141	Selenium	SW-846 6020A	1	132230637001B	08/14/2013 15:09	David K Beck	2
06142	Silver	SW-846 6020A	1	132230637001A	08/14/2013 15:09	David K Beck	2
06144	Strontium	SW-846 6020A	1	132230637001A	08/19/2013 06:00	Choon Y Tian	2
06145	Thallium	SW-846 6020A	1	132230637001A	08/14/2013 15:09	David K Beck	2

*=This limit was used in the evaluation of the final result

Sample Description: SL-565-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7155505
LL Group # 1410304
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/08/2013 07:40 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/09/2013 09:05

Reported: 08/22/2013 07:46

56500 SDG#: PH087-02

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
00159	3a Mercury 7471A	SW-846 7471B	1	132310638001	08/20/2013	11:26	Damary Valentin	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132230637001	08/12/2013	23:01	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132230638001	08/13/2013	02:30	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	2	132310638001	08/20/2013	02:40	Annamaria Stipkovits	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13221039401A	08/09/2013	20:55	Luz M Groff	1
11624	14a Moisture Content by 160.3	EPA 160.3 modified	1	13226162401A	08/14/2013	23:23	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-565-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7155506
LL Group # 1410304
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/08/2013 08:30 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/09/2013 09:05
Reported: 08/22/2013 07:46

56540 SDG#: PH087-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	2.0 U	2.0	0.78	1
12969	Acenaphthylene	208-96-8	2.0 U	2.0	0.39	1
12969	Anthracene	120-12-7	2.0 U	2.0	0.39	1
12969	Benzo(a)anthracene	56-55-3	2.0 U	2.0	0.78	1
12969	Benzo(a)pyrene	50-32-8	2.0 U	2.0	0.78	1
12969	Benzo(b)fluoranthene	205-99-2	2.0 U	2.0	0.78	1
12969	Benzo(e)pyrene	192-97-2	20 U	20	3.9	1
12969	Benzo(g,h,i)perylene	191-24-2	2.0 U	2.0	0.78	1
12969	Benzo(k)fluoranthene	207-08-9	2.0 U	2.0	0.78	1
12969	Butylbenzylphthalate	85-68-7	21 U	21	7.0	1
12969	Di-n-butylphthalate	84-74-2	21 U	21	7.0	1
12969	Chrysene	218-01-9	2.0 U	2.0	0.39	1
12969	Dibenz(a,h)anthracene	53-70-3	2.0 U	2.0	0.78	1
12969	Diethylphthalate	84-66-2	21 U	21	7.0	1
12969	Dimethylphthalate	131-11-3	21 U	21	7.0	1
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	13 J	21	7.0	1
12969	Fluoranthene	206-44-0	2.0 U	2.0	0.78	1
12969	Fluorene	86-73-7	2.0 U	2.0	0.78	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	2.0 U	2.0	0.78	1
12969	1-Methylnaphthalene	90-12-0	1.6 J	2.0	0.78	1
12969	2-Methylnaphthalene	91-57-6	1.0 J	2.0	0.78	1
12969	Naphthalene	91-20-3	2.0 U	2.0	0.78	1
12969	N-Nitrosodimethylamine	62-75-9	2.0 U	2.0	0.78	1
12969	Di-n-octylphthalate	117-84-0	21 U	21	7.0	1
12969	Phenanthrene	85-01-8	2.0 U	2.0	0.78	1
12969	Pyrene	129-00-0	2.0 U	2.0	0.78	1
GC Volatiles	TPH GRO SW-846 8015B mod	mg/kg	mg/kg	mg/kg		
05551	11a TPH by EPA 8015B GRO	n.a.	1.2 U	1.2	0.2	25.61
Pesticides/PCBs	SW-846 8082A	ug/kg	ug/kg	ug/kg		
10592	Aroclor 5432	63496-31-1	39 U	39	12	1
10592	Aroclor 5442	12642-23-8	39 U	39	12	1
10592	Aroclor 5460	11126-42-4	39 U	39	12	1
10592	PCB-1016	12674-11-2	20 U	20	3.9	1
10592	PCB-1221	11104-28-2	20 U	20	6.0	1
10592	PCB-1232	11141-16-5	20 U	20	4.8	1
10592	PCB-1242	53469-21-9	20 U	20	4.8	1
10592	PCB-1248	12672-29-6	20 U	20	3.9	1
10592	PCB-1254	11097-69-1	20 U	20	5.2	1
10592	PCB-1260	11096-82-5	20 U	20	4.6	1
10592	PCB-1262	37324-23-5	20 U	20	3.9	1
10592	PCB-1268	11100-14-4	20 U	20	3.9	1
GC Petroleum	SW-846 8015B modified	mg/kg	mg/kg	mg/kg		
Hydrocarbons						
12952	EFH (C12-C14)	n.a.	5.9 U	5.9	2.4	1
12952	EFH (C15-C20)	n.a.	5.9 U	5.9	2.4	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-565-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7155506
LL Group # 1410304
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/08/2013 08:30 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/09/2013 09:05
Reported: 08/22/2013 07:46

56540 SDG#: PH087-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC Petroleum Hydrocarbons						
	SW-846 8015B modified		mg/kg	mg/kg	mg/kg	
12952	EFH (C21-C30)	n.a.	5.9 U	5.9	2.4	1
12952	EFH (C30-C40)	n.a.	12 U	12	4.7	1
12952	EFH (C8-C11)	n.a.	5.9 U	5.9	2.4	1
Metals						
	SW-846 6010C		mg/kg	mg/kg	mg/kg	
01643	Aluminum	7429-90-5	34,300	45.3	8.17	1
06944	Antimony	7440-36-0	4.53 U	4.53	0.838	1
06935	Arsenic	7440-38-2	4.30 J	4.53	0.793	1
06946	Barium	7440-39-3	164	1.13	0.0374	1
06947	Beryllium	7440-41-7	0.992 J	1.13	0.0759	1
07914	Boron	7440-42-8	8.72 J	11.3	0.951	1
06949	Cadmium	7440-43-9	1.11 J	1.13	0.0861	1
01650	Calcium	7440-70-2	13,000	22.7	3.78	1
06951	Chromium	7440-47-3	39.5	3.40	0.181	1
06952	Cobalt	7440-48-4	11.9	1.13	0.112	1
06953	Copper	7440-50-8	19.0	2.27	0.328	1
01654	Iron	7439-89-6	35,500	227	20.5	5
06955	Lead	7439-92-1	11.7	3.40	0.566	1
01656	Lithium	7439-93-2	23.8	4.5	0.39	1
01657	Magnesium	7439-95-4	7,610	11.3	1.89	1
06958	Manganese	7439-96-5	457	1.13	0.0940	1
06960	Molybdenum	7439-98-7	2.27 U	2.27	0.193	1
06961	Nickel	7440-02-0	18.9	2.27	0.147	1
10145	Phosphorus	7723-14-0	176	11.3	3.27	1
01662	Potassium	7440-09-7	2,670	113	9.45	1
01667	Sodium	7440-23-5	667	113	18.9	1
06969	Tin	7440-31-5	3.57 J	11.3	0.249	1
06970	Titanium	7440-32-6	1,270	1.13	0.193	1
06971	Vanadium	7440-62-2	71.9	1.13	0.147	1
06972	Zinc	7440-66-6	59.4	4.53	0.227	1
10146	Zirconium	7440-67-7	2.95 J	5.66	0.951	1
SW-846 6020A						
			mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	0.453 U	0.453	0.113	2
06142	Silver	7440-22-4	0.0458 J	0.227	0.0294	2
06144	Strontium	7440-24-6	53.0	0.453	0.0770	2
06145	Thallium	7440-28-0	0.325	0.227	0.0340	2
SW-846 7471B						
			mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.0198	0.0190	0.0114	1
Wet Chemistry						
	SW-846 9045D modified		Std. Units	Std. Units	Std. Units	
00394	15a pH by 9045D The pH was measured in water at 22.3 C.	n.a.	7.82	0.0100	0.0100	1
Wet Chemistry						
	EPA 160.3 modified		%	%	%	
11624	14a Moisture Content by 160.3	n.a.	15.1	0.10	0.10	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-565-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7155506
LL Group # 1410304
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/08/2013 08:30 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/09/2013 09:05

Reported: 08/22/2013 07:46

56540 SDG#: PH087-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Wet Chemistry	EPA 160.3 modified		%	%	%	
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

*=This limit was used in the evaluation of the final result

Sample Description: SL-565-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7155506
LL Group # 1410304
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/08/2013 08:30 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/09/2013 09:05
Reported: 08/22/2013 07:46

56540 SDG#: PH087-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
Dioxins/Furans			ng/kg	ng/kg	ng/kg	
EPA 1613B						
11031	2378-TCDD	1746-01-6	0.102 JQ	1.17	0.0425	1
11031	12378-PeCDD	40321-76-4	0.0923 JBQ	5.83	0.0478	1
11031	123478-HxCDD	39227-28-6	0.0928 J	5.83	0.0265	1
11031	123678-HxCDD	57653-85-7	0.0836 JBQ	5.83	0.0277	1
11031	123789-HxCDD	19408-74-3	0.0868 JQ	5.83	0.0274	1
11031	1234678-HpCDD	35822-46-9	0.135 JBQ	5.83	0.0280	1
11031	OCDD	3268-87-9	0.679 JB	11.7	0.0297	1
11031	2378-TCDF	51207-31-9	0.0357 JQ	1.17	0.0353	1
11031	12378-PeCDF	57117-41-6	0.143 JB	5.83	0.0239	1
11031	23478-PeCDF	57117-31-4	0.127 JQ	5.83	0.0221	1
11031	123478-HxCDF	70648-26-9	0.104 JBQ	5.83	0.0168	1
11031	123678-HxCDF	57117-44-9	0.109 JBQ	5.83	0.0171	1
11031	123789-HxCDF	72918-21-9	0.0636 JB	5.83	0.0211	1
11031	234678-HxCDF	60851-34-5	0.0646 JBQ	5.83	0.0161	1
11031	1234678-HpCDF	67562-39-4	0.0637 JBQ	5.83	0.0137	1
11031	1234789-HpCDF	55673-89-7	0.0715 J	5.83	0.0197	1
11031	OCDF	39001-02-0	0.0492 JBQ	11.7	0.0408	1

Toxic Equivalents		EPA 1613B	ng/kg	ng/kg	ng/kg	
11031	TEQ WHO 2005 - EDLx0.0	n.a.	0.0208			1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	64	25 - 164
13C12-12378-PeCDD	80	25 - 181
13C12-123478-HxCDD	70	32 - 141
13C12-123678-HxCDD	74	28 - 130
13C12-123789-HxCDD	75	28 - 130
13C12-1234678-HpCDD	80	23 - 140
13C12-OCDD	80	17 - 157
13C12-2378-TCDF	64	24 - 169
13C12-12378-PeCDF	79	24 - 185
13C12-23478-PeCDF	78	21 - 178
13C12-123478-HxCDF	61	26 - 152
13C12-123678-HxCDF	68	26 - 123
13C12-234678-HxCDF	64	28 - 136
13C12-123789-HxCDF	65	29 - 147
13C12-1234678-HpCDF	75	28 - 143
13C12-1234789-HpCDF	67	26 - 138
13C12-OCDF	64	17 - 157

Dioxins/Furans Data Qualifiers:

- B Detected in Method Blank
- U Undetected
- J Estimated concentration between Estimated Detection Limit and Minimum Level
- E Exceeds calibration range
- C Confirmed quantitation on secondary GC column
- Q EMPC - Estimated Maximum Possible Concentration

*=This limit was used in the evaluation of the final result

Sample Description: SL-565-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7155506
LL Group # 1410304
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/08/2013 08:30 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/09/2013 09:05

Reported: 08/22/2013 07:46

56540 SDG#: PH087-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
F	Interference is present					
S	Saturation of detection signal					

*=This limit was used in the evaluation of the final result

Sample Description: SL-565-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7155506
LL Group # 1410304
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/08/2013 08:30 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/09/2013 09:05
Reported: 08/22/2013 07:46

56540 SDG#: PH087-03

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13225SLA026	08/15/2013 07:57	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	13225SLA026	08/14/2013 08:30	Anna E Stager	1
05551	11a TPH by EPA 8015B GRO	TPH GRO SW-846 8015B mod	1	13224A16A	08/13/2013 02:29	Laura M Krieger	25.61
06130	GC - 5 g HL Encore Prep	SW-846 5035A	1	201322132004	08/09/2013 14:22	Mitchell R Washel	n.a.
06130	GC - 5 g HL Encore Prep	SW-846 5035A	2	201322132004	08/09/2013 14:22	Mitchell R Washel	n.a.
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132250001A	08/15/2013 01:13	Monica M Souders	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132250001A	08/13/2013 16:25	JoElla L Rice	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132260015A	08/15/2013 20:05	Heather E Williams	1
12959	EPH soil ext. (microwave)	SW-846 3546	1	132260015A	08/15/2013 02:30	Sherry L Morrow	1
11031	23a Dioxin/Furan by EPA 1613B	EPA 1613B	1	13227001	08/17/2013 18:38	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	13227001	08/15/2013 14:00	Brett M Weidman	1
01643	Aluminum	SW-846 6010C	1	132230637001	08/20/2013 06:41	Deborah A Krady	1
06944	Antimony	SW-846 6010C	1	132230637001	08/20/2013 06:41	Deborah A Krady	1
06935	Arsenic	SW-846 6010C	1	132230637001	08/20/2013 06:41	Deborah A Krady	1
06946	Barium	SW-846 6010C	1	132230637001	08/20/2013 06:41	Deborah A Krady	1
06947	Beryllium	SW-846 6010C	1	132230637001	08/20/2013 06:41	Deborah A Krady	1
07914	Boron	SW-846 6010C	1	132230637001	08/21/2013 17:52	Katlin N Cataldi	1
06949	Cadmium	SW-846 6010C	1	132230637001	08/20/2013 06:41	Deborah A Krady	1
01650	Calcium	SW-846 6010C	1	132230637001	08/20/2013 06:41	Deborah A Krady	1
06951	Chromium	SW-846 6010C	1	132230637001	08/20/2013 06:41	Deborah A Krady	1
06952	Cobalt	SW-846 6010C	1	132230637001	08/20/2013 06:41	Deborah A Krady	1
06953	Copper	SW-846 6010C	1	132230637001	08/20/2013 06:41	Deborah A Krady	1
01654	Iron	SW-846 6010C	1	132230637001	08/21/2013 17:56	Katlin N Cataldi	5
06955	Lead	SW-846 6010C	1	132230637001	08/20/2013 06:41	Deborah A Krady	1
01656	Lithium	SW-846 6010C	1	132230637001	08/20/2013 06:41	Deborah A Krady	1
01657	Magnesium	SW-846 6010C	1	132230637001	08/20/2013 06:41	Deborah A Krady	1
06958	Manganese	SW-846 6010C	1	132230637001	08/20/2013 06:41	Deborah A Krady	1
06960	Molybdenum	SW-846 6010C	1	132230637001	08/20/2013 06:41	Deborah A Krady	1
06961	Nickel	SW-846 6010C	1	132230637001	08/20/2013 06:41	Deborah A Krady	1
10145	Phosphorus	SW-846 6010C	1	132230637001	08/20/2013 06:41	Deborah A Krady	1
01662	Potassium	SW-846 6010C	1	132230637001	08/20/2013 06:41	Deborah A Krady	1
01667	Sodium	SW-846 6010C	1	132230637001	08/20/2013 06:41	Deborah A Krady	1
06969	Tin	SW-846 6010C	1	132230637001	08/20/2013 06:41	Deborah A Krady	1
06970	Titanium	SW-846 6010C	1	132230637001	08/20/2013 06:41	Deborah A Krady	1
06971	Vanadium	SW-846 6010C	1	132230637001	08/20/2013 06:41	Deborah A Krady	1
06972	Zinc	SW-846 6010C	1	132230637001	08/20/2013 06:41	Deborah A Krady	1
10146	Zirconium	SW-846 6010C	1	132230637001	08/20/2013 06:41	Deborah A Krady	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-565-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7155506
LL Group # 1410304
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/08/2013 08:30 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/09/2013 09:05

Reported: 08/22/2013 07:46

56540 SDG#: PH087-03

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
06141	Selenium	SW-846 6020A	1	132230637001B	08/14/2013	15:11	David K Beck	2
06142	Silver	SW-846 6020A	1	132230637001A	08/14/2013	15:11	David K Beck	2
06144	Strontium	SW-846 6020A	1	132230637001A	08/19/2013	06:02	Choon Y Tian	2
06145	Thallium	SW-846 6020A	1	132230637001A	08/14/2013	15:11	David K Beck	2
00159	3a Mercury 7471A	SW-846 7471B	1	132310638001	08/20/2013	11:28	Damary Valentin	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132230637001	08/12/2013	23:01	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132230638001	08/13/2013	02:30	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	2	132310638001	08/20/2013	02:40	Annamaria Stipkovits	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13221039401A	08/09/2013	20:55	Luz M Groff	1
11624	14a Moisture Content by 160.3	EPA 160.3 modified	1	13226162401A	08/14/2013	23:23	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-567-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7155507
LL Group # 1410304
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/08/2013 12:50 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/09/2013 09:05
Reported: 08/22/2013 07:46

56700 SDG#: PH087-04

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	20 U	20	7.9	10
12969	Acenaphthylene	208-96-8	20 U	20	3.9	10
12969	Anthracene	120-12-7	20 U	20	3.9	10
12969	Benzo(a)anthracene	56-55-3	20 U	20	7.9	10
12969	Benzo(a)pyrene	50-32-8	20 U	20	7.9	10
12969	Benzo(b)fluoranthene	205-99-2	20 U	20	7.9	10
12969	Benzo(e)pyrene	192-97-2	200 U	200	39	10
12969	Benzo(g,h,i)perylene	191-24-2	20 U	20	7.9	10
12969	Benzo(k)fluoranthene	207-08-9	20 U	20	7.9	10
12969	Butylbenzylphthalate	85-68-7	210 U	210	71	10
12969	Di-n-butylphthalate	84-74-2	210 U	210	71	10
12969	Chrysene	218-01-9	5.5 J	20	3.9	10
12969	Dibenz(a,h)anthracene	53-70-3	20 U	20	7.9	10
12969	Diethylphthalate	84-66-2	210 U	210	71	10
12969	Dimethylphthalate	131-11-3	210 U	210	71	10
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	210 U	210	71	10
12969	Fluoranthene	206-44-0	20 U	20	7.9	10
12969	Fluorene	86-73-7	20 U	20	7.9	10
12969	Indeno(1,2,3-cd)pyrene	193-39-5	20 U	20	7.9	10
12969	1-Methylnaphthalene	90-12-0	20 U	20	7.9	10
12969	2-Methylnaphthalene	91-57-6	20 U	20	7.9	10
12969	Naphthalene	91-20-3	20 U	20	7.9	10
12969	N-Nitrosodimethylamine	62-75-9	20 U	20	7.9	10
12969	Di-n-octylphthalate	117-84-0	210 U	210	71	10
12969	Phenanthrene	85-01-8	20 U	20	7.9	10
12969	Pyrene	129-00-0	20 U	20	7.9	10

Reporting limits were raised due to interference from the sample matrix.

Herbicides		SW-846 8151A	ug/kg	ug/kg	ug/kg	
10401	2,4-D	94-75-7	42 U	42	14	1
10401	Dalapon	75-99-0	110 U	110	51	1
10401	2,4-DB	94-82-6	20 U	20	7.2	1
10401	Dicamba	1918-00-9	14 U	14	4.7	1
10401	Dinoseb	88-85-7	28 U	28	11	1
The QC window for dinoseb is advisory due to the erratic performance of the analyte using this method.						
10401	2,4-DP (Dichlorprop)	120-36-5	20 U	20	11	1
10401	MCPA	94-74-6	2,900 U	2,900	890	1
10401	MCPP (Mecoprop)	93-65-2	2,900 U	2,900	880	1
10401	2,4,5-T	93-76-5	2.0 U	2.0	0.96	1
10401	2,4,5-TP	93-72-1	2.0 U	2.0	0.88	1

Pesticides/PCBs		SW-846 8081B	ug/kg	ug/kg	ug/kg	
10590	Aldrin	309-00-2	0.98 U	0.98	0.20	1
10590	Alpha BHC	319-84-6	0.98 U	0.98	0.20	1
10590	Beta BHC	319-85-7	2.7 U	2.2	1.1	1
10590	Gamma BHC - Lindane	58-89-9	0.98 U	0.98	0.20	1
10590	Chlordane	57-74-9	20 U	20	4.7	1
10590	p,p-DDD	72-54-8	2.0 U	2.0	0.39	1
10590	p,p-DDE	72-55-9	2.0 U	2.0	0.39	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-567-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7155507
LL Group # 1410304
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/08/2013 12:50 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/09/2013 09:05
Reported: 08/22/2013 07:46

56700 SDG#: PH087-04

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs SW-846 8081B							
10590	p,p-DDT	50-29-3	1.0	J	2.0	0.41	1
10590	Delta BHC	319-86-8	0.98	U	0.98	0.53	1
10590	Dieldrin	60-57-1	2.0	U	2.0	0.39	1
10590	Endosulfan I	959-98-8	0.98	U	0.98	0.26	1
10590	Endosulfan II	33213-65-9	2.0	U	2.0	0.39	1
10590	Endosulfan Sulfate	1031-07-8	2.0	U	2.0	0.39	1
10590	Endrin	72-20-8	2.0	U	2.0	0.39	1
10590	Endrin Aldehyde	7421-93-4	2.0	U	2.0	0.39	1
10590	Endrin Ketone	53494-70-5	2.1	U	2.1	0.71	1
10590	Heptachlor	76-44-8	0.98	U	0.98	0.20	1
10590	Heptachlor Epoxide	1024-57-3	0.98	U	0.98	0.20	1
10590	Methoxychlor	72-43-5	7.9	U	7.9	2.0	1
10590	Mirex	2385-85-5	2.0	U	2.0	0.41	1
10590	Toxaphene	8001-35-2	39	U	39	17	1
Pesticides/PCBs SW-846 8082A							
10592	Aroclor 5432	63496-31-1	39	U	39	12	1
10592	Aroclor 5442	12642-23-8	39	U	39	12	1
10592	Aroclor 5460	11126-42-4	39	U	39	12	1
10592	PCB-1016	12674-11-2	20	U	20	3.9	1
10592	PCB-1221	11104-28-2	20	U	20	6.0	1
10592	PCB-1232	11141-16-5	20	U	20	4.9	1
10592	PCB-1242	53469-21-9	20	U	20	4.9	1
10592	PCB-1248	12672-29-6	20	U	20	3.9	1
10592	PCB-1254	11097-69-1	20	U	20	5.2	1
10592	PCB-1260	11096-82-5	20	U	20	4.6	1
10592	PCB-1262	37324-23-5	20	U	20	3.9	1
10592	PCB-1268	11100-14-4	20	U	20	3.9	1
GC Petroleum SW-846 8015B modified							
Hydrocarbons							
12952	EFH (C12-C14)	n.a.	30	U	30	12	5
12952	EFH (C15-C20)	n.a.	30	U	30	12	5
12952	EFH (C21-C30)	n.a.	43		30	12	5
12952	EFH (C30-C40)	n.a.	200		59	24	5
12952	EFH (C8-C11)	n.a.	30	U	30	12	5
Metals SW-846 6010C							
01643	Aluminum	7429-90-5	34,200		45.5	8.20	1
06944	Antimony	7440-36-0	4.55	U	4.55	0.842	1
06935	Arsenic	7440-38-2	4.21	J	4.55	0.797	1
06946	Barium	7440-39-3	137		1.14	0.0376	1
06947	Beryllium	7440-41-7	1.07	J	1.14	0.0762	1
07914	Boron	7440-42-8	9.45	J	11.4	0.956	1
06949	Cadmium	7440-43-9	1.43		1.14	0.0865	1
01650	Calcium	7440-70-2	7,220		22.8	3.80	1
06951	Chromium	7440-47-3	42.5		3.41	0.182	1
06952	Cobalt	7440-48-4	10.6		1.14	0.113	1
06953	Copper	7440-50-8	24.4		2.28	0.330	1
01654	Iron	7439-89-6	37,800		228	20.6	5

*=This limit was used in the evaluation of the final result

Sample Description: SL-567-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7155507
LL Group # 1410304
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/08/2013 12:50 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/09/2013 09:05
Reported: 08/22/2013 07:46

56700 SDG#: PH087-04

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals						
		SW-846 6010C	mg/kg	mg/kg	mg/kg	
06955	Lead	7439-92-1	11.4	3.41	0.569	1
01656	Lithium	7439-93-2	26.5	4.6	0.39	1
01657	Magnesium	7439-95-4	7,910	11.4	1.90	1
06958	Manganese	7439-96-5	506	1.14	0.0944	1
06960	Molybdenum	7439-98-7	0.913 J	2.28	0.193	1
06961	Nickel	7440-02-0	23.0	2.28	0.148	1
10145	Phosphorus	7723-14-0	359	11.4	3.29	1
01662	Potassium	7440-09-7	5,980	114	9.49	1
01667	Sodium	7440-23-5	88.0 J	114	19.0	1
06969	Tin	7440-31-5	3.45 J	11.4	0.250	1
06970	Titanium	7440-32-6	1,550	1.14	0.193	1
06971	Vanadium	7440-62-2	79.0	1.14	0.148	1
06972	Zinc	7440-66-6	78.5	4.55	0.228	1
10146	Zirconium	7440-67-7	4.11 J	5.69	0.956	1
		SW-846 6020A	mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	0.323 J	0.455	0.114	2
06142	Silver	7440-22-4	0.0553 J	0.228	0.0296	2
06144	Strontium	7440-24-6	38.2	0.455	0.0774	2
06145	Thallium	7440-28-0	0.389	0.228	0.0341	2
		SW-846 7471B	mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.0185 U	0.0185	0.0111	1
Wet Chemistry						
		SW-846 9045D modified	Std. Units	Std. Units	Std. Units	
00394	15a pH by 9045D The pH was measured in water at 22.3 C.	n.a.	7.48	0.0100	0.0100	1
Wet Chemistry						
		EPA 160.3 modified	%	%	%	
11624	14a Moisture Content by 160.3 Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.	n.a.	15.5	0.10	0.10	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-567-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7155507
LL Group # 1410304
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/08/2013 12:50 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/09/2013 09:05
Reported: 08/22/2013 07:46

56700 SDG#: PH087-04

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
Dioxins/Furans			ng/kg	ng/kg	ng/kg	
EPA 1613B						
11031	2378-TCDD	1746-01-6	1.16 U	1.16	0.0401	1
11031	12378-PeCDD	40321-76-4	0.161 JBQ	5.82	0.0612	1
11031	123478-HxCDD	39227-28-6	0.0803 J	5.82	0.0418	1
11031	123678-HxCDD	57653-85-7	0.478 JB	5.82	0.0449	1
11031	123789-HxCDD	19408-74-3	0.663 J	5.82	0.0419	1
11031	1234678-HpCDD	35822-46-9	2.81 JB	5.82	0.0446	1
11031	OCDD	3268-87-9	22.8 B	11.6	0.0310	1
11031	2378-TCDF	51207-31-9	0.325 JQ	1.16	0.0951	1
11031	12378-PeCDF	57117-41-6	0.416 JB	5.82	0.0484	1
11031	23478-PeCDF	57117-31-4	5.82 U	5.82	0.0462	1
11031	123478-HxCDF	70648-26-9	0.102 JBQ	5.82	0.0303	1
11031	123678-HxCDF	57117-44-9	0.146 JB	5.82	0.0316	1
11031	123789-HxCDF	72918-21-9	0.864 JB	5.82	0.0309	1
11031	234678-HxCDF	60851-34-5	0.128 JB	5.82	0.0275	1
11031	1234678-HpCDF	67562-39-4	0.524 JB	5.82	0.0245	1
11031	1234789-HpCDF	55673-89-7	0.0896 JQ	5.82	0.0273	1
11031	OCDF	39001-02-0	0.759 JBQ	11.6	0.0329	1

Toxic Equivalents		EPA 1613B	ng/kg	ng/kg	ng/kg	
11031	TEQ WHO 2005 - EDLx0.0	n.a.	0.289			1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	77	25 - 164
13C12-12378-PeCDD	100	25 - 181
13C12-123478-HxCDD	77	32 - 141
13C12-123678-HxCDD	82	28 - 130
13C12-123789-HxCDD	82	28 - 130
13C12-1234678-HpCDD	92	23 - 140
13C12-OCDD	89	17 - 157
13C12-2378-TCDF	83	24 - 169
13C12-12378-PeCDF	98	24 - 185
13C12-23478-PeCDF	95	21 - 178
13C12-123478-HxCDF	67	26 - 152
13C12-123678-HxCDF	70	26 - 123
13C12-234678-HxCDF	72	28 - 136
13C12-123789-HxCDF	82	29 - 147
13C12-1234678-HpCDF	77	28 - 143
13C12-1234789-HpCDF	84	26 - 138
13C12-OCDF	80	17 - 157

Dioxins/Furans Data Qualifiers:

- B Detected in Method Blank
- U Undetected
- J Estimated concentration between Estimated Detection Limit and Minimum Level
- E Exceeds calibration range
- C Confirmed quantitation on secondary GC column
- Q EMPC - Estimated Maximum Possible Concentration

*=This limit was used in the evaluation of the final result

Sample Description: SL-567-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7155507
LL Group # 1410304
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/08/2013 12:50 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/09/2013 09:05

Reported: 08/22/2013 07:46

56700 SDG#: PH087-04

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
F	Interference is present					
S	Saturation of detection signal					

*=This limit was used in the evaluation of the final result

Sample Description: SL-567-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7155507
LL Group # 1410304
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/08/2013 12:50 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/09/2013 09:05
Reported: 08/22/2013 07:46

56700 SDG#: PH087-04

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13225SLA026	08/15/2013 15:12	Mark A Clark	10
10811	BNA Soil Microwave SIM	SW-846 3546	1	13225SLA026	08/14/2013 08:30	Anna E Stager	1
10401	21a Herbicides by EPA 8151A	SW-846 8151A	1	132250009A	08/16/2013 17:38	Melissa McDermott	1
10590	20a Pesticides by EPA 8081B	SW-846 8081B	1	132240016A	08/19/2013 23:14	Jamie L Brillhart	1
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132250001A	08/15/2013 01:32	Monica M Souders	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132250001A	08/13/2013 16:25	JoElla L Rice	1
10496	PPL Pest. Microwave Extraction	SW-846 3546	1	132240016A	08/13/2013 16:25	JoElla L Rice	1
04181	Herbicide Soil Extraction	SW-846 3550B/SW-846 8151A	1	132250009A	08/14/2013 05:30	Roman Kuropatkin	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132260015A	08/16/2013 01:15	Heather E Williams	5
12959	EPH soil ext. (microwave)	SW-846 3546	1	132260015A	08/15/2013 02:30	Sherry L Morrow	1
11031	23a Dioxin/Furan by EPA 1613B	EPA 1613B	1	13227001	08/17/2013 19:35	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	13227001	08/15/2013 14:00	Brett M Weidman	1
01643	Aluminum	SW-846 6010C	1	132230637001	08/20/2013 06:52	Deborah A Krady	1
06944	Antimony	SW-846 6010C	1	132230637001	08/20/2013 06:52	Deborah A Krady	1
06935	Arsenic	SW-846 6010C	1	132230637001	08/20/2013 06:52	Deborah A Krady	1
06946	Barium	SW-846 6010C	1	132230637001	08/20/2013 06:52	Deborah A Krady	1
06947	Beryllium	SW-846 6010C	1	132230637001	08/20/2013 06:52	Deborah A Krady	1
07914	Boron	SW-846 6010C	1	132230637001	08/21/2013 18:00	Katlin N Cataldi	1
06949	Cadmium	SW-846 6010C	1	132230637001	08/20/2013 06:52	Deborah A Krady	1
01650	Calcium	SW-846 6010C	1	132230637001	08/20/2013 06:52	Deborah A Krady	1
06951	Chromium	SW-846 6010C	1	132230637001	08/20/2013 06:52	Deborah A Krady	1
06952	Cobalt	SW-846 6010C	1	132230637001	08/20/2013 06:52	Deborah A Krady	1
06953	Copper	SW-846 6010C	1	132230637001	08/20/2013 06:52	Deborah A Krady	1
01654	Iron	SW-846 6010C	1	132230637001	08/21/2013 18:03	Katlin N Cataldi	5
06955	Lead	SW-846 6010C	1	132230637001	08/20/2013 06:52	Deborah A Krady	1
01656	Lithium	SW-846 6010C	1	132230637001	08/20/2013 06:52	Deborah A Krady	1
01657	Magnesium	SW-846 6010C	1	132230637001	08/20/2013 06:52	Deborah A Krady	1
06958	Manganese	SW-846 6010C	1	132230637001	08/20/2013 06:52	Deborah A Krady	1
06960	Molybdenum	SW-846 6010C	1	132230637001	08/20/2013 06:52	Deborah A Krady	1
06961	Nickel	SW-846 6010C	1	132230637001	08/20/2013 06:52	Deborah A Krady	1
10145	Phosphorus	SW-846 6010C	1	132230637001	08/20/2013 06:52	Deborah A Krady	1
01662	Potassium	SW-846 6010C	1	132230637001	08/20/2013 06:52	Deborah A Krady	1
01667	Sodium	SW-846 6010C	1	132230637001	08/20/2013 06:52	Deborah A Krady	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-567-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7155507
LL Group # 1410304
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/08/2013 12:50 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/09/2013 09:05

Reported: 08/22/2013 07:46

56700 SDG#: PH087-04

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
06969	Tin	SW-846 6010C	1	132230637001	08/20/2013	06:52	Deborah A Krady	1
06970	Titanium	SW-846 6010C	1	132230637001	08/20/2013	06:52	Deborah A Krady	1
06971	Vanadium	SW-846 6010C	1	132230637001	08/20/2013	06:52	Deborah A Krady	1
06972	Zinc	SW-846 6010C	1	132230637001	08/20/2013	06:52	Deborah A Krady	1
10146	Zirconium	SW-846 6010C	1	132230637001	08/20/2013	06:52	Deborah A Krady	1
06141	Selenium	SW-846 6020A	1	132230637001B	08/14/2013	15:18	David K Beck	2
06142	Silver	SW-846 6020A	1	132230637001A	08/14/2013	15:18	David K Beck	2
06144	Strontium	SW-846 6020A	1	132230637001A	08/19/2013	06:03	Choon Y Tian	2
06145	Thallium	SW-846 6020A	1	132230637001A	08/14/2013	15:18	David K Beck	2
00159	3a Mercury 7471A	SW-846 7471B	1	132310638001	08/20/2013	11:30	Damary Valentin	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132230637001	08/12/2013	23:01	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132230638001	08/13/2013	02:30	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	2	132310638001	08/20/2013	02:40	Annamaria Stipkovits	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13221039401A	08/09/2013	20:55	Luz M Groff	1
11624	14a Moisture Content by 160.3	EPA 160.3 modified	1	13226162401A	08/14/2013	23:23	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-567-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7155508
LL Group # 1410304
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/08/2013 13:25 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/09/2013 09:05
Reported: 08/22/2013 07:46

56740 SDG#: PH087-05

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	2.0 U	2.0	0.79	1
12969	Acenaphthylene	208-96-8	2.0 U	2.0	0.39	1
12969	Anthracene	120-12-7	2.0 U	2.0	0.39	1
12969	Benzo(a)anthracene	56-55-3	2.0 U	2.0	0.79	1
12969	Benzo(a)pyrene	50-32-8	2.0 U	2.0	0.79	1
12969	Benzo(b)fluoranthene	205-99-2	2.0 U	2.0	0.79	1
12969	Benzo(e)pyrene	192-97-2	20 U	20	3.9	1
12969	Benzo(g,h,i)perylene	191-24-2	2.0 U	2.0	0.79	1
12969	Benzo(k)fluoranthene	207-08-9	2.0 U	2.0	0.79	1
12969	Butylbenzylphthalate	85-68-7	21 U	21	7.1	1
12969	Di-n-butylphthalate	84-74-2	21 U	21	7.1	1
12969	Chrysene	218-01-9	2.0 U	2.0	0.39	1
12969	Dibenz(a,h)anthracene	53-70-3	2.0 U	2.0	0.79	1
12969	Diethylphthalate	84-66-2	21 U	21	7.1	1
12969	Dimethylphthalate	131-11-3	21 U	21	7.1	1
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	21 U	21	7.1	1
12969	Fluoranthene	206-44-0	2.0 U	2.0	0.79	1
12969	Fluorene	86-73-7	2.0 U	2.0	0.79	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	2.0 U	2.0	0.79	1
12969	1-Methylnaphthalene	90-12-0	2.0 U	2.0	0.79	1
12969	2-Methylnaphthalene	91-57-6	2.0 U	2.0	0.79	1
12969	Naphthalene	91-20-3	2.0 U	2.0	0.79	1
12969	N-Nitrosodimethylamine	62-75-9	2.0 U	2.0	0.79	1
12969	Di-n-octylphthalate	117-84-0	21 U	21	7.1	1
12969	Phenanthrene	85-01-8	2.0 U	2.0	0.79	1
12969	Pyrene	129-00-0	2.0 U	2.0	0.79	1
GC Volatiles	TPH GRO SW-846 8015B mod	mg/kg	mg/kg	mg/kg		
05551	11a TPH by EPA 8015B GRO	n.a.	1.1 U	1.1	0.2	22.56
Herbicides	SW-846 8151A	ug/kg	ug/kg	ug/kg		
10401	2,4-D	94-75-7	42 U	42	14	1
10401	Dalapon	75-99-0	110 U	110	52	1
10401	2,4-DB	94-82-6	20 U	20	7.3	1
10401	Dicamba	1918-00-9	14 U	14	4.7	1
10401	Dinoseb	88-85-7	28 U	28	11	1
The QC window for dinoseb is advisory due to the erratic performance of the analyte using this method.						
10401	2,4-DP (Dichlorprop)	120-36-5	20 U	20	11	1
10401	MCPA	94-74-6	2,900 U	2,900	890	1
10401	MCPP (Mecoprop)	93-65-2	2,900 U	2,900	880	1
10401	2,4,5-T	93-76-5	2.4 U	2.0	0.96	1
10401	2,4,5-TP	93-72-1	2.0 U	2.0	0.88	1
Pesticides/PCBs	SW-846 8081B	ug/kg	ug/kg	ug/kg		
10590	Aldrin	309-00-2	0.99 U	0.99	0.20	1
10590	Alpha BHC	319-84-6	0.99 U	0.99	0.20	1
10590	Beta BHC	319-85-7	2.3 U	2.3	1.1	1
10590	Gamma BHC - Lindane	58-89-9	0.99 U	0.99	0.20	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-567-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7155508
LL Group # 1410304
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/08/2013 13:25 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/09/2013 09:05

Reported: 08/22/2013 07:46

56740 SDG#: PH087-05

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs SW-846 8081B							
10590	Chlordane	57-74-9	20	U	20	4.8	1
10590	p,p-DDD	72-54-8	2.0	U	2.0	0.39	1
10590	p,p-DDE	72-55-9	2.0	U	2.0	0.39	1
10590	p,p-DDT	50-29-3	2.0	U	2.0	0.42	1
10590	Delta BHC	319-86-8	0.99	U	0.99	0.54	1
10590	Dieldrin	60-57-1	2.0	U	2.0	0.39	1
10590	Endosulfan I	959-98-8	0.99	U	0.99	0.26	1
10590	Endosulfan II	33213-65-9	2.0	U	2.0	0.39	1
10590	Endosulfan Sulfate	1031-07-8	2.0	U	2.0	0.39	1
10590	Endrin	72-20-8	2.0	U	2.0	0.39	1
10590	Endrin Aldehyde	7421-93-4	2.0	U	2.0	0.39	1
10590	Endrin Ketone	53494-70-5	2.2	U	2.2	0.72	1
10590	Heptachlor	76-44-8	0.99	U	0.99	0.20	1
10590	Heptachlor Epoxide	1024-57-3	0.99	U	0.99	0.20	1
10590	Methoxychlor	72-43-5	8.0	U	8.0	2.0	1
10590	Mirex	2385-85-5	2.0	U	2.0	0.42	1
10590	Toxaphene	8001-35-2	39	U	39	17	1
Pesticides/PCBs SW-846 8082A							
10592	Aroclor 5432	63496-31-1	39	U	39	12	1
10592	Aroclor 5442	12642-23-8	39	U	39	12	1
10592	Aroclor 5460	11126-42-4	39	U	39	12	1
10592	PCB-1016	12674-11-2	20	U	20	3.9	1
10592	PCB-1221	11104-28-2	20	U	20	6.1	1
10592	PCB-1232	11141-16-5	20	U	20	4.9	1
10592	PCB-1242	53469-21-9	20	U	20	4.9	1
10592	PCB-1248	12672-29-6	20	U	20	3.9	1
10592	PCB-1254	11097-69-1	20	U	20	5.3	1
10592	PCB-1260	11096-82-5	20	U	20	4.7	1
10592	PCB-1262	37324-23-5	20	U	20	3.9	1
10592	PCB-1268	11100-14-4	20	U	20	3.9	1
GC Petroleum SW-846 8015B modified							
Hydrocarbons							
12952	EFH (C12-C14)	n.a.	6.0	U	6.0	2.4	1
12952	EFH (C15-C20)	n.a.	6.0	U	6.0	2.4	1
12952	EFH (C21-C30)	n.a.	6.0	U	6.0	2.4	1
12952	EFH (C30-C40)	n.a.	12	U	12	4.8	1
12952	EFH (C8-C11)	n.a.	6.0	U	6.0	2.4	1
Metals SW-846 6010C							
01643	Aluminum	7429-90-5	31,000		46.9	8.45	1
06944	Antimony	7440-36-0	4.69	U	4.69	0.867	1
06935	Arsenic	7440-38-2	4.84		4.69	0.820	1
06946	Barium	7440-39-3	122		1.17	0.0387	1
06947	Beryllium	7440-41-7	0.794	J	1.17	0.0785	1
07914	Boron	7440-42-8	12.4		11.7	0.984	1
06949	Cadmium	7440-43-9	1.32		1.17	0.0890	1
01650	Calcium	7440-70-2	55,600		23.4	3.91	1
06951	Chromium	7440-47-3	39.3		3.51	0.187	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-567-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7155508
LL Group # 1410304
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/08/2013 13:25 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/09/2013 09:05
Reported: 08/22/2013 07:46

56740 SDG#: PH087-05

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals						
		SW-846 6010C	mg/kg	mg/kg	mg/kg	
06952	Cobalt	7440-48-4	10.1	1.17	0.116	1
06953	Copper	7440-50-8	22.4	2.34	0.340	1
01654	Iron	7439-89-6	33,800	234	21.2	5
06955	Lead	7439-92-1	9.93	3.51	0.586	1
01656	Lithium	7439-93-2	28.4	4.7	0.40	1
01657	Magnesium	7439-95-4	8,330	11.7	1.96	1
06958	Manganese	7439-96-5	431	1.17	0.0972	1
06960	Molybdenum	7439-98-7	0.581 J	2.34	0.199	1
06961	Nickel	7440-02-0	20.7	2.34	0.152	1
10145	Phosphorus	7723-14-0	493	11.7	3.39	1
01662	Potassium	7440-09-7	3,800	117	9.77	1
01667	Sodium	7440-23-5	137	117	19.6	1
06969	Tin	7440-31-5	3.52 J	11.7	0.258	1
06970	Titanium	7440-32-6	1,550	1.17	0.199	1
06971	Vanadium	7440-62-2	74.6	1.17	0.152	1
06972	Zinc	7440-66-6	73.1	4.69	0.234	1
10146	Zirconium	7440-67-7	4.30 J	5.86	0.984	1
		SW-846 6020A	mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	0.122 J	0.469	0.117	2
06142	Silver	7440-22-4	0.0426 J	0.234	0.0305	2
06144	Strontium	7440-24-6	135	1.17	0.199	5
06145	Thallium	7440-28-0	0.339	0.234	0.0351	2
		SW-846 7471B	mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.0192 U	0.0192	0.0115	1
Wet Chemistry						
		SW-846 9045D modified	Std. Units	Std. Units	Std. Units	
00394	15a pH by 9045D The pH was measured in water at 22.2 C.	n.a.	7.91	0.0100	0.0100	1
Wet Chemistry						
		EPA 160.3 modified	%	%	%	
11624	14a Moisture Content by 160.3 Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.	n.a.	16.3	0.10	0.10	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-567-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7155508
LL Group # 1410304
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/08/2013 13:25 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/09/2013 09:05
Reported: 08/22/2013 07:46

56740 SDG#: PH087-05

CAT No.	Analysis Name	CAS Number	Dry Result		Dry MRL*	Dry EDL	Dilution Factor
Dioxins/Furans			EPA 1613B		ng/kg	ng/kg	
11031	2378-TCDD	1746-01-6	1.17	U	1.17	0.0535	1
11031	12378-PeCDD	40321-76-4	5.84	U	5.84	0.0620	1
11031	123478-HxCDD	39227-28-6	5.84	U	5.84	0.0268	1
11031	123678-HxCDD	57653-85-7	5.84	U	5.84	0.0300	1
11031	123789-HxCDD	19408-74-3	0.0767	J	5.84	0.0302	1
11031	1234678-HpCDD	35822-46-9	5.84	U	5.84	0.0470	1
11031	OCDD	3268-87-9	0.512	JBQ	11.7	0.0556	1
11031	2378-TCDF	51207-31-9	1.17	U	1.17	0.0423	1
11031	12378-PeCDF	57117-41-6	0.0817	JBQ	5.84	0.0284	1
11031	23478-PeCDF	57117-31-4	0.0483	JQ	5.84	0.0262	1
11031	123478-HxCDF	70648-26-9	0.0321	JBQ	5.84	0.0176	1
11031	123678-HxCDF	57117-44-9	0.0280	JBQ	5.84	0.0184	1
11031	123789-HxCDF	72918-21-9	5.84	U	5.84	0.0213	1
11031	234678-HxCDF	60851-34-5	5.84	U	5.84	0.0174	1
11031	1234678-HpCDF	67562-39-4	0.0503	JBQ	5.84	0.0157	1
11031	1234789-HpCDF	55673-89-7	0.0313	JQ	5.84	0.0211	1
11031	OCDF	39001-02-0	0.0655	JBQ	11.7	0.0593	1

Toxic Equivalents		EPA 1613B	ng/kg	ng/kg	ng/kg	
11031	TEQ WHO 2005 - EDLx0.0	n.a.	0.00765			1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	64	25 - 164
13C12-12378-PeCDD	79	25 - 181
13C12-123478-HxCDD	67	32 - 141
13C12-123678-HxCDD	71	28 - 130
13C12-123789-HxCDD	70	28 - 130
13C12-1234678-HpCDD	79	23 - 140
13C12-OCDD	80	17 - 157
13C12-2378-TCDF	65	24 - 169
13C12-12378-PeCDF	76	24 - 185
13C12-23478-PeCDF	78	21 - 178
13C12-123478-HxCDF	56	26 - 152
13C12-123678-HxCDF	58	26 - 123
13C12-234678-HxCDF	57	28 - 136
13C12-123789-HxCDF	63	29 - 147
13C12-1234678-HpCDF	72	28 - 143
13C12-1234789-HpCDF	67	26 - 138
13C12-OCDF	62	17 - 157

Dioxins/Furans Data Qualifiers:

- B Detected in Method Blank
- U Undetected
- J Estimated concentration between Estimated Detection Limit and Minimum Level
- E Exceeds calibration range
- C Confirmed quantitation on secondary GC column
- Q EMPC - Estimated Maximum Possible Concentration

*=This limit was used in the evaluation of the final result

Sample Description: SL-567-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7155508
LL Group # 1410304
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/08/2013 13:25 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/09/2013 09:05

Reported: 08/22/2013 07:46

56740 SDG#: PH087-05

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
F	Interference is present					
S	Saturation of detection signal					

*=This limit was used in the evaluation of the final result

Sample Description: SL-567-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7155508
LL Group # 1410304
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/08/2013 13:25 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/09/2013 09:05

Reported: 08/22/2013 07:46

56740 SDG#: PH087-05

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13225SLA026	08/15/2013 08:30	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	13225SLA026	08/14/2013 08:30	Anna E Stager	1
05551	11a TPH by EPA 8015B GRO	TPH GRO SW-846 8015B mod	1	13224A16A	08/13/2013 03:07	Laura M Krieger	22.56
06130	GC - 5 g HL Encore Prep	SW-846 5035A	1	201322132004	08/09/2013 14:23	Mitchell R Washel	n.a.
06130	GC - 5 g HL Encore Prep	SW-846 5035A	2	201322132004	08/09/2013 14:24	Mitchell R Washel	n.a.
10401	21a Herbicides by EPA 8151A	SW-846 8151A	1	132250009A	08/16/2013 18:04	Melissa McDermott	1
10590	20a Pesticides by EPA 8081B	SW-846 8081B	1	132240016A	08/19/2013 23:30	Jamie L Brillhart	1
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132250001A	08/15/2013 01:50	Monica M Souders	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132250001A	08/13/2013 16:25	JoElla L Rice	1
10496	PPL Pest. Microwave Extraction	SW-846 3546	1	132240016A	08/13/2013 16:25	JoElla L Rice	1
04181	Herbicide Soil Extraction	SW-846 3550B/SW-846 8151A	1	132250009A	08/14/2013 05:30	Roman Kuropatkin	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132260015A	08/15/2013 20:26	Heather E Williams	1
12959	EFH soil ext. (microwave)	SW-846 3546	1	132260015A	08/15/2013 02:30	Sherry L Morrow	1
11031	23a Dioxin/Furan by EPA 1613B	EPA 1613B	1	13227001	08/17/2013 20:32	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	13227001	08/15/2013 14:00	Brett M Weidman	1
01643	Aluminum	SW-846 6010C	1	132230637001	08/20/2013 06:56	Deborah A Krady	1
06944	Antimony	SW-846 6010C	1	132230637001	08/20/2013 06:56	Deborah A Krady	1
06935	Arsenic	SW-846 6010C	1	132230637001	08/20/2013 06:56	Deborah A Krady	1
06946	Barium	SW-846 6010C	1	132230637001	08/20/2013 06:56	Deborah A Krady	1
06947	Beryllium	SW-846 6010C	1	132230637001	08/20/2013 06:56	Deborah A Krady	1
07914	Boron	SW-846 6010C	1	132230637001	08/21/2013 18:07	Katlin N Cataldi	1
06949	Cadmium	SW-846 6010C	1	132230637001	08/20/2013 06:56	Deborah A Krady	1
01650	Calcium	SW-846 6010C	1	132230637001	08/20/2013 06:56	Deborah A Krady	1
06951	Chromium	SW-846 6010C	1	132230637001	08/20/2013 06:56	Deborah A Krady	1
06952	Cobalt	SW-846 6010C	1	132230637001	08/20/2013 06:56	Deborah A Krady	1
06953	Copper	SW-846 6010C	1	132230637001	08/20/2013 06:56	Deborah A Krady	1
01654	Iron	SW-846 6010C	1	132230637001	08/21/2013 18:11	Katlin N Cataldi	5
06955	Lead	SW-846 6010C	1	132230637001	08/20/2013 06:56	Deborah A Krady	1
01656	Lithium	SW-846 6010C	1	132230637001	08/20/2013 06:56	Deborah A Krady	1
01657	Magnesium	SW-846 6010C	1	132230637001	08/20/2013 06:56	Deborah A Krady	1
06958	Manganese	SW-846 6010C	1	132230637001	08/20/2013 06:56	Deborah A Krady	1
06960	Molybdenum	SW-846 6010C	1	132230637001	08/20/2013 06:56	Deborah A Krady	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-567-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7155508
LL Group # 1410304
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/08/2013 13:25 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/09/2013 09:05

Reported: 08/22/2013 07:46

56740 SDG#: PH087-05

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
06961	Nickel	SW-846 6010C	1	132230637001	08/20/2013	06:56	Deborah A Krady	1
10145	Phosphorus	SW-846 6010C	1	132230637001	08/20/2013	06:56	Deborah A Krady	1
01662	Potassium	SW-846 6010C	1	132230637001	08/20/2013	06:56	Deborah A Krady	1
01667	Sodium	SW-846 6010C	1	132230637001	08/20/2013	06:56	Deborah A Krady	1
06969	Tin	SW-846 6010C	1	132230637001	08/20/2013	06:56	Deborah A Krady	1
06970	Titanium	SW-846 6010C	1	132230637001	08/20/2013	06:56	Deborah A Krady	1
06971	Vanadium	SW-846 6010C	1	132230637001	08/20/2013	06:56	Deborah A Krady	1
06972	Zinc	SW-846 6010C	1	132230637001	08/20/2013	06:56	Deborah A Krady	1
10146	Zirconium	SW-846 6010C	1	132230637001	08/20/2013	06:56	Deborah A Krady	1
06141	Selenium	SW-846 6020A	1	132230637001B	08/14/2013	15:20	David K Beck	2
06142	Silver	SW-846 6020A	1	132230637001A	08/14/2013	15:20	David K Beck	2
06144	Strontium	SW-846 6020A	1	132230637001A	08/19/2013	06:05	Choon Y Tian	5
06145	Thallium	SW-846 6020A	1	132230637001A	08/14/2013	15:20	David K Beck	2
00159	3a Mercury 7471A	SW-846 7471B	1	132310638001	08/20/2013	11:32	Damary Valentin	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132230637001	08/12/2013	23:01	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132230638001	08/13/2013	02:30	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	2	132310638001	08/20/2013	02:40	Annamaria Stipkovits	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13221039401A	08/09/2013	20:55	Luz M Groff	1
11624	14a Moisture Content by 160.3	EPA 160.3 modified	1	13226162401A	08/14/2013	23:23	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-567-SA8-SB-9.0-10.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7155509
LL Group # 1410304
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/08/2013 14:40 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/09/2013 09:05
Reported: 08/22/2013 07:46

56790 SDG#: PH087-06*

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	1.9 U	1.9	0.77	1
12969	Acenaphthylene	208-96-8	1.9 U	1.9	0.39	1
12969	Anthracene	120-12-7	1.9 U	1.9	0.39	1
12969	Benzo(a)anthracene	56-55-3	1.9 U	1.9	0.77	1
12969	Benzo(a)pyrene	50-32-8	1.9 U	1.9	0.77	1
12969	Benzo(b)fluoranthene	205-99-2	1.9 U	1.9	0.77	1
12969	Benzo(e)pyrene	192-97-2	20 U	20	3.9	1
12969	Benzo(g,h,i)perylene	191-24-2	1.9 U	1.9	0.77	1
12969	Benzo(k)fluoranthene	207-08-9	1.9 U	1.9	0.77	1
12969	Butylbenzylphthalate	85-68-7	21 U	21	7.0	1
12969	Di-n-butylphthalate	84-74-2	21 U	21	7.0	1
12969	Chrysene	218-01-9	1.9 U	1.9	0.39	1
12969	Dibenz(a,h)anthracene	53-70-3	1.9 U	1.9	0.77	1
12969	Diethylphthalate	84-66-2	21 U	21	7.0	1
12969	Dimethylphthalate	131-11-3	21 U	21	7.0	1
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	21 U	21	7.0	1
12969	Fluoranthene	206-44-0	1.9 U	1.9	0.77	1
12969	Fluorene	86-73-7	1.9 U	1.9	0.77	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	1.9 U	1.9	0.77	1
12969	1-Methylnaphthalene	90-12-0	1.9 U	1.9	0.77	1
12969	2-Methylnaphthalene	91-57-6	1.9 U	1.9	0.77	1
12969	Naphthalene	91-20-3	1.9 U	1.9	0.77	1
12969	N-Nitrosodimethylamine	62-75-9	1.9 U	1.9	0.77	1
12969	Di-n-octylphthalate	117-84-0	21 U	21	7.0	1
12969	Phenanthrene	85-01-8	1.9 U	1.9	0.77	1
12969	Pyrene	129-00-0	1.9 U	1.9	0.77	1
GC Volatiles	TPH GRO SW-846 8015B mod	mg/kg	mg/kg	mg/kg		
05551	11a TPH by EPA 8015B GRO	n.a.	1.1 U	1.1	0.2	24.37
Herbicides	SW-846 8151A	ug/kg	ug/kg	ug/kg		
10401	2,4-D	94-75-7	42 U	42	14	1
10401	Dalapon	75-99-0	110 U	110	51	1
10401	2,4-DB	94-82-6	20 U	20	7.2	1
10401	Dicamba	1918-00-9	14 U	14	4.7	1
10401	Dinoseb	88-85-7	28 U	28	11	1
The QC window for dinoseb is advisory due to the erratic performance of the analyte using this method.						
10401	2,4-DP (Dichlorprop)	120-36-5	20 U	20	11	1
10401	MCPA	94-74-6	2,900 U	2,900	890	1
10401	MCPP (Mecoprop)	93-65-2	2,900 U	2,900	880	1
10401	2,4,5-T	93-76-5	2.0 U	2.0	0.96	1
10401	2,4,5-TP	93-72-1	2.0 U	2.0	0.88	1
Pesticides/PCBs	SW-846 8081B	ug/kg	ug/kg	ug/kg		
10590	Aldrin	309-00-2	0.97 U	0.97	0.20	1
10590	Alpha BHC	319-84-6	0.97 U	0.97	0.20	1
10590	Beta BHC	319-85-7	2.2 U	2.2	1.1	1
10590	Gamma BHC - Lindane	58-89-9	0.97 U	0.97	0.20	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-567-SA8-SB-9.0-10.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7155509
LL Group # 1410304
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/08/2013 14:40 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/09/2013 09:05
Reported: 08/22/2013 07:46

56790 SDG#: PH087-06*

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs SW-846 8081B							
10590	Chlordane	57-74-9	20	U	20	4.7	1
10590	p,p-DDD	72-54-8	2.0	U	2.0	0.39	1
10590	p,p-DDE	72-55-9	2.0	U	2.0	0.39	1
10590	p,p-DDT	50-29-3	2.0	U	2.0	0.41	1
10590	Delta BHC	319-86-8	0.97	U	0.97	0.53	1
10590	Dieldrin	60-57-1	2.0	U	2.0	0.39	1
10590	Endosulfan I	959-98-8	0.97	U	0.97	0.26	1
10590	Endosulfan II	33213-65-9	2.0	U	2.0	0.39	1
10590	Endosulfan Sulfate	1031-07-8	2.0	U	2.0	0.39	1
10590	Endrin	72-20-8	2.0	U	2.0	0.39	1
10590	Endrin Aldehyde	7421-93-4	2.0	U	2.0	0.39	1
10590	Endrin Ketone	53494-70-5	2.1	U	2.1	0.70	1
10590	Heptachlor	76-44-8	0.97	U	0.97	0.20	1
10590	Heptachlor Epoxide	1024-57-3	0.97	U	0.97	0.20	1
10590	Methoxychlor	72-43-5	7.8	U	7.8	2.0	1
10590	Mirex	2385-85-5	2.0	U	2.0	0.41	1
10590	Toxaphene	8001-35-2	39	U	39	16	1
Pesticides/PCBs SW-846 8082A							
10592	Aroclor 5432	63496-31-1	39	U	39	12	1
10592	Aroclor 5442	12642-23-8	39	U	39	12	1
10592	Aroclor 5460	11126-42-4	39	U	39	12	1
10592	PCB-1016	12674-11-2	20	U	20	3.9	1
10592	PCB-1221	11104-28-2	20	U	20	6.0	1
10592	PCB-1232	11141-16-5	20	U	20	4.8	1
10592	PCB-1242	53469-21-9	20	U	20	4.8	1
10592	PCB-1248	12672-29-6	20	U	20	3.9	1
10592	PCB-1254	11097-69-1	20	U	20	5.2	1
10592	PCB-1260	11096-82-5	20	U	20	4.6	1
10592	PCB-1262	37324-23-5	20	U	20	3.9	1
10592	PCB-1268	11100-14-4	20	U	20	3.9	1
GC Petroleum SW-846 8015B modified							
Hydrocarbons							
12952	EFH (C12-C14)	n.a.	5.8	U	5.8	2.3	1
12952	EFH (C15-C20)	n.a.	5.8	U	5.8	2.3	1
12952	EFH (C21-C30)	n.a.	5.8	U	5.8	2.3	1
12952	EFH (C30-C40)	n.a.	12	U	12	4.6	1
12952	EFH (C8-C11)	n.a.	5.8	U	5.8	2.3	1
Metals SW-846 6010C							
01643	Aluminum	7429-90-5	35,700		46.8	8.44	1
06944	Antimony	7440-36-0	4.68	U	4.68	0.867	1
06935	Arsenic	7440-38-2	4.77		4.68	0.820	1
06946	Barium	7440-39-3	120		1.17	0.0386	1
06947	Beryllium	7440-41-7	1.14	J	1.17	0.0785	1
07914	Boron	7440-42-8	6.76	J	11.7	0.984	1
06949	Cadmium	7440-43-9	1.28		1.17	0.0890	1
01650	Calcium	7440-70-2	13,400		23.4	3.91	1
06951	Chromium	7440-47-3	41.1		3.51	0.187	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-567-SA8-SB-9.0-10.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7155509
LL Group # 1410304
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/08/2013 14:40 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/09/2013 09:05
Reported: 08/22/2013 07:46

56790 SDG#: PH087-06*

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals						
		SW-846 6010C	mg/kg	mg/kg	mg/kg	
06952	Cobalt	7440-48-4	10.9	1.17	0.116	1
06953	Copper	7440-50-8	19.1	2.34	0.340	1
01654	Iron	7439-89-6	36,100	234	21.2	5
06955	Lead	7439-92-1	10.3	3.51	0.585	1
01656	Lithium	7439-93-2	29.1	4.7	0.40	1
01657	Magnesium	7439-95-4	7,200	11.7	1.96	1
06958	Manganese	7439-96-5	354	1.17	0.0972	1
06960	Molybdenum	7439-98-7	2.34 U	2.34	0.199	1
06961	Nickel	7440-02-0	21.2	2.34	0.152	1
10145	Phosphorus	7723-14-0	180	11.7	3.38	1
01662	Potassium	7440-09-7	2,650	117	9.77	1
01667	Sodium	7440-23-5	247	117	19.6	1
06969	Tin	7440-31-5	3.86 J	11.7	0.258	1
06970	Titanium	7440-32-6	1,340	1.17	0.199	1
06971	Vanadium	7440-62-2	73.1	1.17	0.152	1
06972	Zinc	7440-66-6	63.1	4.68	0.234	1
10146	Zirconium	7440-67-7	3.81 J	5.85	0.984	1
		SW-846 6020A	mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	0.468 U	0.468	0.117	2
06142	Silver	7440-22-4	0.0677 J	0.234	0.0304	2
06144	Strontium	7440-24-6	55.5	0.468	0.0796	2
06145	Thallium	7440-28-0	0.320	0.234	0.0351	2
		SW-846 7471B	mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.0136 J	0.0185	0.0111	1
Wet Chemistry						
		SW-846 9045D modified	Std. Units	Std. Units	Std. Units	
00394	15a pH by 9045D The pH was measured in water at 22.3 C.	n.a.	8.06	0.0100	0.0100	1
Wet Chemistry						
		EPA 160.3 modified	%	%	%	
11624	14a Moisture Content by 160.3 Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.	n.a.	14.6	0.10	0.10	1

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

*=This limit was used in the evaluation of the final result

Sample Description: SL-567-SA8-SB-9.0-10.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7155509
LL Group # 1410304
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/08/2013 14:40 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/09/2013 09:05

Reported: 08/22/2013 07:46

56790 SDG#: PH087-06*

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13225SLA026	08/15/2013 09:03	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	13225SLA026	08/14/2013 08:30	Anna E Stager	1
05551	11a TPH by EPA 8015B GRO	TPH GRO SW-846 8015B mod	1	13224A16A	08/13/2013 03:45	Laura M Krieger	24.37
06130	GC - 5 g HL Encore Prep	SW-846 5035A	1	201322132004	08/09/2013 14:25	Mitchell R Washel	n.a.
06130	GC - 5 g HL Encore Prep	SW-846 5035A	2	201322132004	08/09/2013 14:25	Mitchell R Washel	n.a.
10401	21a Herbicides by EPA 8151A	SW-846 8151A	1	132250009A	08/16/2013 18:31	Melissa McDermott	1
10590	20a Pesticides by EPA 8081B	SW-846 8081B	1	132240016A	08/19/2013 23:45	Jamie L Brillhart	1
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132250001A	08/15/2013 02:08	Monica M Souders	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132250001A	08/13/2013 16:25	JoElla L Rice	1
10496	PPL Pest. Microwave Extraction	SW-846 3546	1	132240016A	08/13/2013 16:25	JoElla L Rice	1
04181	Herbicide Soil Extraction	SW-846 3550B/SW-846 8151A	1	132250009A	08/14/2013 05:30	Roman Kuropatkin	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132260015A	08/16/2013 18:06	Heather E Williams	1
12959	EPH soil ext. (microwave)	SW-846 3546	1	132260015A	08/15/2013 02:30	Sherry L Morrow	1
01643	Aluminum	SW-846 6010C	1	132230637001	08/20/2013 07:00	Deborah A Krady	1
06944	Antimony	SW-846 6010C	1	132230637001	08/20/2013 07:00	Deborah A Krady	1
06935	Arsenic	SW-846 6010C	1	132230637001	08/20/2013 07:00	Deborah A Krady	1
06946	Barium	SW-846 6010C	1	132230637001	08/20/2013 07:00	Deborah A Krady	1
06947	Beryllium	SW-846 6010C	1	132230637001	08/20/2013 07:00	Deborah A Krady	1
07914	Boron	SW-846 6010C	1	132230637001	08/21/2013 18:15	Katlin N Cataldi	1
06949	Cadmium	SW-846 6010C	1	132230637001	08/20/2013 07:00	Deborah A Krady	1
01650	Calcium	SW-846 6010C	1	132230637001	08/20/2013 07:00	Deborah A Krady	1
06951	Chromium	SW-846 6010C	1	132230637001	08/20/2013 07:00	Deborah A Krady	1
06952	Cobalt	SW-846 6010C	1	132230637001	08/20/2013 07:00	Deborah A Krady	1
06953	Copper	SW-846 6010C	1	132230637001	08/20/2013 07:00	Deborah A Krady	1
01654	Iron	SW-846 6010C	1	132230637001	08/21/2013 18:18	Katlin N Cataldi	5
06955	Lead	SW-846 6010C	1	132230637001	08/20/2013 07:00	Deborah A Krady	1
01656	Lithium	SW-846 6010C	1	132230637001	08/20/2013 07:00	Deborah A Krady	1
01657	Magnesium	SW-846 6010C	1	132230637001	08/20/2013 07:00	Deborah A Krady	1
06958	Manganese	SW-846 6010C	1	132230637001	08/20/2013 07:00	Deborah A Krady	1
06960	Molybdenum	SW-846 6010C	1	132230637001	08/20/2013 07:00	Deborah A Krady	1
06961	Nickel	SW-846 6010C	1	132230637001	08/20/2013 07:00	Deborah A Krady	1
10145	Phosphorus	SW-846 6010C	1	132230637001	08/20/2013 07:00	Deborah A Krady	1
01662	Potassium	SW-846 6010C	1	132230637001	08/20/2013 07:00	Deborah A Krady	1
01667	Sodium	SW-846 6010C	1	132230637001	08/20/2013 07:00	Deborah A Krady	1
06969	Tin	SW-846 6010C	1	132230637001	08/20/2013 07:00	Deborah A Krady	1
06970	Titanium	SW-846 6010C	1	132230637001	08/20/2013 07:00	Deborah A Krady	1
06971	Vanadium	SW-846 6010C	1	132230637001	08/20/2013 07:00	Deborah A Krady	1
06972	Zinc	SW-846 6010C	1	132230637001	08/20/2013 07:00	Deborah A Krady	1
10146	Zirconium	SW-846 6010C	1	132230637001	08/20/2013 07:00	Deborah A Krady	1
06141	Selenium	SW-846 6020A	1	132230637001B	08/14/2013 15:22	David K Beck	2
06142	Silver	SW-846 6020A	1	132230637001A	08/14/2013 15:22	David K Beck	2
06144	Strontium	SW-846 6020A	1	132230637001A	08/19/2013 06:10	Choon Y Tian	2

*=This limit was used in the evaluation of the final result

Sample Description: SL-567-SA8-SB-9.0-10.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7155509
LL Group # 1410304
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/08/2013 14:40 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/09/2013 09:05

Reported: 08/22/2013 07:46

56790 SDG#: PH087-06*

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
06145	Thallium	SW-846 6020A	1	132230637001A	08/14/2013	15:22	David K Beck	2
00159	3a Mercury 7471A	SW-846 7471B	1	132310638001	08/20/2013	11:34	Damary Valentin	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132230637001	08/12/2013	23:01	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132230638001	08/13/2013	02:30	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	2	132310638001	08/20/2013	02:40	Annamaria Stipkovits	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13221039401A	08/09/2013	20:55	Luz M Groff	1
11624	14a Moisture Content by 160.3	EPA 160.3 modified	1	13226162401A	08/14/2013	23:23	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/22/13 at 07:46 AM

Group Number: 1410304

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ**</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 13225SLA026	Sample number(s): 7155505-7155509								
Acenaphthene	1.7 U	1.7	0.67	ug/kg	102		77-116		
Acenaphthylene	1.7 U	1.7	0.33	ug/kg	107		78-120		
Anthracene	1.7 U	1.7	0.33	ug/kg	105		80-116		
Benzo(a)anthracene	1.7 U	1.7	0.67	ug/kg	102		83-119		
Benzo(a)pyrene	1.7 U	1.7	0.67	ug/kg	104		80-122		
Benzo(b)fluoranthene	1.7 U	1.7	0.67	ug/kg	116		82-135		
Benzo(e)pyrene	17 U	17.	3.3	ug/kg	95		81-110		
Benzo(g,h,i)perylene	1.7 U	1.7	0.67	ug/kg	107		79-121		
Benzo(k)fluoranthene	1.7 U	1.7	0.67	ug/kg	104		79-123		
Butylbenzylphthalate	18 U	18.	6.0	ug/kg	111		77-123		
Di-n-butylphthalate	18 U	18.	6.0	ug/kg	115		78-125		
Chrysene	1.7 U	1.7	0.33	ug/kg	101		84-113		
Dibenz(a,h)anthracene	1.7 U	1.7	0.67	ug/kg	111		78-124		
Diethylphthalate	18 U	18.	6.0	ug/kg	108		77-130		
Dimethylphthalate	18 U	18.	6.0	ug/kg	106		85-122		
Bis(2-Ethylhexyl)phthalate	18 U	18.	6.0	ug/kg	105		79-121		
Fluoranthene	1.7 U	1.7	0.67	ug/kg	104		85-116		
Fluorene	1.7 U	1.7	0.67	ug/kg	105		81-126		
Indeno(1,2,3-cd)pyrene	1.7 U	1.7	0.67	ug/kg	109		77-124		
1-Methylnaphthalene	1.7 U	1.7	0.67	ug/kg	107		78-119		
2-Methylnaphthalene	1.7 U	1.7	0.67	ug/kg	108		78-121		
Naphthalene	1.7 U	1.7	0.67	ug/kg	99		79-113		
N-Nitrosodimethylamine	1.7 U	1.7	0.67	ug/kg	88		71-124		
Di-n-octylphthalate	18 U	18.	6.0	ug/kg	110		76-131		
Phenanthrene	1.7 U	1.7	0.67	ug/kg	100		72-110		
Pyrene	1.7 U	1.7	0.67	ug/kg	101		79-112		
Batch number: 13224A16A	Sample number(s): 7155506,7155508-7155509								
11a TPH by EPA 8015B GRO	1.0 U	1.0	0.2	mg/kg	95		67-119		
Batch number: 13224A20A	Sample number(s): 7155504								
TPH-GRO S.CA water C5-C12	50 U	50.	20	ug/l	102	102	75-135	0	30
Batch number: 132250009A	Sample number(s): 7155507-7155509								
2,4-D	36 U	36.	12	ug/kg	103		59-122		
Dalapon	90 U	90.	44	ug/kg	45		25-100		
2,4-DB	17 U	17.	6.2	ug/kg	108		54-131		
Dicamba	12 U	12.	4.0	ug/kg	83		60-123		
Dinoseb	24 U	24.	9.0	ug/kg	12		10-36		
2,4-DP (Dichlorprop)	17 U	17.	9.0	ug/kg	132		65-158		
MCPA	2,500 U	2,500.	760	ug/kg	85		60-127		
MCPP (Mecoprop)	2,500 U	2,500.	750	ug/kg	93		54-134		

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

- (1) The result for one or both determinations was less than five times the LOQ / MRL.
- (2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/22/13 at 07:46 AM

Group Number: 1410304

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ**</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
2,4,5-T	1.7 U	1.7	0.82	ug/kg	105		58-135		
2,4,5-TP	1.7 U	1.7	0.75	ug/kg	111		63-130		
Batch number: 132240016A	Sample number(s): 7155507-7155509								
Aldrin	0.83 U	0.83	0.17	ug/kg	96		73-119		
Alpha BHC	0.83 U	0.83	0.17	ug/kg	104		72-126		
Beta BHC	1.9 U	1.9	0.96	ug/kg	107		76-123		
Gamma BHC - Lindane	0.83 U	0.83	0.17	ug/kg	103		72-128		
Chlordane	17 U	17	4.0	ug/kg					
p,p-DDD	1.7 U	1.7	0.33	ug/kg	106		76-138		
p,p-DDE	1.7 U	1.7	0.33	ug/kg	107		76-126		
p,p-DDT	1.7 U	1.7	0.35	ug/kg	101		72-131		
Delta BHC	0.83 U	0.83	0.45	ug/kg	108		73-128		
Dieldrin	1.7 U	1.7	0.33	ug/kg	106		78-135		
Endosulfan I	0.83 U	0.83	0.22	ug/kg	101		62-125		
Endosulfan II	1.7 U	1.7	0.33	ug/kg	107		68-128		
Endosulfan Sulfate	1.7 U	1.7	0.33	ug/kg	112		72-138		
Endrin	1.7 U	1.7	0.33	ug/kg	95		75-130		
Endrin Aldehyde	1.7 U	1.7	0.33	ug/kg	100		55-132		
Endrin Ketone	1.8 U	1.8	0.60	ug/kg	112		74-127		
Heptachlor	0.83 U	0.83	0.17	ug/kg	98		69-125		
Heptachlor Epoxide	0.83 U	0.83	0.17	ug/kg	104		78-125		
Methoxychlor	6.7 U	6.7	1.7	ug/kg	105		59-125		
Mirex	1.7 U	1.7	0.35	ug/kg					
Toxaphene	33 U	33	14	ug/kg					
Batch number: 132250001A	Sample number(s): 7155505-7155509								
Aroclor 5432	33 U	33	10	ug/kg					
Aroclor 5442	33 U	33	10	ug/kg	76	73	36-106	4	30
Aroclor 5460	33 U	33	10	ug/kg					
PCB-1016	17 U	17	3.3	ug/kg	97		80-120		
PCB-1221	17 U	17	5.1	ug/kg					
PCB-1232	17 U	17	4.1	ug/kg					
PCB-1242	17 U	17	4.1	ug/kg					
PCB-1248	17 U	17	3.3	ug/kg					
PCB-1254	17 U	17	4.4	ug/kg					
PCB-1260	17 U	17	3.9	ug/kg	102		72-120		
PCB-1262	17 U	17	3.3	ug/kg					
PCB-1268	17 U	17	3.3	ug/kg					
Batch number: 132260015A	Sample number(s): 7155505-7155509								
EFH (C12-C14)	5.0 U	5.0	2.0	mg/kg	101		70-123		
EFH (C15-C20)	5.0 U	5.0	2.0	mg/kg	103		75-128		
EFH (C21-C30)	5.0 U	5.0	2.0	mg/kg	105		64-134		
EFH (C30-C40)	10 U	10	4.0	mg/kg	73		65-128		
EFH (C8-C11)	5.0 U	5.0	2.0	mg/kg	92		49-107		
Batch number: 132230637001	Sample number(s): 7155505-7155509								
Aluminum	9.14 J	40.0	7.21	mg/kg	97		80-120		
Antimony	4.00 U	4.00	0.740	mg/kg	104		80-120		
Arsenic	4.00 U	4.00	0.700	mg/kg	101		80-120		
Barium	1.00 U	1.00	0.0330	mg/kg	101		80-120		
Beryllium	1.00 U	1.00	0.0670	mg/kg	98		80-120		
Boron	10.0 U	10.0	0.840	mg/kg	99		80-120		
Cadmium	1.00 U	1.00	0.0760	mg/kg	101		80-120		

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

- (1) The result for one or both determinations was less than five times the LOQ / MRL.
- (2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/22/13 at 07:46 AM

Group Number: 1410304

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ**</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Calcium	20.0 U	20.0	3.34	mg/kg	99		80-120		
Chromium	3.00 U	3.00	0.160	mg/kg	101		80-120		
Cobalt	1.00 U	1.00	0.0990	mg/kg	101		80-120		
Copper	2.00 U	2.00	0.290	mg/kg	105		80-120		
Iron	40.0 U	40.0	3.62	mg/kg	96		80-120		
Lead	3.00 U	3.00	0.500	mg/kg	101		80-120		
Lithium	4.0 U	4.0	0.34	mg/kg	96		80-120		
Magnesium	10.0 U	10.0	1.67	mg/kg	99		80-120		
Manganese	1.00 U	1.00	0.0830	mg/kg	101		80-120		
Molybdenum	2.00 U	2.00	0.170	mg/kg	101		80-120		
Nickel	2.00 U	2.00	0.130	mg/kg	104		80-120		
Phosphorus	10.0 U	10.0	2.89	mg/kg	102		80-120		
Potassium	100 U	100.	8.34	mg/kg	98		80-120		
Sodium	100 U	100.	16.7	mg/kg	97		80-120		
Tin	1.77 J	10.0	0.220	mg/kg	100		80-120		
Titanium	1.00 U	1.00	0.170	mg/kg	103		80-120		
Vanadium	1.00 U	1.00	0.130	mg/kg	102		80-120		
Zinc	4.00 U	4.00	0.200	mg/kg	100		80-120		
Zirconium	5.00 U	5.00	0.840	mg/kg	99		80-120		

Batch number: 132230637001A

Sample number(s): 7155505-7155509

Silver	0.200 U	0.200	0.0260	mg/kg	108		80-120		
Strontium	0.400 U	0.400	0.0680	mg/kg	102		80-120		
Thallium	0.200 U	0.200	0.0300	mg/kg	114		80-120		

Batch number: 132230637001B

Sample number(s): 7155505-7155509

Selenium	0.400 U	0.400	0.100	mg/kg	103		80-120		
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Batch number: 132310638001

Sample number(s): 7155505-7155509

3a Mercury 7471A	0.0167 U	0.0167	0.0100	mg/kg	102		85-120		
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Batch number: 13221039401A

Sample number(s): 7155505-7155509

15a pH by 9045D					99		95-105		
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Batch number: 13226162401A
14a Moisture Content by 160.3

Sample number(s): 7155505-7155509

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MRL**</u>	<u>Blank EDL</u>	<u>Report Units</u>	<u>OPR %REC</u>	<u>OPRD %REC</u>	<u>OPR/OPRD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 13227001	Sample number(s): 7155505-7155508								
2378-TCDD	1.00 U	1.00	0.0760	ng/kg	99		67-158		
12378-PeCDD	0.0796 J	5.00	0.0681	ng/kg	103		70-142		
123478-HxCDD	5.00 U	5.00	0.0263	ng/kg	99		70-164		
123678-HxCDD	0.0344 J	5.00	0.0291	ng/kg	92		76-134		
123789-HxCDD	5.00 U	5.00	0.0306	ng/kg	94		64-162		
1234678-HpCDD	0.0682 J	5.00	0.0395	ng/kg	91		70-140		
OCDD	0.286 J	10.0	0.0305	ng/kg	91		78-144		
2378-TCDF	1.00 U	1.00	0.0678	ng/kg	98		75-158		
12378-PeCDF	0.0421 J	5.00	0.0314	ng/kg	95		80-134		
23478-PeCDF	0.0576 J	5.00	0.0324	ng/kg	93		68-160		
123478-HxCDF	0.0398 J	5.00	0.0242	ng/kg	94		72-134		
123678-HxCDF	0.0310 J	5.00	0.0233	ng/kg	93		84-130		

*- Outside of specification

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- (2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/22/13 at 07:46 AM

Group Number: 1410304

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MRL**</u>	<u>Blank EDL</u>	<u>Report Units</u>	<u>OPR %REC</u>	<u>OPRD %REC</u>	<u>OPR/OPRD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
123789-HxCDF	0.0558 J	5.00	0.0306	ng/kg	93		78-130		
234678-HxCDF	0.0316 J	5.00	0.0229	ng/kg	93		70-156		
1234678-HpCDF	0.0368 J	5.00	0.0134	ng/kg	93		82-122		
1234789-HpCDF	5.00 U	5.00	0.0225	ng/kg	91		78-138		
OCDF	0.112 J	10.0	0.0583	ng/kg	90		63-170		
TEQ WHO 2005 - EDLx0.0	0.0110			ng/kg					

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

<u>Analysis Name</u>	<u>MS %REC</u>	<u>MSD %REC</u>	<u>MS/MSD Limits</u>	<u>RPD</u>	<u>RPD MAX</u>	<u>BKG Conc</u>	<u>DUP Conc</u>	<u>DUP RPD</u>	<u>Dup RPD Max</u>
Batch number: 13225SLA026	Sample number(s): 7155505-7155509 UNSPK: P152828								
Acenaphthene	96	97	48-127	2	30				
Acenaphthylene	101	103	49-121	2	30				
Anthracene	100	102	52-126	3	30				
Benzo(a)anthracene	96	98	44-143	3	30				
Benzo(a)pyrene	90	92	44-140	2	30				
Benzo(b)fluoranthene	124	124	26-142	2	30				
Benzo(e)pyrene	94	96	70-130	3	30				
Benzo(g,h,i)perylene	43	42	33-141	1	30				
Benzo(k)fluoranthene	97	98	54-142	3	30				
Butylbenzylphthalate	149	145	49-151	2	30				
Di-n-butylphthalate	125	130	52-147	4	30				
Chrysene	93	95	29-148	3	30				
Dibenz(a,h)anthracene	56	55	20-137	1	30				
Diethylphthalate	107	109	43-145	3	30				
Dimethylphthalate	102	104	58-129	2	30				
Bis(2-Ethylhexyl)phthalate	133	129	39-167	2	30				
Fluoranthene	99	103	40-148	4	30				
Fluorene	98	100	51-137	3	30				
Indeno(1,2,3-cd)pyrene	54	53	17-136	0	30				
1-Methylnaphthalene	103	107	50-131	5	30				
2-Methylnaphthalene	102	105	35-152	4	30				
Naphthalene	96	99	31-148	3	30				
N-Nitrosodimethylamine	94	95	48-113	2	30				
Di-n-octylphthalate	184*	183*	52-162	0	30				
Phenanthrene	94	97	29-142	4	30				
Pyrene	106	109	26-143	3	30				
Batch number: 13224A16A	Sample number(s): 7155506,7155508-7155509 UNSPK: P156754								
11a TPH by EPA 8015B GRO	64	77	39-118	30	30				
Batch number: 132250009A	Sample number(s): 7155507-7155509 UNSPK: P152828								
2,4-D	79	79	42-143	0	35				
Dalapon	29	0*	19-109	200*	50				
2,4-DB	121	116	10-179	4	50				

*- Outside of specification

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/22/13 at 07:46 AM

Group Number: 1410304

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

<u>Analysis Name</u>	<u>MS</u> <u>%REC</u>	<u>MSD</u> <u>%REC</u>	<u>MS/MSD</u> <u>Limits</u>	<u>RPD</u> <u>RPD</u>	<u>RPD</u> <u>MAX</u>	<u>BKG</u> <u>Conc</u>	<u>DUP</u> <u>Conc</u>	<u>DUP</u> <u>RPD</u>	<u>Dup RPD</u> <u>Max</u>
Dicamba	98	92	45-147	6	50				
Dinoseb	26	26	10-52	1	35				
2,4-DP (Dichlorprop)	133	130	32-171	2	50				
MCPA	94	89	23-169	5	50				
MCPP (Mecoprop)	82	82	24-164	1	50				
2,4,5-T	91	87	12-172	4	35				
2,4,5-TP	112	106	10-142	6	35				
Batch number: 132240016A Sample number(s): 7155507-7155509 UNSPK: P154023									
Aldrin	92	99	16-126	7	50				
Alpha BHC	91	98	14-140	7	50				
Beta BHC	97	102	10-173	5	50				
Gamma BHC - Lindane	93	97	30-137	5	50				
p,p-DDD	91	101	43-149	10	50				
p,p-DDE	96	107	18-161	11	50				
p,p-DDT	89	97	12-193	8	50				
Delta BHC	93	97	13-153	4	50				
Dieldrin	90	98	19-154	8	50				
Endosulfan I	86	94	16-137	10	50				
Endosulfan II	89	99	10-156	10	50				
Endosulfan Sulfate	93	97	10-181	4	50				
Endrin	87	93	30-152	7	50				
Endrin Aldehyde	78	84	10-152	6	35				
Endrin Ketone	86	89	10-160	4	50				
Heptachlor	90	97	16-152	7	50				
Heptachlor Epoxide	92	98	17-167	7	50				
Methoxychlor	92	99	34-168	7	50				
Batch number: 132250001A Sample number(s): 7155505-7155509 UNSPK: P152828									
PCB-1016	89	87	16-146	3	50				
PCB-1260	91	89	40-134	2	50				
Batch number: 132260015A Sample number(s): 7155505-7155509 UNSPK: P156754									
EFH (C12-C14)	0*	0*	49-123	0	20				
EFH (C15-C20)	169*	117	49-123	37*	20				
EFH (C21-C30)	279*	-24*	49-123	109*	20				
EFH (C30-C40)	635*	9*	49-123	146*	20				
EFH (C8-C11)	0*	0*	49-123	0	20				
Batch number: 132230637001 Sample number(s): 7155505-7155509 UNSPK: P156754 BKG: P156754									
Aluminum	1713	1700	75-125	0	20	17,100	17,600	3	20
	(2)	(2)							
Antimony	62*	64*	75-125	3	20	4.00 U	4.00 U	0 (1)	20
Arsenic	98	101	75-125	3	20	3.21 J	3.57 J	11 (1)	20
Barium	97	98	75-125	1	20	86.0	86.9	1	20
Beryllium	99	100	75-125	0	20	0.582 J	0.577 J	1 (1)	20
Boron	97	96	75-125	1	20	5.16 J	4.66 J	10 (1)	20
Cadmium	92	96	75-125	4	20	0.964 J	0.991 J	3 (1)	20
Calcium	278 (2)	401 (2)	75-125	4	20	12,500	21,400	52*	20
Chromium	106	108	75-125	1	20	24.6	25.5	4	20
Cobalt	89	92	75-125	3	20	6.23	5.94	5	20
Copper	106	106	75-125	0	20	14.5	14.2	2	20

*- Outside of specification

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/22/13 at 07:46 AM

Group Number: 1410304

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

<u>Analysis Name</u>	<u>MS</u> <u>%REC</u>	<u>MSD</u> <u>%REC</u>	<u>MS/MSD</u> <u>Limits</u>	<u>RPD</u>	<u>RPD</u> <u>MAX</u>	<u>BKG</u> <u>Conc</u>	<u>DUP</u> <u>Conc</u>	<u>DUP</u> <u>RPD</u>	<u>Dup</u> <u>RPD</u> <u>Max</u>
Iron	329 (2)	571 (2)	75-125	1	20	22,600	22,700	0	20
Lead	92	97	75-125	4	20	5.84	6.00	3 (1)	20
Lithium	94	95	75-125	0	20	18.9	18.8	1 (1)	20
Magnesium	201 (2)	222 (2)	75-125	1	20	5,700	5,890	3	20
Manganese	0 (2)	38 (2)	75-125	6	20	293	271	8	20
Molybdenum	93	96	75-125	3	20	0.455 J	2.00 U	200* (1)	20
Nickel	90	95	75-125	5	20	13.8	13.7	0	20
Phosphorus	95	98	75-125	1	20	317	341	7	20
Potassium	137*	136*	75-125	0	20	1,620	1,600	1	20
Sodium	97	97	75-125	0	20	556	600	8	20
Tin	86	89	75-125	3	20	2.98 J	3.08 J	3 (1)	20
Titanium	309 (2)	289 (2)	75-125	1	20	1,270	1,250	1	20
Vanadium	107	109	75-125	1	20	45.1	46.0	2	20
Zinc	96	102	75-125	3	20	48.4	48.7	1	20
Zirconium	95	96	75-125	1	20	2.26 J	4.02 J	56* (1)	20
Batch number: 132230637001A Sample number(s): 7155505-7155509 UNSPK: P156754 BKG: P156754									
Silver	104	102	75-125	1	20	0.0490 J	0.200 U	200* (1)	20
Strontium	136*	116	75-125	4	20	28.3	30.5	8	20
Thallium	104	109	75-125	3	20	0.216	0.226	4 (1)	20
Batch number: 132230637001B Sample number(s): 7155505-7155509 UNSPK: P156754 BKG: P156754									
Selenium	100	99	75-125	1	20	0.400 U	0.400 U	0 (1)	20
Batch number: 132310638001 Sample number(s): 7155505-7155509 UNSPK: P156754 BKG: P156754									
3a Mercury 7471A	112	111	65-135	1	20	0.0162 U	0.0160 U	0 (1)	20
Batch number: 13221039401A Sample number(s): 7155505-7155509 BKG: 7155505									
15a pH by 9045D						7.50	7.52	0	3
Batch number: 13226162401A Sample number(s): 7155505-7155509 BKG: P156754									
14a Moisture Content by 160.3						11.9	12.1	2	20

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: 7a SVOC SIM EPA 8270D
Batch number: 13225SLA026

	Fluoranthene-d10	Benzo(a)pyrene-d12	1-Methylnaphthalene-d10
7155505	84	92	105
7155506	88	95	98
7155507	87	94	101
7155508	87	95	99
7155509	91	98	103
Blank	74	81	88

*- Outside of specification

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/22/13 at 07:46 AM

Group Number: 1410304

Surrogate Quality Control

LCS	90	98	105
MS	88	88	101
MSD	87	89	105

Limits: 54-129 59-125 61-125

Analysis Name: 11a TPH by EPA 8015B GRO
Batch number: 13224A16A
Trifluorotoluene-F

7155506	67
7155508	79
7155509	71
Blank	78
LCS	83
MS	67
MSD	76

Limits: 61-122

Analysis Name: 11b TPH by EPA 8015B GRO
Batch number: 13224A20A
Trifluorotoluene-F

7155504	86
Blank	86
LCS	122
LCSD	116

Limits: 63-135

Analysis Name: 20a Pesticides by EPA 8081B
Batch number: 132240016A
Tetrachloro-m-xylene Decachlorobiphenyl

7155507	97	95
7155508	104	104
7155509	100	109
Blank	105	125*
LCS	107	124*
MS	95	91
MSD	102	98

Limits: 50-130 20-120

Analysis Name: 19a PCBs and PCTs 8082A
Batch number: 132250001A
Tetrachloro-m-xylene Decachlorobiphenyl

7155505	109	99
7155506	105	105
7155507	105	90
7155508	106	96
7155509	110	105
Blank	109	109
LCS	105	106

*- Outside of specification

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/22/13 at 07:46 AM

Group Number: 1410304

Surrogate Quality Control

LCSD	113	115
MS	101	96
MSD	95	92

Limits: 45-120 45-120

Analysis Name: 21a Herbicides by EPA 8151A
Batch number: 132250009A
2,4-Dichlorophenylacetic acid

7155507	62
7155508	58
7155509	56
Blank	61
LCS	71
MS	66
MSD	64

Limits: 50-150

Analysis Name: 10a TPH by EPA 8015B (DRO)
Batch number: 132260015A

Chlorobenzene Orthoterphenyl

7155505	91	97
7155506	96	77
7155507	88	72
7155508	90	81
7155509	93	75
Blank	97	103
LCS	101	107
MS	103	111
MSD	97	101

Limits: 37-125 66-123

Analysis Name: 23a Dioxin/Furan by EPA 1613B
Batch number: 13227001

13C12-2378-TCDD 13C12-23478-PeCDF 13C12-123478-HxCDF 13C12-123678-HxCDF 13C12-234678-HxCDF 13C12-123789-HxCDF

7155505	77	86	63	69	67	81
7155506	64	78	61	68	64	65
7155507	77	95	67	70	72	82
7155508	64	78	56	58	57	63
Blank	66	76	61	69	68	69
OPR	60	76	54	57	59	66

Limits: 25-164 21-178 26-152 26-123 28-136 29-147

13C12-1234678-HpCDF 13C12-1234789-HpCDF 13C12-OCDF 13C12-12378-PeCDD 13C12-123478-HxCDD 13C12-123678-HxCDD

7155505	77	79	71	87	72	78
7155506	75	67	64	80	70	74
7155507	77	84	80	100	77	82
7155508	72	67	62	79	67	71

*- Outside of specification

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- (2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/22/13 at 07:46 AM

Group Number: 1410304

Surrogate Quality Control

Blank	81	64	60	81	73	81
OPR	68	59	54	77	66	69
Limits:	28-143	26-138	17-157	25-181	32-141	28-130
	13C12-123789-HxCDD	13C12-1234678-HpCDD	13C12-OCDD	13C12-2378-TCDF	13C12-12378-PeCDF	
7155505	76	87	89	74	89	
7155506	75	80	80	64	79	
7155507	82	92	89	83	98	
7155508	70	79	80	65	76	
Blank	78	83	79	63	82	
OPR	69	73	68	56	73	
Limits:	28-130	23-140	17-157	24-169	24-185	

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SSFL Phase 3 Chain of Custody

13013 1410304 7155504-09

CDM Smith

Date Shipped: 8/8/2013

Carrier Name: FedEx

Airbill No: 796424999600

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

COC No:

20130808-01

Cooler #:

1

Lab:

Lancaster

Lab Phone:

717-556-7259

Lab Address

2425 New Holland Pike
Lancaster, PA 17601

Sample	Date/Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Fluoride 300.0/9056	Mercury 7470 (Water)	Mercury 7471 (Soil)	Metalis 6010 and 6020	TIC 8270	SVOC 8270	1,4 Dioxane 8270 SIM	PAHs 8270 SIM	Perchlorate Confirm 6850/6860	Perchlorate 314.0/331	PCBs/PCTs 8082	Dioxins 1613	Pesticides 8081	Herbicides 8151	Hex Cr 7196/7199	pH 9040 (Water)	pH 9045 (Soil)	1,4 Dioxane 8260 SIM	VOCs 8260	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Nitrates 3010/9056	Terphenyls 8015	Formaldehyde 8315	Cyanide 9012	Energetics 8330	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes						
TB-080813	8/8/13 08:00	WQ	HCl	3 - 40 mL Vial	10 day																																						
SL-565-SA8-SB-0.0-0.5	8/8/13 07:40	SO	None	2 - 55-Sleeve	10 day	X	X				X	X	X											X																			
SL-565-SA8-SB-0.0-0.5	8/8/13 07:40	SO	None	1 - 4 oz glass	10 day									X																													
SL-565-SA8-SB-4.0-5.0	8/8/13 08:30	SO	None	2 - 55-Sleeve	10 day	X	X				X	X	X											X																			
SL-565-SA8-SB-4.0-5.0	8/8/13 08:30	SO	None	1 - 4 oz glass	10 day									X																													
SL-565-SA8-SB-4.0-5.0	8/8/13 08:30	SO	None	2 - Encore	10 day																		X																				
SL-567-SA8-SB-0.0-0.5	8/8/13 12:50	SO	None	2 - 55-Sleeve	10 day	X	X				X	X	X					X	X					X																			
SL-567-SA8-SB-0.0-0.5	8/8/13 12:50	SO	None	1 - 4 oz glass	10 day									X																													
SL-567-SA8-SB-4.0-5.0	8/8/13 13:25	SO	None	2 - 55-Sleeve	10 day	X	X				X	X	X					X	X					X																			
SL-567-SA8-SB-4.0-5.0	8/8/13 13:25	SO	None	1 - 4 oz glass	10 day									X																													
SL-567-SA8-SB-4.0-5.0	8/8/13 13:25	SO	None	2 - Encore	10 day																		X																				
SL-567-SA8-SB-9.0-10.0	8/8/13 14:40	SO	None	1 - 55-Sleeve	10 day	X	X				X	X	X					X	X					X																			
SL-567-SA8-SB-9.0-10.0	8/8/13 14:40	SO	None	1 - 4 oz glass	10 day									X																													
SL-567-SA8-SB-9.0-10.0	8/8/13 14:40	SO	None	2 - Encore	10 day																		X																				
SL-567-SA8-SB-9.0-10.0	8/8/13 14:40	SO	None	1 - 16 oz glass	10 day	X	X				X	X	X					X	X					X																			

Special Instructions:

Sampler:

John Mena

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
<i>John Mena</i>	8/8/13	1400									
									<i>Castle</i>	8/9/13	0905

Environmental Sample Administration 1410304
Receipt Documentation Log

Client/Project: CDM Smith

Shipping Container Sealed: YES NO

Date of Receipt: 8/9/13

Custody Seal Present * : YES NO

Time of Receipt: 0905

* Custody seal was intact unless otherwise noted in the discrepancy section

Source Code: 50-1

Package: Chilled Not Chilled

Temperature of Shipping Containers

Cooler #	Thermometer ID	Temperature (°C)	Temp Bottle (TB) or Surface Temp (ST)	Wet Ice (WI) or Dry Ice (DI) or Ice Packs (IP)	Ice Present? Y/N	Loose (L) Bagged Ice (B) or NA	Comments
1	DT121	0.9	TB	WI	Y	B	
2							
3							
4							
5							
6							

Number of Trip Blanks received NOT listed on chain of custody: 0

Paperwork Discrepancy/Unpacking Problems:

Unpacker Signature/Emp#: Cash 3647 Date/Time: 8/9/13 0927

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	BMQL	Below Minimum Quantitation Level
N.D.	none detected	MPN	Most Probable Number
TNTC	Too Numerous To Count	CP Units	cobalt-chloroplatinate units
IU	International Units	NTU	nephelometric turbidity units
umhos/cm	micromhos/cm	ng	nanogram(s)
C	degrees Celsius	F	degrees Fahrenheit
meq	milliequivalents	lb.	pound(s)
g	gram(s)	kg	kilogram(s)
µg	microgram(s)	mg	milligram(s)
mL	milliliter(s)	L	liter(s)
m³	cubic meter(s)	µL	microliter(s)
		pg/L	picogram/liter

< less than - The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Data Qualifiers:

C – result confirmed by reanalysis.

J - estimated value – The result is \geq the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ).

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers

- A** TIC is a possible aldol-condensation product
- B** Analyte was also detected in the blank
- C** Pesticide result confirmed by GC/MS
- D** Compound quantitated on a diluted sample
- E** Concentration exceeds the calibration range of the instrument
- N** Presumptive evidence of a compound (TICs only)
- P** Concentration difference between primary and confirmation columns $>25\%$
- U** Compound was not detected
- X,Y,Z** Defined in case narrative

Inorganic Qualifiers

- B** Value is $<$ CRDL, but \geq IDL
- E** Estimated due to interference
- M** Duplicate injection precision not met
- N** Spike sample not within control limits
- S** Method of standard additions (MSA) used for calculation
- U** Compound was not detected
- W** Post digestion spike out of control limits
- *** Duplicate analysis not within control limits
- +** Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

SAMPLE DELIVERY GROUP

PH088

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

August 28, 2013

Project: SSFL Phase 3 Sampling

Submittal Date: 08/10/2013

Group Number: 1410581

SDG: PH088

PO Number: 1204-002-001-AL

State of Sample Origin: CA

<u>Client Sample Description</u>	<u>Lancaster Labs (LL) #</u>
TB-080913 Water	7156752
SL-530-SA8-SB-0.0-0.5 Soil	7156753
SL-530-SA8-SB-4.0-5.0 Soil	7156754
SL-530-SA8-SB-4.0-5.0MS Soil	7156755
SL-530-SA8-SB-4.0-5.0MSD Soil	7156756
SL-530-SA8-SB-4.0-5.0DUP Soil	7156757
SL-830-SA8-SB-4.0-5.0 Soil	7156758
SL-538-SA8-SB-0.0-0.5 Soil	7156759
SL-538-SA8-SB-4.0-5.0 Soil	7156760
SL-538-SA8-SB-4.0-5.0MS Soil	7156761
SL-538-SA8-SB-4.0-5.0MSD Soil	7156762
SL-538-SA8-SB-4.0-5.0DUP Soil	7156763
SL-838-SA8-SB-4.0-5.0 Soil	7156764
SL-541-SA8-SB-0.0-0.5 Soil	7156765
SL-541-SA8-SB-4.0-5.0 Soil	7156766
SL-607-SA8-SB-0.0-0.5 Soil	7156767
SL-607-SA8-SB-5.0-6.0 Soil	7156768

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC Eurofins Lancaster Labs
COPY TO

Attn: Natalie Luciano

Respectfully Submitted,



Natalie R. Luciano
Senior Specialist

(717) 556-7258

Sample Description: TB-080913 Water
SSFL Phase 3 Subarea 8

LL Sample # WW 7156752
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 08:00

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45

Reported: 08/28/2013 08:58

530-T SDG#: PH088-01TB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Dilution Factor
GC Volatiles						
	TPH GRO SW-8015B		ug/l	ug/l	ug/l	
08229	TPH-GRO S.CA water C5-C12	n.a.	50 U	50	20	1

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08229	11b TPH by EPA 8015B GRO	TPH GRO SW-8015B	1	13224A20A	08/12/2013 13:28	Catherine J Schwarz	1
01146	GC VOA Water Prep	SW-846 5030B	1	13224A20A	08/12/2013 13:28	Catherine J Schwarz	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-530-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156753
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 07:25 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45
Reported: 08/28/2013 08:58

53000 SDG#: PH088-02

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	1.8 U	1.8	0.70	1
12969	Acenaphthylene	208-96-8	1.8 U	1.8	0.35	1
12969	Anthracene	120-12-7	1.8 U	1.8	0.35	1
12969	Benzo(a)anthracene	56-55-3	1.3 J	1.8	0.70	1
12969	Benzo(a)pyrene	50-32-8	1.4 J	1.8	0.70	1
12969	Benzo(b)fluoranthene	205-99-2	3.0	1.8	0.70	1
12969	Benzo(e)pyrene	192-97-2	18 U	18	3.5	1
12969	Benzo(g,h,i)perylene	191-24-2	1.2 J	1.8	0.70	1
12969	Benzo(k)fluoranthene	207-08-9	1.2 J	1.8	0.70	1
12969	Butylbenzylphthalate	85-68-7	19 U	19	6.3	1
12969	Di-n-butylphthalate	84-74-2	19 U	19	6.3	1
12969	Chrysene	218-01-9	6.4	1.8	0.35	1
12969	Dibenz(a,h)anthracene	53-70-3	1.8 U	1.8	0.70	1
12969	Diethylphthalate	84-66-2	19 U	19	6.3	1
12969	Dimethylphthalate	131-11-3	19 U	19	6.3	1
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	19 U	19	6.3	1
12969	Fluoranthene	206-44-0	3.4	1.8	0.70	1
12969	Fluorene	86-73-7	1.8 U	1.8	0.70	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	0.97 J	1.8	0.70	1
12969	1-Methylnaphthalene	90-12-0	1.8 U	1.8	0.70	1
12969	2-Methylnaphthalene	91-57-6	2.0	1.8	0.70	1
12969	Naphthalene	91-20-3	2.6	1.8	0.70	1
12969	N-Nitrosodimethylamine	62-75-9	1.8 U	1.8	0.70	1
12969	Di-n-octylphthalate	117-84-0	19 U	19	6.3	1
12969	Phenanthrene	85-01-8	2.6	1.8	0.70	1
12969	Pyrene	129-00-0	2.9	1.8	0.70	1
Pesticides/PCBs	SW-846 8082A		ug/kg	ug/kg	ug/kg	
10592	Aroclor 5432	63496-31-1	35 U	35	11	1
10592	Aroclor 5442	12642-23-8	35 U	35	11	1
10592	Aroclor 5460	11126-42-4	35 U	35	11	1
10592	PCB-1016	12674-11-2	18 U	18	3.5	1
10592	PCB-1221	11104-28-2	18 U	18	5.4	1
10592	PCB-1232	11141-16-5	18 U	18	4.4	1
10592	PCB-1242	53469-21-9	18 U	18	4.4	1
10592	PCB-1248	12672-29-6	18 U	18	3.5	1
10592	PCB-1254	11097-69-1	18	18	4.7	1
10592	PCB-1260	11096-82-5	18 U	18	4.1	1
10592	PCB-1262	37324-23-5	18 U	18	3.5	1
10592	PCB-1268	11100-14-4	18 U	18	3.5	1
GC Petroleum	SW-846 8015B modified		mg/kg	mg/kg	mg/kg	
Hydrocarbons						
12952	EFH (C12-C14)	n.a.	5.3 U	5.3	2.1	1
12952	EFH (C15-C20)	n.a.	2.7 J	5.3	2.1	1
12952	EFH (C21-C30)	n.a.	18	5.3	2.1	1
12952	EFH (C30-C40)	n.a.	39	11	4.2	1
12952	EFH (C8-C11)	n.a.	5.3 U	5.3	2.1	1
Metals	SW-846 6010C		mg/kg	mg/kg	mg/kg	

*=This limit was used in the evaluation of the final result

Sample Description: SL-530-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156753
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 07:25 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45
Reported: 08/28/2013 08:58

53000 SDG#: PH088-02

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals						
		SW-846 6010C	mg/kg	mg/kg	mg/kg	
01643	Aluminum	7429-90-5	25,800	40.9	7.37	1
06944	Antimony	7440-36-0	4.09 U	4.09	0.756	1
06935	Arsenic	7440-38-2	4.74	4.09	0.715	1
06946	Barium	7440-39-3	111	1.02	0.0337	1
06947	Beryllium	7440-41-7	0.827 J	1.02	0.0685	1
07914	Boron	7440-42-8	10.9	10.2	0.858	1
06949	Cadmium	7440-43-9	1.36	1.02	0.0777	1
01650	Calcium	7440-70-2	21,900	20.4	3.41	1
06951	Chromium	7440-47-3	35.2	3.07	0.163	1
06952	Cobalt	7440-48-4	10.5	1.02	0.101	1
06953	Copper	7440-50-8	21.8	2.04	0.296	1
01654	Iron	7439-89-6	30,800	204	18.5	5
06955	Lead	7439-92-1	12.9	3.07	0.511	1
01656	Lithium	7439-93-2	20.8	4.1	0.35	1
01657	Magnesium	7439-95-4	6,920	10.2	1.71	1
06958	Manganese	7439-96-5	569	1.02	0.0848	1
06960	Molybdenum	7439-98-7	0.344 J	2.04	0.174	1
06961	Nickel	7440-02-0	18.4	2.04	0.133	1
10145	Phosphorus	7723-14-0	567	10.2	2.95	1
01662	Potassium	7440-09-7	5,640	102	8.52	1
01667	Sodium	7440-23-5	107	102	17.1	1
06969	Tin	7440-31-5	3.29 J	10.2	0.225	1
06970	Titanium	7440-32-6	1,350	1.02	0.174	1
06971	Vanadium	7440-62-2	63.8	1.02	0.133	1
06972	Zinc	7440-66-6	71.6	4.09	0.204	1
10146	Zirconium	7440-67-7	3.40 J	5.11	0.858	1
		SW-846 6020A	mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	0.288 J	0.409	0.102	2
06142	Silver	7440-22-4	0.0433 J	0.204	0.0266	2
06144	Strontium	7440-24-6	48.5	0.409	0.0695	2
06145	Thallium	7440-28-0	0.326	0.204	0.0307	2
		SW-846 7471B	mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.0318	0.0165	0.0099	1
Wet Chemistry						
		SW-846 9045D modified	Std. Units	Std. Units	Std. Units	
00394	15a pH by 9045D The pH was measured in water at 21.1 C.	n.a.	7.27	0.0100	0.0100	1
Wet Chemistry						
		EPA 160.3 modified	%	%	%	
11624	14a Moisture Content by 160.3 Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.	n.a.	5.9	0.10	0.10	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-530-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156753
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 07:25 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45
Reported: 08/28/2013 08:58

53000 SDG#: PH088-02

CAT No.	Analysis Name	CAS Number	Dry Result		Dry MRL*	Dry EDL	Dilution Factor
Dioxins/Furans			EPA 1613B		ng/kg	ng/kg	
11031	2378-TCDD	1746-01-6	1.03	U	1.03	0.0335	1
11031	12378-PeCDD	40321-76-4	0.0754	JB	5.13	0.0553	1
11031	123478-HxCDD	39227-28-6	0.144	J	5.13	0.0346	1
11031	123678-HxCDD	57653-85-7	0.316	JB	5.13	0.0378	1
11031	123789-HxCDD	19408-74-3	0.292	J	5.13	0.0372	1
11031	1234678-HpCDD	35822-46-9	5.30	B	5.13	0.0662	1
11031	OCDD	3268-87-9	44.9	B	10.3	0.0316	1
11031	2378-TCDF	51207-31-9	0.226	J	1.03	0.0643	1
11031	12378-PeCDF	57117-41-6	1.02	JB	5.13	0.0401	1
11031	23478-PeCDF	57117-31-4	0.138	JB	5.13	0.0377	1
11031	123478-HxCDF	70648-26-9	0.154	JB	5.13	0.0235	1
11031	123678-HxCDF	57117-44-9	0.177	JB	5.13	0.0232	1
11031	123789-HxCDF	72918-21-9	0.150	JB	5.13	0.0266	1
11031	234678-HxCDF	60851-34-5	0.127	JBQ	5.13	0.0218	1
11031	1234678-HpCDF	67562-39-4	0.964	JB	5.13	0.0288	1
11031	1234789-HpCDF	55673-89-7	0.108	J	5.13	0.0365	1
11031	OCDF	39001-02-0	2.73	JB	10.3	0.0360	1

Toxic Equivalents		EPA 1613B	ng/kg	ng/kg	ng/kg	
11031	TEQ WHO 2005 - EDLx0.0	n.a.	0.371			1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	75	25 - 164
13C12-12378-PeCDD	81	25 - 181
13C12-123478-HxCDD	81	32 - 141
13C12-123678-HxCDD	87	28 - 130
13C12-123789-HxCDD	86	28 - 130
13C12-1234678-HpCDD	88	23 - 140
13C12-OCDD	93	17 - 157
13C12-2378-TCDF	77	24 - 169
13C12-12378-PeCDF	84	24 - 185
13C12-23478-PeCDF	85	21 - 178
13C12-123478-HxCDF	70	26 - 152
13C12-123678-HxCDF	76	26 - 123
13C12-234678-HxCDF	76	28 - 136
13C12-123789-HxCDF	79	29 - 147
13C12-1234678-HpCDF	83	28 - 143
13C12-1234789-HpCDF	79	26 - 138
13C12-OCDF	74	17 - 157

Dioxins/Furans Data Qualifiers:

- B Detected in Method Blank
- U Undetected
- J Estimated concentration between Estimated Detection Limit and Minimum Level
- E Exceeds calibration range
- C Confirmed quantitation on secondary GC column
- Q EMPC - Estimated Maximum Possible Concentration

*=This limit was used in the evaluation of the final result

Sample Description: SL-530-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156753
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 07:25 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45

Reported: 08/28/2013 08:58

53000 SDG#: PH088-02

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
F	Interference is present					
S	Saturation of detection signal					

*=This limit was used in the evaluation of the final result

Sample Description: SL-530-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156753
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 07:25 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45
Reported: 08/28/2013 08:58

53000 SDG#: PH088-02

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13226SLE026	08/16/2013 10:25	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	13226SLE026	08/15/2013 08:45	Anna E Stager	1
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132270006A	08/16/2013 13:26	Monica M Souders	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132270006A	08/15/2013 16:20	JoElla L Rice	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132260015A	08/15/2013 22:30	Heather E Williams	1
12959	EFH soil ext. (microwave)	SW-846 3546	1	132260015A	08/15/2013 02:30	Sherry L Morrow	1
11031	23a Dioxin/Furan by EPA 1613B	EPA 1613B	1	13227001	08/17/2013 21:29	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	13227001	08/15/2013 14:00	Brett M Weidman	1
01643	Aluminum	SW-846 6010C	1	132230637001	08/20/2013 07:04	Deborah A Krady	1
06944	Antimony	SW-846 6010C	1	132230637001	08/20/2013 07:04	Deborah A Krady	1
06935	Arsenic	SW-846 6010C	1	132230637001	08/20/2013 07:04	Deborah A Krady	1
06946	Barium	SW-846 6010C	1	132230637001	08/20/2013 07:04	Deborah A Krady	1
06947	Beryllium	SW-846 6010C	1	132230637001	08/20/2013 07:04	Deborah A Krady	1
07914	Boron	SW-846 6010C	1	132230637001	08/21/2013 18:22	Katlin N Cataldi	1
06949	Cadmium	SW-846 6010C	1	132230637001	08/20/2013 07:04	Deborah A Krady	1
01650	Calcium	SW-846 6010C	1	132230637001	08/20/2013 07:04	Deborah A Krady	1
06951	Chromium	SW-846 6010C	1	132230637001	08/20/2013 07:04	Deborah A Krady	1
06952	Cobalt	SW-846 6010C	1	132230637001	08/20/2013 07:04	Deborah A Krady	1
06953	Copper	SW-846 6010C	1	132230637001	08/20/2013 07:04	Deborah A Krady	1
01654	Iron	SW-846 6010C	1	132230637001	08/21/2013 18:26	Katlin N Cataldi	5
06955	Lead	SW-846 6010C	1	132230637001	08/20/2013 07:04	Deborah A Krady	1
01656	Lithium	SW-846 6010C	1	132230637001	08/20/2013 07:04	Deborah A Krady	1
01657	Magnesium	SW-846 6010C	1	132230637001	08/20/2013 07:04	Deborah A Krady	1
06958	Manganese	SW-846 6010C	1	132230637001	08/20/2013 07:04	Deborah A Krady	1
06960	Molybdenum	SW-846 6010C	1	132230637001	08/20/2013 07:04	Deborah A Krady	1
06961	Nickel	SW-846 6010C	1	132230637001	08/20/2013 07:04	Deborah A Krady	1
10145	Phosphorus	SW-846 6010C	1	132230637001	08/20/2013 07:04	Deborah A Krady	1
01662	Potassium	SW-846 6010C	1	132230637001	08/20/2013 07:04	Deborah A Krady	1
01667	Sodium	SW-846 6010C	1	132230637001	08/20/2013 07:04	Deborah A Krady	1
06969	Tin	SW-846 6010C	1	132230637001	08/20/2013 07:04	Deborah A Krady	1
06970	Titanium	SW-846 6010C	1	132230637001	08/20/2013 07:04	Deborah A Krady	1
06971	Vanadium	SW-846 6010C	1	132230637001	08/20/2013 07:04	Deborah A Krady	1
06972	Zinc	SW-846 6010C	1	132230637001	08/20/2013 07:04	Deborah A Krady	1
10146	Zirconium	SW-846 6010C	1	132230637001	08/20/2013 07:04	Deborah A Krady	1
06141	Selenium	SW-846 6020A	1	132230637001B	08/14/2013 15:25	David K Beck	2
06142	Silver	SW-846 6020A	1	132230637001A	08/14/2013 15:25	David K Beck	2
06144	Strontium	SW-846 6020A	1	132230637001A	08/19/2013 06:12	Choon Y Tian	2
06145	Thallium	SW-846 6020A	1	132230637001A	08/14/2013 15:25	David K Beck	2

*=This limit was used in the evaluation of the final result

Sample Description: SL-530-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156753
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 07:25 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45

Reported: 08/28/2013 08:58

53000 SDG#: PH088-02

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00159	3a Mercury 7471A	SW-846 7471B	1	132310638001	08/20/2013 11:36	Damary Valentin	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132230637001	08/12/2013 23:01	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132230638001	08/13/2013 02:30	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	2	132310638001	08/20/2013 02:40	Annamaria Stipkovits	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13222039401A	08/10/2013 16:15	Clayton C Litchmore	1
11624	14a Moisture Content by 160.3	EPA 160.3 modified	1	13226162401A	08/14/2013 23:23	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-530-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156754
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 07:45 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45
Reported: 08/28/2013 08:58

53040 SDG#: PH088-03BKG

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	1.9 U	1.9	0.75	1
12969	Acenaphthylene	208-96-8	1.9 U	1.9	0.38	1
12969	Anthracene	120-12-7	1.9 U	1.9	0.38	1
12969	Benzo(a)anthracene	56-55-3	1.9 U	1.9	0.75	1
12969	Benzo(a)pyrene	50-32-8	1.9 U	1.9	0.75	1
12969	Benzo(b)fluoranthene	205-99-2	1.9 U	1.9	0.75	1
12969	Benzo(e)pyrene	192-97-2	19 U	19	3.8	1
12969	Benzo(g,h,i)perylene	191-24-2	1.9 U	1.9	0.75	1
12969	Benzo(k)fluoranthene	207-08-9	1.9 U	1.9	0.75	1
12969	Butylbenzylphthalate	85-68-7	20 U	20	6.8	1
12969	Di-n-butylphthalate	84-74-2	20 U	20	6.8	1
12969	Chrysene	218-01-9	0.48 J	1.9	0.38	1
12969	Dibenz(a,h)anthracene	53-70-3	1.9 U	1.9	0.75	1
12969	Diethylphthalate	84-66-2	20 U	20	6.8	1
12969	Dimethylphthalate	131-11-3	20 U	20	6.8	1
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	20 U	20	6.8	1
12969	Fluoranthene	206-44-0	1.9 U	1.9	0.75	1
12969	Fluorene	86-73-7	1.9 U	1.9	0.75	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	1.9 U	1.9	0.75	1
12969	1-Methylnaphthalene	90-12-0	1.9 U	1.9	0.75	1
12969	2-Methylnaphthalene	91-57-6	1.9 U	1.9	0.75	1
12969	Naphthalene	91-20-3	1.9 U	1.9	0.75	1
12969	N-Nitrosodimethylamine	62-75-9	1.9 U	1.9	0.75	1
12969	Di-n-octylphthalate	117-84-0	20 U	20	6.8	1
12969	Phenanthrene	85-01-8	1.9 U	1.9	0.75	1
12969	Pyrene	129-00-0	1.9 U	1.9	0.75	1
GC Volatiles	TPH GRO SW-846 8015B mod	mg/kg	mg/kg	mg/kg		
05551	11a TPH by EPA 8015B GRO	n.a.	1.0 U	1.0	0.2	22.56
Pesticides/PCBs	SW-846 8082A	ug/kg	ug/kg	ug/kg		
10592	Aroclor 5432	63496-31-1	37 U	37	11	1
10592	Aroclor 5442	12642-23-8	37 U	37	11	1
10592	Aroclor 5460	11126-42-4	37 U	37	11	1
10592	PCB-1016	12674-11-2	19 U	19	3.7	1
10592	PCB-1221	11104-28-2	19 U	19	5.8	1
10592	PCB-1232	11141-16-5	19 U	19	4.7	1
10592	PCB-1242	53469-21-9	19 U	19	4.7	1
10592	PCB-1248	12672-29-6	19 U	19	3.7	1
10592	PCB-1254	11097-69-1	19 U	19	5.0	1
10592	PCB-1260	11096-82-5	19 U	19	4.4	1
10592	PCB-1262	37324-23-5	19 U	19	3.7	1
10592	PCB-1268	11100-14-4	19 U	19	3.7	1
GC Petroleum	SW-846 8015B modified	mg/kg	mg/kg	mg/kg		
Hydrocarbons						
12952	EFH (C12-C14)	n.a.	5.6 U	5.6	2.2	1
12952	EFH (C15-C20)	n.a.	5.6 U	5.6	2.2	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-530-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156754
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 07:45 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45
Reported: 08/28/2013 08:58

53040 SDG#: PH088-03BKG

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC Petroleum						
Hydrocarbons						
		SW-846 8015B modified	mg/kg	mg/kg	mg/kg	
12952	EFH (C21-C30)	n.a.	7.1	5.6	2.2	1
12952	EFH (C30-C40)	n.a.	6.1 J	11	4.5	1
12952	EFH (C8-C11)	n.a.	5.6 U	5.6	2.2	1
Metals						
		SW-846 6010C	mg/kg	mg/kg	mg/kg	
01643	Aluminum	7429-90-5	19,400	45.4	8.18	1
06944	Antimony	7440-36-0	4.54 U	4.54	0.840	1
06935	Arsenic	7440-38-2	3.64 J	4.54	0.795	1
06946	Barium	7440-39-3	97.6	1.14	0.0375	1
06947	Beryllium	7440-41-7	0.661 J	1.14	0.0760	1
07914	Boron	7440-42-8	5.86 J	11.4	0.953	1
06949	Cadmium	7440-43-9	1.09 J	1.14	0.0863	1
01650	Calcium	7440-70-2	14,200	22.7	3.79	1
06951	Chromium	7440-47-3	27.9	3.41	0.182	1
06952	Cobalt	7440-48-4	7.07	1.14	0.112	1
06953	Copper	7440-50-8	16.4	2.27	0.329	1
01654	Iron	7439-89-6	25,600	45.4	4.11	1
06955	Lead	7439-92-1	6.63	3.41	0.568	1
01656	Lithium	7439-93-2	21.5	4.5	0.39	1
01657	Magnesium	7439-95-4	6,470	11.4	1.90	1
06958	Manganese	7439-96-5	332	1.14	0.0942	1
06960	Molybdenum	7439-98-7	0.516 J	2.27	0.193	1
06961	Nickel	7440-02-0	15.6	2.27	0.148	1
10145	Phosphorus	7723-14-0	360	11.4	3.28	1
01662	Potassium	7440-09-7	1,840	114	9.47	1
01667	Sodium	7440-23-5	631	114	19.0	1
06969	Tin	7440-31-5	3.38 J	11.4	0.250	1
06970	Titanium	7440-32-6	1,440	1.14	0.193	1
06971	Vanadium	7440-62-2	51.2	1.14	0.148	1
06972	Zinc	7440-66-6	54.9	4.54	0.227	1
10146	Zirconium	7440-67-7	2.57 J	5.68	0.953	1
		SW-846 6020A	mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	0.454 U	0.454	0.114	2
06142	Silver	7440-22-4	0.0556 J	0.227	0.0295	2
06144	Strontium	7440-24-6	32.1	0.454	0.0772	2
06145	Thallium	7440-28-0	0.245	0.227	0.0341	2
		SW-846 7471B	mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.0184 U	0.0184	0.0111	1
Wet Chemistry						
		SW-846 9045D modified	Std. Units	Std. Units	Std. Units	
00394	15a pH by 9045D The pH was measured in water at 21.2 C.	n.a.	8.41	0.0100	0.0100	1
Wet Chemistry						
		EPA 160.3 modified	%	%	%	
11624	14a Moisture Content by 160.3	n.a.	11.9	0.10	0.10	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-530-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156754
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 07:45 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45

Reported: 08/28/2013 08:58

53040 SDG#: PH088-03BKG

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Wet Chemistry	EPA 160.3 modified		%	%	%	
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

*=This limit was used in the evaluation of the final result

Sample Description: SL-530-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156754
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 07:45 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45
Reported: 08/28/2013 08:58

53040 SDG#: PH088-03BKG

CAT No.	Analysis Name	CAS Number	Dry Result		Dry MRL*	Dry EDL	Dilution Factor
Dioxins/Furans			EPA 1613B		ng/kg	ng/kg	
11031	2378-TCDD	1746-01-6	1.09	U	1.09	0.0439	1
11031	12378-PeCDD	40321-76-4	5.46	U	5.46	0.0499	1
11031	123478-HxCDD	39227-28-6	5.46	U	5.46	0.0232	1
11031	123678-HxCDD	57653-85-7	5.46	U	5.46	0.0258	1
11031	123789-HxCDD	19408-74-3	0.0392	JQ	5.46	0.0250	1
11031	1234678-HpCDD	35822-46-9	0.252	JBQ	5.46	0.0361	1
11031	OCDD	3268-87-9	1.59	JB	10.9	0.0277	1
11031	2378-TCDF	51207-31-9	1.09	U	1.09	0.0337	1
11031	12378-PeCDF	57117-41-6	0.0519	JBQ	5.46	0.0222	1
11031	23478-PeCDF	57117-31-4	0.0416	JBQ	5.46	0.0204	1
11031	123478-HxCDF	70648-26-9	5.46	U	5.46	0.0126	1
11031	123678-HxCDF	57117-44-9	5.46	U	5.46	0.0138	1
11031	123789-HxCDF	72918-21-9	0.0236	JBQ	5.46	0.0161	1
11031	234678-HxCDF	60851-34-5	0.0159	JBQ	5.46	0.0120	1
11031	1234678-HpCDF	67562-39-4	0.0604	JBQ	5.46	0.0148	1
11031	1234789-HpCDF	55673-89-7	0.0212	JQ	5.46	0.0199	1
11031	OCDF	39001-02-0	0.158	JBQ	10.9	0.0325	1

Toxic Equivalents		EPA 1613B	ng/kg	ng/kg	ng/kg	
11031	TEQ WHO 2005 - EDLx0.0	n.a.	0.000454			1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	67	25 - 164
13C12-12378-PeCDD	81	25 - 181
13C12-123478-HxCDD	75	32 - 141
13C12-123678-HxCDD	78	28 - 130
13C12-123789-HxCDD	79	28 - 130
13C12-1234678-HpCDD	85	23 - 140
13C12-OCDD	85	17 - 157
13C12-2378-TCDF	67	24 - 169
13C12-12378-PeCDF	84	24 - 185
13C12-23478-PeCDF	83	21 - 178
13C12-123478-HxCDF	63	26 - 152
13C12-123678-HxCDF	67	26 - 123
13C12-234678-HxCDF	67	28 - 136
13C12-123789-HxCDF	68	29 - 147
13C12-1234678-HpCDF	81	28 - 143
13C12-1234789-HpCDF	76	26 - 138
13C12-OCDF	64	17 - 157

Dioxins/Furans Data Qualifiers:

- B Detected in Method Blank
- U Undetected
- J Estimated concentration between Estimated Detection Limit and Minimum Level
- E Exceeds calibration range
- C Confirmed quantitation on secondary GC column
- Q EMPC - Estimated Maximum Possible Concentration

*=This limit was used in the evaluation of the final result

Sample Description: SL-530-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156754
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 07:45 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45

Reported: 08/28/2013 08:58

53040 SDG#: PH088-03BKG

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
F	Interference is present					
S	Saturation of detection signal					

*=This limit was used in the evaluation of the final result

Sample Description: SL-530-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156754
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 07:45 by SM

CDM Federal Programs Corp.

Submitted: 08/10/2013 09:45

3201 Jermantown Road

Reported: 08/28/2013 08:58

Suite 400

Fairfax VA 22030

53040 SDG#: PH088-03BKG

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13226SLE026	08/16/2013 08:44	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	13226SLE026	08/15/2013 08:45	Anna E Stager	1
05551	11a TPH by EPA 8015B GRO	TPH GRO SW-846 8015B mod	1	13224A16A	08/12/2013 23:57	Laura M Krieger	22.56
06130	GC - 5 g HL Encore Prep	SW-846 5035A	1	201322232014	08/10/2013 12:42	Mitchell R Washel	n.a.
06130	GC - 5 g HL Encore Prep	SW-846 5035A	2	201322232014	08/10/2013 12:42	Mitchell R Washel	n.a.
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132270006A	08/16/2013 13:45	Monica M Souders	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132270006A	08/15/2013 16:20	JoElla L Rice	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132260015A	08/15/2013 20:47	Heather E Williams	1
12959	EPH soil ext. (microwave)	SW-846 3546	1	132260015A	08/15/2013 02:30	Sherry L Morrow	1
11031	23a Dioxin/Furan by EPA 1613B	EPA 1613B	1	13227001	08/17/2013 22:25	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	13227001	08/15/2013 14:00	Brett M Weidman	1
01643	Aluminum	SW-846 6010C	1	132230637001	08/20/2013 06:14	Deborah A Krady	1
06944	Antimony	SW-846 6010C	1	132230637001	08/20/2013 06:14	Deborah A Krady	1
06935	Arsenic	SW-846 6010C	1	132230637001	08/20/2013 06:14	Deborah A Krady	1
06946	Barium	SW-846 6010C	1	132230637001	08/20/2013 06:14	Deborah A Krady	1
06947	Beryllium	SW-846 6010C	1	132230637001	08/20/2013 06:14	Deborah A Krady	1
07914	Boron	SW-846 6010C	1	132230637001	08/21/2013 17:15	Katlin N Cataldi	1
06949	Cadmium	SW-846 6010C	1	132230637001	08/20/2013 06:14	Deborah A Krady	1
01650	Calcium	SW-846 6010C	1	132230637001	08/20/2013 06:14	Deborah A Krady	1
06951	Chromium	SW-846 6010C	1	132230637001	08/20/2013 06:14	Deborah A Krady	1
06952	Cobalt	SW-846 6010C	1	132230637001	08/20/2013 06:14	Deborah A Krady	1
06953	Copper	SW-846 6010C	1	132230637001	08/20/2013 06:14	Deborah A Krady	1
01654	Iron	SW-846 6010C	1	132230637001	08/20/2013 06:14	Deborah A Krady	1
06955	Lead	SW-846 6010C	1	132230637001	08/20/2013 06:14	Deborah A Krady	1
01656	Lithium	SW-846 6010C	1	132230637001	08/20/2013 06:14	Deborah A Krady	1
01657	Magnesium	SW-846 6010C	1	132230637001	08/20/2013 06:14	Deborah A Krady	1
06958	Manganese	SW-846 6010C	1	132230637001	08/20/2013 06:14	Deborah A Krady	1
06960	Molybdenum	SW-846 6010C	1	132230637001	08/20/2013 06:14	Deborah A Krady	1
06961	Nickel	SW-846 6010C	1	132230637001	08/20/2013 06:14	Deborah A Krady	1
10145	Phosphorus	SW-846 6010C	1	132230637001	08/20/2013 06:14	Deborah A Krady	1
01662	Potassium	SW-846 6010C	1	132230637001	08/20/2013 06:14	Deborah A Krady	1
01667	Sodium	SW-846 6010C	1	132230637001	08/20/2013 06:14	Deborah A Krady	1
06969	Tin	SW-846 6010C	1	132230637001	08/20/2013 06:14	Deborah A Krady	1
06970	Titanium	SW-846 6010C	1	132230637001	08/20/2013 06:14	Deborah A Krady	1
06971	Vanadium	SW-846 6010C	1	132230637001	08/20/2013 06:14	Deborah A Krady	1
06972	Zinc	SW-846 6010C	1	132230637001	08/20/2013 06:14	Deborah A Krady	1
10146	Zirconium	SW-846 6010C	1	132230637001	08/20/2013 06:14	Deborah A Krady	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-530-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156754
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 07:45 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45
Reported: 08/28/2013 08:58

53040 SDG#: PH088-03BKG

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
06141	Selenium	SW-846 6020A	1	132230637001B	08/14/2013	14:55	David K Beck	2
06142	Silver	SW-846 6020A	1	132230637001A	08/14/2013	14:55	David K Beck	2
06144	Strontium	SW-846 6020A	1	132230637001A	08/19/2013	05:49	Choon Y Tian	2
06145	Thallium	SW-846 6020A	1	132230637001A	08/14/2013	14:55	David K Beck	2
00159	3a Mercury 7471A	SW-846 7471B	1	132310638001	08/20/2013	11:38	Damary Valentin	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132230637001	08/12/2013	23:01	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132230638001	08/13/2013	02:30	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	2	132310638001	08/20/2013	02:40	Annamaria Stipkovits	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13222039401A	08/10/2013	16:15	Clayton C Litchmore	1
11624	14a Moisture Content by 160.3	EPA 160.3 modified	1	13226162401A	08/14/2013	23:23	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-530-SA8-SB-4.0-5.0MS Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156755
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 07:45 by SM

CDM Federal Programs Corp.

Submitted: 08/10/2013 09:45

3201 Jermantown Road

Reported: 08/28/2013 08:58

Suite 400

Fairfax VA 22030

53040 SDG#: PH088-03MS

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	39	1.9	0.75	1
12969	Acenaphthylene	208-96-8	40	1.9	0.37	1
12969	Anthracene	120-12-7	40	1.9	0.37	1
12969	Benzo(a)anthracene	56-55-3	39	1.9	0.75	1
12969	Benzo(a)pyrene	50-32-8	39	1.9	0.75	1
12969	Benzo(b)fluoranthene	205-99-2	41	1.9	0.75	1
12969	Benzo(e)pyrene	192-97-2	35	19	3.7	1
12969	Benzo(g,h,i)perylene	191-24-2	39	1.9	0.75	1
12969	Benzo(k)fluoranthene	207-08-9	40	1.9	0.75	1
12969	Butylbenzylphthalate	85-68-7	47	20	6.7	1
12969	Di-n-butylphthalate	84-74-2	46	20	6.7	1
12969	Chrysene	218-01-9	40	1.9	0.37	1
12969	Dibenz(a,h)anthracene	53-70-3	42	1.9	0.75	1
12969	Diethylphthalate	84-66-2	42	20	6.7	1
12969	Dimethylphthalate	131-11-3	41	20	6.7	1
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	49	20	6.7	1
12969	Fluoranthene	206-44-0	38	1.9	0.75	1
12969	Fluorene	86-73-7	40	1.9	0.75	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	41	1.9	0.75	1
12969	1-Methylnaphthalene	90-12-0	41	1.9	0.75	1
12969	2-Methylnaphthalene	91-57-6	41	1.9	0.75	1
12969	Naphthalene	91-20-3	39	1.9	0.75	1
12969	N-Nitrosodimethylamine	62-75-9	37	1.9	0.75	1
12969	Di-n-octylphthalate	117-84-0	44	20	6.7	1
12969	Phenanthrene	85-01-8	39	1.9	0.75	1
12969	Pyrene	129-00-0	38	1.9	0.75	1
GC Volatiles	TPH GRO SW-846 8015B mod	mg/kg	mg/kg	mg/kg		
05551	11a TPH by EPA 8015B GRO	n.a.	7.2	1.0	0.2	22.48
Pesticides/PCBs	SW-846 8082A	ug/kg	ug/kg	ug/kg		
10592	Aroclor 5432	63496-31-1	37 U	37	11	1
10592	Aroclor 5442	12642-23-8	37 U	37	11	1
10592	Aroclor 5460	11126-42-4	37 U	37	11	1
10592	PCB-1016	12674-11-2	170	19	3.7	1
10592	PCB-1221	11104-28-2	19 U	19	5.8	1
10592	PCB-1232	11141-16-5	19 U	19	4.7	1
10592	PCB-1242	53469-21-9	19 U	19	4.7	1
10592	PCB-1248	12672-29-6	19 U	19	3.7	1
10592	PCB-1254	11097-69-1	19 U	19	5.0	1
10592	PCB-1260	11096-82-5	180	19	4.4	1
10592	PCB-1262	37324-23-5	19 U	19	3.7	1
10592	PCB-1268	11100-14-4	19 U	19	3.7	1
GC Petroleum Hydrocarbons	SW-846 8015B modified	mg/kg	mg/kg	mg/kg		
12952	EFH (C12-C14)	n.a.	5.6 U	5.6	2.2	1
12952	EFH (C15-C20)	n.a.	4.8 U	5.6	2.2	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-530-SA8-SB-4.0-5.0MS Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156755
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 07:45 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45
Reported: 08/28/2013 08:58

53040 SDG#: PH088-03MS

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC Petroleum Hydrocarbons		SW-846 8015B modified	mg/kg	mg/kg	mg/kg	
12952	EFH (C21-C30)	n.a.	20	5.6	2.2	1
12952	EFH (C30-C40)	n.a.	42	11	4.5	1
12952	EFH (C8-C11)	n.a.	5.6 U	5.6	2.2	1
Metals		SW-846 6010C	mg/kg	mg/kg	mg/kg	
01643	Aluminum	7429-90-5	23,300	45.4	8.18	1
06944	Antimony	7440-36-0	35.2	4.54	0.840	1
06935	Arsenic	7440-38-2	20.3	4.54	0.795	1
06946	Barium	7440-39-3	317	1.14	0.0375	1
06947	Beryllium	7440-41-7	6.29	1.14	0.0760	1
07914	Boron	7440-42-8	227	11.4	0.953	1
06949	Cadmium	7440-43-9	6.30	1.14	0.0863	1
01650	Calcium	7440-70-2	15,500	22.7	3.79	1
06951	Chromium	7440-47-3	52.1	3.41	0.182	1
06952	Cobalt	7440-48-4	57.7	1.14	0.112	1
06953	Copper	7440-50-8	46.4	2.27	0.329	1
01654	Iron	7439-89-6	26,000	45.4	4.11	1
06955	Lead	7439-92-1	22.3	3.41	0.568	1
01656	Lithium	7439-93-2	129	4.5	0.39	1
01657	Magnesium	7439-95-4	6,930	11.4	1.90	1
06958	Manganese	7439-96-5	333	1.14	0.0942	1
06960	Molybdenum	7439-98-7	212	2.27	0.193	1
06961	Nickel	7440-02-0	66.5	2.27	0.148	1
10145	Phosphorus	7723-14-0	467	11.4	3.28	1
01662	Potassium	7440-09-7	3,390	114	9.47	1
01667	Sodium	7440-23-5	1,730	114	19.0	1
06969	Tin	7440-31-5	394	11.4	0.250	1
06970	Titanium	7440-32-6	1,790	1.14	0.193	1
06971	Vanadium	7440-62-2	112	1.14	0.148	1
06972	Zinc	7440-66-6	109	4.54	0.227	1
10146	Zirconium	7440-67-7	110	5.68	0.953	1
		SW-846 6020A	mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	2.26	0.454	0.114	2
06142	Silver	7440-22-4	11.9	0.227	0.0295	2
06144	Strontium	7440-24-6	44.5	0.454	0.0772	2
06145	Thallium	7440-28-0	0.718	0.227	0.0341	2
		SW-846 7471B	mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.207	0.0185	0.0111	1
Wet Chemistry		EPA 160.3 modified	%	%	%	
11625	14a Moisture Content by 160.3	n.a.	11.9	0.10	0.10	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-530-SA8-SB-4.0-5.0MS Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156755
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 07:45 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45
Reported: 08/28/2013 08:58

53040 SDG#: PH088-03MS

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
Dioxins/Furans			EPA 1613B			
			ng/kg	ng/kg	ng/kg	
11031	2378-TCDD	1746-01-6	22.4	1.09	0.0682	1
11031	12378-PeCDD	40321-76-4	113	B 5.46	0.0955	1
11031	123478-HxCDD	39227-28-6	108	5.46	0.0516	1
11031	123678-HxCDD	57653-85-7	107	B 5.46	0.0589	1
11031	123789-HxCDD	19408-74-3	103	5.46	0.0555	1
11031	1234678-HpCDD	35822-46-9	102	B 5.46	0.0814	1
11031	OCDD	3268-87-9	210	B 10.9	0.0465	1
11031	2378-TCDF	51207-31-9	21.8	1.09	0.0656	1
11031	12378-PeCDF	57117-41-6	102	B 5.46	0.0563	1
11031	23478-PeCDF	57117-31-4	103	B 5.46	0.0503	1
11031	123478-HxCDF	70648-26-9	104	B 5.46	0.0669	1
11031	123678-HxCDF	57117-44-9	101	B 5.46	0.0682	1
11031	123789-HxCDF	72918-21-9	97.3	B 5.46	0.0730	1
11031	234678-HxCDF	60851-34-5	101	B 5.46	0.0649	1
11031	1234678-HpCDF	67562-39-4	100	B 5.46	0.0561	1
11031	1234789-HpCDF	55673-89-7	98.4	5.46	0.0659	1
11031	OCDF	39001-02-0	188	B 10.9	0.0473	1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	69	25 - 164
13C12-12378-PeCDD	84	25 - 181
13C12-123478-HxCDD	76	32 - 141
13C12-123678-HxCDD	78	28 - 130
13C12-123789-HxCDD	80	28 - 130
13C12-1234678-HpCDD	82	23 - 140
13C12-OCDD	86	17 - 157
13C12-2378-TCDF	71	24 - 169
13C12-12378-PeCDF	84	24 - 185
13C12-23478-PeCDF	85	21 - 178
13C12-123478-HxCDF	68	26 - 152
13C12-123678-HxCDF	71	26 - 123
13C12-234678-HxCDF	70	28 - 136
13C12-123789-HxCDF	79	29 - 147
13C12-1234678-HpCDF	77	28 - 143
13C12-1234789-HpCDF	79	26 - 138
13C12-OCDF	70	17 - 157

Dioxins/Furans Data Qualifiers:

- B Detected in Method Blank
- U Undetected
- J Estimated concentration between Estimated Detection Limit and Minimum Level
- E Exceeds calibration range
- C Confirmed quantitation on secondary GC column
- Q EMPC - Estimated Maximum Possible Concentration
- F Interference is present
- S Saturation of detection signal

*=This limit was used in the evaluation of the final result

Sample Description: SL-530-SA8-SB-4.0-5.0MS Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156755
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 07:45 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45

Reported: 08/28/2013 08:58

53040 SDG#: PH088-03MS

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13226SLE026	08/16/2013 09:17	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	13226SLE026	08/15/2013 08:45	Anna E Stager	1
05551	11a TPH by EPA 8015B GRO	TPH GRO SW-846 8015B mod	1	13224A16A	08/13/2013 00:35	Laura M Krieger	22.48
06130	GC - 5 g HL Encore Prep	SW-846 5035A	1	201322232014	08/10/2013 12:42	Mitchell R Washel	n.a.
06130	GC - 5 g HL Encore Prep	SW-846 5035A	2	201322232014	08/10/2013 12:43	Mitchell R Washel	n.a.
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132270006A	08/16/2013 14:03	Monica M Souders	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132270006A	08/15/2013 16:20	JoElla L Rice	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132260015A	08/16/2013 00:13	Heather E Williams	1
12959	EPH soil ext. (microwave)	SW-846 3546	1	132260015A	08/15/2013 02:30	Sherry L Morrow	1
11031	23a Dioxin/Furan by EPA 1613B	EPA 1613B	1	13227001	08/17/2013 23:22	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	13227001	08/15/2013 14:00	Brett M Weidman	1
01643	Aluminum	SW-846 6010C	1	132230637001	08/20/2013 06:26	Deborah A Krady	1
06944	Antimony	SW-846 6010C	1	132230637001	08/20/2013 06:26	Deborah A Krady	1
06935	Arsenic	SW-846 6010C	1	132230637001	08/20/2013 06:26	Deborah A Krady	1
06946	Barium	SW-846 6010C	1	132230637001	08/20/2013 06:26	Deborah A Krady	1
06947	Beryllium	SW-846 6010C	1	132230637001	08/20/2013 06:26	Deborah A Krady	1
07914	Boron	SW-846 6010C	1	132230637001	08/21/2013 17:26	Katlin N Cataldi	1
06949	Cadmium	SW-846 6010C	1	132230637001	08/20/2013 06:26	Deborah A Krady	1
01650	Calcium	SW-846 6010C	1	132230637001	08/20/2013 06:26	Deborah A Krady	1
06951	Chromium	SW-846 6010C	1	132230637001	08/20/2013 06:26	Deborah A Krady	1
06952	Cobalt	SW-846 6010C	1	132230637001	08/20/2013 06:26	Deborah A Krady	1
06953	Copper	SW-846 6010C	1	132230637001	08/20/2013 06:26	Deborah A Krady	1
01654	Iron	SW-846 6010C	1	132230637001	08/20/2013 06:26	Deborah A Krady	1
06955	Lead	SW-846 6010C	1	132230637001	08/20/2013 06:26	Deborah A Krady	1
01656	Lithium	SW-846 6010C	1	132230637001	08/20/2013 06:26	Deborah A Krady	1
01657	Magnesium	SW-846 6010C	1	132230637001	08/20/2013 06:26	Deborah A Krady	1
06958	Manganese	SW-846 6010C	1	132230637001	08/20/2013 06:26	Deborah A Krady	1
06960	Molybdenum	SW-846 6010C	1	132230637001	08/20/2013 06:26	Deborah A Krady	1
06961	Nickel	SW-846 6010C	1	132230637001	08/20/2013 06:26	Deborah A Krady	1
10145	Phosphorus	SW-846 6010C	1	132230637001	08/20/2013 06:26	Deborah A Krady	1
01662	Potassium	SW-846 6010C	1	132230637001	08/20/2013 06:26	Deborah A Krady	1
01667	Sodium	SW-846 6010C	1	132230637001	08/20/2013 06:26	Deborah A Krady	1
06969	Tin	SW-846 6010C	1	132230637001	08/20/2013 06:26	Deborah A Krady	1
06970	Titanium	SW-846 6010C	1	132230637001	08/20/2013 06:26	Deborah A Krady	1
06971	Vanadium	SW-846 6010C	1	132230637001	08/20/2013 06:26	Deborah A Krady	1
06972	Zinc	SW-846 6010C	1	132230637001	08/20/2013 06:26	Deborah A Krady	1
10146	Zirconium	SW-846 6010C	1	132230637001	08/20/2013 06:26	Deborah A Krady	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-530-SA8-SB-4.0-5.0MS Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156755
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 07:45 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45

Reported: 08/28/2013 08:58

53040 SDG#: PH088-03MS

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
06141	Selenium	SW-846 6020A	1	132230637001B	08/14/2013	15:02	David K Beck	2
06142	Silver	SW-846 6020A	1	132230637001A	08/14/2013	15:02	David K Beck	2
06144	Strontium	SW-846 6020A	1	132230637001A	08/19/2013	05:55	Choon Y Tian	2
06145	Thallium	SW-846 6020A	1	132230637001A	08/14/2013	15:02	David K Beck	2
00159	3a Mercury 7471A	SW-846 7471B	1	132310638001	08/20/2013	11:50	Damary Valentin	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132230637001	08/12/2013	23:01	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132230638001	08/13/2013	02:30	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	2	132310638001	08/20/2013	02:40	Annamaria Stipkovits	1
11625	14a Moisture Content by 160.3	EPA 160.3 modified	1	13226162401A	08/14/2013	23:23	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-530-SA8-SB-4.0-5.0MSD Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156756
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 07:45 by SM

CDM Federal Programs Corp.

Submitted: 08/10/2013 09:45

3201 Jermantown Road

Reported: 08/28/2013 08:58

Suite 400

Fairfax VA 22030

53040 SDG#: PH088-03MSD

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	37	1.9	0.75	1
12969	Acenaphthylene	208-96-8	39	1.9	0.37	1
12969	Anthracene	120-12-7	39	1.9	0.37	1
12969	Benzo(a)anthracene	56-55-3	37	1.9	0.75	1
12969	Benzo(a)pyrene	50-32-8	38	1.9	0.75	1
12969	Benzo(b)fluoranthene	205-99-2	39	1.9	0.75	1
12969	Benzo(e)pyrene	192-97-2	34	19	3.7	1
12969	Benzo(g,h,i)perylene	191-24-2	38	1.9	0.75	1
12969	Benzo(k)fluoranthene	207-08-9	38	1.9	0.75	1
12969	Butylbenzylphthalate	85-68-7	45	20	6.7	1
12969	Di-n-butylphthalate	84-74-2	44	20	6.7	1
12969	Chrysene	218-01-9	38	1.9	0.37	1
12969	Dibenz(a,h)anthracene	53-70-3	40	1.9	0.75	1
12969	Diethylphthalate	84-66-2	41	20	6.7	1
12969	Dimethylphthalate	131-11-3	40	20	6.7	1
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	46	20	6.7	1
12969	Fluoranthene	206-44-0	38	1.9	0.75	1
12969	Fluorene	86-73-7	38	1.9	0.75	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	40	1.9	0.75	1
12969	1-Methylnaphthalene	90-12-0	40	1.9	0.75	1
12969	2-Methylnaphthalene	91-57-6	40	1.9	0.75	1
12969	Naphthalene	91-20-3	38	1.9	0.75	1
12969	N-Nitrosodimethylamine	62-75-9	33	1.9	0.75	1
12969	Di-n-octylphthalate	117-84-0	44	20	6.7	1
12969	Phenanthrene	85-01-8	38	1.9	0.75	1
12969	Pyrene	129-00-0	37	1.9	0.75	1
GC Volatiles	TPH GRO SW-846 8015B mod		mg/kg	mg/kg	mg/kg	
05551	11a TPH by EPA 8015B GRO	n.a.	9.7	1.1	0.2	25.3
Pesticides/PCBs	SW-846 8082A		ug/kg	ug/kg	ug/kg	
10592	Aroclor 5432	63496-31-1	37	U	37	11
10592	Aroclor 5442	12642-23-8	37	U	37	11
10592	Aroclor 5460	11126-42-4	37	U	37	11
10592	PCB-1016	12674-11-2	160		19	3.7
10592	PCB-1221	11104-28-2	19	U	19	5.8
10592	PCB-1232	11141-16-5	19	U	19	4.7
10592	PCB-1242	53469-21-9	19	U	19	4.7
10592	PCB-1248	12672-29-6	19	U	19	3.7
10592	PCB-1254	11097-69-1	19	U	19	5.0
10592	PCB-1260	11096-82-5	170		19	4.4
10592	PCB-1262	37324-23-5	19	U	19	3.7
10592	PCB-1268	11100-14-4	19	U	19	3.7
GC Petroleum	SW-846 8015B modified		mg/kg	mg/kg	mg/kg	
Hydrocarbons						
12952	EFH (C12-C14)	n.a.	5.6	U	5.6	2.2
12952	EFH (C15-C20)	n.a.	3.3	J	5.6	2.2

*=This limit was used in the evaluation of the final result

Sample Description: SL-530-SA8-SB-4.0-5.0MSD Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156756
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 07:45 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45
Reported: 08/28/2013 08:58

53040 SDG#: PH088-03MSD

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC Petroleum Hydrocarbons		SW-846 8015B modified	mg/kg	mg/kg	mg/kg	
12952	EFH (C21-C30)	n.a.	5.9	5.6	2.2	1
12952	EFH (C30-C40)	n.a.	6.6 J	11	4.5	1
12952	EFH (C8-C11)	n.a.	5.6 U	5.6	2.2	1
Metals		SW-846 6010C	mg/kg	mg/kg	mg/kg	
01643	Aluminum	7429-90-5	23,200	45.4	8.18	1
06944	Antimony	7440-36-0	36.1	4.54	0.840	1
06935	Arsenic	7440-38-2	20.9	4.54	0.795	1
06946	Barium	7440-39-3	320	1.14	0.0375	1
06947	Beryllium	7440-41-7	6.31	1.14	0.0760	1
07914	Boron	7440-42-8	225	11.4	0.953	1
06949	Cadmium	7440-43-9	6.55	1.14	0.0863	1
01650	Calcium	7440-70-2	16,000	22.7	3.79	1
06951	Chromium	7440-47-3	52.6	3.41	0.182	1
06952	Cobalt	7440-48-4	59.4	1.14	0.112	1
06953	Copper	7440-50-8	46.6	2.27	0.329	1
01654	Iron	7439-89-6	26,300	45.4	4.11	1
06955	Lead	7439-92-1	23.2	3.41	0.568	1
01656	Lithium	7439-93-2	129	4.5	0.39	1
01657	Magnesium	7439-95-4	6,970	11.4	1.90	1
06958	Manganese	7439-96-5	354	1.14	0.0942	1
06960	Molybdenum	7439-98-7	218	2.27	0.193	1
06961	Nickel	7440-02-0	69.7	2.27	0.148	1
10145	Phosphorus	7723-14-0	471	11.4	3.28	1
01662	Potassium	7440-09-7	3,380	114	9.47	1
01667	Sodium	7440-23-5	1,740	114	19.0	1
06969	Tin	7440-31-5	406	11.4	0.250	1
06970	Titanium	7440-32-6	1,770	1.14	0.193	1
06971	Vanadium	7440-62-2	113	1.14	0.148	1
06972	Zinc	7440-66-6	113	4.54	0.227	1
10146	Zirconium	7440-67-7	111	5.68	0.953	1
		SW-846 6020A	mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	2.24	0.454	0.114	2
06142	Silver	7440-22-4	11.7	0.227	0.0295	2
06144	Strontium	7440-24-6	42.6	0.454	0.0772	2
06145	Thallium	7440-28-0	0.742	0.227	0.0341	2
		SW-846 7471B	mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.205	0.0185	0.0111	1
Wet Chemistry		EPA 160.3 modified	%	%	%	
11625	14a Moisture Content by 160.3	n.a.	11.9	0.10	0.10	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-530-SA8-SB-4.0-5.0MSD Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156756
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 07:45 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45
Reported: 08/28/2013 08:58

53040 SDG#: PH088-03MSD

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
Dioxins/Furans			EPA 1613B			
			ng/kg	ng/kg	ng/kg	
11031	2378-TCDD	1746-01-6	23.9	1.12	0.105	1
11031	12378-PeCDD	40321-76-4	116	B	0.118	1
11031	123478-HxCDD	39227-28-6	114		0.0664	1
11031	123678-HxCDD	57653-85-7	104	B	0.0748	1
11031	123789-HxCDD	19408-74-3	106		0.0742	1
11031	1234678-HpCDD	35822-46-9	104	B	0.0944	1
11031	OCDD	3268-87-9	208	B	0.0479	1
11031	2378-TCDF	51207-31-9	22.0	1.12	0.0915	1
11031	12378-PeCDF	57117-41-6	107	B	0.0858	1
11031	23478-PeCDF	57117-31-4	108	B	0.0813	1
11031	123478-HxCDF	70648-26-9	105	B	0.0884	1
11031	123678-HxCDF	57117-44-9	106	B	0.0905	1
11031	123789-HxCDF	72918-21-9	102	B	0.106	1
11031	234678-HxCDF	60851-34-5	99.0	B	0.0856	1
11031	1234678-HpCDF	67562-39-4	103	B	0.0938	1
11031	1234789-HpCDF	55673-89-7	102		0.130	1
11031	OCDF	39001-02-0	191	B	0.0813	1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	56	25 - 164
13C12-12378-PeCDD	71	25 - 181
13C12-123478-HxCDD	71	32 - 141
13C12-123678-HxCDD	76	28 - 130
13C12-123789-HxCDD	72	28 - 130
13C12-1234678-HpCDD	78	23 - 140
13C12-OCDD	79	17 - 157
13C12-2378-TCDF	57	24 - 169
13C12-12378-PeCDF	73	24 - 185
13C12-23478-PeCDF	74	21 - 178
13C12-123478-HxCDF	62	26 - 152
13C12-123678-HxCDF	64	26 - 123
13C12-234678-HxCDF	64	28 - 136
13C12-123789-HxCDF	68	29 - 147
13C12-1234678-HpCDF	79	28 - 143
13C12-1234789-HpCDF	70	26 - 138
13C12-OCDF	62	17 - 157

Dioxins/Furans Data Qualifiers:

- B Detected in Method Blank
- U Undetected
- J Estimated concentration between Estimated Detection Limit and Minimum Level
- E Exceeds calibration range
- C Confirmed quantitation on secondary GC column
- Q EMPC - Estimated Maximum Possible Concentration
- F Interference is present
- S Saturation of detection signal

*=This limit was used in the evaluation of the final result

Sample Description: SL-530-SA8-SB-4.0-5.0MSD Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156756
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 07:45 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45
Reported: 08/28/2013 08:58

53040 SDG#: PH088-03MSD

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13226SLE026	08/16/2013 09:51	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	13226SLE026	08/15/2013 08:45	Anna E Stager	1
05551	11a TPH by EPA 8015B GRO	TPH GRO SW-846 8015B mod	1	13224A16A	08/13/2013 01:13	Laura M Krieger	25.3
06130	GC - 5 g HL Encore Prep	SW-846 5035A	1	201322232014	08/10/2013 12:43	Mitchell R Washel	n.a.
06130	GC - 5 g HL Encore Prep	SW-846 5035A	2	201322232014	08/10/2013 12:43	Mitchell R Washel	n.a.
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132270006A	08/16/2013 14:21	Monica M Souders	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132270006A	08/15/2013 16:20	JoElla L Rice	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132260015A	08/15/2013 21:28	Heather E Williams	1
12959	EPH soil ext. (microwave)	SW-846 3546	1	132260015A	08/15/2013 02:30	Sherry L Morrow	1
11031	23a Dioxin/Furan by EPA 1613B	EPA 1613B	1	13227001	08/18/2013 00:19	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	13227001	08/15/2013 14:00	Brett M Weidman	1
01643	Aluminum	SW-846 6010C	1	132230637001	08/20/2013 06:29	Deborah A Krady	1
06944	Antimony	SW-846 6010C	1	132230637001	08/20/2013 06:29	Deborah A Krady	1
06935	Arsenic	SW-846 6010C	1	132230637001	08/20/2013 06:29	Deborah A Krady	1
06946	Barium	SW-846 6010C	1	132230637001	08/20/2013 06:29	Deborah A Krady	1
06947	Beryllium	SW-846 6010C	1	132230637001	08/20/2013 06:29	Deborah A Krady	1
07914	Boron	SW-846 6010C	1	132230637001	08/21/2013 17:30	Katlin N Cataldi	1
06949	Cadmium	SW-846 6010C	1	132230637001	08/20/2013 06:29	Deborah A Krady	1
01650	Calcium	SW-846 6010C	1	132230637001	08/20/2013 06:29	Deborah A Krady	1
06951	Chromium	SW-846 6010C	1	132230637001	08/20/2013 06:29	Deborah A Krady	1
06952	Cobalt	SW-846 6010C	1	132230637001	08/20/2013 06:29	Deborah A Krady	1
06953	Copper	SW-846 6010C	1	132230637001	08/20/2013 06:29	Deborah A Krady	1
01654	Iron	SW-846 6010C	1	132230637001	08/20/2013 06:29	Deborah A Krady	1
06955	Lead	SW-846 6010C	1	132230637001	08/20/2013 06:29	Deborah A Krady	1
01656	Lithium	SW-846 6010C	1	132230637001	08/20/2013 06:29	Deborah A Krady	1
01657	Magnesium	SW-846 6010C	1	132230637001	08/20/2013 06:29	Deborah A Krady	1
06958	Manganese	SW-846 6010C	1	132230637001	08/20/2013 06:29	Deborah A Krady	1
06960	Molybdenum	SW-846 6010C	1	132230637001	08/20/2013 06:29	Deborah A Krady	1
06961	Nickel	SW-846 6010C	1	132230637001	08/20/2013 06:29	Deborah A Krady	1
10145	Phosphorus	SW-846 6010C	1	132230637001	08/20/2013 06:29	Deborah A Krady	1
01662	Potassium	SW-846 6010C	1	132230637001	08/20/2013 06:29	Deborah A Krady	1
01667	Sodium	SW-846 6010C	1	132230637001	08/20/2013 06:29	Deborah A Krady	1
06969	Tin	SW-846 6010C	1	132230637001	08/20/2013 06:29	Deborah A Krady	1
06970	Titanium	SW-846 6010C	1	132230637001	08/20/2013 06:29	Deborah A Krady	1
06971	Vanadium	SW-846 6010C	1	132230637001	08/20/2013 06:29	Deborah A Krady	1
06972	Zinc	SW-846 6010C	1	132230637001	08/20/2013 06:29	Deborah A Krady	1
10146	Zirconium	SW-846 6010C	1	132230637001	08/20/2013 06:29	Deborah A Krady	1

*-This limit was used in the evaluation of the final result

Sample Description: SL-530-SA8-SB-4.0-5.0MSD Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156756
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 07:45 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45

Reported: 08/28/2013 08:58

53040 SDG#: PH088-03MSD

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
06141	Selenium	SW-846 6020A	1	132230637001B	08/14/2013	15:04	David K Beck	2
06142	Silver	SW-846 6020A	1	132230637001A	08/14/2013	15:04	David K Beck	2
06144	Strontium	SW-846 6020A	1	132230637001A	08/19/2013	05:56	Choon Y Tian	2
06145	Thallium	SW-846 6020A	1	132230637001A	08/14/2013	15:04	David K Beck	2
00159	3a Mercury 7471A	SW-846 7471B	1	132310638001	08/20/2013	11:52	Damary Valentin	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132230637001	08/12/2013	23:01	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132230638001	08/13/2013	02:30	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	2	132310638001	08/20/2013	02:40	Annamaria Stipkovits	1
11625	14a Moisture Content by 160.3	EPA 160.3 modified	1	13226162401A	08/14/2013	23:23	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-530-SA8-SB-4.0-5.0DUP Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156757
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 07:45 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45
Reported: 08/28/2013 08:58

53040 SDG#: PH088-03DUP

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals						
SW-846 6010C			mg/kg	mg/kg	mg/kg	
01643	Aluminum	7429-90-5	20,000	45.4	8.18	1
06944	Antimony	7440-36-0	4.54 U	4.54	0.840	1
06935	Arsenic	7440-38-2	4.05 J	4.54	0.795	1
06946	Barium	7440-39-3	98.6	1.14	0.0375	1
06947	Beryllium	7440-41-7	0.655 J	1.14	0.0760	1
07914	Boron	7440-42-8	5.28 J	11.4	0.953	1
06949	Cadmium	7440-43-9	1.12 J	1.14	0.0863	1
01650	Calcium	7440-70-2	24,300	22.7	3.79	1
06951	Chromium	7440-47-3	29.0	3.41	0.182	1
06952	Cobalt	7440-48-4	6.74	1.14	0.112	1
06953	Copper	7440-50-8	16.2	2.27	0.329	1
01654	Iron	7439-89-6	25,700	45.4	4.11	1
06955	Lead	7439-92-1	6.80	3.41	0.568	1
01656	Lithium	7439-93-2	21.3	4.5	0.39	1
01657	Magnesium	7439-95-4	6,690	11.4	1.90	1
06958	Manganese	7439-96-5	307	1.14	0.0942	1
06960	Molybdenum	7439-98-7	2.27 U	2.27	0.193	1
06961	Nickel	7440-02-0	15.5	2.27	0.148	1
10145	Phosphorus	7723-14-0	387	11.4	3.28	1
01662	Potassium	7440-09-7	1,820	114	9.47	1
01667	Sodium	7440-23-5	681	114	19.0	1
06969	Tin	7440-31-5	3.50 J	11.4	0.250	1
06970	Titanium	7440-32-6	1,420	1.14	0.193	1
06971	Vanadium	7440-62-2	52.3	1.14	0.148	1
06972	Zinc	7440-66-6	55.3	4.54	0.227	1
10146	Zirconium	7440-67-7	4.56 J	5.68	0.953	1
SW-846 6020A			mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	0.454 U	0.454	0.114	2
06142	Silver	7440-22-4	0.227 U	0.227	0.0295	2
06144	Strontium	7440-24-6	34.6	0.454	0.0772	2
06145	Thallium	7440-28-0	0.256	0.227	0.0341	2
SW-846 7471B			mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.0182 U	0.0182	0.0109	1
Wet Chemistry						
SW-846 9045D modified			Std. Units	Std. Units	Std. Units	
00394	15a pH by 9045D The pH was measured in water at 21.2 C.	n.a.	8.48	0.0100	0.0100	1
Wet Chemistry						
EPA 160.3 modified			%	%	%	
11625	14a Moisture Content by 160.3	n.a.	11.9	0.10	0.10	1
11626	14a Moisture Content by 160.3	n.a.	12.1	0.10	0.10	1
The duplicate moisture value is provided to assess the precision of the moisture test. For comparability purposes, the initial moisture determination is the value used to perform dry weight calculations.						

*=This limit was used in the evaluation of the final result

Sample Description: SL-530-SA8-SB-4.0-5.0DUP Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156757
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 07:45 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45
Reported: 08/28/2013 08:58

53040 SDG#: PH088-03DUP

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
01643	Aluminum	SW-846 6010C	1	132230637001	08/20/2013	06:22	Deborah A Krady	1
06944	Antimony	SW-846 6010C	1	132230637001	08/20/2013	06:22	Deborah A Krady	1
06935	Arsenic	SW-846 6010C	1	132230637001	08/20/2013	06:22	Deborah A Krady	1
06946	Barium	SW-846 6010C	1	132230637001	08/20/2013	06:22	Deborah A Krady	1
06947	Beryllium	SW-846 6010C	1	132230637001	08/20/2013	06:22	Deborah A Krady	1
07914	Boron	SW-846 6010C	1	132230637001	08/21/2013	17:23	Katlin N Cataldi	1
06949	Cadmium	SW-846 6010C	1	132230637001	08/20/2013	06:22	Deborah A Krady	1
01650	Calcium	SW-846 6010C	1	132230637001	08/20/2013	06:22	Deborah A Krady	1
06951	Chromium	SW-846 6010C	1	132230637001	08/20/2013	06:22	Deborah A Krady	1
06952	Cobalt	SW-846 6010C	1	132230637001	08/20/2013	06:22	Deborah A Krady	1
06953	Copper	SW-846 6010C	1	132230637001	08/20/2013	06:22	Deborah A Krady	1
01654	Iron	SW-846 6010C	1	132230637001	08/20/2013	06:22	Deborah A Krady	1
06955	Lead	SW-846 6010C	1	132230637001	08/20/2013	06:22	Deborah A Krady	1
01656	Lithium	SW-846 6010C	1	132230637001	08/20/2013	06:22	Deborah A Krady	1
01657	Magnesium	SW-846 6010C	1	132230637001	08/20/2013	06:22	Deborah A Krady	1
06958	Manganese	SW-846 6010C	1	132230637001	08/20/2013	06:22	Deborah A Krady	1
06960	Molybdenum	SW-846 6010C	1	132230637001	08/20/2013	06:22	Deborah A Krady	1
06961	Nickel	SW-846 6010C	1	132230637001	08/20/2013	06:22	Deborah A Krady	1
10145	Phosphorus	SW-846 6010C	1	132230637001	08/20/2013	06:22	Deborah A Krady	1
01662	Potassium	SW-846 6010C	1	132230637001	08/20/2013	06:22	Deborah A Krady	1
01667	Sodium	SW-846 6010C	1	132230637001	08/20/2013	06:22	Deborah A Krady	1
06969	Tin	SW-846 6010C	1	132230637001	08/20/2013	06:22	Deborah A Krady	1
06970	Titanium	SW-846 6010C	1	132230637001	08/20/2013	06:22	Deborah A Krady	1
06971	Vanadium	SW-846 6010C	1	132230637001	08/20/2013	06:22	Deborah A Krady	1
06972	Zinc	SW-846 6010C	1	132230637001	08/20/2013	06:22	Deborah A Krady	1
10146	Zirconium	SW-846 6010C	1	132230637001	08/20/2013	06:22	Deborah A Krady	1
06141	Selenium	SW-846 6020A	1	132230637001B	08/14/2013	14:59	David K Beck	2
06142	Silver	SW-846 6020A	1	132230637001A	08/14/2013	14:59	David K Beck	2
06144	Strontium	SW-846 6020A	1	132230637001A	08/19/2013	05:53	Choon Y Tian	2
06145	Thallium	SW-846 6020A	1	132230637001A	08/14/2013	14:59	David K Beck	2
00159	3a Mercury 7471A	SW-846 7471B	1	132310638001	08/20/2013	11:48	Damary Valentin	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132230637001	08/12/2013	23:01	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132230638001	08/13/2013	02:30	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	2	132310638001	08/20/2013	02:40	Annamaria Stipkovits	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13222039401A	08/10/2013	16:15	Clayton C Litchmore	1
11625	14a Moisture Content by 160.3	EPA 160.3 modified	1	13226162401A	08/14/2013	23:23	Scott W Freisher	1
11626	14a Moisture Content by 160.3	EPA 160.3 modified	1	13226162401A	08/14/2013	23:23	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-830-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156758
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 07:50 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45
Reported: 08/28/2013 08:58

83040 SDG#: PH088-04

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	1.9 U	1.9	0.75	1
12969	Acenaphthylene	208-96-8	1.9 U	1.9	0.37	1
12969	Anthracene	120-12-7	1.9 U	1.9	0.37	1
12969	Benzo(a)anthracene	56-55-3	1.9 U	1.9	0.75	1
12969	Benzo(a)pyrene	50-32-8	1.9 U	1.9	0.75	1
12969	Benzo(b)fluoranthene	205-99-2	1.9 U	1.9	0.75	1
12969	Benzo(e)pyrene	192-97-2	19 U	19	3.7	1
12969	Benzo(g,h,i)perylene	191-24-2	1.9 U	1.9	0.75	1
12969	Benzo(k)fluoranthene	207-08-9	1.9 U	1.9	0.75	1
12969	Butylbenzylphthalate	85-68-7	20 U	20	6.7	1
12969	Di-n-butylphthalate	84-74-2	20 U	20	6.7	1
12969	Chrysene	218-01-9	1.9 U	1.9	0.37	1
12969	Dibenz(a,h)anthracene	53-70-3	1.9 U	1.9	0.75	1
12969	Diethylphthalate	84-66-2	20 U	20	6.7	1
12969	Dimethylphthalate	131-11-3	20 U	20	6.7	1
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	7.2 J	20	6.7	1
12969	Fluoranthene	206-44-0	1.9 U	1.9	0.75	1
12969	Fluorene	86-73-7	1.9 U	1.9	0.75	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	1.9 U	1.9	0.75	1
12969	1-Methylnaphthalene	90-12-0	1.9 U	1.9	0.75	1
12969	2-Methylnaphthalene	91-57-6	1.9 U	1.9	0.75	1
12969	Naphthalene	91-20-3	1.9 U	1.9	0.75	1
12969	N-Nitrosodimethylamine	62-75-9	1.9 U	1.9	0.75	1
12969	Di-n-octylphthalate	117-84-0	20 U	20	6.7	1
12969	Phenanthrene	85-01-8	1.9 U	1.9	0.75	1
12969	Pyrene	129-00-0	1.9 U	1.9	0.75	1
GC Volatiles	TPH GRO SW-846 8015B mod	mg/kg	mg/kg	mg/kg		
05551	11a TPH by EPA 8015B GRO	n.a.	1.3 U	1.3	0.3	29.27
Pesticides/PCBs	SW-846 8082A	ug/kg	ug/kg	ug/kg		
10592	Aroclor 5432	63496-31-1	37 U	37	11	1
10592	Aroclor 5442	12642-23-8	37 U	37	11	1
10592	Aroclor 5460	11126-42-4	37 U	37	11	1
10592	PCB-1016	12674-11-2	19 U	19	3.7	1
10592	PCB-1221	11104-28-2	19 U	19	5.7	1
10592	PCB-1232	11141-16-5	19 U	19	4.6	1
10592	PCB-1242	53469-21-9	19 U	19	4.6	1
10592	PCB-1248	12672-29-6	19 U	19	3.7	1
10592	PCB-1254	11097-69-1	19 U	19	4.9	1
10592	PCB-1260	11096-82-5	19 U	19	4.4	1
10592	PCB-1262	37324-23-5	19 U	19	3.7	1
10592	PCB-1268	11100-14-4	19 U	19	3.7	1
GC Petroleum	SW-846 8015B modified	mg/kg	mg/kg	mg/kg		
Hydrocarbons						
12952	EFH (C12-C14)	n.a.	5.6 U	5.6	2.2	1
12952	EFH (C15-C20)	n.a.	5.6 U	5.6	2.2	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-830-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156758
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 07:50 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45
Reported: 08/28/2013 08:58

83040 SDG#: PH088-04

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC Petroleum Hydrocarbons						
SW-846 8015B modified			mg/kg	mg/kg	mg/kg	
12952	EFH (C21-C30)	n.a.	4.8 J	5.6	2.2	1
12952	EFH (C30-C40)	n.a.	4.8 J	11	4.5	1
12952	EFH (C8-C11)	n.a.	5.6 U	5.6	2.2	1
Metals						
SW-846 6010C			mg/kg	mg/kg	mg/kg	
01643	Aluminum	7429-90-5	16,900	44.3	7.99	1
06944	Antimony	7440-36-0	4.43 U	4.43	0.820	1
06935	Arsenic	7440-38-2	3.12 J	4.43	0.775	1
06946	Barium	7440-39-3	93.4	1.11	0.0365	1
06947	Beryllium	7440-41-7	0.631 J	1.11	0.0742	1
07914	Boron	7440-42-8	4.11 J	11.1	0.930	1
06949	Cadmium	7440-43-9	0.964 J	1.11	0.0842	1
01650	Calcium	7440-70-2	7,280	22.1	3.70	1
06951	Chromium	7440-47-3	23.7	3.32	0.177	1
06952	Cobalt	7440-48-4	6.66	1.11	0.110	1
06953	Copper	7440-50-8	13.2	2.21	0.321	1
01654	Iron	7439-89-6	23,300	44.3	4.01	1
06955	Lead	7439-92-1	6.18	3.32	0.554	1
01656	Lithium	7439-93-2	18.9	4.4	0.38	1
01657	Magnesium	7439-95-4	5,570	11.1	1.85	1
06958	Manganese	7439-96-5	373	1.11	0.0919	1
06960	Molybdenum	7439-98-7	2.21 U	2.21	0.188	1
06961	Nickel	7440-02-0	16.2	2.21	0.144	1
10145	Phosphorus	7723-14-0	281	11.1	3.20	1
01662	Potassium	7440-09-7	1,440	111	9.24	1
01667	Sodium	7440-23-5	538	111	18.5	1
06969	Tin	7440-31-5	3.25 J	11.1	0.244	1
06970	Titanium	7440-32-6	1,170	1.11	0.188	1
06971	Vanadium	7440-62-2	43.5	1.11	0.144	1
06972	Zinc	7440-66-6	46.7	4.43	0.221	1
10146	Zirconium	7440-67-7	2.39 J	5.54	0.930	1
SW-846 6020A			mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	0.443 U	0.443	0.111	2
06142	Silver	7440-22-4	0.0357 J	0.221	0.0288	2
06144	Strontium	7440-24-6	25.1	0.443	0.0753	2
06145	Thallium	7440-28-0	0.212 J	0.221	0.0332	2
SW-846 7471B			mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.0181 U	0.0181	0.0109	1
Wet Chemistry						
SW-846 9045D modified			Std. Units	Std. Units	Std. Units	
00394	15a pH by 9045D The pH was measured in water at 21.1 C.	n.a.	8.72	0.0100	0.0100	1
Wet Chemistry						
EPA 160.3 modified			%	%	%	
11624	14a Moisture Content by 160.3	n.a.	10.6	0.10	0.10	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-830-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156758
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 07:50 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45

Reported: 08/28/2013 08:58

83040 SDG#: PH088-04

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Wet Chemistry	EPA 160.3 modified		%	%	%	
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

*=This limit was used in the evaluation of the final result

Sample Description: SL-830-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156758
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 07:50 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45
Reported: 08/28/2013 08:58

83040 SDG#: PH088-04

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
Dioxins/Furans			ng/kg	ng/kg	ng/kg	
EPA 1613B						
11031	2378-TCDD	1746-01-6	1.09 U	1.09	0.0498	1
11031	12378-PeCDD	40321-76-4	5.46 U	5.46	0.0551	1
11031	123478-HxCDD	39227-28-6	0.0499 JQ	5.46	0.0267	1
11031	123678-HxCDD	57653-85-7	0.0902 JBQ	5.46	0.0289	1
11031	123789-HxCDD	19408-74-3	0.0771 JQ	5.46	0.0285	1
11031	1234678-HpCDD	35822-46-9	0.146 JB	5.46	0.0318	1
11031	OCDD	3268-87-9	0.845 JB	10.9	0.0318	1
11031	2378-TCDF	51207-31-9	1.09 U	1.09	0.0409	1
11031	12378-PeCDF	57117-41-6	0.0889 JB	5.46	0.0279	1
11031	23478-PeCDF	57117-31-4	0.0571 JBQ	5.46	0.0248	1
11031	123478-HxCDF	70648-26-9	0.0715 JBQ	5.46	0.0174	1
11031	123678-HxCDF	57117-44-9	0.0473 JBQ	5.46	0.0178	1
11031	123789-HxCDF	72918-21-9	0.0850 JB	5.46	0.0227	1
11031	234678-HxCDF	60851-34-5	0.0513 JBQ	5.46	0.0162	1
11031	1234678-HpCDF	67562-39-4	0.0572 JB	5.46	0.0158	1
11031	1234789-HpCDF	55673-89-7	0.0620 JQ	5.46	0.0205	1
11031	OCDF	39001-02-0	0.173 JBQ	10.9	0.0409	1

Toxic Equivalents		EPA 1613B	ng/kg	ng/kg	ng/kg	
11031	TEQ WHO 2005 - EDLx0.0	n.a.	0.0134			1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	58	25 - 164
13C12-12378-PeCDD	76	25 - 181
13C12-123478-HxCDD	73	32 - 141
13C12-123678-HxCDD	77	28 - 130
13C12-123789-HxCDD	74	28 - 130
13C12-1234678-HpCDD	76	23 - 140
13C12-OCDD	79	17 - 157
13C12-2378-TCDF	63	24 - 169
13C12-12378-PeCDF	77	24 - 185
13C12-23478-PeCDF	75	21 - 178
13C12-123478-HxCDF	61	26 - 152
13C12-123678-HxCDF	66	26 - 123
13C12-234678-HxCDF	64	28 - 136
13C12-123789-HxCDF	64	29 - 147
13C12-1234678-HpCDF	72	28 - 143
13C12-1234789-HpCDF	72	26 - 138
13C12-OCDF	62	17 - 157

Dioxins/Furans Data Qualifiers:

- B Detected in Method Blank
- U Undetected
- J Estimated concentration between Estimated Detection Limit and Minimum Level
- E Exceeds calibration range
- C Confirmed quantitation on secondary GC column
- Q EMPC - Estimated Maximum Possible Concentration

*=This limit was used in the evaluation of the final result

Sample Description: SL-830-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156758
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 07:50 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45

Reported: 08/28/2013 08:58

83040 SDG#: PH088-04

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
F	Interference is present					
S	Saturation of detection signal					

*=This limit was used in the evaluation of the final result

Sample Description: SL-830-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156758
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 07:50 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45
Reported: 08/28/2013 08:58

83040 SDG#: PH088-04

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13226SLB026	08/16/2013 12:44	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	13226SLB026	08/14/2013 18:30	Nicholas W Shroyer	1
05551	11a TPH by EPA 8015B GRO	TPH GRO SW-846 8015B mod	1	13224A16A	08/13/2013 04:23	Laura M Krieger	29.27
06130	GC - 5 g HL Encore Prep	SW-846 5035A	1	201322232014	08/10/2013 12:45	Mitchell R Washel	n.a.
06130	GC - 5 g HL Encore Prep	SW-846 5035A	2	201322232014	08/10/2013 12:45	Mitchell R Washel	n.a.
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132270006A	08/16/2013 14:40	Monica M Souders	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132270006A	08/15/2013 16:20	JoElla L Rice	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132260015A	08/15/2013 21:07	Heather E Williams	1
12959	EFH soil ext.(microwave)	SW-846 3546	1	132260015A	08/15/2013 02:30	Sherry L Morrow	1
11031	23a Dioxin/Furan by EPA 1613B	EPA 1613B	1	13227001	08/18/2013 01:15	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	13227001	08/15/2013 14:00	Brett M Weidman	1
01643	Aluminum	SW-846 6010C	1	132230637001	08/20/2013 07:08	Deborah A Krady	1
06944	Antimony	SW-846 6010C	1	132230637001	08/20/2013 07:08	Deborah A Krady	1
06935	Arsenic	SW-846 6010C	1	132230637001	08/20/2013 07:08	Deborah A Krady	1
06946	Barium	SW-846 6010C	1	132230637001	08/20/2013 07:08	Deborah A Krady	1
06947	Beryllium	SW-846 6010C	1	132230637001	08/20/2013 07:08	Deborah A Krady	1
07914	Boron	SW-846 6010C	1	132230637001	08/21/2013 18:37	Katlin N Cataldi	1
06949	Cadmium	SW-846 6010C	1	132230637001	08/20/2013 07:08	Deborah A Krady	1
01650	Calcium	SW-846 6010C	1	132230637001	08/20/2013 07:08	Deborah A Krady	1
06951	Chromium	SW-846 6010C	1	132230637001	08/20/2013 07:08	Deborah A Krady	1
06952	Cobalt	SW-846 6010C	1	132230637001	08/20/2013 07:08	Deborah A Krady	1
06953	Copper	SW-846 6010C	1	132230637001	08/20/2013 07:08	Deborah A Krady	1
01654	Iron	SW-846 6010C	1	132230637001	08/20/2013 07:08	Deborah A Krady	1
06955	Lead	SW-846 6010C	1	132230637001	08/20/2013 07:08	Deborah A Krady	1
01656	Lithium	SW-846 6010C	1	132230637001	08/20/2013 07:08	Deborah A Krady	1
01657	Magnesium	SW-846 6010C	1	132230637001	08/20/2013 07:08	Deborah A Krady	1
06958	Manganese	SW-846 6010C	1	132230637001	08/20/2013 07:08	Deborah A Krady	1
06960	Molybdenum	SW-846 6010C	1	132230637001	08/20/2013 07:08	Deborah A Krady	1
06961	Nickel	SW-846 6010C	1	132230637001	08/20/2013 07:08	Deborah A Krady	1
10145	Phosphorus	SW-846 6010C	1	132230637001	08/20/2013 07:08	Deborah A Krady	1
01662	Potassium	SW-846 6010C	1	132230637001	08/20/2013 07:08	Deborah A Krady	1
01667	Sodium	SW-846 6010C	1	132230637001	08/20/2013 07:08	Deborah A Krady	1
06969	Tin	SW-846 6010C	1	132230637001	08/20/2013 07:08	Deborah A Krady	1
06970	Titanium	SW-846 6010C	1	132230637001	08/20/2013 07:08	Deborah A Krady	1
06971	Vanadium	SW-846 6010C	1	132230637001	08/20/2013 07:08	Deborah A Krady	1
06972	Zinc	SW-846 6010C	1	132230637001	08/20/2013 07:08	Deborah A Krady	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-830-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156758
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 07:50 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45

Reported: 08/28/2013 08:58

83040 SDG#: PH088-04

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
10146	Zirconium	SW-846 6010C	1	132230637001	08/20/2013	07:08	Deborah A Krady	1
06141	Selenium	SW-846 6020A	1	132230637001B	08/14/2013	15:27	David K Beck	2
06142	Silver	SW-846 6020A	1	132230637001A	08/14/2013	15:27	David K Beck	2
06144	Strontium	SW-846 6020A	1	132230637001A	08/19/2013	06:14	Choon Y Tian	2
06145	Thallium	SW-846 6020A	1	132230637001A	08/14/2013	15:27	David K Beck	2
00159	3a Mercury 7471A	SW-846 7471B	1	132310638001	08/20/2013	11:54	Damary Valentin	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132230637001	08/12/2013	23:01	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132230638001	08/13/2013	02:30	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	2	132310638001	08/20/2013	02:40	Annamaria Stipkovits	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13222039401A	08/10/2013	16:15	Clayton C Litchmore	1
11624	14a Moisture Content by 160.3	EPA 160.3 modified	1	13226162401A	08/14/2013	23:23	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-538-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156759
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 09:10 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45
Reported: 08/28/2013 08:58

53800 SDG#: PH088-05

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	1.8 U	1.8	0.71	1
12969	Acenaphthylene	208-96-8	1.8 U	1.8	0.35	1
12969	Anthracene	120-12-7	1.8 U	1.8	0.35	1
12969	Benzo(a)anthracene	56-55-3	0.80 J	1.8	0.71	1
12969	Benzo(a)pyrene	50-32-8	0.86 J	1.8	0.71	1
12969	Benzo(b)fluoranthene	205-99-2	2.0	1.8	0.71	1
12969	Benzo(e)pyrene	192-97-2	18 U	18	3.5	1
12969	Benzo(g,h,i)perylene	191-24-2	0.74 J	1.8	0.71	1
12969	Benzo(k)fluoranthene	207-08-9	0.76 J	1.8	0.71	1
12969	Butylbenzylphthalate	85-68-7	19 U	19	6.4	1
12969	Di-n-butylphthalate	84-74-2	19 U	19	6.4	1
12969	Chrysene	218-01-9	2.6	1.8	0.35	1
12969	Dibenz(a,h)anthracene	53-70-3	1.8 U	1.8	0.71	1
12969	Diethylphthalate	84-66-2	19 U	19	6.4	1
12969	Dimethylphthalate	131-11-3	19 U	19	6.4	1
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	6.6 J	19	6.4	1
12969	Fluoranthene	206-44-0	2.7	1.8	0.71	1
12969	Fluorene	86-73-7	1.8 U	1.8	0.71	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	1.8 U	1.8	0.71	1
12969	1-Methylnaphthalene	90-12-0	1.8 U	1.8	0.71	1
12969	2-Methylnaphthalene	91-57-6	1.8 U	1.8	0.71	1
12969	Naphthalene	91-20-3	0.82 J	1.8	0.71	1
12969	N-Nitrosodimethylamine	62-75-9	1.8 U	1.8	0.71	1
12969	Di-n-octylphthalate	117-84-0	19 U	19	6.4	1
12969	Phenanthrene	85-01-8	1.3 J	1.8	0.71	1
12969	Pyrene	129-00-0	2.4	1.8	0.71	1
Pesticides/PCBs	SW-846 8082A		ug/kg	ug/kg	ug/kg	
10592	Aroclor 5432	63496-31-1	35 U	35	11	1
10592	Aroclor 5442	12642-23-8	35 U	35	11	1
10592	Aroclor 5460	11126-42-4	35 U	35	11	1
10592	PCB-1016	12674-11-2	18 U	18	3.5	1
10592	PCB-1221	11104-28-2	18 U	18	5.4	1
10592	PCB-1232	11141-16-5	18 U	18	4.4	1
10592	PCB-1242	53469-21-9	18 U	18	4.4	1
10592	PCB-1248	12672-29-6	18 U	18	3.5	1
10592	PCB-1254	11097-69-1	18 U	18	4.7	1
10592	PCB-1260	11096-82-5	18 U	18	4.1	1
10592	PCB-1262	37324-23-5	18 U	18	3.5	1
10592	PCB-1268	11100-14-4	18 U	18	3.5	1
GC Petroleum	SW-846 8015B modified		mg/kg	mg/kg	mg/kg	
Hydrocarbons						
12952	EFH (C12-C14)	n.a.	5.3 U	5.3	2.1	1
12952	EFH (C15-C20)	n.a.	5.3 U	5.3	2.1	1
12952	EFH (C21-C30)	n.a.	12	5.3	2.1	1
12952	EFH (C30-C40)	n.a.	29	11	4.2	1
12952	EFH (C8-C11)	n.a.	5.3 U	5.3	2.1	1
Metals	SW-846 6010C		mg/kg	mg/kg	mg/kg	

*=This limit was used in the evaluation of the final result

Sample Description: SL-538-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156759
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 09:10 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45
Reported: 08/28/2013 08:58

53800 SDG#: PH088-05

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals						
		SW-846 6010C	mg/kg	mg/kg	mg/kg	
01643	Aluminum	7429-90-5	27,100	41.6	7.50	1
06944	Antimony	7440-36-0	4.16 U	4.16	0.770	1
06935	Arsenic	7440-38-2	5.02	4.16	0.729	1
06946	Barium	7440-39-3	105	1.04	0.0343	1
06947	Beryllium	7440-41-7	0.851 J	1.04	0.0697	1
07914	Boron	7440-42-8	10.6	10.4	0.874	1
06949	Cadmium	7440-43-9	1.36	1.04	0.0791	1
01650	Calcium	7440-70-2	21,200	20.8	3.48	1
06951	Chromium	7440-47-3	37.3	3.12	0.167	1
06952	Cobalt	7440-48-4	8.86	1.04	0.103	1
06953	Copper	7440-50-8	21.8	2.08	0.302	1
01654	Iron	7439-89-6	33,900	208	18.8	5
06955	Lead	7439-92-1	16.1	3.12	0.520	1
01656	Lithium	7439-93-2	23.3	4.2	0.35	1
01657	Magnesium	7439-95-4	7,350	10.4	1.74	1
06958	Manganese	7439-96-5	443	1.04	0.0864	1
06960	Molybdenum	7439-98-7	0.282 J	2.08	0.177	1
06961	Nickel	7440-02-0	19.7	2.08	0.135	1
10145	Phosphorus	7723-14-0	537	10.4	3.01	1
01662	Potassium	7440-09-7	5,480	104	8.68	1
01667	Sodium	7440-23-5	93.6 J	104	17.4	1
06969	Tin	7440-31-5	3.26 J	10.4	0.229	1
06970	Titanium	7440-32-6	1,380	1.04	0.177	1
06971	Vanadium	7440-62-2	68.5	1.04	0.135	1
06972	Zinc	7440-66-6	74.0	4.16	0.208	1
10146	Zirconium	7440-67-7	2.78 J	5.20	0.874	1
		SW-846 6020A	mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	0.255 J	0.416	0.104	2
06142	Silver	7440-22-4	0.0589 J	0.208	0.0271	2
06144	Strontium	7440-24-6	43.4	0.416	0.0708	2
06145	Thallium	7440-28-0	0.345	0.208	0.0312	2
		SW-846 7471B	mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.0212	0.0167	0.0100	1
Wet Chemistry						
		SW-846 9045D modified	Std. Units	Std. Units	Std. Units	
00394	15a pH by 9045D The pH was measured in water at 21.2 C.	n.a.	7.53	0.0100	0.0100	1
Wet Chemistry						
		EPA 160.3 modified	%	%	%	
11624	14a Moisture Content by 160.3 Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.	n.a.	5.8	0.10	0.10	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-538-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156759
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 09:10 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45
Reported: 08/28/2013 08:58

53800 SDG#: PH088-05

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
Dioxins/Furans			EPA 1613B	ng/kg	ng/kg	
11031	2378-TCDD	1746-01-6	0.0675	JQ 1.06	0.0397	1
11031	12378-PeCDD	40321-76-4	0.869	JB 5.29	0.0720	1
11031	123478-HxCDD	39227-28-6	1.26	J 5.29	0.0929	1
11031	123678-HxCDD	57653-85-7	11.5	B 5.29	0.0971	1
11031	123789-HxCDD	19408-74-3	3.32	J 5.29	0.0988	1
11031	1234678-HpCDD	35822-46-9	175	B 5.29	0.145	1
11031	OCDD	3268-87-9	1,280	B 10.6	0.0966	1
11031	2378-TCDF	51207-31-9	0.343	JQ 1.06	0.0892	1
11031	12378-PeCDF	57117-41-6	1.93	JB 5.29	0.0561	1
11031	23478-PeCDF	57117-31-4	0.615	JBQ 5.29	0.0537	1
11031	123478-HxCDF	70648-26-9	1.40	JB 5.29	0.0725	1
11031	123678-HxCDF	57117-44-9	1.17	JB 5.29	0.0727	1
11031	123789-HxCDF	72918-21-9	0.989	JB 5.29	0.0854	1
11031	234678-HxCDF	60851-34-5	1.98	JB 5.29	0.0684	1
11031	1234678-HpCDF	67562-39-4	14.5	B 5.29	0.0532	1
11031	1234789-HpCDF	55673-89-7	0.807	J 5.29	0.0747	1
11031	OCDF	39001-02-0	8.30	JB 10.6	0.0451	1

Toxic Equivalents		EPA 1613B	ng/kg	ng/kg	ng/kg
11031	TEQ WHO 2005 - EDLx0.0	n.a.	5.27		1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	73	25 - 164
13C12-12378-PeCDD	84	25 - 181
13C12-123478-HxCDD	75	32 - 141
13C12-123678-HxCDD	79	28 - 130
13C12-123789-HxCDD	78	28 - 130
13C12-1234678-HpCDD	77	23 - 140
13C12-OCDD	75	17 - 157
13C12-2378-TCDF	68	24 - 169
13C12-12378-PeCDF	84	24 - 185
13C12-23478-PeCDF	84	21 - 178
13C12-123478-HxCDF	62	26 - 152
13C12-123678-HxCDF	69	26 - 123
13C12-234678-HxCDF	67	28 - 136
13C12-123789-HxCDF	71	29 - 147
13C12-1234678-HpCDF	75	28 - 143
13C12-1234789-HpCDF	69	26 - 138
13C12-OCDF	58	17 - 157

Dioxins/Furans Data Qualifiers:

- B Detected in Method Blank
- U Undetected
- J Estimated concentration between Estimated Detection Limit and Minimum Level
- E Exceeds calibration range
- C Confirmed quantitation on secondary GC column
- Q EMPC - Estimated Maximum Possible Concentration

*=This limit was used in the evaluation of the final result

Sample Description: SL-538-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156759
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 09:10 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45

Reported: 08/28/2013 08:58

53800 SDG#: PH088-05

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
F	Interference is present					
S	Saturation of detection signal					

*=This limit was used in the evaluation of the final result

Sample Description: SL-538-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156759
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 09:10 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45
Reported: 08/28/2013 08:58

53800 SDG#: PH088-05

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13226SLB026	08/16/2013 13:19	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	13226SLB026	08/14/2013 18:30	Nicholas W Shroyer	1
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132270006A	08/16/2013 14:58	Monica M Souders	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132270006A	08/15/2013 16:20	JoElla L Rice	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132260015A	08/15/2013 22:10	Heather E Williams	1
12959	EPH soil ext. (microwave)	SW-846 3546	1	132260015A	08/15/2013 02:30	Sherry L Morrow	1
11031	23a Dioxin/Furan by EPA 1613B	EPA 1613B	1	13227001	08/18/2013 02:12	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	13227001	08/15/2013 14:00	Brett M Weidman	1
01643	Aluminum	SW-846 6010C	1	132230637001	08/20/2013 07:12	Deborah A Krady	1
06944	Antimony	SW-846 6010C	1	132230637001	08/20/2013 07:12	Deborah A Krady	1
06935	Arsenic	SW-846 6010C	1	132230637001	08/20/2013 07:12	Deborah A Krady	1
06946	Barium	SW-846 6010C	1	132230637001	08/20/2013 07:12	Deborah A Krady	1
06947	Beryllium	SW-846 6010C	1	132230637001	08/20/2013 07:12	Deborah A Krady	1
07914	Boron	SW-846 6010C	1	132230637001	08/21/2013 18:44	Katlin N Cataldi	1
06949	Cadmium	SW-846 6010C	1	132230637001	08/20/2013 07:12	Deborah A Krady	1
01650	Calcium	SW-846 6010C	1	132230637001	08/20/2013 07:12	Deborah A Krady	1
06951	Chromium	SW-846 6010C	1	132230637001	08/20/2013 07:12	Deborah A Krady	1
06952	Cobalt	SW-846 6010C	1	132230637001	08/20/2013 07:12	Deborah A Krady	1
06953	Copper	SW-846 6010C	1	132230637001	08/20/2013 07:12	Deborah A Krady	1
01654	Iron	SW-846 6010C	1	132230637001	08/21/2013 18:48	Katlin N Cataldi	5
06955	Lead	SW-846 6010C	1	132230637001	08/20/2013 07:12	Deborah A Krady	1
01656	Lithium	SW-846 6010C	1	132230637001	08/20/2013 07:12	Deborah A Krady	1
01657	Magnesium	SW-846 6010C	1	132230637001	08/20/2013 07:12	Deborah A Krady	1
06958	Manganese	SW-846 6010C	1	132230637001	08/20/2013 07:12	Deborah A Krady	1
06960	Molybdenum	SW-846 6010C	1	132230637001	08/20/2013 07:12	Deborah A Krady	1
06961	Nickel	SW-846 6010C	1	132230637001	08/20/2013 07:12	Deborah A Krady	1
10145	Phosphorus	SW-846 6010C	1	132230637001	08/20/2013 07:12	Deborah A Krady	1
01662	Potassium	SW-846 6010C	1	132230637001	08/20/2013 07:12	Deborah A Krady	1
01667	Sodium	SW-846 6010C	1	132230637001	08/20/2013 07:12	Deborah A Krady	1
06969	Tin	SW-846 6010C	1	132230637001	08/20/2013 07:12	Deborah A Krady	1
06970	Titanium	SW-846 6010C	1	132230637001	08/20/2013 07:12	Deborah A Krady	1
06971	Vanadium	SW-846 6010C	1	132230637001	08/20/2013 07:12	Deborah A Krady	1
06972	Zinc	SW-846 6010C	1	132230637001	08/20/2013 07:12	Deborah A Krady	1
10146	Zirconium	SW-846 6010C	1	132230637001	08/20/2013 07:12	Deborah A Krady	1
06141	Selenium	SW-846 6020A	1	132230637001B	08/14/2013 15:29	David K Beck	2
06142	Silver	SW-846 6020A	1	132230637001A	08/14/2013 15:29	David K Beck	2
06144	Strontium	SW-846 6020A	1	132230637001A	08/19/2013 06:16	Choon Y Tian	2

*=This limit was used in the evaluation of the final result

Sample Description: SL-538-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156759
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 09:10 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45

Reported: 08/28/2013 08:58

53800 SDG#: PH088-05

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
06145	Thallium	SW-846 6020A	1	132230637001A	08/14/2013	15:29	David K Beck	2
00159	3a Mercury 7471A	SW-846 7471B	1	132310638001	08/20/2013	11:56	Damary Valentin	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132230637001	08/12/2013	23:01	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132230638001	08/13/2013	02:30	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	2	132310638001	08/20/2013	02:40	Annamaria Stipkovits	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13222039401A	08/10/2013	16:15	Clayton C Litchmore	1
11624	14a Moisture Content by 160.3	EPA 160.3 modified	1	13226162401A	08/14/2013	23:23	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-538-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156760
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 09:20 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45
Reported: 08/28/2013 08:58

53840 SDG#: PH088-06BKG

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	1.9 U	1.9	0.77	1
12969	Acenaphthylene	208-96-8	1.9 U	1.9	0.38	1
12969	Anthracene	120-12-7	1.9 U	1.9	0.38	1
12969	Benzo(a)anthracene	56-55-3	1.9 U	1.9	0.77	1
12969	Benzo(a)pyrene	50-32-8	1.9 U	1.9	0.77	1
12969	Benzo(b)fluoranthene	205-99-2	1.9 U	1.9	0.77	1
12969	Benzo(e)pyrene	192-97-2	20 U	20	3.8	1
12969	Benzo(g,h,i)perylene	191-24-2	1.9 U	1.9	0.77	1
12969	Benzo(k)fluoranthene	207-08-9	1.9 U	1.9	0.77	1
12969	Butylbenzylphthalate	85-68-7	21 U	21	6.9	1
12969	Di-n-butylphthalate	84-74-2	21 U	21	6.9	1
12969	Chrysene	218-01-9	1.9 U	1.9	0.38	1
12969	Dibenz(a,h)anthracene	53-70-3	1.9 U	1.9	0.77	1
12969	Diethylphthalate	84-66-2	21 U	21	6.9	1
12969	Dimethylphthalate	131-11-3	21 U	21	6.9	1
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	7.3 J	21	6.9	1
12969	Fluoranthene	206-44-0	1.9 U	1.9	0.77	1
12969	Fluorene	86-73-7	1.9 U	1.9	0.77	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	1.9 U	1.9	0.77	1
12969	1-Methylnaphthalene	90-12-0	1.9 U	1.9	0.77	1
12969	2-Methylnaphthalene	91-57-6	1.9 U	1.9	0.77	1
12969	Naphthalene	91-20-3	1.9 U	1.9	0.77	1
12969	N-Nitrosodimethylamine	62-75-9	1.9 U	1.9	0.77	1
12969	Di-n-octylphthalate	117-84-0	21 U	21	6.9	1
12969	Phenanthrene	85-01-8	1.9 U	1.9	0.77	1
12969	Pyrene	129-00-0	1.9 U	1.9	0.77	1
GC Volatiles	TPH GRO SW-846 8015B mod	mg/kg	mg/kg	mg/kg		
05551	11a TPH by EPA 8015B GRO	n.a.	1.2 U	1.2	0.2	26.15
Pesticides/PCBs	SW-846 8082A	ug/kg	ug/kg	ug/kg		
10592	Aroclor 5432	63496-31-1	38 U	38	12	1
10592	Aroclor 5442	12642-23-8	38 U	38	12	1
10592	Aroclor 5460	11126-42-4	38 U	38	12	1
10592	PCB-1016	12674-11-2	20 U	20	3.8	1
10592	PCB-1221	11104-28-2	20 U	20	5.9	1
10592	PCB-1232	11141-16-5	20 U	20	4.7	1
10592	PCB-1242	53469-21-9	20 U	20	4.7	1
10592	PCB-1248	12672-29-6	20 U	20	3.8	1
10592	PCB-1254	11097-69-1	20 U	20	5.1	1
10592	PCB-1260	11096-82-5	20 U	20	4.5	1
10592	PCB-1262	37324-23-5	20 U	20	3.8	1
10592	PCB-1268	11100-14-4	20 U	20	3.8	1
GC Petroleum	SW-846 8015B modified	mg/kg	mg/kg	mg/kg		
Hydrocarbons						
12952	EFH (C12-C14)	n.a.	5.8 U	5.8	2.3	1
12952	EFH (C15-C20)	n.a.	5.8 U	5.8	2.3	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-538-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156760
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 09:20 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45
Reported: 08/28/2013 08:58

53840 SDG#: PH088-06BKG

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC Petroleum Hydrocarbons		SW-846 8015B modified	mg/kg		mg/kg	mg/kg	
12952	EFH (C21-C30)	n.a.	5.8	U	5.8	2.3	1
12952	EFH (C30-C40)	n.a.	12	U	12	4.6	1
12952	EFH (C8-C11)	n.a.	5.8	U	5.8	2.3	1
Metals		SW-846 6010C	mg/kg		mg/kg	mg/kg	
01643	Aluminum	7429-90-5	28,000		45.2	8.15	1
06944	Antimony	7440-36-0	4.52	U	4.52	0.837	1
06935	Arsenic	7440-38-2	6.65		4.52	0.792	1
06946	Barium	7440-39-3	96.2		1.13	0.0373	1
06947	Beryllium	7440-41-7	0.841	J	1.13	0.0758	1
07914	Boron	7440-42-8	8.87	J	11.3	0.950	1
06949	Cadmium	7440-43-9	1.13	U	1.13	0.0859	1
01650	Calcium	7440-70-2	31,300		22.6	3.78	1
06951	Chromium	7440-47-3	34.1		3.39	0.181	1
06952	Cobalt	7440-48-4	8.54		1.13	0.112	1
06953	Copper	7440-50-8	15.1		2.26	0.328	1
01654	Iron	7439-89-6	30,700		90.5	8.19	2
06955	Lead	7439-92-1	9.62		3.39	0.565	1
01656	Lithium	7439-93-2	25.4		4.5	0.38	1
01657	Magnesium	7439-95-4	7,020		11.3	1.89	1
06958	Manganese	7439-96-5	409		1.13	0.0939	1
06960	Molybdenum	7439-98-7	0.230	J	2.26	0.192	1
06961	Nickel	7440-02-0	17.8		2.26	0.147	1
10145	Phosphorus	7723-14-0	347		11.3	3.27	1
01662	Potassium	7440-09-7	3,340		113	9.43	1
01667	Sodium	7440-23-5	93.5	J	113	18.9	1
06969	Tin	7440-31-5	3.63	J	11.3	0.249	1
06970	Titanium	7440-32-6	1,580		2.26	0.384	2
06971	Vanadium	7440-62-2	62.0		1.13	0.147	1
06972	Zinc	7440-66-6	61.3		4.52	0.226	1
10146	Zirconium	7440-67-7	8.30		5.65	0.950	1
		SW-846 6020A	mg/kg		mg/kg	mg/kg	
06141	Selenium	7782-49-2	0.190	J	0.452	0.113	2
06142	Silver	7440-22-4	0.0323	J	0.226	0.0294	2
06144	Strontium	7440-24-6	47.2		0.452	0.0769	2
06145	Thallium	7440-28-0	0.411		0.226	0.0339	2
		SW-846 7471B	mg/kg		mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.0191	U	0.0191	0.0115	1
Wet Chemistry		SW-846 9045D modified	Std. Units		Std. Units	Std. Units	
00394	15a pH by 9045D The pH was measured in water at 21.2 C.	n.a.	7.86		0.0100	0.0100	1
Wet Chemistry		EPA 160.3 modified	%		%	%	
11624	14a Moisture Content by 160.3	n.a.	13.3		0.10	0.10	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-538-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156760
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 09:20 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45

Reported: 08/28/2013 08:58

53840 SDG#: PH088-06BKG

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Wet Chemistry	EPA 160.3 modified		%	%	%	
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

*=This limit was used in the evaluation of the final result

Sample Description: SL-538-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156760
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 09:20 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45
Reported: 08/28/2013 08:58

53840 SDG#: PH088-06BKG

CAT No.	Analysis Name	CAS Number	Dry Result		Dry MRL*	Dry EDL	Dilution Factor
Dioxins/Furans			EPA 1613B		ng/kg	ng/kg	
11031	2378-TCDD	1746-01-6	1.11	U	1.11	0.0502	1
11031	12378-PeCDD	40321-76-4	5.55	U	5.55	0.0467	1
11031	123478-HxCDD	39227-28-6	0.0716	JBQ	5.55	0.0420	1
11031	123678-HxCDD	57653-85-7	0.381	JB	5.55	0.0459	1
11031	123789-HxCDD	19408-74-3	0.179	JB	5.55	0.0445	1
11031	1234678-HpCDD	35822-46-9	6.07	B	5.55	0.0535	1
11031	OCDD	3268-87-9	56.6	B	11.1	0.0409	1
11031	2378-TCDF	51207-31-9	1.11	U	1.11	0.0439	1
11031	12378-PeCDF	57117-41-6	0.0709	JB	5.55	0.0278	1
11031	23478-PeCDF	57117-31-4	0.0502	JBQ	5.55	0.0247	1
11031	123478-HxCDF	70648-26-9	0.106	JB	5.55	0.0209	1
11031	123678-HxCDF	57117-44-9	0.107	JBQ	5.55	0.0213	1
11031	123789-HxCDF	72918-21-9	0.0716	JBQ	5.55	0.0255	1
11031	234678-HxCDF	60851-34-5	0.0895	JB	5.55	0.0194	1
11031	1234678-HpCDF	67562-39-4	0.543	JB	5.55	0.0173	1
11031	1234789-HpCDF	55673-89-7	0.0459	JBQ	5.55	0.0254	1
11031	OCDF	39001-02-0	0.552	JB	11.1	0.0337	1

Toxic Equivalents		EPA 1613B	ng/kg	ng/kg	ng/kg	
11031	TEQ WHO 2005 - EDLx0.0	n.a.	0.161			1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	69	25 - 164
13C12-12378-PeCDD	95	25 - 181
13C12-123478-HxCDD	83	32 - 141
13C12-123678-HxCDD	85	28 - 130
13C12-123789-HxCDD	89	28 - 130
13C12-1234678-HpCDD	95	23 - 140
13C12-OCDD	92	17 - 157
13C12-2378-TCDF	79	24 - 169
13C12-12378-PeCDF	102	24 - 185
13C12-23478-PeCDF	103	21 - 178
13C12-123478-HxCDF	84	26 - 152
13C12-123678-HxCDF	91	26 - 123
13C12-234678-HxCDF	93	28 - 136
13C12-123789-HxCDF	95	29 - 147
13C12-1234678-HpCDF	104	28 - 143
13C12-1234789-HpCDF	96	26 - 138
13C12-OCDF	91	17 - 157

Dioxins/Furans Data Qualifiers:

- B Detected in Method Blank
- U Undetected
- J Estimated concentration between Estimated Detection Limit and Minimum Level
- E Exceeds calibration range
- C Confirmed quantitation on secondary GC column
- Q EMPC - Estimated Maximum Possible Concentration

*=This limit was used in the evaluation of the final result

Sample Description: SL-538-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156760
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 09:20 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45

Reported: 08/28/2013 08:58

53840 SDG#: PH088-06BKG

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
F	Interference is present					
S	Saturation of detection signal					

*=This limit was used in the evaluation of the final result

Sample Description: SL-538-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156760
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 09:20 by SM

CDM Federal Programs Corp.

3201 Jermantown Road

Submitted: 08/10/2013 09:45

Suite 400

Reported: 08/28/2013 08:58

Fairfax VA 22030

53840 SDG#: PH088-06BKG

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13226SLB026	08/16/2013 11:00	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	13226SLB026	08/14/2013 18:30	Nicholas W Shroyer	1
05551	11a TPH by EPA 8015B GRO	TPH GRO SW-846 8015B mod	1	13226A16A	08/14/2013 21:51	Laura M Krieger	26.15
06130	GC - 5 g HL Encore Prep	SW-846 5035A	1	201322232014	08/10/2013 13:06	Mitchell R Washel	n.a.
06130	GC - 5 g HL Encore Prep	SW-846 5035A	2	201322232014	08/10/2013 13:06	Mitchell R Washel	n.a.
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132270007A	08/16/2013 17:45	Monica M Souders	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132270007A	08/15/2013 16:20	JoElla L Rice	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132280016A	08/21/2013 03:24	Heather E Williams	1
12959	EFH soil ext.(microwave)	SW-846 3546	1	132280016A	08/17/2013 12:15	Sally L Appleyard	1
11031	23a Dioxin/Furan by EPA 1613B	EPA 1613B	1	13232002	08/22/2013 10:03	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	13232002	08/20/2013 15:00	Brett M Weidman	1
01643	Aluminum	SW-846 6010C	1	132230637002	08/22/2013 19:25	John P Hook	1
06944	Antimony	SW-846 6010C	1	132230637002	08/22/2013 19:25	John P Hook	1
06935	Arsenic	SW-846 6010C	1	132230637002	08/22/2013 19:25	John P Hook	1
06946	Barium	SW-846 6010C	1	132230637002	08/22/2013 19:25	John P Hook	1
06947	Beryllium	SW-846 6010C	1	132230637002	08/22/2013 19:25	John P Hook	1
07914	Boron	SW-846 6010C	1	132230637002	08/22/2013 19:25	John P Hook	1
06949	Cadmium	SW-846 6010C	1	132230637002	08/22/2013 19:25	John P Hook	1
01650	Calcium	SW-846 6010C	1	132230637002	08/22/2013 19:25	John P Hook	1
06951	Chromium	SW-846 6010C	1	132230637002	08/22/2013 19:25	John P Hook	1
06952	Cobalt	SW-846 6010C	1	132230637002	08/22/2013 19:25	John P Hook	1
06953	Copper	SW-846 6010C	1	132230637002	08/22/2013 19:25	John P Hook	1
01654	Iron	SW-846 6010C	1	132230637002	08/23/2013 00:50	John W Yanzuk II	2
06955	Lead	SW-846 6010C	1	132230637002	08/22/2013 19:25	John P Hook	1
01656	Lithium	SW-846 6010C	1	132230637002	08/22/2013 19:25	John P Hook	1
01657	Magnesium	SW-846 6010C	1	132230637002	08/22/2013 19:25	John P Hook	1
06958	Manganese	SW-846 6010C	1	132230637002	08/22/2013 19:25	John P Hook	1
06960	Molybdenum	SW-846 6010C	1	132230637002	08/22/2013 19:25	John P Hook	1
06961	Nickel	SW-846 6010C	1	132230637002	08/22/2013 19:25	John P Hook	1
10145	Phosphorus	SW-846 6010C	1	132230637002	08/22/2013 19:25	John P Hook	1
01662	Potassium	SW-846 6010C	1	132230637002	08/22/2013 19:25	John P Hook	1
01667	Sodium	SW-846 6010C	1	132230637002	08/22/2013 19:25	John P Hook	1
06969	Tin	SW-846 6010C	1	132230637002	08/22/2013 19:25	John P Hook	1
06970	Titanium	SW-846 6010C	1	132230637002	08/23/2013 00:50	John W Yanzuk II	2
06971	Vanadium	SW-846 6010C	1	132230637002	08/22/2013 19:25	John P Hook	1
06972	Zinc	SW-846 6010C	1	132230637002	08/22/2013 19:25	John P Hook	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-538-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156760
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 09:20 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45
Reported: 08/28/2013 08:58

53840 SDG#: PH088-06BKG

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
10146	Zirconium	SW-846 6010C	1	132230637002	08/22/2013	19:25	John P Hook	1
06141	Selenium	SW-846 6020A	1	132230637002B	08/16/2013	10:05	Choon Y Tian	2
06142	Silver	SW-846 6020A	1	132230637002A	08/16/2013	10:05	Choon Y Tian	2
06144	Strontium	SW-846 6020A	1	132230637002A	08/16/2013	10:05	Choon Y Tian	2
06145	Thallium	SW-846 6020A	1	132230637002A	08/16/2013	10:05	Choon Y Tian	2
00159	3a Mercury 7471A	SW-846 7471B	1	132310638002	08/21/2013	11:09	Damary Valentin	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132230637002	08/12/2013	23:14	Annamaria Stipkovits	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	2	132340637001	08/22/2013	23:08	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132230638002	08/13/2013	02:30	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	2	132310638002	08/21/2013	04:40	Annamaria Stipkovits	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13222039401B	08/10/2013	16:15	Clayton C Litchmore	1
11624	14a Moisture Content by 160.3	EPA 160.3 modified	1	13226162401B	08/14/2013	23:23	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-538-SA8-SB-4.0-5.0MS Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156761
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 09:20 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45
Reported: 08/28/2013 08:58

53840 SDG#: PH088-06MS

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	37	1.9	0.77	1
12969	Acenaphthylene	208-96-8	40	1.9	0.38	1
12969	Anthracene	120-12-7	39	1.9	0.38	1
12969	Benzo(a)anthracene	56-55-3	38	1.9	0.77	1
12969	Benzo(a)pyrene	50-32-8	38	1.9	0.77	1
12969	Benzo(b)fluoranthene	205-99-2	39	1.9	0.77	1
12969	Benzo(e)pyrene	192-97-2	34	20	3.8	1
12969	Benzo(g,h,i)perylene	191-24-2	33	1.9	0.77	1
12969	Benzo(k)fluoranthene	207-08-9	39	1.9	0.77	1
12969	Butylbenzylphthalate	85-68-7	45	21	6.9	1
12969	Di-n-butylphthalate	84-74-2	45	21	6.9	1
12969	Chrysene	218-01-9	38	1.9	0.38	1
12969	Dibenz(a,h)anthracene	53-70-3	37	1.9	0.77	1
12969	Diethylphthalate	84-66-2	41	21	6.9	1
12969	Dimethylphthalate	131-11-3	40	21	6.9	1
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	50	21	6.9	1
12969	Fluoranthene	206-44-0	38	1.9	0.77	1
12969	Fluorene	86-73-7	38	1.9	0.77	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	37	1.9	0.77	1
12969	1-Methylnaphthalene	90-12-0	40	1.9	0.77	1
12969	2-Methylnaphthalene	91-57-6	40	1.9	0.77	1
12969	Naphthalene	91-20-3	38	1.9	0.77	1
12969	N-Nitrosodimethylamine	62-75-9	34	1.9	0.77	1
12969	Di-n-octylphthalate	117-84-0	43	21	6.9	1
12969	Phenanthrene	85-01-8	38	1.9	0.77	1
12969	Pyrene	129-00-0	37	1.9	0.77	1
GC Volatiles	TPH GRO SW-846 8015B mod	mg/kg	mg/kg	mg/kg		
05551	11a TPH by EPA 8015B GRO	n.a.	7.9	1.1	0.2	24.65
Pesticides/PCBs	SW-846 8082A	ug/kg	ug/kg	ug/kg		
10592	Aroclor 5432	63496-31-1	38 U	38	12	1
10592	Aroclor 5442	12642-23-8	38 U	38	12	1
10592	Aroclor 5460	11126-42-4	38 U	38	12	1
10592	PCB-1016	12674-11-2	190	20	3.8	1
10592	PCB-1221	11104-28-2	20 U	20	5.9	1
10592	PCB-1232	11141-16-5	20 U	20	4.7	1
10592	PCB-1242	53469-21-9	20 U	20	4.7	1
10592	PCB-1248	12672-29-6	20 U	20	3.8	1
10592	PCB-1254	11097-69-1	20 U	20	5.1	1
10592	PCB-1260	11096-82-5	210	20	4.5	1
10592	PCB-1262	37324-23-5	20 U	20	3.8	1
10592	PCB-1268	11100-14-4	20 U	20	3.8	1
GC Petroleum Hydrocarbons	SW-846 8015B modified	mg/kg	mg/kg	mg/kg		
12952	EFH (C12-C14)	n.a.	5.8 U	5.8	2.3	1
12952	EFH (C15-C20)	n.a.	2.9 J	5.8	2.3	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-538-SA8-SB-4.0-5.0MS Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156761
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 09:20 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45
Reported: 08/28/2013 08:58

53840 SDG#: PH088-06MS

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC Petroleum Hydrocarbons		SW-846 8015B modified	mg/kg		mg/kg	mg/kg	
12952	EFH (C21-C30)	n.a.	5.3 J		5.8	2.3	1
12952	EFH (C30-C40)	n.a.	6.3 J		12	4.6	1
12952	EFH (C8-C11)	n.a.	5.8 U		5.8	2.3	1
Metals		SW-846 6010C	mg/kg		mg/kg	mg/kg	
01643	Aluminum	7429-90-5	33,200		45.2	8.15	1
06944	Antimony	7440-36-0	30.6		4.52	0.837	1
06935	Arsenic	7440-38-2	22.5		4.52	0.792	1
06946	Barium	7440-39-3	328		1.13	0.0373	1
06947	Beryllium	7440-41-7	6.36		1.13	0.0758	1
07914	Boron	7440-42-8	230		11.3	0.950	1
06949	Cadmium	7440-43-9	5.34		1.13	0.0859	1
01650	Calcium	7440-70-2	21,600		22.6	3.78	1
06951	Chromium	7440-47-3	57.5		3.39	0.181	1
06952	Cobalt	7440-48-4	61.5		1.13	0.112	1
06953	Copper	7440-50-8	44.8		2.26	0.328	1
01654	Iron	7439-89-6	31,400		90.5	8.19	2
06955	Lead	7439-92-1	25.6		3.39	0.565	1
01656	Lithium	7439-93-2	140		4.5	0.38	1
01657	Magnesium	7439-95-4	7,680		11.3	1.89	1
06958	Manganese	7439-96-5	447		1.13	0.0939	1
06960	Molybdenum	7439-98-7	210		2.26	0.192	1
06961	Nickel	7440-02-0	71.3		2.26	0.147	1
10145	Phosphorus	7723-14-0	478		11.3	3.27	1
01662	Potassium	7440-09-7	5,300		113	9.43	1
01667	Sodium	7440-23-5	1,220		113	18.9	1
06969	Tin	7440-31-5	408		11.3	0.249	1
06970	Titanium	7440-32-6	1,870		2.26	0.384	2
06971	Vanadium	7440-62-2	123		1.13	0.147	1
06972	Zinc	7440-66-6	119		4.52	0.226	1
10146	Zirconium	7440-67-7	114		5.65	0.950	1
		SW-846 6020A	mg/kg		mg/kg	mg/kg	
06141	Selenium	7782-49-2	2.86		0.452	0.113	2
06142	Silver	7440-22-4	15.7		0.226	0.0294	2
06144	Strontium	7440-24-6	66.0		0.452	0.0769	2
06145	Thallium	7440-28-0	1.07		0.226	0.0339	2
		SW-846 7471B	mg/kg		mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.216		0.0182	0.0109	1
Wet Chemistry		EPA 160.3 modified	%		%	%	
11625	14a Moisture Content by 160.3	n.a.	13.3		0.10	0.10	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-538-SA8-SB-4.0-5.0MS Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156761
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 09:20 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45
Reported: 08/28/2013 08:58

53840 SDG#: PH088-06MS

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
Dioxins/Furans			EPA 1613B		ng/kg	
11031	2378-TCDD	1746-01-6	26.2	1.14	0.135	1
11031	12378-PeCDD	40321-76-4	129	B	0.153	1
11031	123478-HxCDD	39227-28-6	123	B	0.0897	1
11031	123678-HxCDD	57653-85-7	126	B	0.104	1
11031	123789-HxCDD	19408-74-3	124	B	0.111	1
11031	1234678-HpCDD	35822-46-9	123	B	0.121	1
11031	OCDD	3268-87-9	273	B	0.0594	1
11031	2378-TCDF	51207-31-9	26.2	1.14	0.121	1
11031	12378-PeCDF	57117-41-6	129	B	0.107	1
11031	23478-PeCDF	57117-31-4	128	B	0.0913	1
11031	123478-HxCDF	70648-26-9	120	B	0.0931	1
11031	123678-HxCDF	57117-44-9	119	B	0.0912	1
11031	123789-HxCDF	72918-21-9	113	B	0.116	1
11031	234678-HxCDF	60851-34-5	118	B	0.0915	1
11031	1234678-HpCDF	67562-39-4	117	B	0.0796	1
11031	1234789-HpCDF	55673-89-7	113	B	0.0956	1
11031	OCDF	39001-02-0	225	B	0.0667	1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	66	25 - 164
13C12-12378-PeCDD	91	25 - 181
13C12-123478-HxCDD	76	32 - 141
13C12-123678-HxCDD	78	28 - 130
13C12-123789-HxCDD	76	28 - 130
13C12-1234678-HpCDD	89	23 - 140
13C12-OCDD	99	17 - 157
13C12-2378-TCDF	70	24 - 169
13C12-12378-PeCDF	95	24 - 185
13C12-23478-PeCDF	102	21 - 178
13C12-123478-HxCDF	78	26 - 152
13C12-123678-HxCDF	83	26 - 123
13C12-234678-HxCDF	82	28 - 136
13C12-123789-HxCDF	82	29 - 147
13C12-1234678-HpCDF	93	28 - 143
13C12-1234789-HpCDF	93	26 - 138
13C12-OCDF	96	17 - 157

Dioxins/Furans Data Qualifiers:

- B Detected in Method Blank
- U Undetected
- J Estimated concentration between Estimated Detection Limit and Minimum Level
- E Exceeds calibration range
- C Confirmed quantitation on secondary GC column
- Q EMPC - Estimated Maximum Possible Concentration
- F Interference is present
- S Saturation of detection signal

*=This limit was used in the evaluation of the final result

Sample Description: SL-538-SA8-SB-4.0-5.0MS Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156761
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 09:20 by SM

CDM Federal Programs Corp.

3201 Jermantown Road

Submitted: 08/10/2013 09:45

Suite 400

Reported: 08/28/2013 08:58

Fairfax VA 22030

53840 SDG#: PH088-06MS

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13226SLB026	08/16/2013 11:34	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	13226SLB026	08/14/2013 18:30	Nicholas W Shroyer	1
05551	11a TPH by EPA 8015B GRO	TPH GRO SW-846 8015B mod	1	13226A16A	08/14/2013 22:29	Laura M Krieger	24.65
06130	GC - 5 g HL Encore Prep	SW-846 5035A	1	201322232014	08/10/2013 13:06	Mitchell R Washel	n.a.
06130	GC - 5 g HL Encore Prep	SW-846 5035A	2	201322232014	08/10/2013 13:06	Mitchell R Washel	n.a.
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132270007A	08/16/2013 18:03	Monica M Souders	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132270007A	08/15/2013 16:20	JoElla L Rice	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132280016A	08/21/2013 03:45	Heather E Williams	1
12959	EFH soil ext.(microwave)	SW-846 3546	1	132280016A	08/17/2013 12:15	Sally L Appleyard	1
11031	23a Dioxin/Furan by EPA 1613B	EPA 1613B	1	13232002	08/22/2013 10:59	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	13232002	08/20/2013 15:00	Brett M Weidman	1
01643	Aluminum	SW-846 6010C	1	132230637002	08/22/2013 19:36	John P Hook	1
06944	Antimony	SW-846 6010C	1	132230637002	08/22/2013 19:36	John P Hook	1
06935	Arsenic	SW-846 6010C	1	132230637002	08/22/2013 19:36	John P Hook	1
06946	Barium	SW-846 6010C	1	132230637002	08/22/2013 19:36	John P Hook	1
06947	Beryllium	SW-846 6010C	1	132230637002	08/22/2013 19:36	John P Hook	1
07914	Boron	SW-846 6010C	1	132230637002	08/22/2013 19:36	John P Hook	1
06949	Cadmium	SW-846 6010C	1	132230637002	08/22/2013 19:36	John P Hook	1
01650	Calcium	SW-846 6010C	1	132230637002	08/22/2013 19:36	John P Hook	1
06951	Chromium	SW-846 6010C	1	132230637002	08/22/2013 19:36	John P Hook	1
06952	Cobalt	SW-846 6010C	1	132230637002	08/22/2013 19:36	John P Hook	1
06953	Copper	SW-846 6010C	1	132230637002	08/22/2013 19:36	John P Hook	1
01654	Iron	SW-846 6010C	1	132230637002	08/23/2013 01:01	John W Yanzuk II	2
06955	Lead	SW-846 6010C	1	132230637002	08/22/2013 19:36	John P Hook	1
01656	Lithium	SW-846 6010C	1	132230637002	08/22/2013 19:36	John P Hook	1
01657	Magnesium	SW-846 6010C	1	132230637002	08/22/2013 19:36	John P Hook	1
06958	Manganese	SW-846 6010C	1	132230637002	08/22/2013 19:36	John P Hook	1
06960	Molybdenum	SW-846 6010C	1	132230637002	08/22/2013 19:36	John P Hook	1
06961	Nickel	SW-846 6010C	1	132230637002	08/22/2013 19:36	John P Hook	1
10145	Phosphorus	SW-846 6010C	1	132230637002	08/22/2013 19:36	John P Hook	1
01662	Potassium	SW-846 6010C	1	132230637002	08/22/2013 19:36	John P Hook	1
01667	Sodium	SW-846 6010C	1	132230637002	08/22/2013 19:36	John P Hook	1
06969	Tin	SW-846 6010C	1	132230637002	08/22/2013 19:36	John P Hook	1
06970	Titanium	SW-846 6010C	1	132230637002	08/23/2013 01:01	John W Yanzuk II	2
06971	Vanadium	SW-846 6010C	1	132230637002	08/22/2013 19:36	John P Hook	1
06972	Zinc	SW-846 6010C	1	132230637002	08/22/2013 19:36	John P Hook	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-538-SA8-SB-4.0-5.0MS Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156761
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 09:20 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45
Reported: 08/28/2013 08:58

53840 SDG#: PH088-06MS

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
10146	Zirconium	SW-846 6010C	1	132230637002	08/22/2013	19:36	John P Hook	1
06141	Selenium	SW-846 6020A	1	132230637002B	08/16/2013	10:12	Choon Y Tian	2
06142	Silver	SW-846 6020A	1	132230637002A	08/16/2013	10:12	Choon Y Tian	2
06144	Strontium	SW-846 6020A	1	132230637002A	08/16/2013	10:12	Choon Y Tian	2
06145	Thallium	SW-846 6020A	1	132230637002A	08/16/2013	10:12	Choon Y Tian	2
00159	3a Mercury 7471A	SW-846 7471B	1	132310638002	08/21/2013	11:15	Damary Valentin	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132230637002	08/12/2013	23:14	Annamaria Stipkovits	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	2	132340637001	08/22/2013	23:08	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132230638002	08/13/2013	02:30	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	2	132310638002	08/21/2013	04:40	Annamaria Stipkovits	1
11625	14a Moisture Content by 160.3	EPA 160.3 modified	1	13226162401B	08/14/2013	23:23	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-538-SA8-SB-4.0-5.0MSD Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156762
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 09:20 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45
Reported: 08/28/2013 08:58

53840 SDG#: PH088-06MSD

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	38	1.9	0.77	1
12969	Acenaphthylene	208-96-8	40	1.9	0.38	1
12969	Anthracene	120-12-7	40	1.9	0.38	1
12969	Benzo(a)anthracene	56-55-3	39	1.9	0.77	1
12969	Benzo(a)pyrene	50-32-8	39	1.9	0.77	1
12969	Benzo(b)fluoranthene	205-99-2	40	1.9	0.77	1
12969	Benzo(e)pyrene	192-97-2	35	20	3.8	1
12969	Benzo(g,h,i)perylene	191-24-2	34	1.9	0.77	1
12969	Benzo(k)fluoranthene	207-08-9	40	1.9	0.77	1
12969	Butylbenzylphthalate	85-68-7	47	21	6.9	1
12969	Di-n-butylphthalate	84-74-2	45	21	6.9	1
12969	Chrysene	218-01-9	39	1.9	0.38	1
12969	Dibenz(a,h)anthracene	53-70-3	38	1.9	0.77	1
12969	Diethylphthalate	84-66-2	42	21	6.9	1
12969	Dimethylphthalate	131-11-3	40	21	6.9	1
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	62	21	6.9	1
12969	Fluoranthene	206-44-0	39	1.9	0.77	1
12969	Fluorene	86-73-7	39	1.9	0.77	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	38	1.9	0.77	1
12969	1-Methylnaphthalene	90-12-0	42	1.9	0.77	1
12969	2-Methylnaphthalene	91-57-6	41	1.9	0.77	1
12969	Naphthalene	91-20-3	39	1.9	0.77	1
12969	N-Nitrosodimethylamine	62-75-9	33	1.9	0.77	1
12969	Di-n-octylphthalate	117-84-0	45	21	6.9	1
12969	Phenanthrene	85-01-8	38	1.9	0.77	1
12969	Pyrene	129-00-0	37	1.9	0.77	1
GC Volatiles	TPH GRO SW-846 8015B mod	mg/kg	mg/kg	mg/kg		
05551	11a TPH by EPA 8015B GRO	n.a.	8.6	1.2	0.2	26.6
Pesticides/PCBs	SW-846 8082A	ug/kg	ug/kg	ug/kg		
10592	Aroclor 5432	63496-31-1	38 U	38	12	1
10592	Aroclor 5442	12642-23-8	38 U	38	12	1
10592	Aroclor 5460	11126-42-4	38 U	38	12	1
10592	PCB-1016	12674-11-2	190	20	3.8	1
10592	PCB-1221	11104-28-2	20 U	20	5.9	1
10592	PCB-1232	11141-16-5	20 U	20	4.7	1
10592	PCB-1242	53469-21-9	20 U	20	4.7	1
10592	PCB-1248	12672-29-6	20 U	20	3.8	1
10592	PCB-1254	11097-69-1	20 U	20	5.1	1
10592	PCB-1260	11096-82-5	210	20	4.5	1
10592	PCB-1262	37324-23-5	20 U	20	3.8	1
10592	PCB-1268	11100-14-4	20 U	20	3.8	1
GC Petroleum	SW-846 8015B modified	mg/kg	mg/kg	mg/kg		
Hydrocarbons						
12952	EFH (C12-C14)	n.a.	5.8 U	5.8	2.3	1
12952	EFH (C15-C20)	n.a.	3.4 J	5.8	2.3	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-538-SA8-SB-4.0-5.0MSD Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156762
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 09:20 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45
Reported: 08/28/2013 08:58

53840 SDG#: PH088-06MSD

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC Petroleum Hydrocarbons						
	SW-846 8015B modified		mg/kg	mg/kg	mg/kg	
12952	EFH (C21-C30)	n.a.	6.8	5.8	2.3	1
12952	EFH (C30-C40)	n.a.	11	J 12	4.6	1
12952	EFH (C8-C11)	n.a.	5.8	U 5.8	2.3	1
Metals						
	SW-846 6010C		mg/kg	mg/kg	mg/kg	
01643	Aluminum	7429-90-5	33,200	45.2	8.15	1
06944	Antimony	7440-36-0	31.0	4.52	0.837	1
06935	Arsenic	7440-38-2	22.7	4.52	0.792	1
06946	Barium	7440-39-3	333	1.13	0.0373	1
06947	Beryllium	7440-41-7	6.48	1.13	0.0758	1
07914	Boron	7440-42-8	232	11.3	0.950	1
06949	Cadmium	7440-43-9	5.33	1.13	0.0859	1
01650	Calcium	7440-70-2	18,400	22.6	3.78	1
06951	Chromium	7440-47-3	58.4	3.39	0.181	1
06952	Cobalt	7440-48-4	63.1	1.13	0.112	1
06953	Copper	7440-50-8	45.4	2.26	0.328	1
01654	Iron	7439-89-6	33,400	90.5	8.19	2
06955	Lead	7439-92-1	26.0	3.39	0.565	1
01656	Lithium	7439-93-2	141	4.5	0.38	1
01657	Magnesium	7439-95-4	7,690	11.3	1.89	1
06958	Manganese	7439-96-5	508	1.13	0.0939	1
06960	Molybdenum	7439-98-7	212	2.26	0.192	1
06961	Nickel	7440-02-0	73.0	2.26	0.147	1
10145	Phosphorus	7723-14-0	464	11.3	3.27	1
01662	Potassium	7440-09-7	5,110	113	9.43	1
01667	Sodium	7440-23-5	1,210	113	18.9	1
06969	Tin	7440-31-5	413	11.3	0.249	1
06970	Titanium	7440-32-6	1,930	2.26	0.384	2
06971	Vanadium	7440-62-2	125	1.13	0.147	1
06972	Zinc	7440-66-6	119	4.52	0.226	1
10146	Zirconium	7440-67-7	114	5.65	0.950	1
SW-846 6020A						
			mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	2.41	0.452	0.113	2
06142	Silver	7440-22-4	12.4	0.226	0.0294	2
06144	Strontium	7440-24-6	49.8	0.452	0.0769	2
06145	Thallium	7440-28-0	0.839	0.226	0.0339	2
SW-846 7471B						
			mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.220	0.0186	0.0112	1
Wet Chemistry						
	EPA 160.3 modified		%	%	%	
11625	14a Moisture Content by 160.3	n.a.	13.3	0.10	0.10	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-538-SA8-SB-4.0-5.0MSD Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156762
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

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Submitted: 08/10/2013 09:45
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53840 SDG#: PH088-06MSD

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
Dioxins/Furans			EPA 1613B		ng/kg	
11031	2378-TCDD	1746-01-6	26.3	1.15	0.138	1
11031	12378-PeCDD	40321-76-4	133	B	0.171	1
11031	123478-HxCDD	39227-28-6	127	B	0.111	1
11031	123678-HxCDD	57653-85-7	126	B	0.123	1
11031	123789-HxCDD	19408-74-3	126	B	0.124	1
11031	1234678-HpCDD	35822-46-9	127	B	0.115	1
11031	OCDD	3268-87-9	315	B	0.0775	1
11031	2378-TCDF	51207-31-9	26.7	1.15	0.120	1
11031	12378-PeCDF	57117-41-6	125	B	0.106	1
11031	23478-PeCDF	57117-31-4	127	B	0.0973	1
11031	123478-HxCDF	70648-26-9	119	B	0.104	1
11031	123678-HxCDF	57117-44-9	118	B	0.0978	1
11031	123789-HxCDF	72918-21-9	117	B	0.130	1
11031	234678-HxCDF	60851-34-5	116	B	0.0925	1
11031	1234678-HpCDF	67562-39-4	113	B	0.0784	1
11031	1234789-HpCDF	55673-89-7	111	B	0.110	1
11031	OCDF	39001-02-0	219	B	0.0800	1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	63	25 - 164
13C12-12378-PeCDD	79	25 - 181
13C12-123478-HxCDD	77	32 - 141
13C12-123678-HxCDD	82	28 - 130
13C12-123789-HxCDD	81	28 - 130
13C12-1234678-HpCDD	85	23 - 140
13C12-OCDD	89	17 - 157
13C12-2378-TCDF	69	24 - 169
13C12-12378-PeCDF	91	24 - 185
13C12-23478-PeCDF	90	21 - 178
13C12-123478-HxCDF	78	26 - 152
13C12-123678-HxCDF	85	26 - 123
13C12-234678-HxCDF	86	28 - 136
13C12-123789-HxCDF	79	29 - 147
13C12-1234678-HpCDF	95	28 - 143
13C12-1234789-HpCDF	84	26 - 138
13C12-OCDF	81	17 - 157

Dioxins/Furans Data Qualifiers:

- B Detected in Method Blank
- U Undetected
- J Estimated concentration between Estimated Detection Limit and Minimum Level
- E Exceeds calibration range
- C Confirmed quantitation on secondary GC column
- Q EMPC - Estimated Maximum Possible Concentration
- F Interference is present
- S Saturation of detection signal

*=This limit was used in the evaluation of the final result

Sample Description: SL-538-SA8-SB-4.0-5.0MSD Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156762
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 09:20 by SM

CDM Federal Programs Corp.
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Submitted: 08/10/2013 09:45
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53840 SDG#: PH088-06MSD

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13226SLB026	08/16/2013 12:09	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	13226SLB026	08/14/2013 18:30	Nicholas W Shroyer	1
05551	11a TPH by EPA 8015B GRO	TPH GRO SW-846 8015B mod	1	13226A16A	08/14/2013 23:07	Laura M Krieger	26.6
06130	GC - 5 g HL Encore Prep	SW-846 5035A	1	201322232014	08/10/2013 13:07	Mitchell R Washel	n.a.
06130	GC - 5 g HL Encore Prep	SW-846 5035A	2	201322232014	08/10/2013 13:06	Mitchell R Washel	n.a.
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132270007A	08/16/2013 18:22	Monica M Souders	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132270007A	08/15/2013 16:20	JoElla L Rice	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132280016A	08/21/2013 04:06	Heather E Williams	1
12959	EFH soil ext.(microwave)	SW-846 3546	1	132280016A	08/17/2013 12:15	Sally L Appleyard	1
11031	23a Dioxin/Furan by EPA 1613B	EPA 1613B	1	13232002	08/22/2013 11:56	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	13232002	08/20/2013 15:00	Brett M Weidman	1
01643	Aluminum	SW-846 6010C	1	132230637002	08/22/2013 19:40	John P Hook	1
06944	Antimony	SW-846 6010C	1	132230637002	08/22/2013 19:40	John P Hook	1
06935	Arsenic	SW-846 6010C	1	132230637002	08/22/2013 19:40	John P Hook	1
06946	Barium	SW-846 6010C	1	132230637002	08/22/2013 19:40	John P Hook	1
06947	Beryllium	SW-846 6010C	1	132230637002	08/22/2013 19:40	John P Hook	1
07914	Boron	SW-846 6010C	1	132230637002	08/22/2013 19:40	John P Hook	1
06949	Cadmium	SW-846 6010C	1	132230637002	08/22/2013 19:40	John P Hook	1
01650	Calcium	SW-846 6010C	1	132230637002	08/22/2013 19:40	John P Hook	1
06951	Chromium	SW-846 6010C	1	132230637002	08/22/2013 19:40	John P Hook	1
06952	Cobalt	SW-846 6010C	1	132230637002	08/22/2013 19:40	John P Hook	1
06953	Copper	SW-846 6010C	1	132230637002	08/22/2013 19:40	John P Hook	1
01654	Iron	SW-846 6010C	1	132230637002	08/23/2013 01:05	John W Yanzuk II	2
06955	Lead	SW-846 6010C	1	132230637002	08/22/2013 19:40	John P Hook	1
01656	Lithium	SW-846 6010C	1	132230637002	08/22/2013 19:40	John P Hook	1
01657	Magnesium	SW-846 6010C	1	132230637002	08/22/2013 19:40	John P Hook	1
06958	Manganese	SW-846 6010C	1	132230637002	08/22/2013 19:40	John P Hook	1
06960	Molybdenum	SW-846 6010C	1	132230637002	08/22/2013 19:40	John P Hook	1
06961	Nickel	SW-846 6010C	1	132230637002	08/22/2013 19:40	John P Hook	1
10145	Phosphorus	SW-846 6010C	1	132230637002	08/22/2013 19:40	John P Hook	1
01662	Potassium	SW-846 6010C	1	132230637002	08/22/2013 19:40	John P Hook	1
01667	Sodium	SW-846 6010C	1	132230637002	08/22/2013 19:40	John P Hook	1
06969	Tin	SW-846 6010C	1	132230637002	08/22/2013 19:40	John P Hook	1
06970	Titanium	SW-846 6010C	1	132230637002	08/23/2013 01:05	John W Yanzuk II	2
06971	Vanadium	SW-846 6010C	1	132230637002	08/22/2013 19:40	John P Hook	1
06972	Zinc	SW-846 6010C	1	132230637002	08/22/2013 19:40	John P Hook	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-538-SA8-SB-4.0-5.0MSD Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156762
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 09:20 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45
Reported: 08/28/2013 08:58

53840 SDG#: PH088-06MSD

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
10146	Zirconium	SW-846 6010C	1	132230637002	08/22/2013	19:40	John P Hook	1
06141	Selenium	SW-846 6020A	1	132230637002B	08/16/2013	10:14	Choon Y Tian	2
06142	Silver	SW-846 6020A	1	132230637002A	08/16/2013	10:14	Choon Y Tian	2
06144	Strontium	SW-846 6020A	1	132230637002A	08/16/2013	10:14	Choon Y Tian	2
06145	Thallium	SW-846 6020A	1	132230637002A	08/16/2013	10:14	Choon Y Tian	2
00159	3a Mercury 7471A	SW-846 7471B	1	132310638002	08/21/2013	11:17	Damary Valentin	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132230637002	08/12/2013	23:14	Annamaria Stipkovits	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	2	132340637001	08/22/2013	23:08	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132230638002	08/13/2013	02:30	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	2	132310638002	08/21/2013	04:40	Annamaria Stipkovits	1
11625	14a Moisture Content by 160.3	EPA 160.3 modified	1	13226162401B	08/14/2013	23:23	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-538-SA8-SB-4.0-5.0DUP Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156763
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 09:20 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45
Reported: 08/28/2013 08:58

53840 SDG#: PH088-06DUP

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals						
		SW-846 6010C	mg/kg	mg/kg	mg/kg	
01643	Aluminum	7429-90-5	27,600	45.2	8.15	1
06944	Antimony	7440-36-0	4.52 U	4.52	0.837	1
06935	Arsenic	7440-38-2	6.21	4.52	0.792	1
06946	Barium	7440-39-3	95.6	1.13	0.0373	1
06947	Beryllium	7440-41-7	0.848 J	1.13	0.0758	1
07914	Boron	7440-42-8	8.16 J	11.3	0.950	1
06949	Cadmium	7440-43-9	1.13 U	1.13	0.0859	1
01650	Calcium	7440-70-2	19,000	22.6	3.78	1
06951	Chromium	7440-47-3	34.2	3.39	0.181	1
06952	Cobalt	7440-48-4	8.22	1.13	0.112	1
06953	Copper	7440-50-8	15.5	2.26	0.328	1
01654	Iron	7439-89-6	31,000	90.5	8.19	2
06955	Lead	7439-92-1	9.36	3.39	0.565	1
01656	Lithium	7439-93-2	25.2	4.5	0.38	1
01657	Magnesium	7439-95-4	7,120	11.3	1.89	1
06958	Manganese	7439-96-5	390	1.13	0.0939	1
06960	Molybdenum	7439-98-7	2.26 U	2.26	0.192	1
06961	Nickel	7440-02-0	17.8	2.26	0.147	1
10145	Phosphorus	7723-14-0	355	11.3	3.27	1
01662	Potassium	7440-09-7	3,330	113	9.43	1
01667	Sodium	7440-23-5	93.2 J	113	18.9	1
06969	Tin	7440-31-5	3.63 J	11.3	0.249	1
06970	Titanium	7440-32-6	1,530	2.26	0.384	2
06971	Vanadium	7440-62-2	62.2	1.13	0.147	1
06972	Zinc	7440-66-6	61.6	4.52	0.226	1
10146	Zirconium	7440-67-7	8.13	5.65	0.950	1
		SW-846 6020A	mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	0.155 J	0.452	0.113	2
06142	Silver	7440-22-4	0.226 U	0.226	0.0294	2
06144	Strontium	7440-24-6	44.8	0.452	0.0769	2
06145	Thallium	7440-28-0	0.368	0.226	0.0339	2
		SW-846 7471B	mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.0190 U	0.0190	0.0114	1
Wet Chemistry						
		SW-846 9045D modified	Std. Units	Std. Units	Std. Units	
00394	15a pH by 9045D The pH was measured in water at 21.2 C.	n.a.	7.87	0.0100	0.0100	1
Wet Chemistry						
		EPA 160.3 modified	%	%	%	
11625	14a Moisture Content by 160.3	n.a.	13.3	0.10	0.10	1
11626	14a Moisture Content by 160.3	n.a.	11.8	0.10	0.10	1
The duplicate moisture value is provided to assess the precision of the moisture test. For comparability purposes, the initial moisture determination is the value used to perform dry weight calculations.						

*=This limit was used in the evaluation of the final result

Sample Description: SL-538-SA8-SB-4.0-5.0DUP Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156763
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 09:20 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45
Reported: 08/28/2013 08:58

53840 SDG#: PH088-06DUP

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01643	Aluminum	SW-846 6010C	1	132230637002	08/22/2013 19:33	John P Hook	1
06944	Antimony	SW-846 6010C	1	132230637002	08/22/2013 19:33	John P Hook	1
06935	Arsenic	SW-846 6010C	1	132230637002	08/22/2013 19:33	John P Hook	1
06946	Barium	SW-846 6010C	1	132230637002	08/22/2013 19:33	John P Hook	1
06947	Beryllium	SW-846 6010C	1	132230637002	08/22/2013 19:33	John P Hook	1
07914	Boron	SW-846 6010C	1	132230637002	08/22/2013 19:33	John P Hook	1
06949	Cadmium	SW-846 6010C	1	132230637002	08/22/2013 19:33	John P Hook	1
01650	Calcium	SW-846 6010C	1	132230637002	08/22/2013 19:33	John P Hook	1
06951	Chromium	SW-846 6010C	1	132230637002	08/22/2013 19:33	John P Hook	1
06952	Cobalt	SW-846 6010C	1	132230637002	08/22/2013 19:33	John P Hook	1
06953	Copper	SW-846 6010C	1	132230637002	08/22/2013 19:33	John P Hook	1
01654	Iron	SW-846 6010C	1	132230637002	08/23/2013 00:57	John W Yanzuk II	2
06955	Lead	SW-846 6010C	1	132230637002	08/22/2013 19:33	John P Hook	1
01656	Lithium	SW-846 6010C	1	132230637002	08/22/2013 19:33	John P Hook	1
01657	Magnesium	SW-846 6010C	1	132230637002	08/22/2013 19:33	John P Hook	1
06958	Manganese	SW-846 6010C	1	132230637002	08/22/2013 19:33	John P Hook	1
06960	Molybdenum	SW-846 6010C	1	132230637002	08/22/2013 19:33	John P Hook	1
06961	Nickel	SW-846 6010C	1	132230637002	08/22/2013 19:33	John P Hook	1
10145	Phosphorus	SW-846 6010C	1	132230637002	08/22/2013 19:33	John P Hook	1
01662	Potassium	SW-846 6010C	1	132230637002	08/22/2013 19:33	John P Hook	1
01667	Sodium	SW-846 6010C	1	132230637002	08/22/2013 19:33	John P Hook	1
06969	Tin	SW-846 6010C	1	132230637002	08/22/2013 19:33	John P Hook	1
06970	Titanium	SW-846 6010C	1	132230637002	08/23/2013 00:57	John W Yanzuk II	2
06971	Vanadium	SW-846 6010C	1	132230637002	08/22/2013 19:33	John P Hook	1
06972	Zinc	SW-846 6010C	1	132230637002	08/22/2013 19:33	John P Hook	1
10146	Zirconium	SW-846 6010C	1	132230637002	08/22/2013 19:33	John P Hook	1
06141	Selenium	SW-846 6020A	1	132230637002B	08/16/2013 10:09	Choon Y Tian	2
06142	Silver	SW-846 6020A	1	132230637002A	08/16/2013 10:09	Choon Y Tian	2
06144	Strontium	SW-846 6020A	1	132230637002A	08/16/2013 10:09	Choon Y Tian	2
06145	Thallium	SW-846 6020A	1	132230637002A	08/16/2013 10:09	Choon Y Tian	2
00159	3a Mercury 7471A	SW-846 7471B	1	132310638002	08/21/2013 11:13	Damary Valentin	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132230637002	08/12/2013 23:14	Annamaria Stipkovits	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	2	132340637001	08/22/2013 23:08	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132230638002	08/13/2013 02:30	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	2	132310638002	08/21/2013 04:40	Annamaria Stipkovits	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13222039401B	08/10/2013 16:15	Clayton C Litchmore	1
11625	14a Moisture Content by 160.3	EPA 160.3 modified	1	13226162401B	08/14/2013 23:23	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-538-SA8-SB-4.0-5.0DUP Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156763
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 09:20 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45

Reported: 08/28/2013 08:58

53840 SDG#: PH088-06DUP

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11626	14a Moisture Content by 160.3	EPA 160.3 modified	1	13226162401B	08/14/2013 23:23	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-838-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156764
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 09:30 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45
Reported: 08/28/2013 08:58

83840 SDG#: PH088-07

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	1.9 U	1.9	0.77	1
12969	Acenaphthylene	208-96-8	1.9 U	1.9	0.38	1
12969	Anthracene	120-12-7	1.9 U	1.9	0.38	1
12969	Benzo(a)anthracene	56-55-3	1.9 U	1.9	0.77	1
12969	Benzo(a)pyrene	50-32-8	1.9 U	1.9	0.77	1
12969	Benzo(b)fluoranthene	205-99-2	1.9 U	1.9	0.77	1
12969	Benzo(e)pyrene	192-97-2	20 U	20	3.8	1
12969	Benzo(g,h,i)perylene	191-24-2	1.9 U	1.9	0.77	1
12969	Benzo(k)fluoranthene	207-08-9	1.9 U	1.9	0.77	1
12969	Butylbenzylphthalate	85-68-7	21 U	21	6.9	1
12969	Di-n-butylphthalate	84-74-2	21 U	21	6.9	1
12969	Chrysene	218-01-9	0.47 J	1.9	0.38	1
12969	Dibenz(a,h)anthracene	53-70-3	1.9 U	1.9	0.77	1
12969	Diethylphthalate	84-66-2	21 U	21	6.9	1
12969	Dimethylphthalate	131-11-3	21 U	21	6.9	1
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	21 U	21	6.9	1
12969	Fluoranthene	206-44-0	1.9 U	1.9	0.77	1
12969	Fluorene	86-73-7	1.9 U	1.9	0.77	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	1.9 U	1.9	0.77	1
12969	1-Methylnaphthalene	90-12-0	1.9 U	1.9	0.77	1
12969	2-Methylnaphthalene	91-57-6	1.9 U	1.9	0.77	1
12969	Naphthalene	91-20-3	1.9 U	1.9	0.77	1
12969	N-Nitrosodimethylamine	62-75-9	1.9 U	1.9	0.77	1
12969	Di-n-octylphthalate	117-84-0	21 U	21	6.9	1
12969	Phenanthrene	85-01-8	1.9 U	1.9	0.77	1
12969	Pyrene	129-00-0	1.9 U	1.9	0.77	1
GC Volatiles	TPH GRO SW-846 8015B mod	mg/kg	mg/kg	mg/kg		
05551	11a TPH by EPA 8015B GRO	n.a.	1.4 U	1.4	0.3	29.48
Pesticides/PCBs	SW-846 8082A	ug/kg	ug/kg	ug/kg		
10592	Aroclor 5432	63496-31-1	38 U	38	12	1
10592	Aroclor 5442	12642-23-8	38 U	38	12	1
10592	Aroclor 5460	11126-42-4	38 U	38	12	1
10592	PCB-1016	12674-11-2	20 U	20	3.8	1
10592	PCB-1221	11104-28-2	20 U	20	5.9	1
10592	PCB-1232	11141-16-5	20 U	20	4.7	1
10592	PCB-1242	53469-21-9	20 U	20	4.7	1
10592	PCB-1248	12672-29-6	20 U	20	3.8	1
10592	PCB-1254	11097-69-1	20 U	20	5.1	1
10592	PCB-1260	11096-82-5	20 U	20	4.5	1
10592	PCB-1262	37324-23-5	20 U	20	3.8	1
10592	PCB-1268	11100-14-4	20 U	20	3.8	1
GC Petroleum	SW-846 8015B modified	mg/kg	mg/kg	mg/kg		
Hydrocarbons						
12952	EFH (C12-C14)	n.a.	5.8 U	5.8	2.3	1
12952	EFH (C15-C20)	n.a.	5.8 U	5.8	2.3	1

*=This limit was used in the evaluation of the final result

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Sample Description: SL-838-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156764
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 09:30 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45
Reported: 08/28/2013 08:58

83840 SDG#: PH088-07

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC Petroleum Hydrocarbons		SW-846 8015B modified	mg/kg		mg/kg	mg/kg	
12952	EFH (C21-C30)	n.a.	3.3 J		5.8	2.3	1
12952	EFH (C30-C40)	n.a.	5.6 J		12	4.6	1
12952	EFH (C8-C11)	n.a.	5.8 U		5.8	2.3	1
Metals		SW-846 6010C	mg/kg		mg/kg	mg/kg	
01643	Aluminum	7429-90-5	28,300		44.8	8.07	1
06944	Antimony	7440-36-0	4.48 U		4.48	0.829	1
06935	Arsenic	7440-38-2	5.72		4.48	0.784	1
06946	Barium	7440-39-3	98.0		1.12	0.0370	1
06947	Beryllium	7440-41-7	0.888 J		1.12	0.0750	1
07914	Boron	7440-42-8	8.43 J		11.2	0.941	1
06949	Cadmium	7440-43-9	1.12 U		1.12	0.0851	1
01650	Calcium	7440-70-2	17,800		22.4	3.74	1
06951	Chromium	7440-47-3	35.9		3.36	0.179	1
06952	Cobalt	7440-48-4	9.43		1.12	0.111	1
06953	Copper	7440-50-8	16.5		2.24	0.325	1
01654	Iron	7439-89-6	32,500		89.6	8.11	2
06955	Lead	7439-92-1	10.3		3.36	0.560	1
01656	Lithium	7439-93-2	25.5		4.5	0.38	1
01657	Magnesium	7439-95-4	7,330		11.2	1.87	1
06958	Manganese	7439-96-5	457		1.12	0.0929	1
06960	Molybdenum	7439-98-7	0.247 J		2.24	0.190	1
06961	Nickel	7440-02-0	19.3		2.24	0.146	1
10145	Phosphorus	7723-14-0	371		11.2	3.24	1
01662	Potassium	7440-09-7	3,440		112	9.34	1
01667	Sodium	7440-23-5	95.5 J		112	18.7	1
06969	Tin	7440-31-5	3.66 J		11.2	0.246	1
06970	Titanium	7440-32-6	1,520		2.24	0.381	2
06971	Vanadium	7440-62-2	65.5		1.12	0.146	1
06972	Zinc	7440-66-6	63.5		4.48	0.224	1
10146	Zirconium	7440-67-7	8.38		5.60	0.941	1
		SW-846 6020A	mg/kg		mg/kg	mg/kg	
06141	Selenium	7782-49-2	0.195 J		0.448	0.112	2
06142	Silver	7440-22-4	0.0412 J		0.224	0.0291	2
06144	Strontium	7440-24-6	52.8		0.448	0.0761	2
06145	Thallium	7440-28-0	0.431		0.224	0.0336	2
		SW-846 7471B	mg/kg		mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.0182 U		0.0182	0.0109	1
Wet Chemistry		SW-846 9045D modified	Std. Units		Std. Units	Std. Units	
00394	15a pH by 9045D The pH was measured in water at 21.1 C.	n.a.	7.95		0.0100	0.0100	1
Wet Chemistry		EPA 160.3 modified	%		%	%	
11624	14a Moisture Content by 160.3	n.a.	13.3		0.10	0.10	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-838-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156764
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 09:30 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45

Reported: 08/28/2013 08:58

83840 SDG#: PH088-07

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Wet Chemistry	EPA 160.3 modified		%	%	%	
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

*=This limit was used in the evaluation of the final result

Sample Description: SL-838-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156764
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 09:30 by SM

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Submitted: 08/10/2013 09:45
Reported: 08/28/2013 08:58

83840 SDG#: PH088-07

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
Dioxins/Furans			EPA 1613B		ng/kg	
11031	2378-TCDD	1746-01-6	0.106 JQ	1.14	0.0556	1
11031	12378-PeCDD	40321-76-4	0.196 JBQ	5.72	0.0722	1
11031	123478-HxCDD	39227-28-6	0.243 JBQ	5.72	0.0539	1
11031	123678-HxCDD	57653-85-7	1.07 JB	5.72	0.0618	1
11031	123789-HxCDD	19408-74-3	0.526 JB	5.72	0.0618	1
11031	1234678-HpCDD	35822-46-9	18.2 B	5.72	0.0869	1
11031	OCDD	3268-87-9	166 B	11.4	0.0542	1
11031	2378-TCDF	51207-31-9	0.104 JQ	1.14	0.0717	1
11031	12378-PeCDF	57117-41-6	0.250 JBQ	5.72	0.0412	1
11031	23478-PeCDF	57117-31-4	0.106 JBQ	5.72	0.0345	1
11031	123478-HxCDF	70648-26-9	0.178 JBQ	5.72	0.0382	1
11031	123678-HxCDF	57117-44-9	0.198 JBQ	5.72	0.0415	1
11031	123789-HxCDF	72918-21-9	0.120 JB	5.72	0.0495	1
11031	234678-HxCDF	60851-34-5	0.217 JBQ	5.72	0.0374	1
11031	1234678-HpCDF	67562-39-4	1.43 JB	5.72	0.0298	1
11031	1234789-HpCDF	55673-89-7	0.139 JB	5.72	0.0448	1
11031	OCDF	39001-02-0	1.45 JBQ	11.4	0.0453	1

Toxic Equivalents			EPA 1613B	ng/kg	ng/kg	ng/kg
11031	TEQ WHO 2005 - EDLx0.0	n.a.	0.419			1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	72	25 - 164
13C12-12378-PeCDD	87	25 - 181
13C12-123478-HxCDD	74	32 - 141
13C12-123678-HxCDD	83	28 - 130
13C12-123789-HxCDD	80	28 - 130
13C12-1234678-HpCDD	89	23 - 140
13C12-OCDD	88	17 - 157
13C12-2378-TCDF	74	24 - 169
13C12-12378-PeCDF	94	24 - 185
13C12-23478-PeCDF	98	21 - 178
13C12-123478-HxCDF	77	26 - 152
13C12-123678-HxCDF	83	26 - 123
13C12-234678-HxCDF	82	28 - 136
13C12-123789-HxCDF	83	29 - 147
13C12-1234678-HpCDF	95	28 - 143
13C12-1234789-HpCDF	87	26 - 138
13C12-OCDF	81	17 - 157

Dioxins/Furans Data Qualifiers:

- B Detected in Method Blank
- U Undetected
- J Estimated concentration between Estimated Detection Limit and Minimum Level
- E Exceeds calibration range
- C Confirmed quantitation on secondary GC column
- Q EMPC - Estimated Maximum Possible Concentration

*=This limit was used in the evaluation of the final result

Sample Description: SL-838-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156764
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 09:30 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
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Submitted: 08/10/2013 09:45

Reported: 08/28/2013 08:58

83840 SDG#: PH088-07

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
F	Interference is present					
S	Saturation of detection signal					

*=This limit was used in the evaluation of the final result

Sample Description: SL-838-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156764
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 09:30 by SM

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83840 SDG#: PH088-07

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13226SLB026	08/16/2013 15:06	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	13226SLB026	08/14/2013 18:30	Nicholas W Shroyer	1
05551	11a TPH by EPA 8015B GRO	TPH GRO SW-846 8015B mod	1	13226A16A	08/14/2013 18:41	Laura M Krieger	29.48
06130	GC - 5 g HL Encore Prep	SW-846 5035A	1	201322232014	08/10/2013 12:46	Mitchell R Washel	n.a.
06130	GC - 5 g HL Encore Prep	SW-846 5035A	2	201322232014	08/10/2013 12:46	Mitchell R Washel	n.a.
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132270007A	08/16/2013 18:40	Monica M Souders	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132270007A	08/15/2013 16:20	JoElla L Rice	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132280016A	08/21/2013 04:27	Heather E Williams	1
12959	EFH soil ext.(microwave)	SW-846 3546	1	132280016A	08/17/2013 12:15	Sally L Appleyard	1
11031	23a Dioxin/Furan by EPA 1613B	EPA 1613B	1	13232002	08/22/2013 12:53	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	13232002	08/20/2013 15:00	Brett M Weidman	1
01643	Aluminum	SW-846 6010C	1	132230637002	08/22/2013 19:48	John P Hook	1
06944	Antimony	SW-846 6010C	1	132230637002	08/22/2013 19:48	John P Hook	1
06935	Arsenic	SW-846 6010C	1	132230637002	08/22/2013 19:48	John P Hook	1
06946	Barium	SW-846 6010C	1	132230637002	08/22/2013 19:48	John P Hook	1
06947	Beryllium	SW-846 6010C	1	132230637002	08/22/2013 19:48	John P Hook	1
07914	Boron	SW-846 6010C	1	132230637002	08/22/2013 19:48	John P Hook	1
06949	Cadmium	SW-846 6010C	1	132230637002	08/22/2013 19:48	John P Hook	1
01650	Calcium	SW-846 6010C	1	132230637002	08/22/2013 19:48	John P Hook	1
06951	Chromium	SW-846 6010C	1	132230637002	08/22/2013 19:48	John P Hook	1
06952	Cobalt	SW-846 6010C	1	132230637002	08/22/2013 19:48	John P Hook	1
06953	Copper	SW-846 6010C	1	132230637002	08/22/2013 19:48	John P Hook	1
01654	Iron	SW-846 6010C	1	132230637002	08/23/2013 01:13	John W Yanzuk II	2
06955	Lead	SW-846 6010C	1	132230637002	08/22/2013 19:48	John P Hook	1
01656	Lithium	SW-846 6010C	1	132230637002	08/22/2013 19:48	John P Hook	1
01657	Magnesium	SW-846 6010C	1	132230637002	08/22/2013 19:48	John P Hook	1
06958	Manganese	SW-846 6010C	1	132230637002	08/22/2013 19:48	John P Hook	1
06960	Molybdenum	SW-846 6010C	1	132230637002	08/22/2013 19:48	John P Hook	1
06961	Nickel	SW-846 6010C	1	132230637002	08/22/2013 19:48	John P Hook	1
10145	Phosphorus	SW-846 6010C	1	132230637002	08/22/2013 19:48	John P Hook	1
01662	Potassium	SW-846 6010C	1	132230637002	08/22/2013 19:48	John P Hook	1
01667	Sodium	SW-846 6010C	1	132230637002	08/22/2013 19:48	John P Hook	1
06969	Tin	SW-846 6010C	1	132230637002	08/22/2013 19:48	John P Hook	1
06970	Titanium	SW-846 6010C	1	132230637002	08/23/2013 01:13	John W Yanzuk II	2
06971	Vanadium	SW-846 6010C	1	132230637002	08/22/2013 19:48	John P Hook	1
06972	Zinc	SW-846 6010C	1	132230637002	08/22/2013 19:48	John P Hook	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-838-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156764
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

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3201 Jermantown Road
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Fairfax VA 22030

Submitted: 08/10/2013 09:45

Reported: 08/28/2013 08:58

83840 SDG#: PH088-07

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
10146	Zirconium	SW-846 6010C	1	132230637002	08/22/2013	19:48	John P Hook	1
06141	Selenium	SW-846 6020A	1	132230637002B	08/16/2013	10:19	Choon Y Tian	2
06142	Silver	SW-846 6020A	1	132230637002A	08/16/2013	10:19	Choon Y Tian	2
06144	Strontium	SW-846 6020A	1	132230637002A	08/16/2013	10:19	Choon Y Tian	2
06145	Thallium	SW-846 6020A	1	132230637002A	08/16/2013	10:19	Choon Y Tian	2
00159	3a Mercury 7471A	SW-846 7471B	1	132310638002	08/21/2013	11:19	Damary Valentin	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132230637002	08/12/2013	23:14	Annamaria Stipkovits	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	2	132340637001	08/22/2013	23:08	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132230638002	08/13/2013	02:30	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	2	132310638002	08/21/2013	04:40	Annamaria Stipkovits	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13222039401B	08/10/2013	16:15	Clayton C Litchmore	1
11624	14a Moisture Content by 160.3	EPA 160.3 modified	1	13226162401B	08/14/2013	23:23	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-541-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156765
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 13:35 by SM

CDM Federal Programs Corp.

3201 Jermantown Road

Submitted: 08/10/2013 09:45

Suite 400

Reported: 08/28/2013 08:58

Fairfax VA 22030

54100 SDG#: PH088-08

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	1.8 U	1.8	0.70	1
12969	Acenaphthylene	208-96-8	1.8 U	1.8	0.35	1
12969	Anthracene	120-12-7	1.8 U	1.8	0.35	1
12969	Benzo(a)anthracene	56-55-3	2.1	1.8	0.70	1
12969	Benzo(a)pyrene	50-32-8	1.8	1.8	0.70	1
12969	Benzo(b)fluoranthene	205-99-2	4.2	1.8	0.70	1
12969	Benzo(e)pyrene	192-97-2	18 U	18	3.5	1
12969	Benzo(g,h,i)perylene	191-24-2	0.94 J	1.8	0.70	1
12969	Benzo(k)fluoranthene	207-08-9	1.4 J	1.8	0.70	1
12969	Butylbenzylphthalate	85-68-7	19 U	19	6.3	1
12969	Di-n-butylphthalate	84-74-2	19 U	19	6.3	1
12969	Chrysene	218-01-9	3.4	1.8	0.35	1
12969	Dibenz(a,h)anthracene	53-70-3	1.8 U	1.8	0.70	1
12969	Diethylphthalate	84-66-2	19 U	19	6.3	1
12969	Dimethylphthalate	131-11-3	19 U	19	6.3	1
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	19 U	19	6.3	1
12969	Fluoranthene	206-44-0	3.8	1.8	0.70	1
12969	Fluorene	86-73-7	1.8 U	1.8	0.70	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	0.97 J	1.8	0.70	1
12969	1-Methylnaphthalene	90-12-0	1.8 U	1.8	0.70	1
12969	2-Methylnaphthalene	91-57-6	1.8 U	1.8	0.70	1
12969	Naphthalene	91-20-3	1.8 U	1.8	0.70	1
12969	N-Nitrosodimethylamine	62-75-9	1.8 U	1.8	0.70	1
12969	Di-n-octylphthalate	117-84-0	19 U	19	6.3	1
12969	Phenanthrene	85-01-8	1.8	1.8	0.70	1
12969	Pyrene	129-00-0	3.4	1.8	0.70	1
Pesticides/PCBs	SW-846 8082A		ug/kg	ug/kg	ug/kg	
10592	Aroclor 5432	63496-31-1	35 U	35	11	1
10592	Aroclor 5442	12642-23-8	35 U	35	11	1
10592	Aroclor 5460	11126-42-4	25 J	35	11	1
10592	PCB-1016	12674-11-2	18 U	18	3.5	1
10592	PCB-1221	11104-28-2	18 U	18	5.4	1
10592	PCB-1232	11141-16-5	18 U	18	4.3	1
10592	PCB-1242	53469-21-9	18 U	18	4.3	1
10592	PCB-1248	12672-29-6	18 U	18	3.5	1
10592	PCB-1254	11097-69-1	18 U	18	4.7	1
10592	PCB-1260	11096-82-5	18 U	18	4.1	1
10592	PCB-1262	37324-23-5	18 U	18	3.5	1
10592	PCB-1268	11100-14-4	18 U	18	3.5	1
GC Petroleum	SW-846 8015B modified		mg/kg	mg/kg	mg/kg	
Hydrocarbons						
12952	EFH (C12-C14)	n.a.	5.3 U	5.3	2.1	1
12952	EFH (C15-C20)	n.a.	4.5 J	5.3	2.1	1
12952	EFH (C21-C30)	n.a.	34	5.3	2.1	1
12952	EFH (C30-C40)	n.a.	74	11	4.2	1
12952	EFH (C8-C11)	n.a.	5.3 U	5.3	2.1	1
Metals	SW-846 6010C		mg/kg	mg/kg	mg/kg	

*=This limit was used in the evaluation of the final result

Sample Description: SL-541-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156765
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 13:35 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
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Fairfax VA 22030

Submitted: 08/10/2013 09:45
Reported: 08/28/2013 08:58

54100 SDG#: PH088-08

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals						
		SW-846 6010C	mg/kg	mg/kg	mg/kg	
01643	Aluminum	7429-90-5	29,300	41.5	7.47	1
06944	Antimony	7440-36-0	4.15 U	4.15	0.767	1
06935	Arsenic	7440-38-2	4.47	4.15	0.725	1
06946	Barium	7440-39-3	104	1.04	0.0342	1
06947	Beryllium	7440-41-7	0.822 J	1.04	0.0694	1
07914	Boron	7440-42-8	14.1	10.4	0.871	1
06949	Cadmium	7440-43-9	0.103 J	1.04	0.0788	1
01650	Calcium	7440-70-2	50,500	20.7	3.46	1
06951	Chromium	7440-47-3	36.4	3.11	0.166	1
06952	Cobalt	7440-48-4	9.19	1.04	0.103	1
06953	Copper	7440-50-8	20.1	2.07	0.301	1
01654	Iron	7439-89-6	30,500	82.9	7.50	2
06955	Lead	7439-92-1	15.8	3.11	0.518	1
01656	Lithium	7439-93-2	25.6	4.1	0.35	1
01657	Magnesium	7439-95-4	8,490	10.4	1.73	1
06958	Manganese	7439-96-5	416	1.04	0.0860	1
06960	Molybdenum	7439-98-7	0.200 J	2.07	0.176	1
06961	Nickel	7440-02-0	18.5	2.07	0.135	1
10145	Phosphorus	7723-14-0	740	10.4	3.00	1
01662	Potassium	7440-09-7	6,700	104	8.64	1
01667	Sodium	7440-23-5	116	104	17.3	1
06969	Tin	7440-31-5	3.64 J	10.4	0.228	1
06970	Titanium	7440-32-6	1,430	2.07	0.352	2
06971	Vanadium	7440-62-2	67.6	1.04	0.135	1
06972	Zinc	7440-66-6	78.5	4.15	0.207	1
10146	Zirconium	7440-67-7	4.89 J	5.18	0.871	1
		SW-846 6020A	mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	0.478	0.415	0.104	2
06142	Silver	7440-22-4	0.0560 J	0.207	0.0269	2
06144	Strontium	7440-24-6	92.9	1.04	0.176	5
06145	Thallium	7440-28-0	0.490	0.207	0.0311	2
		SW-846 7471B	mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.0108 J	0.0167	0.0100	1
Wet Chemistry						
		SW-846 9045D modified	Std. Units	Std. Units	Std. Units	
00394	15a pH by 9045D The pH was measured in water at 21.1 C.	n.a.	7.89	0.0100	0.0100	1
Wet Chemistry						
		EPA 160.3 modified	%	%	%	
11624	14a Moisture Content by 160.3 Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.	n.a.	5.4	0.10	0.10	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-541-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156765
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 13:35 by SM

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Submitted: 08/10/2013 09:45
Reported: 08/28/2013 08:58

54100 SDG#: PH088-08

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
Dioxins/Furans			ng/kg	ng/kg	ng/kg	
EPA 1613B						
11031	2378-TCDD	1746-01-6	1.05 U	1.05	0.0596	1
11031	12378-PeCDD	40321-76-4	0.203 JB	5.24	0.135	1
11031	123478-HxCDD	39227-28-6	0.0999 JBQ	5.24	0.0499	1
11031	123678-HxCDD	57653-85-7	0.220 JB	5.24	0.0562	1
11031	123789-HxCDD	19408-74-3	0.147 JBQ	5.24	0.0584	1
11031	1234678-HpCDD	35822-46-9	3.06 JB	5.24	0.0872	1
11031	OCDD	3268-87-9	28.8 B	10.5	0.0389	1
11031	2378-TCDF	51207-31-9	0.603 J	1.05	0.149	1
11031	12378-PeCDF	57117-41-6	11.7 B	5.24	0.0924	1
11031	23478-PeCDF	57117-31-4	0.307 JBQ	5.24	0.0812	1
11031	123478-HxCDF	70648-26-9	0.212 JBQ	5.24	0.0485	1
11031	123678-HxCDF	57117-44-9	0.664 JB	5.24	0.0480	1
11031	123789-HxCDF	72918-21-9	5.24 U	5.24	0.0683	1
11031	234678-HxCDF	60851-34-5	0.400 JB	5.24	0.0460	1
11031	1234678-HpCDF	67562-39-4	0.796 JB	5.24	0.0288	1
11031	1234789-HpCDF	55673-89-7	0.0930 JB	5.24	0.0434	1
11031	OCDF	39001-02-0	1.23 JB	10.5	0.0478	1

Toxic Equivalents		EPA 1613B	ng/kg	ng/kg	ng/kg	
11031	TEQ WHO 2005 - EDLx0.0	n.a.	0.793			1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	67	25 - 164
13C12-12378-PeCDD	80	25 - 181
13C12-123478-HxCDD	77	32 - 141
13C12-123678-HxCDD	83	28 - 130
13C12-123789-HxCDD	81	28 - 130
13C12-1234678-HpCDD	80	23 - 140
13C12-OCDD	88	17 - 157
13C12-2378-TCDF	74	24 - 169
13C12-12378-PeCDF	89	24 - 185
13C12-23478-PeCDF	90	21 - 178
13C12-123478-HxCDF	76	26 - 152
13C12-123678-HxCDF	84	26 - 123
13C12-234678-HxCDF	83	28 - 136
13C12-123789-HxCDF	76	29 - 147
13C12-1234678-HpCDF	90	28 - 143
13C12-1234789-HpCDF	78	26 - 138
13C12-OCDF	79	17 - 157

Dioxins/Furans Data Qualifiers:

- B Detected in Method Blank
- U Undetected
- J Estimated concentration between Estimated Detection Limit and Minimum Level
- E Exceeds calibration range
- C Confirmed quantitation on secondary GC column
- Q EMPC - Estimated Maximum Possible Concentration

*=This limit was used in the evaluation of the final result

Sample Description: SL-541-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156765
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 13:35 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45

Reported: 08/28/2013 08:58

54100 SDG#: PH088-08

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
F	Interference is present					
S	Saturation of detection signal					

*=This limit was used in the evaluation of the final result

Sample Description: SL-541-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156765
LL Group # 1410581
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Project Name: SSFL Phase 3 Sampling

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54100 SDG#: PH088-08

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13226SLB026	08/16/2013 15:41	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	13226SLB026	08/14/2013 18:30	Nicholas W Shroyer	1
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132270007A	08/16/2013 18:59	Monica M Souders	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132270007A	08/15/2013 16:20	JoElla L Rice	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132280016A	08/21/2013 04:48	Heather E Williams	1
12959	EFH soil ext. (microwave)	SW-846 3546	1	132280016A	08/17/2013 12:15	Sally L Appleyard	1
11031	23a Dioxin/Furan by EPA 1613B	EPA 1613B	1	13232002	08/22/2013 13:49	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	13232002	08/20/2013 15:00	Brett M Weidman	1
01643	Aluminum	SW-846 6010C	1	132230637002	08/22/2013 19:52	John P Hook	1
06944	Antimony	SW-846 6010C	1	132230637002	08/22/2013 19:52	John P Hook	1
06935	Arsenic	SW-846 6010C	1	132230637002	08/22/2013 19:52	John P Hook	1
06946	Barium	SW-846 6010C	1	132230637002	08/22/2013 19:52	John P Hook	1
06947	Beryllium	SW-846 6010C	1	132230637002	08/22/2013 19:52	John P Hook	1
07914	Boron	SW-846 6010C	1	132230637002	08/22/2013 19:52	John P Hook	1
06949	Cadmium	SW-846 6010C	1	132230637002	08/22/2013 19:52	John P Hook	1
01650	Calcium	SW-846 6010C	1	132230637002	08/22/2013 19:52	John P Hook	1
06951	Chromium	SW-846 6010C	1	132230637002	08/22/2013 19:52	John P Hook	1
06952	Cobalt	SW-846 6010C	1	132230637002	08/22/2013 19:52	John P Hook	1
06953	Copper	SW-846 6010C	1	132230637002	08/22/2013 19:52	John P Hook	1
01654	Iron	SW-846 6010C	1	132230637002	08/23/2013 01:16	John W Yanzuk II	2
06955	Lead	SW-846 6010C	1	132230637002	08/22/2013 19:52	John P Hook	1
01656	Lithium	SW-846 6010C	1	132230637002	08/22/2013 19:52	John P Hook	1
01657	Magnesium	SW-846 6010C	1	132230637002	08/22/2013 19:52	John P Hook	1
06958	Manganese	SW-846 6010C	1	132230637002	08/22/2013 19:52	John P Hook	1
06960	Molybdenum	SW-846 6010C	1	132230637002	08/22/2013 19:52	John P Hook	1
06961	Nickel	SW-846 6010C	1	132230637002	08/22/2013 19:52	John P Hook	1
10145	Phosphorus	SW-846 6010C	1	132230637002	08/22/2013 19:52	John P Hook	1
01662	Potassium	SW-846 6010C	1	132230637002	08/22/2013 19:52	John P Hook	1
01667	Sodium	SW-846 6010C	1	132230637002	08/22/2013 19:52	John P Hook	1
06969	Tin	SW-846 6010C	1	132230637002	08/22/2013 19:52	John P Hook	1
06970	Titanium	SW-846 6010C	1	132230637002	08/23/2013 01:16	John W Yanzuk II	2
06971	Vanadium	SW-846 6010C	1	132230637002	08/22/2013 19:52	John P Hook	1
06972	Zinc	SW-846 6010C	1	132230637002	08/22/2013 19:52	John P Hook	1
10146	Zirconium	SW-846 6010C	1	132230637002	08/22/2013 19:52	John P Hook	1
06141	Selenium	SW-846 6020A	1	132230637002B	08/16/2013 10:21	Choon Y Tian	2
06142	Silver	SW-846 6020A	1	132230637002A	08/16/2013 10:21	Choon Y Tian	2
06144	Strontium	SW-846 6020A	1	132230637002A	08/19/2013 12:35	Choon Y Tian	5

*=This limit was used in the evaluation of the final result

Sample Description: SL-541-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156765
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 13:35 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45

Reported: 08/28/2013 08:58

54100 SDG#: PH088-08

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
06145	Thallium	SW-846 6020A	1	132230637002A	08/16/2013	10:21	Choon Y Tian	2
00159	3a Mercury 7471A	SW-846 7471B	1	132310638002	08/21/2013	11:21	Damary Valentin	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132230637002	08/12/2013	23:14	Annamaria Stipkovits	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	2	132340637001	08/22/2013	23:08	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132230638002	08/13/2013	02:30	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	2	132310638002	08/21/2013	04:40	Annamaria Stipkovits	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13222039401B	08/10/2013	16:15	Clayton C Litchmore	1
11624	14a Moisture Content by 160.3	EPA 160.3 modified	1	13226162401B	08/14/2013	23:23	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-541-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156766
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 13:55 by SM

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3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45
Reported: 08/28/2013 08:58

54140 SDG#: PH088-09

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	1.9 U	1.9	0.74	1
12969	Acenaphthylene	208-96-8	1.9 U	1.9	0.37	1
12969	Anthracene	120-12-7	1.9 U	1.9	0.37	1
12969	Benzo(a)anthracene	56-55-3	1.9 U	1.9	0.74	1
12969	Benzo(a)pyrene	50-32-8	1.9 U	1.9	0.74	1
12969	Benzo(b)fluoranthene	205-99-2	0.95 J	1.9	0.74	1
12969	Benzo(e)pyrene	192-97-2	19 U	19	3.7	1
12969	Benzo(g,h,i)perylene	191-24-2	1.9 U	1.9	0.74	1
12969	Benzo(k)fluoranthene	207-08-9	1.9 U	1.9	0.74	1
12969	Butylbenzylphthalate	85-68-7	20 U	20	6.7	1
12969	Di-n-butylphthalate	84-74-2	20 U	20	6.7	1
12969	Chrysene	218-01-9	0.48 J	1.9	0.37	1
12969	Dibenz(a,h)anthracene	53-70-3	1.9 U	1.9	0.74	1
12969	Diethylphthalate	84-66-2	20 U	20	6.7	1
12969	Dimethylphthalate	131-11-3	20 U	20	6.7	1
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	20 U	20	6.7	1
12969	Fluoranthene	206-44-0	1.9 U	1.9	0.74	1
12969	Fluorene	86-73-7	1.9 U	1.9	0.74	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	1.9 U	1.9	0.74	1
12969	1-Methylnaphthalene	90-12-0	1.9 U	1.9	0.74	1
12969	2-Methylnaphthalene	91-57-6	1.9 U	1.9	0.74	1
12969	Naphthalene	91-20-3	1.9 U	1.9	0.74	1
12969	N-Nitrosodimethylamine	62-75-9	1.9 U	1.9	0.74	1
12969	Di-n-octylphthalate	117-84-0	20 U	20	6.7	1
12969	Phenanthrene	85-01-8	1.9 U	1.9	0.74	1
12969	Pyrene	129-00-0	1.9 U	1.9	0.74	1
GC Volatiles	TPH GRO SW-846 8015B mod	mg/kg	mg/kg	mg/kg		
05551	11a TPH by EPA 8015B GRO	n.a.	1.2 U	1.2	0.2	27.35
Pesticides/PCBs	SW-846 8082A	ug/kg	ug/kg	ug/kg		
10592	Aroclor 5432	63496-31-1	37 U	37	11	1
10592	Aroclor 5442	12642-23-8	37 U	37	11	1
10592	Aroclor 5460	11126-42-4	37 U	37	11	1
10592	PCB-1016	12674-11-2	19 U	19	3.7	1
10592	PCB-1221	11104-28-2	19 U	19	5.7	1
10592	PCB-1232	11141-16-5	19 U	19	4.6	1
10592	PCB-1242	53469-21-9	19 U	19	4.6	1
10592	PCB-1248	12672-29-6	19 U	19	3.7	1
10592	PCB-1254	11097-69-1	8.5 J	19	4.9	1
10592	PCB-1260	11096-82-5	19 U	19	4.3	1
10592	PCB-1262	37324-23-5	19 U	19	3.7	1
10592	PCB-1268	11100-14-4	19 U	19	3.7	1
GC Petroleum	SW-846 8015B modified	mg/kg	mg/kg	mg/kg		
Hydrocarbons						
12952	EFH (C12-C14)	n.a.	5.6 U	5.6	2.2	1
12952	EFH (C15-C20)	n.a.	2.7 J	5.6	2.2	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-541-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156766
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 13:55 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45
Reported: 08/28/2013 08:58

54140 SDG#: PH088-09

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC Petroleum Hydrocarbons						
	SW-846 8015B modified		mg/kg	mg/kg	mg/kg	
12952	EFH (C21-C30)	n.a.	5.8	5.6	2.2	1
12952	EFH (C30-C40)	n.a.	13	11	4.5	1
12952	EFH (C8-C11)	n.a.	5.6 U	5.6	2.2	1
Metals						
	SW-846 6010C		mg/kg	mg/kg	mg/kg	
01643	Aluminum	7429-90-5	32,600	43.3	7.80	1
06944	Antimony	7440-36-0	4.33 U	4.33	0.801	1
06935	Arsenic	7440-38-2	3.34 J	4.33	0.758	1
06946	Barium	7440-39-3	117	1.08	0.0357	1
06947	Beryllium	7440-41-7	0.917 J	1.08	0.0725	1
07914	Boron	7440-42-8	13.6	10.8	0.909	1
06949	Cadmium	7440-43-9	0.108 J	1.08	0.0823	1
01650	Calcium	7440-70-2	35,400	21.6	3.62	1
06951	Chromium	7440-47-3	39.5	3.25	0.173	1
06952	Cobalt	7440-48-4	9.88	1.08	0.107	1
06953	Copper	7440-50-8	20.6	2.16	0.314	1
01654	Iron	7439-89-6	36,500	86.6	7.84	2
06955	Lead	7439-92-1	10.9	3.25	0.541	1
01656	Lithium	7439-93-2	28.0	4.3	0.37	1
01657	Magnesium	7439-95-4	8,990	10.8	1.81	1
06958	Manganese	7439-96-5	474	1.08	0.0898	1
06960	Molybdenum	7439-98-7	0.225 J	2.16	0.184	1
06961	Nickel	7440-02-0	21.0	2.16	0.141	1
10145	Phosphorus	7723-14-0	787	10.8	3.13	1
01662	Potassium	7440-09-7	7,080	108	9.03	1
01667	Sodium	7440-23-5	146	108	18.1	1
06969	Tin	7440-31-5	3.59 J	10.8	0.238	1
06970	Titanium	7440-32-6	1,640	2.16	0.368	2
06971	Vanadium	7440-62-2	73.6	1.08	0.141	1
06972	Zinc	7440-66-6	82.8	4.33	0.216	1
10146	Zirconium	7440-67-7	4.73 J	5.41	0.909	1
SW-846 6020A						
			mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	0.316 J	0.433	0.108	2
06142	Silver	7440-22-4	0.0413 J	0.216	0.0281	2
06144	Strontium	7440-24-6	74.0	0.433	0.0736	2
06145	Thallium	7440-28-0	0.397	0.216	0.0325	2
SW-846 7471B						
			mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.0179 U	0.0179	0.0107	1
Wet Chemistry						
	SW-846 9045D modified		Std. Units	Std. Units	Std. Units	
00394	15a pH by 9045D The pH was measured in water at 21.2 C.	n.a.	7.95	0.0100	0.0100	1
Wet Chemistry						
	EPA 160.3 modified		%	%	%	
11624	14a Moisture Content by 160.3	n.a.	10.3	0.10	0.10	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-541-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156766
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 13:55 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45

Reported: 08/28/2013 08:58

54140 SDG#: PH088-09

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Wet Chemistry	EPA 160.3 modified		%	%	%	
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

*=This limit was used in the evaluation of the final result

Sample Description: SL-541-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

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LL Group # 1410581
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Submitted: 08/10/2013 09:45
Reported: 08/28/2013 08:58

54140 SDG#: PH088-09

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
Dioxins/Furans			ng/kg	ng/kg	ng/kg	
EPA 1613B						
11031	2378-TCDD	1746-01-6	1.08 U	1.08	0.0734	1
11031	12378-PeCDD	40321-76-4	5.40 U	5.40	0.0883	1
11031	123478-HxCDD	39227-28-6	0.0483 JBQ	5.40	0.0342	1
11031	123678-HxCDD	57653-85-7	5.40 U	5.40	0.0362	1
11031	123789-HxCDD	19408-74-3	0.0490 JBQ	5.40	0.0365	1
11031	1234678-HpCDD	35822-46-9	0.310 JBQ	5.40	0.0387	1
11031	OCDD	3268-87-9	1.81 JB	10.8	0.0326	1
11031	2378-TCDF	51207-31-9	1.08 U	1.08	0.0760	1
11031	12378-PeCDF	57117-41-6	5.40 U	5.40	0.0399	1
11031	23478-PeCDF	57117-31-4	0.0867 JBQ	5.40	0.0381	1
11031	123478-HxCDF	70648-26-9	0.0442 JBQ	5.40	0.0223	1
11031	123678-HxCDF	57117-44-9	0.0731 JBQ	5.40	0.0226	1
11031	123789-HxCDF	72918-21-9	0.0319 JBQ	5.40	0.0305	1
11031	234678-HxCDF	60851-34-5	5.40 U	5.40	0.0207	1
11031	1234678-HpCDF	67562-39-4	0.0588 JB	5.40	0.0163	1
11031	1234789-HpCDF	55673-89-7	0.0418 JBQ	5.40	0.0254	1
11031	OCDF	39001-02-0	0.0876 JBQ	10.8	0.0438	1

Toxic Equivalents		EPA 1613B	ng/kg	ng/kg	ng/kg	
11031	TEQ WHO 2005 - EDLx0.0	n.a.	0.00111			1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	64	25 - 164
13C12-12378-PeCDD	87	25 - 181
13C12-123478-HxCDD	73	32 - 141
13C12-123678-HxCDD	81	28 - 130
13C12-123789-HxCDD	82	28 - 130
13C12-1234678-HpCDD	91	23 - 140
13C12-OCDD	91	17 - 157
13C12-2378-TCDF	73	24 - 169
13C12-12378-PeCDF	97	24 - 185
13C12-23478-PeCDF	97	21 - 178
13C12-123478-HxCDF	74	26 - 152
13C12-123678-HxCDF	82	26 - 123
13C12-234678-HxCDF	82	28 - 136
13C12-123789-HxCDF	78	29 - 147
13C12-1234678-HpCDF	100	28 - 143
13C12-1234789-HpCDF	83	26 - 138
13C12-OCDF	78	17 - 157

Dioxins/Furans Data Qualifiers:

- B Detected in Method Blank
- U Undetected
- J Estimated concentration between Estimated Detection Limit and Minimum Level
- E Exceeds calibration range
- C Confirmed quantitation on secondary GC column
- Q EMPC - Estimated Maximum Possible Concentration

*=This limit was used in the evaluation of the final result

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Sample Description: SL-541-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156766
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 13:55 by SM

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54140 SDG#: PH088-09

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
F	Interference is present					
S	Saturation of detection signal					

*=This limit was used in the evaluation of the final result

Sample Description: SL-541-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156766
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

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54140 SDG#: PH088-09

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13226SLB026	08/16/2013 16:17	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	13226SLB026	08/14/2013 18:30	Nicholas W Shroyer	1
05551	11a TPH by EPA 8015B GRO	TPH GRO SW-846 8015B mod	1	13224A16A	08/13/2013 05:39	Laura M Krieger	27.35
06130	GC - 5 g HL Encore Prep	SW-846 5035A	1	201322232014	08/10/2013 13:08	Mitchell R Washel	n.a.
06130	GC - 5 g HL Encore Prep	SW-846 5035A	2	201322232014	08/10/2013 13:08	Mitchell R Washel	n.a.
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132270007A	08/16/2013 19:35	Monica M Souders	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132270007A	08/15/2013 16:20	JoElla L Rice	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132280016A	08/21/2013 05:09	Heather E Williams	1
12959	EFH soil ext.(microwave)	SW-846 3546	1	132280016A	08/17/2013 12:15	Sally L Appleyard	1
11031	23a Dioxin/Furan by EPA 1613B	EPA 1613B	1	13232002	08/22/2013 14:46	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	13232002	08/20/2013 15:00	Brett M Weidman	1
01643	Aluminum	SW-846 6010C	1	132230637002	08/22/2013 20:03	John P Hook	1
06944	Antimony	SW-846 6010C	1	132230637002	08/22/2013 20:03	John P Hook	1
06935	Arsenic	SW-846 6010C	1	132230637002	08/22/2013 20:03	John P Hook	1
06946	Barium	SW-846 6010C	1	132230637002	08/22/2013 20:03	John P Hook	1
06947	Beryllium	SW-846 6010C	1	132230637002	08/22/2013 20:03	John P Hook	1
07914	Boron	SW-846 6010C	1	132230637002	08/22/2013 20:03	John P Hook	1
06949	Cadmium	SW-846 6010C	1	132230637002	08/22/2013 20:03	John P Hook	1
01650	Calcium	SW-846 6010C	1	132230637002	08/22/2013 20:03	John P Hook	1
06951	Chromium	SW-846 6010C	1	132230637002	08/22/2013 20:03	John P Hook	1
06952	Cobalt	SW-846 6010C	1	132230637002	08/22/2013 20:03	John P Hook	1
06953	Copper	SW-846 6010C	1	132230637002	08/22/2013 20:03	John P Hook	1
01654	Iron	SW-846 6010C	1	132230637002	08/23/2013 01:20	John W Yanzuk II	2
06955	Lead	SW-846 6010C	1	132230637002	08/22/2013 20:03	John P Hook	1
01656	Lithium	SW-846 6010C	1	132230637002	08/22/2013 20:03	John P Hook	1
01657	Magnesium	SW-846 6010C	1	132230637002	08/22/2013 20:03	John P Hook	1
06958	Manganese	SW-846 6010C	1	132230637002	08/22/2013 20:03	John P Hook	1
06960	Molybdenum	SW-846 6010C	1	132230637002	08/22/2013 20:03	John P Hook	1
06961	Nickel	SW-846 6010C	1	132230637002	08/22/2013 20:03	John P Hook	1
10145	Phosphorus	SW-846 6010C	1	132230637002	08/22/2013 20:03	John P Hook	1
01662	Potassium	SW-846 6010C	1	132230637002	08/22/2013 20:03	John P Hook	1
01667	Sodium	SW-846 6010C	1	132230637002	08/22/2013 20:03	John P Hook	1
06969	Tin	SW-846 6010C	1	132230637002	08/22/2013 20:03	John P Hook	1
06970	Titanium	SW-846 6010C	1	132230637002	08/23/2013 01:20	John W Yanzuk II	2
06971	Vanadium	SW-846 6010C	1	132230637002	08/22/2013 20:03	John P Hook	1
06972	Zinc	SW-846 6010C	1	132230637002	08/22/2013 20:03	John P Hook	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-541-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156766
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 13:55 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45

Reported: 08/28/2013 08:58

54140 SDG#: PH088-09

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
10146	Zirconium	SW-846 6010C	1	132230637002	08/22/2013	20:03	John P Hook	1
06141	Selenium	SW-846 6020A	1	132230637002B	08/16/2013	10:28	Choon Y Tian	2
06142	Silver	SW-846 6020A	1	132230637002A	08/16/2013	10:28	Choon Y Tian	2
06144	Strontium	SW-846 6020A	1	132230637002A	08/16/2013	10:28	Choon Y Tian	2
06145	Thallium	SW-846 6020A	1	132230637002A	08/16/2013	10:28	Choon Y Tian	2
00159	3a Mercury 7471A	SW-846 7471B	1	132310638002	08/21/2013	11:23	Damary Valentin	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132230637002	08/12/2013	23:14	Annamaria Stipkovits	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	2	132340637001	08/22/2013	23:08	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132230638002	08/13/2013	02:30	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	2	132310638002	08/21/2013	04:40	Annamaria Stipkovits	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13222039401B	08/10/2013	16:15	Clayton C Litchmore	1
11624	14a Moisture Content by 160.3	EPA 160.3 modified	1	13226162401B	08/14/2013	23:23	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-607-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156767
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 12:15 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45
Reported: 08/28/2013 08:58

60700 SDG#: PH088-10

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	1.7 U	1.7	0.70	1
12969	Acenaphthylene	208-96-8	1.7 U	1.7	0.35	1
12969	Anthracene	120-12-7	1.7 U	1.7	0.35	1
12969	Benzo(a)anthracene	56-55-3	1.1 J	1.7	0.70	1
12969	Benzo(a)pyrene	50-32-8	0.83 J	1.7	0.70	1
12969	Benzo(b)fluoranthene	205-99-2	2.8	1.7	0.70	1
12969	Benzo(e)pyrene	192-97-2	18 U	18	3.5	1
12969	Benzo(g,h,i)perylene	191-24-2	0.84 J	1.7	0.70	1
12969	Benzo(k)fluoranthene	207-08-9	0.71 J	1.7	0.70	1
12969	Butylbenzylphthalate	85-68-7	29	19	6.3	1
12969	Di-n-butylphthalate	84-74-2	19 U	19	6.3	1
12969	Chrysene	218-01-9	3.4	1.7	0.35	1
12969	Dibenz(a,h)anthracene	53-70-3	1.7 U	1.7	0.70	1
12969	Diethylphthalate	84-66-2	19 U	19	6.3	1
12969	Dimethylphthalate	131-11-3	19 U	19	6.3	1
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	16 J	19	6.3	1
12969	Fluoranthene	206-44-0	1.8	1.7	0.70	1
12969	Fluorene	86-73-7	1.7 U	1.7	0.70	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	0.97 J	1.7	0.70	1
12969	1-Methylnaphthalene	90-12-0	1.7 U	1.7	0.70	1
12969	2-Methylnaphthalene	91-57-6	0.88 J	1.7	0.70	1
12969	Naphthalene	91-20-3	1.1 J	1.7	0.70	1
12969	N-Nitrosodimethylamine	62-75-9	1.7 U	1.7	0.70	1
12969	Di-n-octylphthalate	117-84-0	19 U	19	6.3	1
12969	Phenanthrene	85-01-8	1.5 J	1.7	0.70	1
12969	Pyrene	129-00-0	1.8	1.7	0.70	1
Herbicides	SW-846 8151A		ug/kg	ug/kg	ug/kg	
10401	2,4-D	94-75-7	19 J	37	12	1
10401	Dalapon	75-99-0	93 U	93	46	1
10401	2,4-DB	94-82-6	32	18	6.4	1
10401	Dicamba	1918-00-9	12 U	12	4.1	1
10401	Dinoseb	88-85-7	25 U	25	9.3	1
The QC window for dinoseb is advisory due to the erratic performance of the analyte using this method.						
10401	2,4-DP (Dichlorprop)	120-36-5	18 U	18	9.3	1
10401	MCPA	94-74-6	2,600 U	2,600	790	1
10401	MCPP (Mecoprop)	93-65-2	2,600 U	2,600	780	1
10401	2,4,5-T	93-76-5	1.8 U	1.8	0.85	1
10401	2,4,5-TP	93-72-1	1.8 U	1.8	0.78	1
Pesticides/PCBs	SW-846 8081B		ug/kg	ug/kg	ug/kg	
10590	Aldrin	309-00-2	0.87 U	0.87	0.18	1
10590	Alpha BHC	319-84-6	0.87 U	0.87	0.18	1
10590	Beta BHC	319-85-7	2.0 U	2.0	1.0	1
10590	Gamma BHC - Lindane	58-89-9	0.87 U	0.87	0.18	1
10590	Chlordane	57-74-9	18 U	18	4.2	1
10590	p,p-DDD	72-54-8	1.8 U	1.8	0.35	1
10590	p,p-DDE	72-55-9	11	1.8	0.35	1
10590	p,p-DDT	50-29-3	9.8	1.8	0.37	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-607-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156767
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 12:15 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45
Reported: 08/28/2013 08:58

60700 SDG#: PH088-10

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs		SW-846 8081B	ug/kg		ug/kg	ug/kg	
10590	Delta BHC	319-86-8	0.87 U		0.87	0.47	1
10590	Dieldrin	60-57-1	0.61 J		1.8	0.35	1
10590	Endosulfan I	959-98-8	0.87 U		0.87	0.23	1
10590	Endosulfan II	33213-65-9	1.8 U		1.8	0.35	1
10590	Endosulfan Sulfate	1031-07-8	1.8 U		1.8	0.35	1
10590	Endrin	72-20-8	1.8 U		1.8	0.35	1
10590	Endrin Aldehyde	7421-93-4	0.54 J		1.8	0.35	1
10590	Endrin Ketone	53494-70-5	1.9 U		1.9	0.63	1
10590	Heptachlor	76-44-8	0.87 U		0.87	0.18	1
10590	Heptachlor Epoxide	1024-57-3	0.23 J		0.87	0.18	1
10590	Methoxychlor	72-43-5	7.0 U		7.0	1.8	1
10590	Mirex	2385-85-5	1.8 U		1.8	0.37	1
10590	Toxaphene	8001-35-2	35 U		35	15	1

For all QC parameters which are outside project defined limits, but within the laboratory statistical limits, no corrective action is taken.

Pesticides/PCBs		SW-846 8082A	ug/kg		ug/kg	ug/kg	
10592	Aroclor 5432	63496-31-1	35 U		35	10	1
10592	Aroclor 5442	12642-23-8	35 U		35	10	1
10592	Aroclor 5460	11126-42-4	35 U		35	10	1
10592	PCB-1016	12674-11-2	18 U		18	3.5	1
10592	PCB-1221	11104-28-2	18 U		18	5.3	1
10592	PCB-1232	11141-16-5	18 U		18	4.3	1
10592	PCB-1242	53469-21-9	18 U		18	4.3	1
10592	PCB-1248	12672-29-6	18 U		18	3.5	1
10592	PCB-1254	11097-69-1	18 U		18	4.6	1
10592	PCB-1260	11096-82-5	18 U		18	4.1	1
10592	PCB-1262	37324-23-5	18 U		18	3.5	1
10592	PCB-1268	11100-14-4	18 U		18	3.5	1

GC Petroleum Hydrocarbons		SW-846 8015B modified	mg/kg		mg/kg	mg/kg	
12952	EFH (C12-C14)	n.a.	5.2 U		5.2	2.1	1
12952	EFH (C15-C20)	n.a.	3.3 J		5.2	2.1	1
12952	EFH (C21-C30)	n.a.	26		5.2	2.1	1
12952	EFH (C30-C40)	n.a.	56		10	4.2	1
12952	EFH (C8-C11)	n.a.	5.2 U		5.2	2.1	1

Metals		SW-846 6010C	mg/kg		mg/kg	mg/kg	
01643	Aluminum	7429-90-5	25,500		41.0	7.39	1
06944	Antimony	7440-36-0	0.791 J		4.10	0.759	1
06935	Arsenic	7440-38-2	5.19		4.10	0.718	1
06946	Barium	7440-39-3	96.1		1.03	0.0338	1
06947	Beryllium	7440-41-7	0.805 J		1.03	0.0687	1
07914	Boron	7440-42-8	13.5		10.3	0.861	1
06949	Cadmium	7440-43-9	0.182 J		1.03	0.0779	1
01650	Calcium	7440-70-2	47,500		20.5	3.43	1
06951	Chromium	7440-47-3	34.0		3.08	0.164	1
06952	Cobalt	7440-48-4	8.79		1.03	0.102	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-607-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156767
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 12:15 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45
Reported: 08/28/2013 08:58

60700 SDG#: PH088-10

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals						
		SW-846 6010C	mg/kg	mg/kg	mg/kg	
06953	Copper	7440-50-8	20.2	2.05	0.297	1
01654	Iron	7439-89-6	33,500	82.0	7.42	2
06955	Lead	7439-92-1	27.4	3.08	0.513	1
01656	Lithium	7439-93-2	21.6	4.1	0.35	1
01657	Magnesium	7439-95-4	7,850	10.3	1.71	1
06958	Manganese	7439-96-5	413	1.03	0.0851	1
06960	Molybdenum	7439-98-7	0.353 J	2.05	0.174	1
06961	Nickel	7440-02-0	17.9	2.05	0.133	1
10145	Phosphorus	7723-14-0	728	10.3	2.96	1
01662	Potassium	7440-09-7	6,440	103	8.55	1
01667	Sodium	7440-23-5	107	103	17.1	1
06969	Tin	7440-31-5	3.36 J	10.3	0.226	1
06970	Titanium	7440-32-6	1,290	2.05	0.349	2
06971	Vanadium	7440-62-2	62.0	1.03	0.133	1
06972	Zinc	7440-66-6	82.4	4.10	0.205	1
10146	Zirconium	7440-67-7	5.58	5.13	0.861	1
		SW-846 6020A	mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	0.401 J	0.410	0.103	2
06142	Silver	7440-22-4	0.0541 J	0.205	0.0267	2
06144	Strontium	7440-24-6	79.5	1.03	0.174	5
06145	Thallium	7440-28-0	0.419	0.205	0.0308	2
		SW-846 7471B	mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.0213	0.0166	0.010	1
Wet Chemistry						
		SW-846 9045D modified	Std. Units	Std. Units	Std. Units	
00394	15a pH by 9045D The pH was measured in water at 21.1 C.	n.a.	7.77	0.0100	0.0100	1
Wet Chemistry						
		EPA 160.3 modified	%	%	%	
11624	14a Moisture Content by 160.3 Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.	n.a.	4.4	0.10	0.10	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-607-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156767
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 12:15 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45
Reported: 08/28/2013 08:58

60700 SDG#: PH088-10

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
Dioxins/Furans			ng/kg	ng/kg	ng/kg	
EPA 1613B						
11031	2378-TCDD	1746-01-6	1.02 U	1.02	0.0760	1
11031	12378-PeCDD	40321-76-4	0.187 JBQ	5.12	0.0935	1
11031	123478-HxCDD	39227-28-6	0.201 JBQ	5.12	0.0726	1
11031	123678-HxCDD	57653-85-7	0.269 JBQ	5.12	0.0822	1
11031	123789-HxCDD	19408-74-3	0.413 JB	5.12	0.0865	1
11031	1234678-HpCDD	35822-46-9	8.77 B	5.12	0.0944	1
11031	OCDD	3268-87-9	55.8 B	10.2	0.0527	1
11650	2378-TCDF-Conf	51207-31-9	1.48 C	1.02	0.0884	1
11031	12378-PeCDF	57117-41-6	0.487 JBQ	5.12	0.0880	1
11031	23478-PeCDF	57117-31-4	0.194 JBQ	5.12	0.0801	1
11031	123478-HxCDF	70648-26-9	0.288 JB	5.12	0.0432	1
11031	123678-HxCDF	57117-44-9	0.328 JBQ	5.12	0.0459	1
11031	123789-HxCDF	72918-21-9	5.12 U	5.12	0.0630	1
11031	234678-HxCDF	60851-34-5	0.336 JB	5.12	0.0408	1
11031	1234678-HpCDF	67562-39-4	1.01 JBQ	5.12	0.0385	1
11031	1234789-HpCDF	55673-89-7	0.0890 JBQ	5.12	0.0495	1
11031	OCDF	39001-02-0	1.67 JB	10.2	0.0423	1
Toxic Equivalents			ng/kg	ng/kg	ng/kg	
EPA 1613B						
11031	TEQ WHO 2005 - EDLx0.0	n.a.	0.357			1

Dioxins/Furans Data Qualifiers:

- B* Detected in Method Blank
- U* Undetected
- J* Estimated concentration between Estimated Detection Limit and Minimum Level
- E* Exceeds calibration range
- C* Confirmed quantitation on secondary GC column
- Q* EMPC - Estimated Maximum Possible Concentration
- F* Interference is present
- S* Saturation of detection signal

*=This limit was used in the evaluation of the final result

Sample Description: SL-607-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156767
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 12:15 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45
Reported: 08/28/2013 08:58

60700 SDG#: PH088-10

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13226SLB026	08/16/2013 16:52	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	13226SLB026	08/14/2013 18:30	Nicholas W Shroyer	1
10401	21a Herbicides by EPA 8151A	SW-846 8151A	1	132250009A	08/16/2013 18:58	Melissa McDermott	1
10590	20a Pesticides by EPA 8081B	SW-846 8081B	1	132240016A	08/20/2013 00:00	Jamie L Brillhart	1
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132270007A	08/16/2013 19:54	Monica M Souders	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132270007A	08/15/2013 16:20	JoElla L Rice	1
10496	PPL Pest. Microwave Extraction	SW-846 3546	1	132240016A	08/13/2013 16:25	JoElla L Rice	1
04181	Herbicide Soil Extraction	SW-846 3550B/SW-846 8151A	1	132250009A	08/14/2013 05:30	Roman Kuropatkin	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132280016A	08/21/2013 08:17	Heather E Williams	1
12959	EFH soil ext. (microwave)	SW-846 3546	1	132280016A	08/17/2013 12:15	Sally L Appleyard	1
11031	23a Dioxin/Furan by EPA 1613B	EPA 1613B	1	13232002	08/22/2013 15:43	Joseph D Anderson	1
11650	Dioxins/Furans in Solids- Conf	EPA 1613B	1	13232002	08/26/2013 21:55	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	13232002	08/20/2013 15:00	Brett M Weidman	1
01643	Aluminum	SW-846 6010C	1	132230637002	08/22/2013 20:07	John P Hook	1
06944	Antimony	SW-846 6010C	1	132230637002	08/22/2013 20:07	John P Hook	1
06935	Arsenic	SW-846 6010C	1	132230637002	08/22/2013 20:07	John P Hook	1
06946	Barium	SW-846 6010C	1	132230637002	08/22/2013 20:07	John P Hook	1
06947	Beryllium	SW-846 6010C	1	132230637002	08/22/2013 20:07	John P Hook	1
07914	Boron	SW-846 6010C	1	132230637002	08/22/2013 20:07	John P Hook	1
06949	Cadmium	SW-846 6010C	1	132230637002	08/22/2013 20:07	John P Hook	1
01650	Calcium	SW-846 6010C	1	132230637002	08/22/2013 20:07	John P Hook	1
06951	Chromium	SW-846 6010C	1	132230637002	08/22/2013 20:07	John P Hook	1
06952	Cobalt	SW-846 6010C	1	132230637002	08/22/2013 20:07	John P Hook	1
06953	Copper	SW-846 6010C	1	132230637002	08/22/2013 20:07	John P Hook	1
01654	Iron	SW-846 6010C	1	132230637002	08/23/2013 01:24	John W Yanzuk II	2
06955	Lead	SW-846 6010C	1	132230637002	08/22/2013 20:07	John P Hook	1
01656	Lithium	SW-846 6010C	1	132230637002	08/22/2013 20:07	John P Hook	1
01657	Magnesium	SW-846 6010C	1	132230637002	08/22/2013 20:07	John P Hook	1
06958	Manganese	SW-846 6010C	1	132230637002	08/22/2013 20:07	John P Hook	1
06960	Molybdenum	SW-846 6010C	1	132230637002	08/22/2013 20:07	John P Hook	1
06961	Nickel	SW-846 6010C	1	132230637002	08/22/2013 20:07	John P Hook	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-607-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156767
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 12:15 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45
Reported: 08/28/2013 08:58

60700 SDG#: PH088-10

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
10145	Phosphorus	SW-846 6010C	1	132230637002	08/22/2013	20:07	John P Hook	1
01662	Potassium	SW-846 6010C	1	132230637002	08/22/2013	20:07	John P Hook	1
01667	Sodium	SW-846 6010C	1	132230637002	08/22/2013	20:07	John P Hook	1
06969	Tin	SW-846 6010C	1	132230637002	08/22/2013	20:07	John P Hook	1
06970	Titanium	SW-846 6010C	1	132230637002	08/23/2013	01:24	John W Yanzuk II	2
06971	Vanadium	SW-846 6010C	1	132230637002	08/22/2013	20:07	John P Hook	1
06972	Zinc	SW-846 6010C	1	132230637002	08/22/2013	20:07	John P Hook	1
10146	Zirconium	SW-846 6010C	1	132230637002	08/22/2013	20:07	John P Hook	1
06141	Selenium	SW-846 6020A	1	132230637002B	08/16/2013	10:30	Choon Y Tian	2
06142	Silver	SW-846 6020A	1	132230637002A	08/16/2013	10:30	Choon Y Tian	2
06144	Strontium	SW-846 6020A	1	132230637002A	08/19/2013	12:37	Choon Y Tian	5
06145	Thallium	SW-846 6020A	1	132230637002A	08/16/2013	10:30	Choon Y Tian	2
00159	3a Mercury 7471A	SW-846 7471B	1	132310638002	08/21/2013	11:29	Damary Valentin	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132230637002	08/12/2013	23:14	Annamaria Stipkovits	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	2	132340637001	08/22/2013	23:08	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132230638002	08/13/2013	02:30	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	2	132310638002	08/21/2013	04:40	Annamaria Stipkovits	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13222039401B	08/10/2013	16:15	Clayton C Litchmore	1
11624	14a Moisture Content by 160.3	EPA 160.3 modified	1	13226162401B	08/14/2013	23:23	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-607-SA8-SB-5.0-6.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156768
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 13:00 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45
Reported: 08/28/2013 08:58

60750 SDG#: PH088-11*

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	1.8 U	1.8	0.73	1
12969	Acenaphthylene	208-96-8	1.8 U	1.8	0.36	1
12969	Anthracene	120-12-7	1.8 U	1.8	0.36	1
12969	Benzo(a)anthracene	56-55-3	1.8 U	1.8	0.73	1
12969	Benzo(a)pyrene	50-32-8	1.8 U	1.8	0.73	1
12969	Benzo(b)fluoranthene	205-99-2	1.8 U	1.8	0.73	1
12969	Benzo(e)pyrene	192-97-2	19 U	19	3.6	1
12969	Benzo(g,h,i)perylene	191-24-2	1.8 U	1.8	0.73	1
12969	Benzo(k)fluoranthene	207-08-9	1.8 U	1.8	0.73	1
12969	Butylbenzylphthalate	85-68-7	20 U	20	6.6	1
12969	Di-n-butylphthalate	84-74-2	20 U	20	6.6	1
12969	Chrysene	218-01-9	1.8 U	1.8	0.36	1
12969	Dibenz(a,h)anthracene	53-70-3	1.8 U	1.8	0.73	1
12969	Diethylphthalate	84-66-2	20 U	20	6.6	1
12969	Dimethylphthalate	131-11-3	20 U	20	6.6	1
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	20 U	20	6.6	1
12969	Fluoranthene	206-44-0	1.8 U	1.8	0.73	1
12969	Fluorene	86-73-7	1.8 U	1.8	0.73	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	1.8 U	1.8	0.73	1
12969	1-Methylnaphthalene	90-12-0	1.8 U	1.8	0.73	1
12969	2-Methylnaphthalene	91-57-6	1.8 U	1.8	0.73	1
12969	Naphthalene	91-20-3	1.8 U	1.8	0.73	1
12969	N-Nitrosodimethylamine	62-75-9	1.8 U	1.8	0.73	1
12969	Di-n-octylphthalate	117-84-0	20 U	20	6.6	1
12969	Phenanthrene	85-01-8	1.8 U	1.8	0.73	1
12969	Pyrene	129-00-0	1.8 U	1.8	0.73	1
GC Volatiles	TPH GRO SW-846 8015B mod	mg/kg	mg/kg	mg/kg		
05551	11a TPH by EPA 8015B GRO	n.a.	1.4 U	1.4	0.3	32.22
Herbicides	SW-846 8151A	ug/kg	ug/kg	ug/kg		
10401	2,4-D	94-75-7	39 U	39	13	1
10401	Dalapon	75-99-0	97 U	97	47	1
10401	2,4-DB	94-82-6	27 U	18	6.7	1
10401	Dicamba	1918-00-9	13 U	13	4.3	1
10401	Dinoseb	88-85-7	26 U	26	9.7	1
The QC window for dinoseb is advisory due to the erratic performance of the analyte using this method.						
10401	2,4-DP (Dichlorprop)	120-36-5	18 U	18	9.7	1
10401	MCPA	94-74-6	2,700 U	2,700	820	1
10401	MCPP (Mecoprop)	93-65-2	2,700 U	2,700	810	1
10401	2,4,5-T	93-76-5	1.8 U	1.8	0.88	1
10401	2,4,5-TP	93-72-1	1.8 U	1.8	0.81	1
Pesticides/PCBs	SW-846 8081B	ug/kg	ug/kg	ug/kg		
10590	Aldrin	309-00-2	0.91 U	0.91	0.19	1
10590	Alpha BHC	319-84-6	0.91 U	0.91	0.19	1
10590	Beta BHC	319-85-7	2.1 U	2.1	1.0	1
10590	Gamma BHC - Lindane	58-89-9	0.91 U	0.91	0.19	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-607-SA8-SB-5.0-6.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156768
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 13:00 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45
Reported: 08/28/2013 08:58

60750 SDG#: PH088-11*

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs SW-846 8081B							
10590	Chlordane	57-74-9	19	U	19	4.4	1
10590	p,p-DDD	72-54-8	1.9	U	1.9	0.36	1
10590	p,p-DDE	72-55-9	1.9	U	1.9	0.36	1
10590	p,p-DDT	50-29-3	1.9	U	1.9	0.38	1
10590	Delta BHC	319-86-8	0.91	U	0.91	0.49	1
10590	Dieldrin	60-57-1	1.9	U	1.9	0.36	1
10590	Endosulfan I	959-98-8	0.91	U	0.91	0.24	1
10590	Endosulfan II	33213-65-9	1.9	U	1.9	0.36	1
10590	Endosulfan Sulfate	1031-07-8	1.9	U	1.9	0.36	1
10590	Endrin	72-20-8	1.9	U	1.9	0.36	1
10590	Endrin Aldehyde	7421-93-4	1.9	U	1.9	0.36	1
10590	Endrin Ketone	53494-70-5	2.0	U	2.0	0.66	1
10590	Heptachlor	76-44-8	0.91	U	0.91	0.19	1
10590	Heptachlor Epoxide	1024-57-3	0.91	U	0.91	0.19	1
10590	Methoxychlor	72-43-5	7.3	U	7.3	1.9	1
10590	Mirex	2385-85-5	1.9	U	1.9	0.38	1
10590	Toxaphene	8001-35-2	36	U	36	15	1
Pesticides/PCBs SW-846 8082A							
10592	Aroclor 5432	63496-31-1	36	U	36	11	1
10592	Aroclor 5442	12642-23-8	36	U	36	11	1
10592	Aroclor 5460	11126-42-4	36	U	36	11	1
10592	PCB-1016	12674-11-2	19	U	19	3.6	1
10592	PCB-1221	11104-28-2	19	U	19	5.6	1
10592	PCB-1232	11141-16-5	19	U	19	4.5	1
10592	PCB-1242	53469-21-9	19	U	19	4.5	1
10592	PCB-1248	12672-29-6	19	U	19	3.6	1
10592	PCB-1254	11097-69-1	19	U	19	4.8	1
10592	PCB-1260	11096-82-5	19	U	19	4.3	1
10592	PCB-1262	37324-23-5	19	U	19	3.6	1
10592	PCB-1268	11100-14-4	19	U	19	3.6	1
GC Petroleum SW-846 8015B modified							
Hydrocarbons							
12952	EFH (C12-C14)	n.a.	5.5	U	5.5	2.2	1
12952	EFH (C15-C20)	n.a.	5.5	U	5.5	2.2	1
12952	EFH (C21-C30)	n.a.	5.4	J	5.5	2.2	1
12952	EFH (C30-C40)	n.a.	12		11	4.4	1
12952	EFH (C8-C11)	n.a.	5.5	U	5.5	2.2	1
Metals SW-846 6010C							
01643	Aluminum	7429-90-5	20,800		42.9	7.73	1
06944	Antimony	7440-36-0	4.29	U	4.29	0.793	1
06935	Arsenic	7440-38-2	6.16		4.29	0.750	1
06946	Barium	7440-39-3	85.7		1.07	0.0354	1
06947	Beryllium	7440-41-7	0.448	J	1.07	0.0718	1
07914	Boron	7440-42-8	8.28	J	10.7	0.900	1
06949	Cadmium	7440-43-9	0.303	J	1.07	0.0814	1
01650	Calcium	7440-70-2	206,000		214	35.8	10
06951	Chromium	7440-47-3	23.7		3.21	0.171	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-607-SA8-SB-5.0-6.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156768
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 13:00 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45
Reported: 08/28/2013 08:58

60750 SDG#: PH088-11*

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals						
		SW-846 6010C	mg/kg	mg/kg	mg/kg	
06952	Cobalt	7440-48-4	5.86	1.07	0.106	1
06953	Copper	7440-50-8	7.59	2.14	0.311	1
01654	Iron	7439-89-6	19,000	42.9	3.88	1
06955	Lead	7439-92-1	7.40	3.21	0.536	1
01656	Lithium	7439-93-2	25.1	4.3	0.36	1
01657	Magnesium	7439-95-4	5,980	10.7	1.79	1
06958	Manganese	7439-96-5	427	1.07	0.0889	1
06960	Molybdenum	7439-98-7	2.14	U 2.14	0.182	1
06961	Nickel	7440-02-0	12.9	2.14	0.139	1
10145	Phosphorus	7723-14-0	391	10.7	3.10	1
01662	Potassium	7440-09-7	2,010	107	8.94	1
01667	Sodium	7440-23-5	103	J 107	17.9	1
06969	Tin	7440-31-5	2.93	J 10.7	0.236	1
06970	Titanium	7440-32-6	794	1.07	0.182	1
06971	Vanadium	7440-62-2	44.7	1.07	0.139	1
06972	Zinc	7440-66-6	44.7	4.29	0.214	1
10146	Zirconium	7440-67-7	3.56	J 5.36	0.900	1
		SW-846 6020A	mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	0.411	J 0.429	0.107	2
06142	Silver	7440-22-4	0.0639	J 0.214	0.0279	2
06144	Strontium	7440-24-6	154	1.07	0.182	5
06145	Thallium	7440-28-0	0.311	0.214	0.0321	2
		SW-846 7471B	mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.0144	J 0.0177	0.0106	1
Wet Chemistry						
		SW-846 9045D modified	Std. Units	Std. Units	Std. Units	
00394	15a pH by 9045D The pH was measured in water at 21.1 C.	n.a.	7.89	0.0100	0.0100	1
Wet Chemistry						
		EPA 160.3 modified	%	%	%	
11624	14a Moisture Content by 160.3 Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.	n.a.	8.5	0.10	0.10	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-607-SA8-SB-5.0-6.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156768
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 13:00 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45
Reported: 08/28/2013 08:58

60750 SDG#: PH088-11*

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
Dioxins/Furans			ng/kg	ng/kg	ng/kg	
EPA 1613B						
11031	2378-TCDD	1746-01-6	1.08 U	1.08	0.0727	1
11031	12378-PeCDD	40321-76-4	0.114 JBQ	5.42	0.0744	1
11031	123478-HxCDD	39227-28-6	0.0729 JBQ	5.42	0.0294	1
11031	123678-HxCDD	57653-85-7	0.0949 JBQ	5.42	0.0330	1
11031	123789-HxCDD	19408-74-3	0.0774 JB	5.42	0.0381	1
11031	1234678-HpCDD	35822-46-9	0.0945 JBQ	5.42	0.0432	1
11031	OCDD	3268-87-9	0.627 JB	10.8	0.0372	1
11031	2378-TCDF	51207-31-9	0.0941 JQ	1.08	0.0608	1
11031	12378-PeCDF	57117-41-6	0.127 JBQ	5.42	0.0381	1
11031	23478-PeCDF	57117-31-4	0.158 JBQ	5.42	0.0348	1
11031	123478-HxCDF	70648-26-9	0.157 JBQ	5.42	0.0199	1
11031	123678-HxCDF	57117-44-9	0.131 JBQ	5.42	0.0199	1
11031	123789-HxCDF	72918-21-9	0.0820 JBQ	5.42	0.0277	1
11031	234678-HxCDF	60851-34-5	0.0691 JBQ	5.42	0.0148	1
11031	1234678-HpCDF	67562-39-4	0.0638 JBQ	5.42	0.0169	1
11031	1234789-HpCDF	55673-89-7	5.42 U	5.42	0.0271	1
11031	OCDF	39001-02-0	0.139 JBQ	10.8	0.0450	1

Toxic Equivalents		EPA 1613B	ng/kg	ng/kg	ng/kg	
11031	TEQ WHO 2005 - EDLx0.0	n.a.	0.00798			1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	67	25 - 164
13C12-12378-PeCDD	95	25 - 181
13C12-123478-HxCDD	93	32 - 141
13C12-123678-HxCDD	96	28 - 130
13C12-123789-HxCDD	91	28 - 130
13C12-1234678-HpCDD	102	23 - 140
13C12-OCDD	102	17 - 157
13C12-2378-TCDF	75	24 - 169
13C12-12378-PeCDF	105	24 - 185
13C12-23478-PeCDF	105	21 - 178
13C12-123478-HxCDF	85	26 - 152
13C12-123678-HxCDF	95	26 - 123
13C12-234678-HxCDF	96	28 - 136
13C12-123789-HxCDF	89	29 - 147
13C12-1234678-HpCDF	114	28 - 143
13C12-1234789-HpCDF	94	26 - 138
13C12-OCDF	89	17 - 157

Dioxins/Furans Data Qualifiers:

- B Detected in Method Blank
- U Undetected
- J Estimated concentration between Estimated Detection Limit and Minimum Level
- E Exceeds calibration range
- C Confirmed quantitation on secondary GC column
- Q EMPC - Estimated Maximum Possible Concentration

*=This limit was used in the evaluation of the final result

Sample Description: SL-607-SA8-SB-5.0-6.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156768
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 13:00 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45
Reported: 08/28/2013 08:58

60750 SDG#: PH088-11*

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
F	Interference is present					
S	Saturation of detection signal					

*=This limit was used in the evaluation of the final result

Sample Description: SL-607-SA8-SB-5.0-6.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156768
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 13:00 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45
Reported: 08/28/2013 08:58

60750 SDG#: PH088-11*

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13226SLB026	08/16/2013 17:28	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	13226SLB026	08/14/2013 18:30	Nicholas W Shroyer	1
05551	11a TPH by EPA 8015B GRO	TPH GRO SW-846 8015B mod	1	13224A16A	08/13/2013 06:18	Laura M Krieger	32.22
06130	GC - 5 g HL Encore Prep	SW-846 5035A	1	201322232014	08/10/2013 13:09	Mitchell R Washel	n.a.
06130	GC - 5 g HL Encore Prep	SW-846 5035A	2	201322232014	08/10/2013 13:09	Mitchell R Washel	n.a.
10401	21a Herbicides by EPA 8151A	SW-846 8151A	1	132250009A	08/16/2013 19:25	Melissa McDermott	1
10590	20a Pesticides by EPA 8081B	SW-846 8081B	1	132240016A	08/20/2013 00:31	Jamie L Brillhart	1
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132270007A	08/16/2013 20:12	Monica M Souders	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132270007A	08/15/2013 16:20	JoElla L Rice	1
10496	PPL Pest. Microwave Extraction	SW-846 3546	1	132240016A	08/13/2013 16:25	JoElla L Rice	1
04181	Herbicide Soil Extraction	SW-846 3550B/SW-846 8151A	1	132250009A	08/14/2013 05:30	Roman Kuropatkin	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132280016A	08/21/2013 05:30	Heather E Williams	1
12959	EFH soil ext. (microwave)	SW-846 3546	1	132280016A	08/17/2013 12:15	Sally L Appleyard	1
11031	23a Dioxin/Furan by EPA 1613B	EPA 1613B	1	13232002	08/22/2013 16:40	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	13232002	08/20/2013 15:00	Brett M Weidman	1
01643	Aluminum	SW-846 6010C	1	132230637002	08/22/2013 20:11	John P Hook	1
06944	Antimony	SW-846 6010C	1	132230637002	08/22/2013 20:11	John P Hook	1
06935	Arsenic	SW-846 6010C	1	132230637002	08/22/2013 20:11	John P Hook	1
06946	Barium	SW-846 6010C	1	132230637002	08/22/2013 20:11	John P Hook	1
06947	Beryllium	SW-846 6010C	1	132230637002	08/22/2013 20:11	John P Hook	1
07914	Boron	SW-846 6010C	1	132230637002	08/22/2013 20:11	John P Hook	1
06949	Cadmium	SW-846 6010C	1	132230637002	08/22/2013 20:11	John P Hook	1
01650	Calcium	SW-846 6010C	1	132230637002	08/23/2013 01:35	John W Yanzuk II	10
06951	Chromium	SW-846 6010C	1	132230637002	08/22/2013 20:11	John P Hook	1
06952	Cobalt	SW-846 6010C	1	132230637002	08/22/2013 20:11	John P Hook	1
06953	Copper	SW-846 6010C	1	132230637002	08/22/2013 20:11	John P Hook	1
01654	Iron	SW-846 6010C	1	132230637002	08/22/2013 20:11	John P Hook	1
06955	Lead	SW-846 6010C	1	132230637002	08/22/2013 20:11	John P Hook	1
01656	Lithium	SW-846 6010C	1	132230637002	08/22/2013 20:11	John P Hook	1
01657	Magnesium	SW-846 6010C	1	132230637002	08/22/2013 20:11	John P Hook	1
06958	Manganese	SW-846 6010C	1	132230637002	08/22/2013 20:11	John P Hook	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-607-SA8-SB-5.0-6.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7156768
LL Group # 1410581
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/09/2013 13:00 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/10/2013 09:45
Reported: 08/28/2013 08:58

60750 SDG#: PH088-11*

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
06960	Molybdenum	SW-846 6010C	1	132230637002	08/22/2013	20:11	John P Hook	1
06961	Nickel	SW-846 6010C	1	132230637002	08/22/2013	20:11	John P Hook	1
10145	Phosphorus	SW-846 6010C	1	132230637002	08/22/2013	20:11	John P Hook	1
01662	Potassium	SW-846 6010C	1	132230637002	08/22/2013	20:11	John P Hook	1
01667	Sodium	SW-846 6010C	1	132230637002	08/22/2013	20:11	John P Hook	1
06969	Tin	SW-846 6010C	1	132230637002	08/22/2013	20:11	John P Hook	1
06970	Titanium	SW-846 6010C	1	132230637002	08/22/2013	20:11	John P Hook	1
06971	Vanadium	SW-846 6010C	1	132230637002	08/22/2013	20:11	John P Hook	1
06972	Zinc	SW-846 6010C	1	132230637002	08/22/2013	20:11	John P Hook	1
10146	Zirconium	SW-846 6010C	1	132230637002	08/22/2013	20:11	John P Hook	1
06141	Selenium	SW-846 6020A	1	132230637002B	08/16/2013	10:33	Choon Y Tian	2
06142	Silver	SW-846 6020A	1	132230637002A	08/16/2013	10:33	Choon Y Tian	2
06144	Strontium	SW-846 6020A	1	132230637002A	08/19/2013	12:39	Choon Y Tian	5
06145	Thallium	SW-846 6020A	1	132230637002A	08/16/2013	10:33	Choon Y Tian	2
00159	3a Mercury 7471A	SW-846 7471B	1	132310638002	08/21/2013	11:31	Damary Valentin	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132230637002	08/12/2013	23:14	Annamaria Stipkovits	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	2	132340637001	08/22/2013	23:08	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132230638002	08/13/2013	02:30	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	2	132310638002	08/21/2013	04:40	Annamaria Stipkovits	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13222039401B	08/10/2013	16:15	Clayton C Litchmore	1
11624	14a Moisture Content by 160.3	EPA 160.3 modified	1	13226162401B	08/14/2013	23:23	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/28/13 at 08:58 AM

Group Number: 1410581

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ**</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 13226SLB026	Sample number(s): 7156758-7156762, 7156764-7156768								
Acenaphthene	1.7	U	1.7	0.67	ug/kg	100	77-116		
Acenaphthylene	1.7	U	1.7	0.33	ug/kg	106	78-120		
Anthracene	1.7	U	1.7	0.33	ug/kg	104	80-116		
Benzo(a)anthracene	1.7	U	1.7	0.67	ug/kg	102	83-119		
Benzo(a)pyrene	1.7	U	1.7	0.67	ug/kg	106	80-122		
Benzo(b)fluoranthene	1.7	U	1.7	0.67	ug/kg	111	82-135		
Benzo(e)pyrene	17	U	17.	3.3	ug/kg	95	81-110		
Benzo(g,h,i)perylene	1.7	U	1.7	0.67	ug/kg	104	79-121		
Benzo(k)fluoranthene	1.7	U	1.7	0.67	ug/kg	108	79-123		
Butylbenzylphthalate	18	U	18.	6.0	ug/kg	115	77-123		
Di-n-butylphthalate	18	U	18.	6.0	ug/kg	115	78-125		
Chrysene	1.7	U	1.7	0.33	ug/kg	103	84-113		
Dibenz(a,h)anthracene	1.7	U	1.7	0.67	ug/kg	108	78-124		
Diethylphthalate	18	U	18.	6.0	ug/kg	110	77-130		
Dimethylphthalate	18	U	18.	6.0	ug/kg	108	85-122		
Bis(2-Ethylhexyl)phthalate	18	U	18.	6.0	ug/kg	111	79-121		
Fluoranthene	1.7	U	1.7	0.67	ug/kg	103	85-116		
Fluorene	1.7	U	1.7	0.67	ug/kg	104	81-126		
Indeno(1,2,3-cd)pyrene	1.7	U	1.7	0.67	ug/kg	107	77-124		
1-Methylnaphthalene	1.7	U	1.7	0.67	ug/kg	111	78-119		
2-Methylnaphthalene	1.7	U	1.7	0.67	ug/kg	109	78-121		
Naphthalene	1.7	U	1.7	0.67	ug/kg	105	79-113		
N-Nitrosodimethylamine	1.7	U	1.7	0.67	ug/kg	98	71-124		
Di-n-octylphthalate	18	U	18.	6.0	ug/kg	113	76-131		
Phenanthrene	1.7	U	1.7	0.67	ug/kg	100	72-110		
Pyrene	1.7	U	1.7	0.67	ug/kg	102	79-112		
Batch number: 13226SLE026	Sample number(s): 7156753-7156756								
Acenaphthene	1.7	U	1.7	0.67	ug/kg	101	77-116		
Acenaphthylene	1.7	U	1.7	0.33	ug/kg	107	78-120		
Anthracene	1.7	U	1.7	0.33	ug/kg	105	80-116		
Benzo(a)anthracene	1.7	U	1.7	0.67	ug/kg	105	83-119		
Benzo(a)pyrene	1.7	U	1.7	0.67	ug/kg	108	80-122		
Benzo(b)fluoranthene	1.7	U	1.7	0.67	ug/kg	113	82-135		
Benzo(e)pyrene	17	U	17.	3.3	ug/kg	97	81-110		
Benzo(g,h,i)perylene	1.7	U	1.7	0.67	ug/kg	106	79-121		
Benzo(k)fluoranthene	1.7	U	1.7	0.67	ug/kg	110	79-123		
Butylbenzylphthalate	18	U	18.	6.0	ug/kg	118	77-123		
Di-n-butylphthalate	18	U	18.	6.0	ug/kg	118	78-125		
Chrysene	1.7	U	1.7	0.33	ug/kg	105	84-113		
Dibenz(a,h)anthracene	1.7	U	1.7	0.67	ug/kg	110	78-124		
Diethylphthalate	18	U	18.	6.0	ug/kg	110	77-130		
Dimethylphthalate	18	U	18.	6.0	ug/kg	108	85-122		

*- Outside of specification

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- (2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/28/13 at 08:58 AM

Group Number: 1410581

Analysis Name	Blank Result	Blank U	Blank LOQ**	Blank MDL	Report Units	LCS %REC	LCS %REC	LCS/LCSD Limits	RPD	RPD Max
Bis (2-Ethylhexyl) phthalate	18	U	18.	6.0	ug/kg	109		79-121		
Fluoranthene	1.7	U	1.7	0.67	ug/kg	105		85-116		
Fluorene	1.7	U	1.7	0.67	ug/kg	106		81-126		
Indeno (1,2,3-cd) pyrene	1.7	U	1.7	0.67	ug/kg	110		77-124		
1-Methylnaphthalene	1.7	U	1.7	0.67	ug/kg	107		78-119		
2-Methylnaphthalene	1.7	U	1.7	0.67	ug/kg	107		78-121		
Naphthalene	1.7	U	1.7	0.67	ug/kg	99		79-113		
N-Nitrosodimethylamine	1.7	U	1.7	0.67	ug/kg	95		71-124		
Di-n-octylphthalate	18	U	18.	6.0	ug/kg	115		76-131		
Phenanthrene	1.7	U	1.7	0.67	ug/kg	101		72-110		
Pyrene	1.7	U	1.7	0.67	ug/kg	104		79-112		
Batch number: 13224A16A	Sample number(s): 7156754-7156756, 7156758, 7156766, 7156768									
11a TPH by EPA 8015B GRO	1.0	U	1.0	0.2	mg/kg	95		67-119		
Batch number: 13224A20A	Sample number(s): 7156752									
TPH-GRO S.CA water C5-C12	50	U	50.	20	ug/l	102	102	75-135	0	30
Batch number: 13226A16A	Sample number(s): 7156760-7156762, 7156764									
11a TPH by EPA 8015B GRO	1.0	U	1.0	0.2	mg/kg	90		67-119		
Batch number: 132250009A	Sample number(s): 7156767-7156768									
2,4-D	36	U	36.	12	ug/kg	103		59-122		
Dalapon	90	U	90.	44	ug/kg	45		25-100		
2,4-DB	17	U	17.	6.2	ug/kg	108		54-131		
Dicamba	12	U	12.	4.0	ug/kg	83		60-123		
Dinoseb	24	U	24.	9.0	ug/kg	12		10-36		
2,4-DP (Dichlorprop)	17	U	17.	9.0	ug/kg	132		65-158		
MCPA	2,500	U	2,500.	760	ug/kg	85		60-127		
MCPP (Mecoprop)	2,500	U	2,500.	750	ug/kg	93		54-134		
2,4,5-T	1.7	U	1.7	0.82	ug/kg	105		58-135		
2,4,5-TP	1.7	U	1.7	0.75	ug/kg	111		63-130		
Batch number: 132240016A	Sample number(s): 7156767-7156768									
Aldrin	0.83	U	0.83	0.17	ug/kg	96		73-119		
Alpha BHC	0.83	U	0.83	0.17	ug/kg	104		72-126		
Beta BHC	1.9	U	1.9	0.96	ug/kg	107		76-123		
Gamma BHC - Lindane	0.83	U	0.83	0.17	ug/kg	103		72-128		
Chlordane	17	U	17.	4.0	ug/kg					
p,p-DDD	1.7	U	1.7	0.33	ug/kg	106		76-138		
p,p-DDE	1.7	U	1.7	0.33	ug/kg	107		76-126		
p,p-DDT	1.7	U	1.7	0.35	ug/kg	101		72-131		
Delta BHC	0.83	U	0.83	0.45	ug/kg	108		73-128		
Dieldrin	1.7	U	1.7	0.33	ug/kg	106		78-135		
Endosulfan I	0.83	U	0.83	0.22	ug/kg	101		62-125		
Endosulfan II	1.7	U	1.7	0.33	ug/kg	107		68-128		
Endosulfan Sulfate	1.7	U	1.7	0.33	ug/kg	112		72-138		
Endrin	1.7	U	1.7	0.33	ug/kg	95		75-130		
Endrin Aldehyde	1.7	U	1.7	0.33	ug/kg	100		55-132		
Endrin Ketone	1.8	U	1.8	0.60	ug/kg	112		74-127		
Heptachlor	0.83	U	0.83	0.17	ug/kg	98		69-125		
Heptachlor Epoxide	0.83	U	0.83	0.17	ug/kg	104		78-125		
Methoxychlor	6.7	U	6.7	1.7	ug/kg	105		59-125		
Mirex	1.7	U	1.7	0.35	ug/kg					

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/28/13 at 08:58 AM

Group Number: 1410581

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ**</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCS %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>	
Toxaphene	33 U	33.	14	ug/kg						
Batch number: 132270006A Sample number(s): 7156753-7156756,7156758-7156759										
Aroclor 5432	33 U	33.	10	ug/kg						
Aroclor 5442	33 U	33.	10	ug/kg	72	76	36-106	5	30	
Aroclor 5460	33 U	33.	10	ug/kg						
PCB-1016	17 U	17.	3.3	ug/kg	104		80-120			
PCB-1221	17 U	17.	5.1	ug/kg						
PCB-1232	17 U	17.	4.1	ug/kg						
PCB-1242	17 U	17.	4.1	ug/kg						
PCB-1248	17 U	17.	3.3	ug/kg						
PCB-1254	17 U	17.	4.4	ug/kg						
PCB-1260	17 U	17.	3.9	ug/kg	108		72-120			
PCB-1262	17 U	17.	3.3	ug/kg						
PCB-1268	17 U	17.	3.3	ug/kg						
Batch number: 132270007A Sample number(s): 7156760-7156762,7156764-7156768										
Aroclor 5432	33 U	33.	10	ug/kg						
Aroclor 5442	33 U	33.	10	ug/kg	78	76	36-106	3	30	
Aroclor 5460	33 U	33.	10	ug/kg						
PCB-1016	17 U	17.	3.3	ug/kg	99		80-120			
PCB-1221	17 U	17.	5.1	ug/kg						
PCB-1232	17 U	17.	4.1	ug/kg						
PCB-1242	17 U	17.	4.1	ug/kg						
PCB-1248	17 U	17.	3.3	ug/kg						
PCB-1254	17 U	17.	4.4	ug/kg						
PCB-1260	17 U	17.	3.9	ug/kg	114		72-120			
PCB-1262	17 U	17.	3.3	ug/kg						
PCB-1268	17 U	17.	3.3	ug/kg						
Batch number: 132260015A Sample number(s): 7156753-7156756,7156758-7156759										
EFH (C12-C14)	5.0 U	5.0	2.0	mg/kg	101		70-123			
EFH (C15-C20)	5.0 U	5.0	2.0	mg/kg	103		75-128			
EFH (C21-C30)	5.0 U	5.0	2.0	mg/kg	105		64-134			
EFH (C30-C40)	10 U	10.	4.0	mg/kg	73		65-128			
EFH (C8-C11)	5.0 U	5.0	2.0	mg/kg	92		49-107			
Batch number: 132280016A Sample number(s): 7156760-7156762,7156764-7156768										
EFH (C12-C14)	5.0 U	5.0	2.0	mg/kg	92		70-123			
EFH (C15-C20)	5.0 U	5.0	2.0	mg/kg	99		75-128			
EFH (C21-C30)	5.0 U	5.0	2.0	mg/kg	97		64-134			
EFH (C30-C40)	10 U	10.	4.0	mg/kg	91		65-128			
EFH (C8-C11)	5.0 U	5.0	2.0	mg/kg	75		49-107			
Batch number: 132230637001 Sample number(s): 7156753-7156759										
Aluminum	9.14 J	40.0	7.21	mg/kg	97		80-120			
Antimony	4.00 U	4.00	0.740	mg/kg	104		80-120			
Arsenic	4.00 U	4.00	0.700	mg/kg	101		80-120			
Barium	1.00 U	1.00	0.0330	mg/kg	101		80-120			
Beryllium	1.00 U	1.00	0.0670	mg/kg	98		80-120			
Boron	10.0 U	10.0	0.840	mg/kg	99		80-120			
Cadmium	1.00 U	1.00	0.0760	mg/kg	101		80-120			
Calcium	20.0 U	20.0	3.34	mg/kg	99		80-120			
Chromium	3.00 U	3.00	0.160	mg/kg	101		80-120			
Cobalt	1.00 U	1.00	0.0990	mg/kg	101		80-120			
Copper	2.00 U	2.00	0.290	mg/kg	105		80-120			

*- Outside of specification

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/28/13 at 08:58 AM

Group Number: 1410581

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ**</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Iron	40.0 U	40.0	3.62	mg/kg	96		80-120		
Lead	3.00 U	3.00	0.500	mg/kg	101		80-120		
Lithium	4.0 U	4.0	0.34	mg/kg	96		80-120		
Magnesium	10.0 U	10.0	1.67	mg/kg	99		80-120		
Manganese	1.00 U	1.00	0.0830	mg/kg	101		80-120		
Molybdenum	2.00 U	2.00	0.170	mg/kg	101		80-120		
Nickel	2.00 U	2.00	0.130	mg/kg	104		80-120		
Phosphorus	10.0 U	10.0	2.89	mg/kg	102		80-120		
Potassium	100 U	100.	8.34	mg/kg	98		80-120		
Sodium	100 U	100.	16.7	mg/kg	97		80-120		
Tin	1.77 J	10.0	0.220	mg/kg	100		80-120		
Titanium	1.00 U	1.00	0.170	mg/kg	103		80-120		
Vanadium	1.00 U	1.00	0.130	mg/kg	102		80-120		
Zinc	4.00 U	4.00	0.200	mg/kg	100		80-120		
Zirconium	5.00 U	5.00	0.840	mg/kg	99		80-120		
Batch number: 132230637001A	Sample number (s): 7156753-7156759								
Silver	0.200 U	0.200	0.0260	mg/kg	108		80-120		
Strontium	0.400 U	0.400	0.0680	mg/kg	102		80-120		
Thallium	0.200 U	0.200	0.0300	mg/kg	114		80-120		
Batch number: 132230637001B	Sample number (s): 7156753-7156759								
Selenium	0.400 U	0.400	0.100	mg/kg	103		80-120		
Batch number: 132230637002	Sample number (s): 7156760-7156768								
Aluminum	40.0 U	40.0	7.21	mg/kg	102		80-120		
Antimony	4.00 U	4.00	0.740	mg/kg	106		80-120		
Arsenic	4.00 U	4.00	0.700	mg/kg	103		80-120		
Barium	1.00 U	1.00	0.0330	mg/kg	101		80-120		
Beryllium	1.00 U	1.00	0.0670	mg/kg	100		80-120		
Boron	10.0 U	10.0	0.840	mg/kg	99		80-120		
Cadmium	1.00 U	1.00	0.0760	mg/kg	100		80-120		
Calcium	20.0 U	20.0	3.34	mg/kg	102		80-120		
Chromium	3.00 U	3.00	0.160	mg/kg	101		80-120		
Cobalt	1.00 U	1.00	0.0990	mg/kg	102		80-120		
Copper	2.00 U	2.00	0.290	mg/kg	101		80-120		
Iron	40.0 U	40.0	3.62	mg/kg	100		80-120		
Lead	3.00 U	3.00	0.500	mg/kg	98		80-120		
Lithium	4.0 U	4.0	0.34	mg/kg	102		80-120		
Magnesium	10.0 U	10.0	1.67	mg/kg	100		80-120		
Manganese	1.00 U	1.00	0.0830	mg/kg	102		80-120		
Molybdenum	2.00 U	2.00	0.170	mg/kg	101		80-120		
Nickel	2.00 U	2.00	0.130	mg/kg	103		80-120		
Phosphorus	10.0 U	10.0	2.89	mg/kg	105		80-120		
Potassium	100 U	100.	8.34	mg/kg	101		80-120		
Sodium	100 U	100.	16.7	mg/kg	101		80-120		
Tin	1.70 J	10.0	0.220	mg/kg	101		80-120		
Titanium	1.00 U	1.00	0.170	mg/kg	102		80-120		
Vanadium	1.00 U	1.00	0.130	mg/kg	102		80-120		
Zinc	0.240 J	4.00	0.200	mg/kg	103		80-120		
Zirconium	5.00 U	5.00	0.840	mg/kg	101		80-120		

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/28/13 at 08:58 AM

Group Number: 1410581

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ**</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCS %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 132230637002A	Sample number(s): 7156760-7156768								
Silver	0.200 U	0.200	0.0260	mg/kg	112		80-120		
Strontium	0.400 U	0.400	0.0680	mg/kg	107		80-120		
Thallium	0.200 U	0.200	0.0300	mg/kg	110		80-120		
Batch number: 132230637002B	Sample number(s): 7156760-7156768								
Selenium	0.400 U	0.400	0.100	mg/kg	108		80-120		
Batch number: 132310638001	Sample number(s): 7156753-7156759								
3a Mercury 7471A	0.0167 U	0.0167	0.0100	mg/kg	102		85-120		
Batch number: 132310638002	Sample number(s): 7156760-7156768								
3a Mercury 7471A	0.0167 U	0.0167	0.0100	mg/kg	112		85-120		
Batch number: 13222039401A	Sample number(s): 7156753-7156754, 7156757-7156759								
15a pH by 9045D					99		95-105		
Batch number: 13222039401B	Sample number(s): 7156760, 7156763-7156768								
15a pH by 9045D					99		95-105		
Batch number: 13226162401A	Sample number(s): 7156753-7156759								
14a Moisture Content by 160.3					100		80-120		
14a Moisture Content by 160.3					100		80-120		
14a Moisture Content by 160.3					100		80-120		
Batch number: 13226162401B	Sample number(s): 7156760-7156768								
14a Moisture Content by 160.3					100		80-120		
14a Moisture Content by 160.3					100		80-120		
14a Moisture Content by 160.3					100		80-120		

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MRL**</u>	<u>Blank EDL</u>	<u>Report Units</u>	<u>OPR %REC</u>	<u>OPRD %REC</u>	<u>OPR/OPRD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 13227001	Sample number(s): 7156753-7156756, 7156758-7156759								
2378-TCDD	1.00 U	1.00	0.0760	ng/kg	99		67-158		
12378-PeCDD	0.0796 J	5.00	0.0681	ng/kg	103		70-142		
123478-HxCDD	5.00 U	5.00	0.0263	ng/kg	99		70-164		
123678-HxCDD	0.0344 J	5.00	0.0291	ng/kg	92		76-134		
123789-HxCDD	5.00 U	5.00	0.0306	ng/kg	94		64-162		
1234678-HpCDD	0.0682 J	5.00	0.0395	ng/kg	91		70-140		
OCDD	0.286 J	10.0	0.0305	ng/kg	91		78-144		
2378-TCDF	1.00 U	1.00	0.0678	ng/kg	98		75-158		
12378-PeCDF	0.0421 J	5.00	0.0314	ng/kg	95		80-134		
23478-PeCDF	0.0576 J	5.00	0.0324	ng/kg	93		68-160		
123478-HxCDF	0.0398 J	5.00	0.0242	ng/kg	94		72-134		
123678-HxCDF	0.0310 J	5.00	0.0233	ng/kg	93		84-130		
123789-HxCDF	0.0558 J	5.00	0.0306	ng/kg	93		78-130		
234678-HxCDF	0.0316 J	5.00	0.0229	ng/kg	93		70-156		
1234678-HpCDF	0.0368 J	5.00	0.0134	ng/kg	93		82-122		
1234789-HpCDF	5.00 U	5.00	0.0225	ng/kg	91		78-138		
OCDF	0.112 J	10.0	0.0583	ng/kg	90		63-170		
Batch number: 13232002	Sample number(s): 7156760-7156762, 7156764-7156768								
2378-TCDD	1.00 U	1.00	0.0621	ng/kg	115		67-158		
12378-PeCDD	0.117 J	5.00	0.0628	ng/kg	111		70-142		

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/28/13 at 08:58 AM

Group Number: 1410581

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MRL**</u>	<u>Blank EDL</u>	<u>Report Units</u>	<u>OPR %REC</u>	<u>OPRD %REC</u>	<u>OPR/OPRD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
123478-HxCDD	0.0685 J	5.00	0.0320	ng/kg	107		70-164		
123678-HxCDD	0.106 J	5.00	0.0358	ng/kg	108		76-134		
123789-HxCDD	0.0775 J	5.00	0.0369	ng/kg	103		64-162		
1234678-HpCDD	0.110 J	5.00	0.0348	ng/kg	103		70-140		
OCDD	0.396 J	10.0	0.0324	ng/kg	100		78-144		
2378-TCDF	1.00 U	1.00	0.0501	ng/kg	110		75-158		
2378-TCDF-Conf	1.00 U	1.00	0.0401	ng/kg	110		75-158		
12378-PeCDF	0.0798 J	5.00	0.0292	ng/kg	109		80-134		
23478-PeCDF	0.0923 J	5.00	0.0253	ng/kg	112		68-160		
123478-HxCDF	0.101 J	5.00	0.0183	ng/kg	101		72-134		
123678-HxCDF	0.0806 J	5.00	0.0182	ng/kg	100		84-130		
123789-HxCDF	0.0474 J	5.00	0.0242	ng/kg	98		78-130		
234678-HxCDF	0.0879 J	5.00	0.0169	ng/kg	99		70-156		
1234678-HpCDF	0.0933 J	5.00	0.0134	ng/kg	100		82-122		
1234789-HpCDF	0.0762 J	5.00	0.0210	ng/kg	100		78-138		
OCDF	0.201 J	10.0	0.0313	ng/kg	96		63-170		

Batch number: 13227001
TEQ WHO 2005 - EDLx0.0

Sample number(s): 7156753-7156756, 7156758-7156759
0.0110 ng/kg

Batch number: 13232002
TEQ WHO 2005 - EDLx0.0

Sample number(s): 7156760-7156762, 7156764-7156768
0.190 ng/kg

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

<u>Analysis Name</u>	<u>MS %REC</u>	<u>MSD %REC</u>	<u>MS/MSD Limits</u>	<u>RPD</u>	<u>RPD MAX</u>	<u>BKG Conc</u>	<u>DUP Conc</u>	<u>DUP RPD</u>	<u>Dup RPD Max</u>
Batch number: 13226SLB026	Sample number(s): 7156758-7156762, 7156764-7156768 UNSPK: 7156760								
Acenaphthene	97	99	48-127	2	30				
Acenaphthylene	103	104	49-121	1	30				
Anthracene	101	103	52-126	2	30				
Benzo(a)anthracene	98	100	44-143	2	30				
Benzo(a)pyrene	99	102	44-140	3	30				
Benzo(b)fluoranthene	101	105	26-142	4	30				
Benzo(e)pyrene	90	91	70-130	1	30				
Benzo(g,h,i)perylene	86	88	33-141	2	30				
Benzo(k)fluoranthene	102	103	54-142	1	30				
Butylbenzylphthalate	117	121	49-151	3	30				
Di-n-butylphthalate	116	117	52-147	0	30				
Chrysene	100	102	29-148	3	30				
Dibenz(a,h)anthracene	97	99	20-137	2	30				
Diethylphthalate	107	110	43-145	3	30				
Dimethylphthalate	103	104	58-129	1	30				
Bis(2-Ethylhexyl)phthalate	112	142	39-167	21	30				
Fluoranthene	98	101	40-148	3	30				
Fluorene	100	100	51-137	1	30				

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/28/13 at 08:58 AM

Group Number: 1410581

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

<u>Analysis Name</u>	<u>MS</u> <u>%REC</u>	<u>MSD</u> <u>%REC</u>	<u>MS/MSD</u> <u>Limits</u>	<u>RPD</u> <u>RPD</u>	<u>BKG</u> <u>Conc</u>	<u>DUP</u> <u>Conc</u>	<u>DUP</u> <u>RPD</u>	<u>Dup RPD</u> <u>Max</u>
Indeno (1,2,3-cd)pyrene	97	99	17-136	2	30			
1-Methylnaphthalene	105	109	50-131	4	30			
2-Methylnaphthalene	105	107	35-152	2	30			
Naphthalene	99	101	31-148	1	30			
N-Nitrosodimethylamine	89	85	48-113	4	30			
Di-n-octylphthalate	113	116	52-162	3	30			
Phenanthrene	99	100	29-142	1	30			
Pyrene	95	96	26-143	1	30			
Batch number: 13226SLE026 Sample number(s): 7156753-7156756 UNSPK: 7156754								
Acenaphthene	105	99	48-127	5	30			
Acenaphthylene	108	105	49-121	3	30			
Anthracene	107	104	52-126	3	30			
Benzo(a)anthracene	104	99	44-143	5	30			
Benzo(a)pyrene	105	101	44-140	5	30			
Benzo(b)fluoranthene	109	104	26-142	4	30			
Benzo(e)pyrene	95	92	70-130	3	30			
Benzo(g,h,i)perylene	103	101	33-141	3	30			
Benzo(k)fluoranthene	106	103	54-142	3	30			
Butylbenzylphthalate	125	121	49-151	3	30			
Di-n-butylphthalate	122	119	52-147	3	30			
Chrysene	104	101	29-148	4	30			
Dibenz(a,h)anthracene	111	107	20-137	4	30			
Diethylphthalate	112	110	43-145	2	30			
Dimethylphthalate	108	106	58-129	2	30			
Bis(2-Ethylhexyl)phthalate	130	122	39-167	6	30			
Fluoranthene	102	102	40-148	1	30			
Fluorene	106	101	51-137	5	30			
Indeno(1,2,3-cd)pyrene	110	106	17-136	4	30			
1-Methylnaphthalene	110	107	50-131	3	30			
2-Methylnaphthalene	109	107	35-152	2	30			
Naphthalene	104	101	31-148	3	30			
N-Nitrosodimethylamine	99	88	48-113	12	30			
Di-n-octylphthalate	119	117	52-162	2	30			
Phenanthrene	103	101	29-142	3	30			
Pyrene	102	99	26-143	4	30			
Batch number: 13224A16A Sample number(s): 7156754-7156756,7156758,7156766,7156768 UNSPK: 7156754								
11a TPH by EPA 8015B GRO	64	77	39-118	30	30			
Batch number: 13226A16A Sample number(s): 7156760-7156762,7156764 UNSPK: 7156760								
11a TPH by EPA 8015B GRO	64	64	39-118	8	30			
Batch number: 132250009A Sample number(s): 7156767-7156768 UNSPK: P152828								
2,4-D	79	79	42-143	0	35			
Dalapon	29	0*	19-109	200*	50			
2,4-DB	121	116	10-179	4	50			
Dicamba	98	92	45-147	6	50			
Dinoseb	26	26	10-52	1	35			
2,4-DP (Dichlorprop)	133	130	32-171	2	50			
MCPA	94	89	23-169	5	50			
MCPP (Mecoprop)	82	82	24-164	1	50			

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/28/13 at 08:58 AM

Group Number: 1410581

Sample Matrix Quality Control

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<u>Analysis Name</u>	<u>MS</u> <u>%REC</u>	<u>MSD</u> <u>%REC</u>	<u>MS/MSD</u> <u>Limits</u>	<u>RPD</u> <u>RPD</u>	<u>RPD</u> <u>MAX</u>	<u>BKG</u> <u>Conc</u>	<u>DUP</u> <u>Conc</u>	<u>DUP</u> <u>RPD</u>	<u>Dup RPD</u> <u>Max</u>
2,4,5-T	91	87	12-172	4	35				
2,4,5-TP	112	106	10-142	6	35				
Batch number: 132240016A	Sample number(s): 7156767-7156768 UNSPK: P154023								
Aldrin	92	99	16-126	7	50				
Alpha BHC	91	98	14-140	7	50				
Beta BHC	97	102	10-173	5	50				
Gamma BHC - Lindane	93	97	30-137	5	50				
p,p-DDD	91	101	43-149	10	50				
p,p-DDE	96	107	18-161	11	50				
p,p-DDT	89	97	12-193	8	50				
Delta BHC	93	97	13-153	4	50				
Dieldrin	90	98	19-154	8	50				
Endosulfan I	86	94	16-137	10	50				
Endosulfan II	89	99	10-156	10	50				
Endosulfan Sulfate	93	97	10-181	4	50				
Endrin	87	93	30-152	7	50				
Endrin Aldehyde	78	84	10-152	6	35				
Endrin Ketone	86	89	10-160	4	50				
Heptachlor	90	97	16-152	7	50				
Heptachlor Epoxide	92	98	17-167	7	50				
Methoxychlor	92	99	34-168	7	50				
Batch number: 132270006A	Sample number(s): 7156753-7156756,7156758-7156759 UNSPK: 7156754								
PCB-1016	89	83	16-146	7	50				
PCB-1260	93	89	40-134	4	50				
Batch number: 132270007A	Sample number(s): 7156760-7156762,7156764-7156768 UNSPK: 7156760								
PCB-1016	96	96	16-146	0	50				
PCB-1260	109	108	40-134	1	50				
Batch number: 132260015A	Sample number(s): 7156753-7156756,7156758-7156759 UNSPK: 7156754								
EFH (C12-C14)	0*	0*	49-123	0	20				
EFH (C15-C20)	169*	117	49-123	37*	20				
EFH (C21-C30)	279*	-24*	49-123	109*	20				
EFH (C30-C40)	635*	9*	49-123	146*	20				
EFH (C8-C11)	0*	0*	49-123	0	20				
Batch number: 132280016A	Sample number(s): 7156760-7156762,7156764-7156768 UNSPK: 7156760								
EFH (C12-C14)	86	96	49-123	10	20				
EFH (C15-C20)	101	116	49-123	14	20				
EFH (C21-C30)	110	142*	49-123	26*	20				
EFH (C30-C40)	108	197*	49-123	58*	20				
EFH (C8-C11)	78	77	49-123	1	20				
Batch number: 132230637001	Sample number(s): 7156753-7156759 UNSPK: 7156754 BKG: 7156754								
Aluminum	1713	1700	75-125	0	20	17,100	17,600	3	20
	(2)	(2)							
Antimony	62*	64*	75-125	3	20	4.00 U	4.00 U	0 (1)	20
Arsenic	98	101	75-125	3	20	3.21 J	3.57 J	11 (1)	20
Barium	97	98	75-125	1	20	86.0	86.9	1	20
Beryllium	99	100	75-125	0	20	0.582 J	0.577 J	1 (1)	20

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/28/13 at 08:58 AM

Group Number: 1410581

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS	MSD	MS/MSD	RPD	RPD	BKG	DUP	DUP	Dup	RPD
	%REC	%REC	Limits	RPD	MAX	Conc	Conc	RPD	Max	
Boron	97	96	75-125	1	20	5.16 J	4.66 J	10 (1)		20
Cadmium	92	96	75-125	4	20	0.964 J	0.991 J	3 (1)		20
Calcium	278 (2)	401 (2)	75-125	4	20	12,500	21,400	52*		20
Chromium	106	108	75-125	1	20	24.6	25.5	4		20
Cobalt	89	92	75-125	3	20	6.23	5.94	5		20
Copper	106	106	75-125	0	20	14.5	14.2	2		20
Iron	329 (2)	571 (2)	75-125	1	20	22,600	22,700	0		20
Lead	92	97	75-125	4	20	5.84	6.00	3 (1)		20
Lithium	94	95	75-125	0	20	18.9	18.8	1 (1)		20
Magnesium	201 (2)	222 (2)	75-125	1	20	5,700	5,890	3		20
Manganese	0 (2)	38 (2)	75-125	6	20	293	271	8		20
Molybdenum	93	96	75-125	3	20	0.455 J	2.00 U	200* (1)		20
Nickel	90	95	75-125	5	20	13.8	13.7	0		20
Phosphorus	95	98	75-125	1	20	317	341	7		20
Potassium	137*	136*	75-125	0	20	1,620	1,600	1		20
Sodium	97	97	75-125	0	20	556	600	8		20
Tin	86	89	75-125	3	20	2.98 J	3.08 J	3 (1)		20
Titanium	309 (2)	289 (2)	75-125	1	20	1,270	1,250	1		20
Vanadium	107	109	75-125	1	20	45.1	46.0	2		20
Zinc	96	102	75-125	3	20	48.4	48.7	1		20
Zirconium	95	96	75-125	1	20	2.26 J	4.02 J	56* (1)		20
Batch number: 132230637001A Sample number(s): 7156753-7156759 UNSPK: 7156754 BKG: 7156754										
Silver	104	102	75-125	1	20	0.0490 J	0.200 U	200* (1)		20
Strontium	136*	116	75-125	4	20	28.3	30.5	8		20
Thallium	104	109	75-125	3	20	0.216	0.226	4 (1)		20
Batch number: 132230637001B Sample number(s): 7156753-7156759 UNSPK: 7156754 BKG: 7156754										
Selenium	100	99	75-125	1	20	0.400 U	0.400 U	0 (1)		20
Batch number: 132230637002 Sample number(s): 7156760-7156768 UNSPK: 7156760 BKG: 7156760										
Aluminum	2265 (2)	2304 (2)	75-125	0	20	24,300	23,900	2		20
Antimony	54*	55*	75-125	1	20	3.92 U	3.92 U	0 (1)		20
Arsenic	94	94	75-125	1	20	5.77	5.38	7 (1)		20
Barium	103	105	75-125	2	20	83.4	82.9	1		20
Beryllium	98	100	75-125	2	20	0.729 J	0.735 J	1 (1)		20
Boron	98	99	75-125	1	20	7.69 J	7.08 J	8 (1)		20
Cadmium	94	94	75-125	0	20	0.980 U	0.980 U	0 (1)		20
Calcium	-2143 (2)	-2856 (2)	75-125	16	20	27,100	16,400	49*		20
Chromium	103	107	75-125	1	20	29.6	29.6	0		20
Cobalt	94	96	75-125	2	20	7.40	7.13	4		20
Copper	105	107	75-125	1	20	13.1	13.5	3		20
Iron	630 (2)	2388 (2)	75-125	6	20	26,600	26,900	1		20
Lead	94	96	75-125	2	20	8.34	8.11	3 (1)		20
Lithium	101	102	75-125	1	20	22.0	21.9	1		20
Magnesium	294 (2)	297 (2)	75-125	0	20	6,080	6,170	1		20
Manganese	67 (2)	175 (2)	75-125	13	20	355	338	5		20
Molybdenum	93	94	75-125	1	20	0.199 J	1.96 U	200* (1)		20
Nickel	95	98	75-125	2	20	15.4	15.5	1		20

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(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/28/13 at 08:58 AM

Group Number: 1410581

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

<u>Analysis Name</u>	<u>MS</u>	<u>MSD</u>	<u>MS/MSD</u>	<u>RPD</u>	<u>RPD</u>	<u>BKG</u>	<u>DUP</u>	<u>DUP</u>	<u>Dup</u>	<u>RPD</u>
	<u>%REC</u>	<u>%REC</u>	<u>Limits</u>	<u>RPD</u>	<u>MAX</u>	<u>Conc</u>	<u>Conc</u>	<u>RPD</u>	<u>Max</u>	
Phosphorus	116	103	75-125	3	20	301	308	2		20
Potassium	174*	157*	75-125	4	20	2,890	2,890	0		20
Sodium	100	99	75-125	1	20	81.1 J	80.8 J	0 (1)		20
Tin	90	91	75-125	1	20	3.14 J	3.15 J	0 (1)		20
Titanium	252 (2)	305 (2)	75-125	3	20	1,370	1,320	4		20
Vanadium	107	111	75-125	2	20	53.8	53.9	0		20
Zinc	102	102	75-125	0	20	53.2	53.4	0		20
Zirconium	93	94	75-125	0	20	7.19	7.05	2 (1)		20
Batch number: 132230637002A	Sample number(s): 7156760-7156768 UNSPK: 7156760 BKG: 7156760									
Silver	138*	110	75-125	23*	20	0.0280 J	0.196 U	200* (1)		20
Strontium	208 (2)	29 (2)	75-125	28*	20	40.9	38.8	5		20
Thallium	146*	95	75-125	24*	20	0.356	0.319	11 (1)		20
Batch number: 132230637002B	Sample number(s): 7156760-7156768 UNSPK: 7156760 BKG: 7156760									
Selenium	118	98	75-125	17	20	0.165 J	0.134 J	20 (1)		20
Batch number: 132310638001	Sample number(s): 7156753-7156759 UNSPK: 7156754 BKG: 7156754									
3a Mercury 7471A	112	111	65-135	1	20	0.0162 U	0.0160 U	0 (1)		20
Batch number: 132310638002	Sample number(s): 7156760-7156768 UNSPK: 7156760 BKG: 7156760									
3a Mercury 7471A	119	118	65-135	2	20	0.0166 U	0.0165 U	0 (1)		20
Batch number: 13222039401A	Sample number(s): 7156753-7156754,7156757-7156759 BKG: 7156754									
15a pH by 9045D						8.41	8.48	1		3
Batch number: 13222039401B	Sample number(s): 7156760,7156763-7156768 BKG: 7156760									
15a pH by 9045D						7.86	7.87	0		3
Batch number: 13226162401A	Sample number(s): 7156753-7156759 BKG: 7156754									
14a Moisture Content by 160.3						11.9	12.1	2		20
14a Moisture Content by 160.3						11.9	12.1	2		20
14a Moisture Content by 160.3						11.9	12.1	2		20
Batch number: 13226162401B	Sample number(s): 7156760-7156768 BKG: 7156760									
14a Moisture Content by 160.3						13.3	11.8	12		20
14a Moisture Content by 160.3						13.3	11.8	12		20
14a Moisture Content by 160.3						13.3	11.8	12		20
Batch number: 13227001	Sample number(s): 7156753-7156756,7156758-7156759 UNSPK: 7156754									
2378-TCDD	103	107	40-135	6	20					
12378-PeCDD	104	104	40-135	3	20					
123478-HxCDD	99	102	40-135	5	20					
123678-HxCDD	98	93	40-135	3	20					
123789-HxCDD	94	95	40-135	3	20					
1234678-HpCDD	93	93	40-135	3	20					
OCDD	96	92	40-135	1	20					
2378-TCDF	100	98	40-135	1	20					
12378-PeCDF	93	95	40-135	5	20					
23478-PeCDF	94	97	40-135	5	20					
123478-HxCDF	95	94	40-135	1	20					
123678-HxCDF	93	94	40-135	4	20					

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ / MRL.

(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/28/13 at 08:58 AM

Group Number: 1410581

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

<u>Analysis Name</u>	<u>MS</u> <u>%REC</u>	<u>MSD</u> <u>%REC</u>	<u>MS/MSD</u> <u>Limits</u>	<u>RPD</u> <u>RPD</u>	<u>RPD</u> <u>MAX</u>	<u>BKG</u> <u>Conc</u>	<u>DUP</u> <u>Conc</u>	<u>DUP</u> <u>RPD</u>	<u>Dup RPD</u> <u>Max</u>
123789-HxCDF	89	91	40-135	4	20				
234678-HxCDF	93	88	40-135	2	20				
1234678-HpCDF	92	92	40-135	3	20				
1234789-HpCDF	90	91	40-135	4	20				
OCDP	86	85	40-135	1	20				

Batch number: 13232002	Sample number(s): 7156760-7156762,7156764-7156768 UNSPK: 7156760
2378-TCDD	115 115 40-135 0 20
12378-PeCDD	113 116 40-135 3 20
123478-HxCDD	108 110 40-135 3 20
123678-HxCDD	110 109 40-135 0 20
123789-HxCDD	109 109 40-135 1 20
1234678-HpCDD	103 106 40-135 3 20
OCDP	95 113 40-135 14 20
2378-TCDF	115 117 40-135 2 20
2378-TCDF-Conf	115 117 40-135 2 20
12378-PeCDF	113 109 40-135 3 20
23478-PeCDF	112 110 40-135 1 20
123478-HxCDF	105 103 40-135 1 20
123678-HxCDF	104 103 40-135 0 20
123789-HxCDF	99 102 40-135 3 20
234678-HxCDF	103 101 40-135 1 20
1234678-HpCDF	102 99 40-135 3 20
1234789-HpCDF	99 97 40-135 2 20
OCDP	98 95 40-135 2 20

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: 7a SVOC SIM EPA 8270D

Batch number: 13226SLB026

Fluoranthene-d10	Benzo(a)pyrene-d12	1-Methylnaphthalene-d10
------------------	--------------------	-------------------------

7156758	96	102	113
7156759	84	91	103
7156760	91	102	110
7156761	89	99	109
7156762	93	102	111
7156764	94	104	112
7156765	84	94	101
7156766	91	102	110
7156767	88	90	104
7156768	86	95	103
Blank	92	103	113
LCS	92	104	113
MS	89	99	109

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

- (1) The result for one or both determinations was less than five times the LOQ / MRL.
- (2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/28/13 at 08:58 AM

Group Number: 1410581

Surrogate Quality Control

MSD	93	102	111
Limits:	54-129	59-125	61-125

Analysis Name: 7a SVOC SIM EPA 8270D

Batch number: 13226SLE026

	Fluoranthene-d10	Benzo(a)pyrene-d12	1-Methylnaphthalene-d10
7156753	82	86	103
7156754	89	98	106
7156755	90	101	108
7156756	89	96	105
Blank	89	100	106
LCS	92	102	107
MS	90	101	108
MSD	89	96	105
Limits:	54-129	59-125	61-125

Analysis Name: 11a TPH by EPA 8015B GRO

Batch number: 13224A16A

Trifluorotoluene-F

7156754	74
7156755	67
7156756	76
7156758	71
7156766	70
7156768	75
Blank	78
LCS	83
MS	67
MSD	76

Limits: 61-122

Analysis Name: 11b TPH by EPA 8015B GRO

Batch number: 13224A20A

Trifluorotoluene-F

7156752	86
Blank	86
LCS	122
LCSD	116

Limits: 63-135

Analysis Name: 11a TPH by EPA 8015B GRO

Batch number: 13226A16A

Trifluorotoluene-F

7156760	74
7156761	74
7156762	74
7156764	76

*- Outside of specification

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/28/13 at 08:58 AM

Group Number: 1410581

Surrogate Quality Control

Blank 82
LCS 88
MS 74
MSD 74

Limits: 61-122

Analysis Name: 20a Pesticides by EPA 8081B

Batch number: 132240016A

Tetrachloro-m-xylene Decachlorobiphenyl

7156767	90	131*
7156768	94	110
Blank	105	125*
LCS	107	124*
MS	95	91
MSD	102	98

Limits: 50-130 20-120

Analysis Name: 21a Herbicides by EPA 8151A

Batch number: 132250009A

2,4-Dichlorophenylacetic
acid

7156767	52
7156768	60
Blank	61
LCS	71
MS	66
MSD	64

Limits: 50-150

Analysis Name: 19a PCBs and PCTs 8082A

Batch number: 132270006A

Tetrachloro-m-xylene Decachlorobiphenyl

7156753	104	100
7156754	112	100
7156755	96	92
7156756	87	84
7156758	107	102
7156759	98	96
Blank	114	105
LCS	109	104
LCSD	113	111
MS	96	92
MSD	87	84

Limits: 45-120 45-120

Analysis Name: 19a PCBs and PCTs 8082A

Batch number: 132270007A

Tetrachloro-m-xylene Decachlorobiphenyl

*- Outside of specification

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/28/13 at 08:58 AM

Group Number: 1410581

Surrogate Quality Control

7156760	109	103
7156761	102	104
7156762	101	106
7156764	107	104
7156765	98	97
7156766	98	98
7156767	100	95
7156768	93	92
Blank	110	112
LCS	104	109
LCSD	108	122*
MS	102	104
MSD	101	106

Limits: 45-120 45-120

Analysis Name: 10a TPH by EPA 8015B (DRO)
Batch number: 132260015A

Chlorobenzene Orthoterphenyl

7156753	93	98
7156754	92	99
7156755	103	111
7156756	97	101
7156758	99	102
7156759	92	94
Blank	97	103
LCS	101	107
MS	103	111
MSD	97	101

Limits: 37-125 66-123

Analysis Name: 10a TPH by EPA 8015B (DRO)
Batch number: 132280016A

Chlorobenzene Orthoterphenyl

7156760	87	90
7156761	87	80
7156762	87	81
7156764	87	85
7156765	81	88
7156766	82	86
7156767	83	76
7156768	75	79
Blank	88	97
LCS	87	92
MS	87	80
MSD	87	81

Limits: 37-125 66-123

Analysis Name: 23a Dioxin/Furan by EPA 1613B
Batch number: 13227001

13C12-2378-TCDD 13C12-23478-PeCDF 13C12-123478-HxCDF 13C12-123678-HxCDF 13C12-234678-HxCDF 13C12-123789-HxCDF

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

- (1) The result for one or both determinations was less than five times the LOQ / MRL.
- (2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/28/13 at 08:58 AM

Group Number: 1410581

Surrogate Quality Control

7156753	75	85	70	76	76	79
7156754	67	83	63	67	67	68
7156755	69	85	68	71	70	79
7156756	56	74	62	64	64	68
7156758	58	75	61	66	64	64
7156759	73	84	62	69	67	71
Blank	66	76	61	69	68	69
MS	69	85	68	71	70	79
MSD	56	74	62	64	64	68
OPR	60	76	54	57	59	66

Limits:	25-164	21-178	26-152	26-123	28-136	29-147
	13C12-1234678-HpCDF	13C12-1234789-HpCDF	13C12-OCDF	13C12-12378-PeCDD	13C12-123478-HxCDD	13C12-123678-HxCDD

7156753	83	79	74	81	81	87
7156754	81	76	64	81	75	78
7156755	77	79	70	84	76	78
7156756	79	70	62	71	71	76
7156758	72	72	62	76	73	77
7156759	75	69	58	84	75	79
Blank	81	64	60	81	73	81
MS	77	79	70	84	76	78
MSD	79	70	62	71	71	76
OPR	68	59	54	77	66	69

Limits:	28-143	26-138	17-157	25-181	32-141	28-130
	13C12-123789-HxCDD	13C12-1234678-HpCDD	13C12-OCDD	13C12-2378-TCDF	13C12-12378-PeCDF	

7156753	86	88	93	77	84	
7156754	79	85	85	67	84	
7156755	80	82	86	71	84	
7156756	72	78	79	57	73	
7156758	74	76	79	63	77	
7156759	78	77	75	68	84	
Blank	78	83	79	63	82	
MS	80	82	86	71	84	
MSD	72	78	79	57	73	
OPR	69	73	68	56	73	

Limits:	28-130	23-140	17-157	24-169	24-185	
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Analysis Name: 23a Dioxin/Furan by EPA 1613B
Batch number: 13232002

	13C12-2378-TCDD	13C12-23478-PeCDF	13C12-123478-HxCDF	13C12-123678-HxCDF	13C12-234678-HxCDF	13C12-123789-HxCDF
7156760	69	103	84	91	93	95
7156761	66	102	78	83	82	82
7156762	63	90	78	85	86	79
7156764	72	98	77	83	82	83
7156765	67	90	76	84	83	76
7156766	64	97	74	82	82	78
7156767	72	96	80	86	87	82
7156768	67	105	85	95	96	89
Blank	68	93	79	89	86	84

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

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- (2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/28/13 at 08:58 AM

Group Number: 1410581

Surrogate Quality Control

MS	66	102	78	83	82	82
MSD	63	90	78	85	86	79
OPR	74	116	82	87	88	94
Limits:	25-164	21-178	26-152	26-123	28-136	29-147
	13C12-1234678-HpCDF	13C12-1234789-HpCDF	13C12-OCDF	13C12-12378-PeCDD	13C12-123478-HxCDD	13C12-123678-HxCDD
7156760	104	96	91	95	83	85
7156761	93	93	96	91	76	78
7156762	95	84	81	79	77	82
7156764	95	87	81	87	74	83
7156765	90	78	79	80	77	83
7156766	100	83	78	87	73	81
7156767	90	90	86	87	79	85
7156768	114	94	89	95	93	96
Blank	101	86	93	88	80	85
MS	93	93	96	91	76	78
MSD	95	84	81	79	77	82
OPR	105	96	102	110	86	88
Limits:	28-143	26-138	17-157	25-181	32-141	28-130
	13C12-123789-HxCDD	13C12-1234678-HpCDD	13C12-OCDD	13C12-2378-TCDF	13C12-12378-PeCDF	13C12-2378-TCDF-Conf
7156760	89	95	92	79	102	
7156761	76	89	99	70	95	
7156762	81	85	89	69	91	
7156764	80	89	88	74	94	
7156765	81	80	88	74	89	
7156766	82	91	91	73	97	
7156767	82	83	95		94	93
7156768	91	102	102	75	105	
Blank	84	90	104	71	88	79
MS	76	89	99	70	95	70
MSD	81	85	89	69	91	69
OPR	93	101	108	77	114	77
Limits:	28-130	23-140	17-157	24-169	24-185	24-169

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

- (1) The result for one or both determinations was less than five times the LOQ / MRL.
- (2) The unspiked result was more than four times the spike added.

acct# 13013 Cp# 1410581 sample# 7156752-68

SSFL Phase 3 Chain of Custody

CDM Smith
 DateShipped: 8/9/2013
 CarrierName: FedEx
 AirbillNo: 796435595690

Contact Name: Pam Hartman
 Contact Phone: (818)466-8007

COC No: 20130809-01
 Cooler #: 1
 Lab: Lancaster
 Lab Phone: 717-556-7259
 Lab Address: 2425 New Holland Pike
 Lancaster, PA 17601

Sample	Date/Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Other Analysis/Notes
						Methyl Mercury 1630 Organoth NDMA 1625 Formaldehyde 8315 Cyanide 9012 Energetics 8330 Nitrates 300.0/9056 Terphenyls 8015 Alcohols 8015 Glycols 8015 TPH-EFH 8015 TPH-GRO 8015 1,4 Dioxane 8260 SIM VOCs 8260 Pesticides 8081 Herbicides 8151 Hex Cr 7196/7199 pH 9040 (Water) pH 9045 (Soil) Perchlorate Confir. 6850/6860 Perchlorate 314.0/331 PCBs/PCTs 8082 Dioxins 1613 1,4 Dioxane 8270 SIM PAHs 8270 SIM TIC 8270 SVOC 8270 Fluoride 300.0/9056 Mercury 7470 (Water) Mercury 7471 (Soil) Metals 6010 and 6020

Special Instructions: Sampler: *John Mura*

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
<i>[Signature]</i>	08/09/2013	1600									
									<i>[Signature]</i>	8/10/13	945

Environmental Sample Administration
Receipt Documentation Log

Client/Project: CDM
 Date of Receipt: 8/10/13
 Time of Receipt: 945
 Source Code: 50-1

Shipping Container Sealed: YES NO
 Custody Seal Present * : YES NO
 * Custody seal was intact unless otherwise noted in the discrepancy section
 Package: Chilled Not Chilled

Temperature of Shipping Containers							
Cooler #	Thermometer ID	Temperature (°C)	Temp Bottle (TB) or Surface Temp (ST)	Wet Ice (WI) or Dry Ice (DI) or Ice Packs (IP)	Ice Present? Y/N	Loose (L) Bagged Ice (B) or NA	Comments
1	DTR1	2.5	TB	WI	Y	B	
2			/				
3							
4							
5							
6							

Number of Trip Blanks received NOT listed on chain of custody: 0

Paperwork Discrepancy/Unpacking Problems: 3^{mm} 8/10/13
4 oz glass jar for SL-530-SAB-SB-40-0.0-0.5 date= 8/8/13
received 2 extra enclosures labeled SL-607-SAB-SB-4.0-5.0
8/9/13 1235

Unpacker Signature/Emp#: [Signature] 2308 Date/Time: 8/10/13 1024

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	BMQL	Below Minimum Quantitation Level
N.D.	none detected	MPN	Most Probable Number
TNTC	Too Numerous To Count	CP Units	cobalt-chloroplatinate units
IU	International Units	NTU	nephelometric turbidity units
umhos/cm	micromhos/cm	ng	nanogram(s)
C	degrees Celsius	F	degrees Fahrenheit
meq	milliequivalents	lb.	pound(s)
g	gram(s)	kg	kilogram(s)
µg	microgram(s)	mg	milligram(s)
mL	milliliter(s)	L	liter(s)
m³	cubic meter(s)	µL	microliter(s)
		pg/L	picogram/liter

< less than - The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Data Qualifiers:

C – result confirmed by reanalysis.

J - estimated value – The result is \geq the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ).

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers

- A** TIC is a possible aldol-condensation product
- B** Analyte was also detected in the blank
- C** Pesticide result confirmed by GC/MS
- D** Compound quantitated on a diluted sample
- E** Concentration exceeds the calibration range of the instrument
- N** Presumptive evidence of a compound (TICs only)
- P** Concentration difference between primary and confirmation columns $>25\%$
- U** Compound was not detected
- X,Y,Z** Defined in case narrative

Inorganic Qualifiers

- B** Value is $<$ CRDL, but \geq IDL
- E** Estimated due to interference
- M** Duplicate injection precision not met
- N** Spike sample not within control limits
- S** Method of standard additions (MSA) used for calculation
- U** Compound was not detected
- W** Post digestion spike out of control limits
- *** Duplicate analysis not within control limits
- +** Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR part 136 Table II as “analyze immediately” are not performed within 15 minutes.

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SAMPLE DELIVERY GROUP

PH089

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

August 26, 2013

Project: SSFL Phase 3 Sampling

Submittal Date: 08/13/2013

Group Number: 1410969

SDG: PH089

PO Number: 1204-002-001-AL

State of Sample Origin: CA

<u>Client Sample Description</u>	<u>Lancaster Labs (LL) #</u>
TB-081213 Water	7158598
SL-590-SA8-SB-0.0-0.5 Soil	7158599
SL-590-SA8-SB-4.0-5.0 Soil	7158600
SL-590-SA8-SB-7.0-8.0 Soil	7158601
SL-591-SA8-SB-0.0-0.5 Soil	7158602
SL-592-SA8-SB-0.0-0.5 Soil	7158603
SL-592-SA8-SB-3.5-4.5 Soil	7158604
SL-593-SA8-SB-0.0-0.5 Soil	7158605
SL-593-SA8-SB-4.0-5.0 Soil	7158606
SL-585-SA8-SB-0.0-0.5 Soil	7158607

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC Eurofins Lancaster Labs
COPY TO

Attn: Natalie Luciano

Respectfully Submitted,



Natalie R. Luciano
Senior Specialist

(717) 556-7258

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Sample Description: TB-081213 Water
SSFL Phase 3 Subarea 8

LL Sample # WW 7158598
LL Group # 1410969
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/12/2013 08:00

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/13/2013 09:30

Reported: 08/26/2013 19:26

891TB SDG#: PH089-01TB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Dilution Factor
GC Volatiles						
	TPH GRO SW-8015B		ug/l	ug/l	ug/l	
08229	TPH-GRO S.CA water C5-C12	n.a.	50 U	50	20	1

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08229	11b TPH by EPA 8015B GRO	TPH GRO SW-8015B	1	13228A94A	08/16/2013 13:45	Catherine J Schwarz	1
01146	GC VOA Water Prep	SW-846 5030B	1	13228A94A	08/16/2013 13:45	Catherine J Schwarz	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-590-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7158599
LL Group # 1410969
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/12/2013 10:20 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/13/2013 09:30
Reported: 08/26/2013 19:26

59000 SDG#: PH089-02

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	1.7 U	1.7	0.68	1
12969	Acenaphthylene	208-96-8	1.7 U	1.7	0.34	1
12969	Anthracene	120-12-7	0.40 J	1.7	0.34	1
12969	Benzo(a)anthracene	56-55-3	0.68 J	1.7	0.68	1
12969	Benzo(a)pyrene	50-32-8	1.7 U	1.7	0.68	1
12969	Benzo(b)fluoranthene	205-99-2	1.4 J	1.7	0.68	1
12969	Benzo(e)pyrene	192-97-2	17 U	17	3.4	1
12969	Benzo(g,h,i)perylene	191-24-2	1.7 U	1.7	0.68	1
12969	Benzo(k)fluoranthene	207-08-9	1.7 U	1.7	0.68	1
12969	Butylbenzylphthalate	85-68-7	18 U	18	6.1	1
12969	Di-n-butylphthalate	84-74-2	18 U	18	6.1	1
12969	Chrysene	218-01-9	1.9 U	1.7	0.34	1
12969	Dibenz(a,h)anthracene	53-70-3	1.7 U	1.7	0.68	1
12969	Diethylphthalate	84-66-2	18 U	18	6.1	1
12969	Dimethylphthalate	131-11-3	18 U	18	6.1	1
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	8.6 J	18	6.1	1
12969	Fluoranthene	206-44-0	1.9 U	1.7	0.68	1
12969	Fluorene	86-73-7	1.4 J	1.7	0.68	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	1.7 U	1.7	0.68	1
12969	1-Methylnaphthalene	90-12-0	1.4 J	1.7	0.68	1
12969	2-Methylnaphthalene	91-57-6	1.9 U	1.7	0.68	1
12969	Naphthalene	91-20-3	5.6 U	1.7	0.68	1
12969	N-Nitrosodimethylamine	62-75-9	1.7 U	1.7	0.68	1
12969	Di-n-octylphthalate	117-84-0	18 U	18	6.1	1
12969	Phenanthrene	85-01-8	4.0 U	1.7	0.68	1
12969	Pyrene	129-00-0	1.6 J	1.7	0.68	1
Herbicides	SW-846 8151A		ug/kg	ug/kg	ug/kg	
10401	2,4-D	94-75-7	25 J	37	12	1
10401	Dalapon	75-99-0	91 U	91	57	1
10401	2,4-DB	94-82-6	24 U	24	24	1
10401	Dicamba	1918-00-9	12 U	12	4.1	1
10401	Dinoseb	88-85-7	24 U	24	9.1	1
The QC window for dinoseb is advisory due to the erratic performance of the analyte using this method.						
10401	2,4-DP (Dichlorprop)	120-36-5	17 U	17	9.1	1
10401	MCPA	94-74-6	2,500 U	2,500	770	1
10401	MCPP (Mecoprop)	93-65-2	2,500 U	2,500	760	1
10401	2,4,5-T	93-76-5	1.7 U	1.7	0.83	1
10401	2,4,5-TP	93-72-1	1.7 U	1.7	0.76	1
Reporting limits were raised due to interference from the sample matrix.						
Pesticides/PCBs	SW-846 8081B		ug/kg	ug/kg	ug/kg	
10590	Aldrin	309-00-2	0.84 U	0.84	0.17	1
10590	Alpha BHC	319-84-6	0.84 U	0.84	0.17	1
10590	Beta BHC	319-85-7	1.9 U	1.9	0.98	1
10590	Gamma BHC - Lindane	58-89-9	0.84 U	0.84	0.17	1
10590	Chlordane	57-74-9	17 U	17	4.1	1
10590	p,p-DDD	72-54-8	1.7 U	1.7	0.34	1
10590	p,p-DDE	72-55-9	1.0 J	1.7	0.34	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-590-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7158599
LL Group # 1410969
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/12/2013 10:20 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/13/2013 09:30
Reported: 08/26/2013 19:26

59000 SDG#: PH089-02

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs SW-846 8081B						
10590	p,p-DDT	50-29-3	0.67 J	ug/kg 1.7	ug/kg 0.36	1
10590	Delta BHC	319-86-8	0.84 U	ug/kg 0.84	ug/kg 0.46	1
10590	Dieldrin	60-57-1	1.7 U	ug/kg 1.7	ug/kg 0.34	1
10590	Endosulfan I	959-98-8	0.84 U	ug/kg 0.84	ug/kg 0.22	1
10590	Endosulfan II	33213-65-9	1.7 U	ug/kg 1.7	ug/kg 0.34	1
10590	Endosulfan Sulfate	1031-07-8	1.7 U	ug/kg 1.7	ug/kg 0.34	1
10590	Endrin	72-20-8	1.7 U	ug/kg 1.7	ug/kg 0.34	1
10590	Endrin Aldehyde	7421-93-4	1.7 U	ug/kg 1.7	ug/kg 0.34	1
10590	Endrin Ketone	53494-70-5	1.8 U	ug/kg 1.8	ug/kg 0.61	1
10590	Heptachlor	76-44-8	0.84 U	ug/kg 0.84	ug/kg 0.17	1
10590	Heptachlor Epoxide	1024-57-3	0.84 U	ug/kg 0.84	ug/kg 0.17	1
10590	Methoxychlor	72-43-5	6.8 U	ug/kg 6.8	ug/kg 1.7	1
10590	Mirex	2385-85-5	1.7 U	ug/kg 1.7	ug/kg 0.36	1
10590	Toxaphene	8001-35-2	34 U	ug/kg 34	ug/kg 14	1
Pesticides/PCBs SW-846 8082A						
10592	Aroclor 5432	63496-31-1	34 U	ug/kg 34	ug/kg 10	1
10592	Aroclor 5442	12642-23-8	34 U	ug/kg 34	ug/kg 10	1
10592	Aroclor 5460	11126-42-4	34 U	ug/kg 34	ug/kg 10	1
10592	PCB-1016	12674-11-2	17 U	ug/kg 17	ug/kg 3.4	1
10592	PCB-1221	11104-28-2	17 U	ug/kg 17	ug/kg 5.2	1
10592	PCB-1232	11141-16-5	17 U	ug/kg 17	ug/kg 4.2	1
10592	PCB-1242	53469-21-9	17 U	ug/kg 17	ug/kg 4.2	1
10592	PCB-1248	12672-29-6	17 U	ug/kg 17	ug/kg 3.4	1
10592	PCB-1254	11097-69-1	17 U	ug/kg 17	ug/kg 4.5	1
10592	PCB-1260	11096-82-5	17 U	ug/kg 17	ug/kg 4.0	1
10592	PCB-1262	37324-23-5	17 U	ug/kg 17	ug/kg 3.4	1
10592	PCB-1268	11100-14-4	17 U	ug/kg 17	ug/kg 3.4	1
GC Petroleum SW-846 8015B modified						
Hydrocarbons						
12952	EFH (C12-C14)	n.a.	5.1 U	mg/kg 5.1	mg/kg 2.0	1
12952	EFH (C15-C20)	n.a.	4.1 J	mg/kg 5.1	mg/kg 2.0	1
12952	EFH (C21-C30)	n.a.	18	mg/kg 5.1	mg/kg 2.0	1
12952	EFH (C30-C40)	n.a.	43	mg/kg 10	mg/kg 4.1	1
12952	EFH (C8-C11)	n.a.	5.1 U	mg/kg 5.1	mg/kg 2.0	1
Wet Chemistry EPA 160.3 modified						
11624	14a Moisture Content by 160.3	n.a.	1.7	% 0.10	% 0.10	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

*=This limit was used in the evaluation of the final result

Sample Description: SL-590-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7158599
LL Group # 1410969
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/12/2013 10:20 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/13/2013 09:30
Reported: 08/26/2013 19:26

59000 SDG#: PH089-02

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
Dioxins/Furans			ng/kg	ng/kg	ng/kg	
EPA 1613B						
11031	2378-TCDD	1746-01-6	0.177 J	1.01	0.0841	1
11031	12378-PeCDD	40321-76-4	0.363 JBQ	5.07	0.0737	1
11031	123478-HxCDD	39227-28-6	0.408 JBQ	5.07	0.0755	1
11031	123678-HxCDD	57653-85-7	0.530 JB	5.07	0.0798	1
11031	123789-HxCDD	19408-74-3	0.462 JB	5.07	0.0742	1
11031	1234678-HpCDD	35822-46-9	4.00 JB	5.07	0.0648	1
11031	OCDD	3268-87-9	33.2 B	10.1	0.0366	1
11031	2378-TCDF	51207-31-9	0.275 JQ	1.01	0.106	1
11031	12378-PeCDF	57117-41-6	0.746 JB	5.07	0.0578	1
11031	23478-PeCDF	57117-31-4	0.497 JB	5.07	0.0469	1
11031	123478-HxCDF	70648-26-9	0.363 JBQ	5.07	0.0393	1
11031	123678-HxCDF	57117-44-9	0.426 JB	5.07	0.0414	1
11031	123789-HxCDF	72918-21-9	0.323 JB	5.07	0.0370	1
11031	234678-HxCDF	60851-34-5	0.358 JB	5.07	0.0366	1
11031	1234678-HpCDF	67562-39-4	0.640 JBQ	5.07	0.0395	1
11031	1234789-HpCDF	55673-89-7	0.239 JBQ	5.07	0.0429	1
11031	OCDF	39001-02-0	1.47 JB	10.1	0.0396	1

Toxic Equivalents		EPA 1613B	ng/kg	ng/kg	ng/kg	
11031	TEQ WHO 2005 - EDLx0.0	n.a.	0.608			1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	82	25 - 164
13C12-12378-PeCDD	94	25 - 181
13C12-123478-HxCDD	84	32 - 141
13C12-123678-HxCDD	90	28 - 130
13C12-123789-HxCDD	90	28 - 130
13C12-1234678-HpCDD	105	23 - 140
13C12-OCDD	110	17 - 157
13C12-2378-TCDF	84	24 - 169
13C12-12378-PeCDF	88	24 - 185
13C12-23478-PeCDF	94	21 - 178
13C12-123478-HxCDF	74	26 - 152
13C12-123678-HxCDF	78	26 - 123
13C12-234678-HxCDF	83	28 - 136
13C12-123789-HxCDF	101	29 - 147
13C12-1234678-HpCDF	87	28 - 143
13C12-1234789-HpCDF	96	26 - 138
13C12-OCDF	101	17 - 157

Dioxins/Furans Data Qualifiers:

- B Detected in Method Blank
- U Undetected
- J Estimated concentration between Estimated Detection Limit and Minimum Level
- E Exceeds calibration range
- C Confirmed quantitation on secondary GC column
- Q EMPC - Estimated Maximum Possible Concentration

*=This limit was used in the evaluation of the final result

Sample Description: SL-590-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7158599
LL Group # 1410969
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/12/2013 10:20 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
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Submitted: 08/13/2013 09:30

Reported: 08/26/2013 19:26

59000 SDG#: PH089-02

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
F	Interference is present					
S	Saturation of detection signal					

*=This limit was used in the evaluation of the final result

Sample Description: SL-590-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7158599
LL Group # 1410969
Account # 13013

Project Name: SSFL Phase 3 Sampling

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Submitted: 08/13/2013 09:30

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59000 SDG#: PH089-02

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13226SLB026	08/17/2013 03:26	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	13226SLB026	08/14/2013 18:30	Nicholas W Shroyer	1
10401	21a Herbicides by EPA 8151A	SW-846 8151A	1	132250009A	08/16/2013 19:52	Melissa McDermott	1
10590	20a Pesticides by EPA 8081B	SW-846 8081B	1	132250011A	08/19/2013 19:41	Jamie L Brillhart	1
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132320013A	08/22/2013 22:45	Jessica L Miller	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132320013A	08/20/2013 18:20	Sally L Appleyard	1
10496	PPL Pest. Microwave Extraction	SW-846 3546	1	132250011A	08/14/2013 03:00	Sherry L Morrow	1
04181	Herbicide Soil Extraction	SW-846 3550B/SW-846 8151A	1	132250009A	08/14/2013 05:30	Roman Kuropatkin	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132280016A	08/21/2013 05:51	Heather E Williams	1
12959	EFH soil ext. (microwave)	SW-846 3546	1	132280016A	08/17/2013 12:15	Sally L Appleyard	1
11031	23a Dioxin/Furan by EPA 1613B	EPA 1613B	1	13232002	08/24/2013 00:41	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	13232002	08/20/2013 15:00	Brett M Weidman	1
11624	14a Moisture Content by 160.3	EPA 160.3 modified	1	13231162401A	08/20/2013 00:41	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-590-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7158600
LL Group # 1410969
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/12/2013 10:45 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/13/2013 09:30
Reported: 08/26/2013 19:26

59040 SDG#: PH089-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	1.7 U	1.7	0.70	1
12969	Acenaphthylene	208-96-8	1.7 U	1.7	0.35	1
12969	Anthracene	120-12-7	1.7 U	1.7	0.35	1
12969	Benzo(a)anthracene	56-55-3	1.7 U	1.7	0.70	1
12969	Benzo(a)pyrene	50-32-8	1.7 U	1.7	0.70	1
12969	Benzo(b)fluoranthene	205-99-2	1.7 U	1.7	0.70	1
12969	Benzo(e)pyrene	192-97-2	18 U	18	3.5	1
12969	Benzo(g,h,i)perylene	191-24-2	1.7 U	1.7	0.70	1
12969	Benzo(k)fluoranthene	207-08-9	1.7 U	1.7	0.70	1
12969	Butylbenzylphthalate	85-68-7	19 U	19	6.3	1
12969	Di-n-butylphthalate	84-74-2	19 U	19	6.3	1
12969	Chrysene	218-01-9	0.39 J	1.7	0.35	1
12969	Dibenz(a,h)anthracene	53-70-3	1.7 U	1.7	0.70	1
12969	Diethylphthalate	84-66-2	19 U	19	6.3	1
12969	Dimethylphthalate	131-11-3	19 U	19	6.3	1
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	19 U	19	6.3	1
12969	Fluoranthene	206-44-0	1.7 U	1.7	0.70	1
12969	Fluorene	86-73-7	1.7 U	1.7	0.70	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	1.7 U	1.7	0.70	1
12969	1-Methylnaphthalene	90-12-0	1.7 U	1.7	0.70	1
12969	2-Methylnaphthalene	91-57-6	1.7 U	1.7	0.70	1
12969	Naphthalene	91-20-3	1.7 U	1.7	0.70	1
12969	N-Nitrosodimethylamine	62-75-9	1.7 U	1.7	0.70	1
12969	Di-n-octylphthalate	117-84-0	19 U	19	6.3	1
12969	Phenanthrene	85-01-8	1.7 U	1.7	0.70	1
12969	Pyrene	129-00-0	1.7 U	1.7	0.70	1
GC Volatiles	TPH GRO SW-846 8015B mod	mg/kg	mg/kg	mg/kg		
05551	11a TPH by EPA 8015B GRO	n.a.	1.1 U	1.1	0.2	27.17
Herbicides	SW-846 8151A	ug/kg	ug/kg	ug/kg		
10401	2,4-D	94-75-7	20 J	38	13	1
10401	Dalapon	75-99-0	94 U	94	46	1
10401	2,4-DB	94-82-6	22	18	6.5	1
10401	Dicamba	1918-00-9	13 U	13	4.2	1
10401	Dinoseb	88-85-7	25 U	25	9.4	1
The QC window for dinoseb is advisory due to the erratic performance of the analyte using this method.						
10401	2,4-DP (Dichlorprop)	120-36-5	18 U	18	9.4	1
10401	MCPA	94-74-6	2,600 U	2,600	790	1
10401	MCPP (Mecoprop)	93-65-2	2,600 U	2,600	780	1
10401	2,4,5-T	93-76-5	1.8 U	1.8	0.86	1
10401	2,4,5-TP	93-72-1	1.8 U	1.8	0.78	1
Pesticides/PCBs	SW-846 8081B	ug/kg	ug/kg	ug/kg		
10590	Aldrin	309-00-2	0.87 U	0.87	0.18	1
10590	Alpha BHC	319-84-6	0.87 U	0.87	0.18	1
10590	Beta BHC	319-85-7	2.0 U	2.0	1.0	1
10590	Gamma BHC - Lindane	58-89-9	0.87 U	0.87	0.18	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-590-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7158600
LL Group # 1410969
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/12/2013 10:45 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/13/2013 09:30
Reported: 08/26/2013 19:26

59040 SDG#: PH089-03

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs SW-846 8081B							
10590	Chlordane	57-74-9	18	U	18	4.2	1
10590	p,p-DDD	72-54-8	1.8	U	1.8	0.34	1
10590	p,p-DDE	72-55-9	1.8	U	1.8	0.34	1
10590	p,p-DDT	50-29-3	1.8	U	1.8	0.36	1
10590	Delta BHC	319-86-8	0.87	U	0.87	0.47	1
10590	Dieldrin	60-57-1	1.8	U	1.8	0.34	1
10590	Endosulfan I	959-98-8	0.87	U	0.87	0.23	1
10590	Endosulfan II	33213-65-9	1.8	U	1.8	0.34	1
10590	Endosulfan Sulfate	1031-07-8	1.8	U	1.8	0.34	1
10590	Endrin	72-20-8	1.8	U	1.8	0.34	1
10590	Endrin Aldehyde	7421-93-4	1.8	U	1.8	0.34	1
10590	Endrin Ketone	53494-70-5	1.9	U	1.9	0.63	1
10590	Heptachlor	76-44-8	0.87	U	0.87	0.18	1
10590	Heptachlor Epoxide	1024-57-3	0.87	U	0.87	0.18	1
10590	Methoxychlor	72-43-5	7.0	U	7.0	1.8	1
10590	Mirex	2385-85-5	1.8	U	1.8	0.36	1
10590	Toxaphene	8001-35-2	34	U	34	15	1
Pesticides/PCBs SW-846 8082A							
10592	Aroclor 5432	63496-31-1	34	U	34	10	1
10592	Aroclor 5442	12642-23-8	34	U	34	10	1
10592	Aroclor 5460	11126-42-4	34	U	34	10	1
10592	PCB-1016	12674-11-2	18	U	18	3.4	1
10592	PCB-1221	11104-28-2	18	U	18	5.3	1
10592	PCB-1232	11141-16-5	18	U	18	4.3	1
10592	PCB-1242	53469-21-9	18	U	18	4.3	1
10592	PCB-1248	12672-29-6	18	U	18	3.4	1
10592	PCB-1254	11097-69-1	18	U	18	4.6	1
10592	PCB-1260	11096-82-5	18	U	18	4.1	1
10592	PCB-1262	37324-23-5	18	U	18	3.4	1
10592	PCB-1268	11100-14-4	18	U	18	3.4	1
GC Petroleum SW-846 8015B modified							
Hydrocarbons							
12952	EFH (C12-C14)	n.a.	5.2	U	5.2	2.1	1
12952	EFH (C15-C20)	n.a.	2.3	J	5.2	2.1	1
12952	EFH (C21-C30)	n.a.	11		5.2	2.1	1
12952	EFH (C30-C40)	n.a.	29		10	4.2	1
12952	EFH (C8-C11)	n.a.	5.2	U	5.2	2.1	1
Metals SW-846 6010C							
01643	Aluminum	7429-90-5	18,000		40.9	7.37	1
06944	Antimony	7440-36-0	4.09	U	4.09	0.757	1
06935	Arsenic	7440-38-2	5.52		4.09	0.716	1
06946	Barium	7440-39-3	95.9		1.02	0.0337	1
06947	Beryllium	7440-41-7	0.628	J	1.02	0.0685	1
07914	Boron	7440-42-8	3.59	J	10.2	0.859	1
06949	Cadmium	7440-43-9	1.02	U	1.02	0.0777	1
01650	Calcium	7440-70-2	2,670		20.4	3.41	1
06951	Chromium	7440-47-3	25.0		3.07	0.164	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-590-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7158600
LL Group # 1410969
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/12/2013 10:45 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/13/2013 09:30
Reported: 08/26/2013 19:26

59040 SDG#: PH089-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals						
		SW-846 6010C	mg/kg	mg/kg	mg/kg	
06952	Cobalt	7440-48-4	5.35	1.02	0.101	1
06953	Copper	7440-50-8	9.19	2.04	0.296	1
01654	Iron	7439-89-6	21,400	40.9	3.70	1
06955	Lead	7439-92-1	7.12	3.07	0.511	1
01656	Lithium	7439-93-2	23.4	4.1	0.35	1
01657	Magnesium	7439-95-4	4,890	10.2	1.71	1
06958	Manganese	7439-96-5	270	1.02	0.0849	1
06960	Molybdenum	7439-98-7	0.488 J	2.04	0.174	1
06961	Nickel	7440-02-0	14.0	2.04	0.133	1
10145	Phosphorus	7723-14-0	365	10.2	2.95	1
01662	Potassium	7440-09-7	3,100	102	8.53	1
01667	Sodium	7440-23-5	102 J	102	17.1	1
06969	Tin	7440-31-5	3.21 J	10.2	0.225	1
06970	Titanium	7440-32-6	1,260	5.11	0.869	5
06971	Vanadium	7440-62-2	37.9	1.02	0.133	1
06972	Zinc	7440-66-6	50.4	4.09	0.204	1
10146	Zirconium	7440-67-7	3.91 J	5.11	0.859	1
		SW-846 6020A	mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	0.165 J	0.409	0.102	2
06142	Silver	7440-22-4	0.0470 J	0.204	0.0266	2
06144	Strontium	7440-24-6	28.8	0.409	0.0695	2
06145	Thallium	7440-28-0	0.338	0.204	0.0307	2
		SW-846 7471B	mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.0161 U	0.0161	0.0097	1
Wet Chemistry						
		SW-846 9045D modified	Std. Units	Std. Units	Std. Units	
00394	15a pH by 9045D The pH was measured in water at 21.8 C.	n.a.	6.87	0.0100	0.0100	1
Wet Chemistry						
		EPA 160.3 modified	%	%	%	
11624	14a Moisture Content by 160.3 Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.	n.a.	4.1	0.10	0.10	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-590-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7158600
LL Group # 1410969
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/12/2013 10:45 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/13/2013 09:30
Reported: 08/26/2013 19:26

59040 SDG#: PH089-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
Dioxins/Furans			ng/kg	ng/kg	ng/kg	
EPA 1613B						
11031	2378-TCDD	1746-01-6	1.02 U	1.02	0.0835	1
11031	12378-PeCDD	40321-76-4	0.276 JBQ	5.12	0.0712	1
11031	123478-HxCDD	39227-28-6	0.0958 JB	5.12	0.0529	1
11031	123678-HxCDD	57653-85-7	0.146 JB	5.12	0.0565	1
11031	123789-HxCDD	19408-74-3	0.157 JBQ	5.12	0.0542	1
11031	1234678-HpCDD	35822-46-9	0.976 JBQ	5.12	0.0606	1
11031	OCDD	3268-87-9	9.36 JB	10.2	0.0433	1
11031	2378-TCDF	51207-31-9	0.109 JQ	1.02	0.0657	1
11031	12378-PeCDF	57117-41-6	0.272 JBQ	5.12	0.0388	1
11031	23478-PeCDF	57117-31-4	0.212 JB	5.12	0.0348	1
11031	123478-HxCDF	70648-26-9	0.111 JBQ	5.12	0.0283	1
11031	123678-HxCDF	57117-44-9	0.0784 JBQ	5.12	0.0274	1
11031	123789-HxCDF	72918-21-9	0.133 JBQ	5.12	0.0267	1
11031	234678-HxCDF	60851-34-5	0.0793 JBQ	5.12	0.0252	1
11031	1234678-HpCDF	67562-39-4	0.225 JBQ	5.12	0.0216	1
11031	1234789-HpCDF	55673-89-7	5.12 U	5.12	0.0351	1
11031	OCDF	39001-02-0	0.389 JB	10.2	0.0626	1

Toxic Equivalents		EPA 1613B	ng/kg	ng/kg	ng/kg	
11031	TEQ WHO 2005 - EDLx0.0	n.a.	0.0906			1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	69	25 - 164
13C12-12378-PeCDD	89	25 - 181
13C12-123478-HxCDD	82	32 - 141
13C12-123678-HxCDD	90	28 - 130
13C12-123789-HxCDD	90	28 - 130
13C12-1234678-HpCDD	103	23 - 140
13C12-OCDD	99	17 - 157
13C12-2378-TCDF	65	24 - 169
13C12-12378-PeCDF	88	24 - 185
13C12-23478-PeCDF	85	21 - 178
13C12-123478-HxCDF	67	26 - 152
13C12-123678-HxCDF	75	26 - 123
13C12-234678-HxCDF	77	28 - 136
13C12-123789-HxCDF	97	29 - 147
13C12-1234678-HpCDF	105	28 - 143
13C12-1234789-HpCDF	84	26 - 138
13C12-OCDF	76	17 - 157

Dioxins/Furans Data Qualifiers:

- B Detected in Method Blank
- U Undetected
- J Estimated concentration between Estimated Detection Limit and Minimum Level
- E Exceeds calibration range
- C Confirmed quantitation on secondary GC column
- Q EMPC - Estimated Maximum Possible Concentration

*=This limit was used in the evaluation of the final result

Sample Description: SL-590-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7158600
LL Group # 1410969
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/12/2013 10:45 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/13/2013 09:30

Reported: 08/26/2013 19:26

59040 SDG#: PH089-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
F	Interference is present					
S	Saturation of detection signal					

*=This limit was used in the evaluation of the final result

Sample Description: SL-590-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7158600
LL Group # 1410969
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/12/2013 10:45 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/13/2013 09:30
Reported: 08/26/2013 19:26

59040 SDG#: PH089-03

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13226SLB026	08/17/2013 03:58	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	13226SLB026	08/14/2013 18:30	Nicholas W Shroyer	1
05551	11a TPH by EPA 8015B GRO	TPH GRO SW-846 8015B mod	1	13226A16A	08/14/2013 19:19	Laura M Krieger	27.17
06130	GC - 5 g HL Encore Prep	SW-846 5035A	1	201322532029	08/13/2013 13:31	Larry E Bevins	n.a.
06130	GC - 5 g HL Encore Prep	SW-846 5035A	2	201322532029	08/13/2013 13:31	Larry E Bevins	n.a.
10401	21a Herbicides by EPA 8151A	SW-846 8151A	1	132250009A	08/16/2013 21:12	Melissa McDermott	1
10590	20a Pesticides by EPA 8081B	SW-846 8081B	1	132250011A	08/19/2013 19:56	Jamie L Brillhart	1
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132320013A	08/22/2013 23:41	Jessica L Miller	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132320013A	08/20/2013 18:20	Sally L Appleyard	1
10496	PPL Pest. Microwave Extraction	SW-846 3546	1	132250011A	08/14/2013 03:00	Sherry L Morrow	1
04181	Herbicide Soil Extraction	SW-846 3550B/SW-846 8151A	1	132250009A	08/14/2013 05:30	Roman Kuropatkin	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132280016A	08/21/2013 06:12	Heather E Williams	1
12959	EFH soil ext. (microwave)	SW-846 3546	1	132280016A	08/17/2013 12:15	Sally L Appleyard	1
11031	23a Dioxin/Furan by EPA 1613B	EPA 1613B	1	13232002	08/24/2013 01:38	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	13232002	08/20/2013 15:00	Brett M Weidman	1
01643	Aluminum	SW-846 6010C	1	132250637002	08/23/2013 05:50	Eric L Eby	1
06944	Antimony	SW-846 6010C	1	132250637002	08/23/2013 05:50	Eric L Eby	1
06935	Arsenic	SW-846 6010C	1	132250637002	08/23/2013 05:50	Eric L Eby	1
06946	Barium	SW-846 6010C	1	132250637002	08/23/2013 05:50	Eric L Eby	1
06947	Beryllium	SW-846 6010C	1	132250637002	08/23/2013 05:50	Eric L Eby	1
07914	Boron	SW-846 6010C	1	132250637002	08/23/2013 05:50	Eric L Eby	1
06949	Cadmium	SW-846 6010C	1	132250637002	08/23/2013 05:50	Eric L Eby	1
01650	Calcium	SW-846 6010C	1	132250637002	08/23/2013 05:50	Eric L Eby	1
06951	Chromium	SW-846 6010C	1	132250637002	08/23/2013 05:50	Eric L Eby	1
06952	Cobalt	SW-846 6010C	1	132250637002	08/23/2013 05:50	Eric L Eby	1
06953	Copper	SW-846 6010C	1	132250637002	08/23/2013 05:50	Eric L Eby	1
01654	Iron	SW-846 6010C	1	132250637002	08/23/2013 05:50	Eric L Eby	1
06955	Lead	SW-846 6010C	1	132250637002	08/23/2013 05:50	Eric L Eby	1
01656	Lithium	SW-846 6010C	1	132250637002	08/23/2013 05:50	Eric L Eby	1
01657	Magnesium	SW-846 6010C	1	132250637002	08/23/2013 05:50	Eric L Eby	1
06958	Manganese	SW-846 6010C	1	132250637002	08/23/2013 05:50	Eric L Eby	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-590-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7158600
LL Group # 1410969
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/12/2013 10:45 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/13/2013 09:30

Reported: 08/26/2013 19:26

59040 SDG#: PH089-03

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
06960	Molybdenum	SW-846 6010C	1	132250637002	08/23/2013	05:50	Eric L Eby	1
06961	Nickel	SW-846 6010C	1	132250637002	08/23/2013	05:50	Eric L Eby	1
10145	Phosphorus	SW-846 6010C	1	132250637002	08/23/2013	05:50	Eric L Eby	1
01662	Potassium	SW-846 6010C	1	132250637002	08/23/2013	05:50	Eric L Eby	1
01667	Sodium	SW-846 6010C	1	132250637002	08/23/2013	05:50	Eric L Eby	1
06969	Tin	SW-846 6010C	1	132250637002	08/23/2013	05:50	Eric L Eby	1
06970	Titanium	SW-846 6010C	1	132250637002	08/23/2013	12:02	Katlin N Cataldi	5
06971	Vanadium	SW-846 6010C	1	132250637002	08/23/2013	05:50	Eric L Eby	1
06972	Zinc	SW-846 6010C	1	132250637002	08/23/2013	05:50	Eric L Eby	1
10146	Zirconium	SW-846 6010C	1	132250637002	08/23/2013	05:50	Eric L Eby	1
06141	Selenium	SW-846 6020A	1	132250637002B	08/19/2013	12:20	Choon Y Tian	2
06142	Silver	SW-846 6020A	1	132250637002A	08/19/2013	12:20	Choon Y Tian	2
06144	Strontium	SW-846 6020A	1	132250637002A	08/19/2013	12:20	Choon Y Tian	2
06145	Thallium	SW-846 6020A	1	132250637002A	08/19/2013	12:20	Choon Y Tian	2
00159	3a Mercury 7471A	SW-846 7471B	1	132250638001	08/15/2013	16:06	Parker D Lindstrom	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132250637002	08/14/2013	23:15	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132250638001	08/14/2013	15:15	Denise K Conners	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13225039402A	08/13/2013	21:40	Luz M Groff	1
11624	14a Moisture Content by 160.3	EPA 160.3 modified	1	13231162401A	08/20/2013	00:41	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-590-SA8-SB-7.0-8.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7158601
LL Group # 1410969
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/12/2013 11:10 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/13/2013 09:30
Reported: 08/26/2013 19:26

59070 SDG#: PH089-04

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	1.7 U	1.7	0.69	1
12969	Acenaphthylene	208-96-8	1.7 U	1.7	0.35	1
12969	Anthracene	120-12-7	1.7 U	1.7	0.35	1
12969	Benzo(a)anthracene	56-55-3	1.7 U	1.7	0.69	1
12969	Benzo(a)pyrene	50-32-8	1.7 U	1.7	0.69	1
12969	Benzo(b)fluoranthene	205-99-2	1.7 U	1.7	0.69	1
12969	Benzo(e)pyrene	192-97-2	18 U	18	3.5	1
12969	Benzo(g,h,i)perylene	191-24-2	1.7 U	1.7	0.69	1
12969	Benzo(k)fluoranthene	207-08-9	1.7 U	1.7	0.69	1
12969	Butylbenzylphthalate	85-68-7	19 U	19	6.3	1
12969	Di-n-butylphthalate	84-74-2	19 U	19	6.3	1
12969	Chrysene	218-01-9	1.7 U	1.7	0.35	1
12969	Dibenz(a,h)anthracene	53-70-3	1.7 U	1.7	0.69	1
12969	Diethylphthalate	84-66-2	19 U	19	6.3	1
12969	Dimethylphthalate	131-11-3	19 U	19	6.3	1
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	19 U	19	6.3	1
12969	Fluoranthene	206-44-0	1.7 U	1.7	0.69	1
12969	Fluorene	86-73-7	1.7 U	1.7	0.69	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	1.7 U	1.7	0.69	1
12969	1-Methylnaphthalene	90-12-0	1.7 U	1.7	0.69	1
12969	2-Methylnaphthalene	91-57-6	1.7 U	1.7	0.69	1
12969	Naphthalene	91-20-3	1.7 U	1.7	0.69	1
12969	N-Nitrosodimethylamine	62-75-9	1.7 U	1.7	0.69	1
12969	Di-n-octylphthalate	117-84-0	19 U	19	6.3	1
12969	Phenanthrene	85-01-8	1.7 U	1.7	0.69	1
12969	Pyrene	129-00-0	1.7 U	1.7	0.69	1
GC Volatiles	TPH GRO SW-846 8015B mod	mg/kg	mg/kg	mg/kg		
05551	11a TPH by EPA 8015B GRO	n.a.	1.3 U	1.3	0.3	30.79
Herbicides	SW-846 8151A	ug/kg	ug/kg	ug/kg		
10401	2,4-D	94-75-7	37 U	37	12	1
10401	Dalapon	75-99-0	93 U	93	46	1
10401	2,4-DB	94-82-6	18 U	18	6.4	1
10401	Dicamba	1918-00-9	12 U	12	4.1	1
10401	Dinoseb	88-85-7	25 U	25	9.3	1
The QC window for dinoseb is advisory due to the erratic performance of the analyte using this method.						
10401	2,4-DP (Dichlorprop)	120-36-5	18 U	18	9.3	1
10401	MCPA	94-74-6	2,600 U	2,600	790	1
10401	MCPP (Mecoprop)	93-65-2	2,600 U	2,600	780	1
10401	2,4,5-T	93-76-5	1.8 U	1.8	0.85	1
10401	2,4,5-TP	93-72-1	1.8 U	1.8	0.78	1
Pesticides/PCBs	SW-846 8081B	ug/kg	ug/kg	ug/kg		
10590	Aldrin	309-00-2	0.86 U	0.86	0.18	1
10590	Alpha BHC	319-84-6	0.86 U	0.86	0.18	1
10590	Beta BHC	319-85-7	2.0 U	2.0	1.0	1
10590	Gamma BHC - Lindane	58-89-9	0.86 U	0.86	0.18	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-590-SA8-SB-7.0-8.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7158601
LL Group # 1410969
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/12/2013 11:10 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/13/2013 09:30
Reported: 08/26/2013 19:26

59070 SDG#: PH089-04

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs SW-846 8081B							
10590	Chlordane	57-74-9	18	U	18	4.2	1
10590	p,p-DDD	72-54-8	1.8	U	1.8	0.34	1
10590	p,p-DDE	72-55-9	1.8	U	1.8	0.34	1
10590	p,p-DDT	50-29-3	1.8	U	1.8	0.36	1
10590	Delta BHC	319-86-8	0.86	U	0.86	0.47	1
10590	Dieldrin	60-57-1	1.8	U	1.8	0.34	1
10590	Endosulfan I	959-98-8	0.86	U	0.86	0.23	1
10590	Endosulfan II	33213-65-9	1.8	U	1.8	0.34	1
10590	Endosulfan Sulfate	1031-07-8	1.8	U	1.8	0.34	1
10590	Endrin	72-20-8	1.8	U	1.8	0.34	1
10590	Endrin Aldehyde	7421-93-4	1.8	U	1.8	0.34	1
10590	Endrin Ketone	53494-70-5	1.9	U	1.9	0.63	1
10590	Heptachlor	76-44-8	0.86	U	0.86	0.18	1
10590	Heptachlor Epoxide	1024-57-3	0.86	U	0.86	0.18	1
10590	Methoxychlor	72-43-5	7.0	U	7.0	1.8	1
10590	Mirex	2385-85-5	1.8	U	1.8	0.36	1
10590	Toxaphene	8001-35-2	34	U	34	15	1
Pesticides/PCBs SW-846 8082A							
10592	Aroclor 5432	63496-31-1	34	U	34	10	1
10592	Aroclor 5442	12642-23-8	34	U	34	10	1
10592	Aroclor 5460	11126-42-4	34	U	34	10	1
10592	PCB-1016	12674-11-2	18	U	18	3.4	1
10592	PCB-1221	11104-28-2	18	U	18	5.3	1
10592	PCB-1232	11141-16-5	18	U	18	4.3	1
10592	PCB-1242	53469-21-9	18	U	18	4.3	1
10592	PCB-1248	12672-29-6	18	U	18	3.4	1
10592	PCB-1254	11097-69-1	18	U	18	4.6	1
10592	PCB-1260	11096-82-5	18	U	18	4.1	1
10592	PCB-1262	37324-23-5	18	U	18	3.4	1
10592	PCB-1268	11100-14-4	18	U	18	3.4	1
GC Petroleum SW-846 8015B modified							
Hydrocarbons							
12952	EFH (C12-C14)	n.a.	5.2	U	5.2	2.1	1
12952	EFH (C15-C20)	n.a.	6.3		5.2	2.1	1
12952	EFH (C21-C30)	n.a.	29		5.2	2.1	1
12952	EFH (C30-C40)	n.a.	34		10	4.2	1
12952	EFH (C8-C11)	n.a.	5.2	U	5.2	2.1	1
Metals SW-846 6010C							
01643	Aluminum	7429-90-5	16,300		40.8	7.36	1
06944	Antimony	7440-36-0	4.08	U	4.08	0.756	1
06935	Arsenic	7440-38-2	5.31		4.08	0.715	1
06946	Barium	7440-39-3	64.4		1.02	0.0337	1
06947	Beryllium	7440-41-7	0.550	J	1.02	0.0684	1
07914	Boron	7440-42-8	1.73	J	10.2	0.858	1
06949	Cadmium	7440-43-9	1.02	U	1.02	0.0776	1
01650	Calcium	7440-70-2	3,140		20.4	3.41	1
06951	Chromium	7440-47-3	21.8		3.06	0.163	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-590-SA8-SB-7.0-8.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7158601
LL Group # 1410969
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/12/2013 11:10 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/13/2013 09:30
Reported: 08/26/2013 19:26

59070 SDG#: PH089-04

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals						
		SW-846 6010C	mg/kg	mg/kg	mg/kg	
06952	Cobalt	7440-48-4	5.23	1.02	0.101	1
06953	Copper	7440-50-8	9.16	2.04	0.296	1
01654	Iron	7439-89-6	22,500	40.8	3.70	1
06955	Lead	7439-92-1	5.45	3.06	0.511	1
01656	Lithium	7439-93-2	18.6	4.1	0.35	1
01657	Magnesium	7439-95-4	5,430	10.2	1.71	1
06958	Manganese	7439-96-5	228	1.02	0.0848	1
06960	Molybdenum	7439-98-7	0.213 J	2.04	0.174	1
06961	Nickel	7440-02-0	9.60	2.04	0.133	1
10145	Phosphorus	7723-14-0	403	10.2	2.95	1
01662	Potassium	7440-09-7	1,960	102	8.52	1
01667	Sodium	7440-23-5	147	102	17.1	1
06969	Tin	7440-31-5	3.28 J	10.2	0.225	1
06970	Titanium	7440-32-6	1,500	5.11	0.868	5
06971	Vanadium	7440-62-2	41.3	1.02	0.133	1
06972	Zinc	7440-66-6	49.4	4.08	0.204	1
10146	Zirconium	7440-67-7	4.30 J	5.11	0.858	1
SW-846 6020A						
			mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	0.116 J	0.408	0.102	2
06142	Silver	7440-22-4	0.204 U	0.204	0.0266	2
06144	Strontium	7440-24-6	25.2	0.408	0.0694	2
06145	Thallium	7440-28-0	0.273	0.204	0.0306	2
SW-846 7471B						
			mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.0171 U	0.0171	0.0103	1
Wet Chemistry						
		SW-846 9045D modified	Std. Units	Std. Units	Std. Units	
00394	15a pH by 9045D The pH was measured in water at 21.8 C.	n.a.	7.05	0.0100	0.0100	1
Wet Chemistry						
		EPA 160.3 modified	%	%	%	
11624	14a Moisture Content by 160.3 Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.	n.a.	4.0	0.10	0.10	1

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

*=This limit was used in the evaluation of the final result

Sample Description: SL-590-SA8-SB-7.0-8.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7158601
LL Group # 1410969
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/12/2013 11:10 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/13/2013 09:30
Reported: 08/26/2013 19:26

59070 SDG#: PH089-04

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13226SLB026	08/17/2013 04:31	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	13226SLB026	08/14/2013 18:30	Nicholas W Shroyer	1
05551	11a TPH by EPA 8015B GRO	TPH GRO SW-846 8015B mod	1	13226A16A	08/14/2013 19:57	Laura M Krieger	30.79
06130	GC - 5 g HL Encore Prep	SW-846 5035A	1	201322532029	08/13/2013 13:32	Larry E Bevins	n.a.
06130	GC - 5 g HL Encore Prep	SW-846 5035A	2	201322532029	08/13/2013 13:32	Larry E Bevins	n.a.
10401	21a Herbicides by EPA 8151A	SW-846 8151A	1	132250009A	08/16/2013 21:39	Melissa McDermott	1
10590	20a Pesticides by EPA 8081B	SW-846 8081B	1	132250011A	08/19/2013 20:11	Jamie L Brillhart	1
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132320013A	08/22/2013 23:59	Jessica L Miller	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132320013A	08/20/2013 18:20	Sally L Appleyard	1
10496	PPL Pest. Microwave Extraction	SW-846 3546	1	132250011A	08/14/2013 03:00	Sherry L Morrow	1
04181	Herbicide Soil Extraction	SW-846 3550B/SW-846 8151A	1	132250009A	08/14/2013 05:30	Roman Kuropatkin	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132280016A	08/21/2013 09:41	Heather E Williams	1
12959	EPH soil ext. (microwave)	SW-846 3546	1	132280016A	08/17/2013 12:15	Sally L Appleyard	1
01643	Aluminum	SW-846 6010C	1	132250637002	08/23/2013 05:54	Eric L Eby	1
06944	Antimony	SW-846 6010C	1	132250637002	08/23/2013 05:54	Eric L Eby	1
06935	Arsenic	SW-846 6010C	1	132250637002	08/23/2013 05:54	Eric L Eby	1
06946	Barium	SW-846 6010C	1	132250637002	08/23/2013 05:54	Eric L Eby	1
06947	Beryllium	SW-846 6010C	1	132250637002	08/23/2013 05:54	Eric L Eby	1
07914	Boron	SW-846 6010C	1	132250637002	08/23/2013 05:54	Eric L Eby	1
06949	Cadmium	SW-846 6010C	1	132250637002	08/23/2013 05:54	Eric L Eby	1
01650	Calcium	SW-846 6010C	1	132250637002	08/23/2013 05:54	Eric L Eby	1
06951	Chromium	SW-846 6010C	1	132250637002	08/23/2013 05:54	Eric L Eby	1
06952	Cobalt	SW-846 6010C	1	132250637002	08/23/2013 05:54	Eric L Eby	1
06953	Copper	SW-846 6010C	1	132250637002	08/23/2013 05:54	Eric L Eby	1
01654	Iron	SW-846 6010C	1	132250637002	08/23/2013 05:54	Eric L Eby	1
06955	Lead	SW-846 6010C	1	132250637002	08/23/2013 05:54	Eric L Eby	1
01656	Lithium	SW-846 6010C	1	132250637002	08/23/2013 05:54	Eric L Eby	1
01657	Magnesium	SW-846 6010C	1	132250637002	08/23/2013 05:54	Eric L Eby	1
06958	Manganese	SW-846 6010C	1	132250637002	08/23/2013 05:54	Eric L Eby	1
06960	Molybdenum	SW-846 6010C	1	132250637002	08/23/2013 05:54	Eric L Eby	1
06961	Nickel	SW-846 6010C	1	132250637002	08/23/2013 05:54	Eric L Eby	1
10145	Phosphorus	SW-846 6010C	1	132250637002	08/23/2013 05:54	Eric L Eby	1
01662	Potassium	SW-846 6010C	1	132250637002	08/23/2013 05:54	Eric L Eby	1
01667	Sodium	SW-846 6010C	1	132250637002	08/23/2013 05:54	Eric L Eby	1
06969	Tin	SW-846 6010C	1	132250637002	08/23/2013 05:54	Eric L Eby	1
06970	Titanium	SW-846 6010C	1	132250637002	08/23/2013 12:06	Katlin N Cataldi	5
06971	Vanadium	SW-846 6010C	1	132250637002	08/23/2013 05:54	Eric L Eby	1
06972	Zinc	SW-846 6010C	1	132250637002	08/23/2013 05:54	Eric L Eby	1
10146	Zirconium	SW-846 6010C	1	132250637002	08/23/2013 05:54	Eric L Eby	1
06141	Selenium	SW-846 6020A	1	132250637002B	08/19/2013 12:22	Choon Y Tian	2
06142	Silver	SW-846 6020A	1	132250637002A	08/19/2013 12:22	Choon Y Tian	2

*=This limit was used in the evaluation of the final result

Sample Description: SL-590-SA8-SB-7.0-8.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7158601
LL Group # 1410969
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/12/2013 11:10 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/13/2013 09:30

Reported: 08/26/2013 19:26

59070 SDG#: PH089-04

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
06144	Strontium	SW-846 6020A	1	132250637002A	08/19/2013	12:22	Choon Y Tian	2
06145	Thallium	SW-846 6020A	1	132250637002A	08/19/2013	12:22	Choon Y Tian	2
00159	3a Mercury 7471A	SW-846 7471B	1	132250638001	08/15/2013	16:12	Parker D Lindstrom	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132250637002	08/14/2013	23:15	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132250638001	08/14/2013	15:15	Denise K Conners	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13225039402A	08/13/2013	21:40	Luz M Groff	1
11624	14a Moisture Content by 160.3	EPA 160.3 modified	1	13231162401A	08/20/2013	00:41	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-591-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7158602
LL Group # 1410969
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/12/2013 09:50 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/13/2013 09:30
Reported: 08/26/2013 19:26

59100 SDG#: PH089-05

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	1.7 U	1.7	0.67	1
12969	Acenaphthylene	208-96-8	1.7 U	1.7	0.34	1
12969	Anthracene	120-12-7	1.7 U	1.7	0.34	1
12969	Benzo(a)anthracene	56-55-3	1.7 U	1.7	0.67	1
12969	Benzo(a)pyrene	50-32-8	1.7 U	1.7	0.67	1
12969	Benzo(b)fluoranthene	205-99-2	1.4 J	1.7	0.67	1
12969	Benzo(e)pyrene	192-97-2	17 U	17	3.4	1
12969	Benzo(g,h,i)perylene	191-24-2	1.7 U	1.7	0.67	1
12969	Benzo(k)fluoranthene	207-08-9	1.7 U	1.7	0.67	1
12969	Butylbenzylphthalate	85-68-7	18 U	18	6.1	1
12969	Di-n-butylphthalate	84-74-2	18 U	18	6.1	1
12969	Chrysene	218-01-9	1.3 J	1.7	0.34	1
12969	Dibenz(a,h)anthracene	53-70-3	1.7 U	1.7	0.67	1
12969	Diethylphthalate	84-66-2	18 U	18	6.1	1
12969	Dimethylphthalate	131-11-3	18 U	18	6.1	1
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	9.1 J	18	6.1	1
12969	Fluoranthene	206-44-0	1.5 J	1.7	0.67	1
12969	Fluorene	86-73-7	1.7 U	1.7	0.67	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	1.7 U	1.7	0.67	1
12969	1-Methylnaphthalene	90-12-0	1.7 U	1.7	0.67	1
12969	2-Methylnaphthalene	91-57-6	1.7 U	1.7	0.67	1
12969	Naphthalene	91-20-3	1.7 U	1.7	0.67	1
12969	N-Nitrosodimethylamine	62-75-9	1.7 U	1.7	0.67	1
12969	Di-n-octylphthalate	117-84-0	18 U	18	6.1	1
12969	Phenanthrene	85-01-8	0.98 J	1.7	0.67	1
12969	Pyrene	129-00-0	1.3 J	1.7	0.67	1
Pesticides/PCBs	SW-846 8082A		ug/kg	ug/kg	ug/kg	
10592	Aroclor 5432	63496-31-1	33 U	33	10	1
10592	Aroclor 5442	12642-23-8	33 U	33	10	1
10592	Aroclor 5460	11126-42-4	33 U	33	10	1
10592	PCB-1016	12674-11-2	17 U	17	3.3	1
10592	PCB-1221	11104-28-2	17 U	17	5.2	1
10592	PCB-1232	11141-16-5	17 U	17	4.1	1
10592	PCB-1242	53469-21-9	17 U	17	4.1	1
10592	PCB-1248	12672-29-6	17 U	17	3.3	1
10592	PCB-1254	11097-69-1	17 U	17	4.5	1
10592	PCB-1260	11096-82-5	17 U	17	3.9	1
10592	PCB-1262	37324-23-5	17 U	17	3.3	1
10592	PCB-1268	11100-14-4	17 U	17	3.3	1
GC Petroleum	SW-846 8015B modified		mg/kg	mg/kg	mg/kg	
Hydrocarbons						
12952	EFH (C12-C14)	n.a.	5.1 U	5.1	2.0	1
12952	EFH (C15-C20)	n.a.	5.1 U	5.1	2.0	1
12952	EFH (C21-C30)	n.a.	13	5.1	2.0	1
12952	EFH (C30-C40)	n.a.	35	10	4.0	1
12952	EFH (C8-C11)	n.a.	5.1 U	5.1	2.0	1
Metals	SW-846 6010C		mg/kg	mg/kg	mg/kg	

*=This limit was used in the evaluation of the final result

Sample Description: SL-591-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7158602
LL Group # 1410969
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/12/2013 09:50 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/13/2013 09:30
Reported: 08/26/2013 19:26

59100 SDG#: PH089-05

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals						
		SW-846 6010C	mg/kg	mg/kg	mg/kg	
01643	Aluminum	7429-90-5	15,200	40.1	7.23	1
06944	Antimony	7440-36-0	4.01 U	4.01	0.742	1
06935	Arsenic	7440-38-2	4.91	4.01	0.701	1
06946	Barium	7440-39-3	96.9	1.00	0.0331	1
06947	Beryllium	7440-41-7	0.541 J	1.00	0.0671	1
07914	Boron	7440-42-8	3.36 J	10.0	0.842	1
06949	Cadmium	7440-43-9	0.104 J	1.00	0.0762	1
01650	Calcium	7440-70-2	2,890	20.0	3.35	1
06951	Chromium	7440-47-3	18.1	3.01	0.160	1
06952	Cobalt	7440-48-4	4.95	1.00	0.0992	1
06953	Copper	7440-50-8	8.69	2.00	0.291	1
01654	Iron	7439-89-6	19,500	40.1	3.63	1
06955	Lead	7439-92-1	9.74	3.01	0.501	1
01656	Lithium	7439-93-2	23.9	4.0	0.34	1
01657	Magnesium	7439-95-4	4,270	10.0	1.67	1
06958	Manganese	7439-96-5	343	1.00	0.0832	1
06960	Molybdenum	7439-98-7	0.446 J	2.00	0.170	1
06961	Nickel	7440-02-0	10.8	2.00	0.130	1
10145	Phosphorus	7723-14-0	500	10.0	2.90	1
01662	Potassium	7440-09-7	3,430	100	8.36	1
01667	Sodium	7440-23-5	79.3 J	100	16.7	1
06969	Tin	7440-31-5	3.04 J	10.0	0.220	1
06970	Titanium	7440-32-6	1,270	5.01	0.852	5
06971	Vanadium	7440-62-2	32.8	1.00	0.130	1
06972	Zinc	7440-66-6	59.1	4.01	0.200	1
10146	Zirconium	7440-67-7	2.35 J	5.01	0.842	1
		SW-846 6020A	mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	0.142 J	0.401	0.100	2
06142	Silver	7440-22-4	0.0407 J	0.200	0.0261	2
06144	Strontium	7440-24-6	23.4	0.401	0.0681	2
06145	Thallium	7440-28-0	0.241	0.200	0.0301	2
		SW-846 7471B	mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.0186	0.0159	0.0095	1
Wet Chemistry						
		SW-846 9045D modified	Std. Units	Std. Units	Std. Units	
00394	15a pH by 9045D The pH was measured in water at 21.8 C.	n.a.	7.10	0.0100	0.0100	1
Wet Chemistry						
		EPA 160.3 modified	%	%	%	
11624	14a Moisture Content by 160.3 Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.	n.a.	1.2	0.10	0.10	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-591-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7158602
LL Group # 1410969
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/12/2013 09:50 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/13/2013 09:30
Reported: 08/26/2013 19:26

59100 SDG#: PH089-05

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
Dioxins/Furans			ng/kg	ng/kg	ng/kg	
EPA 1613B						
11031	2378-TCDD	1746-01-6	0.982 U	0.982	0.100	1
11031	12378-PeCDD	40321-76-4	0.174 JB	4.91	0.0917	1
11031	123478-HxCDD	39227-28-6	0.114 JBQ	4.91	0.0717	1
11031	123678-HxCDD	57653-85-7	0.243 JBQ	4.91	0.0828	1
11031	123789-HxCDD	19408-74-3	0.173 JBQ	4.91	0.0847	1
11031	1234678-HpCDD	35822-46-9	2.68 JB	4.91	0.0896	1
11031	OCDD	3268-87-9	27.5 B	9.82	0.0460	1
11031	2378-TCDF	51207-31-9	0.143 J	0.982	0.0840	1
11031	12378-PeCDF	57117-41-6	4.91 U	4.91	0.0599	1
11031	23478-PeCDF	57117-31-4	0.186 JBQ	4.91	0.0531	1
11031	123478-HxCDF	70648-26-9	0.0419 JBQ	4.91	0.0385	1
11031	123678-HxCDF	57117-44-9	0.120 JBQ	4.91	0.0366	1
11031	123789-HxCDF	72918-21-9	0.159 JBQ	4.91	0.0422	1
11031	234678-HxCDF	60851-34-5	0.130 JBQ	4.91	0.0351	1
11031	1234678-HpCDF	67562-39-4	0.510 JBQ	4.91	0.0376	1
11031	1234789-HpCDF	55673-89-7	4.91 U	4.91	0.0580	1
11031	OCDF	39001-02-0	1.07 JB	9.82	0.0664	1

Toxic Equivalents		EPA 1613B	ng/kg	ng/kg	ng/kg	
11031	TEQ WHO 2005 - EDLx0.0	n.a.	0.224			1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	62	25 - 164
13C12-12378-PeCDD	74	25 - 181
13C12-123478-HxCDD	73	32 - 141
13C12-123678-HxCDD	74	28 - 130
13C12-123789-HxCDD	74	28 - 130
13C12-1234678-HpCDD	85	23 - 140
13C12-OCDD	90	17 - 157
13C12-2378-TCDF	65	24 - 169
13C12-12378-PeCDF	68	24 - 185
13C12-23478-PeCDF	69	21 - 178
13C12-123478-HxCDF	62	26 - 152
13C12-123678-HxCDF	67	26 - 123
13C12-234678-HxCDF	66	28 - 136
13C12-123789-HxCDF	73	29 - 147
13C12-1234678-HpCDF	79	28 - 143
13C12-1234789-HpCDF	67	26 - 138
13C12-OCDF	71	17 - 157

Dioxins/Furans Data Qualifiers:

- B Detected in Method Blank
- U Undetected
- J Estimated concentration between Estimated Detection Limit and Minimum Level
- E Exceeds calibration range
- C Confirmed quantitation on secondary GC column
- Q EMPC - Estimated Maximum Possible Concentration

*=This limit was used in the evaluation of the final result

Sample Description: SL-591-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7158602
LL Group # 1410969
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/12/2013 09:50 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/13/2013 09:30

Reported: 08/26/2013 19:26

59100 SDG#: PH089-05

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
F	Interference is present					
S	Saturation of detection signal					

*=This limit was used in the evaluation of the final result

Sample Description: SL-591-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7158602
LL Group # 1410969
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/12/2013 09:50 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/13/2013 09:30

Reported: 08/26/2013 19:26

59100 SDG#: PH089-05

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13226SLB026	08/17/2013 05:04	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	13226SLB026	08/14/2013 18:30	Nicholas W Shroyer	1
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132320013A	08/23/2013 00:18	Jessica L Miller	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132320013A	08/20/2013 18:20	Sally L Appleyard	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132280016A	08/21/2013 06:33	Heather E Williams	1
12959	EFH soil ext. (microwave)	SW-846 3546	1	132280016A	08/17/2013 12:15	Sally L Appleyard	1
11031	23a Dioxin/Furan by EPA 1613B	EPA 1613B	1	13232002	08/24/2013 02:35	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	13232002	08/20/2013 15:00	Brett M Weidman	1
01643	Aluminum	SW-846 6010C	1	132250637002	08/23/2013 06:05	Eric L Eby	1
06944	Antimony	SW-846 6010C	1	132250637002	08/23/2013 06:05	Eric L Eby	1
06935	Arsenic	SW-846 6010C	1	132250637002	08/23/2013 06:05	Eric L Eby	1
06946	Barium	SW-846 6010C	1	132250637002	08/23/2013 06:05	Eric L Eby	1
06947	Beryllium	SW-846 6010C	1	132250637002	08/23/2013 06:05	Eric L Eby	1
07914	Boron	SW-846 6010C	1	132250637002	08/23/2013 06:05	Eric L Eby	1
06949	Cadmium	SW-846 6010C	1	132250637002	08/23/2013 06:05	Eric L Eby	1
01650	Calcium	SW-846 6010C	1	132250637002	08/23/2013 06:05	Eric L Eby	1
06951	Chromium	SW-846 6010C	1	132250637002	08/23/2013 06:05	Eric L Eby	1
06952	Cobalt	SW-846 6010C	1	132250637002	08/23/2013 06:05	Eric L Eby	1
06953	Copper	SW-846 6010C	1	132250637002	08/23/2013 06:05	Eric L Eby	1
01654	Iron	SW-846 6010C	1	132250637002	08/23/2013 06:05	Eric L Eby	1
06955	Lead	SW-846 6010C	1	132250637002	08/23/2013 06:05	Eric L Eby	1
01656	Lithium	SW-846 6010C	1	132250637002	08/23/2013 06:05	Eric L Eby	1
01657	Magnesium	SW-846 6010C	1	132250637002	08/23/2013 06:05	Eric L Eby	1
06958	Manganese	SW-846 6010C	1	132250637002	08/23/2013 06:05	Eric L Eby	1
06960	Molybdenum	SW-846 6010C	1	132250637002	08/23/2013 06:05	Eric L Eby	1
06961	Nickel	SW-846 6010C	1	132250637002	08/23/2013 06:05	Eric L Eby	1
10145	Phosphorus	SW-846 6010C	1	132250637002	08/23/2013 06:05	Eric L Eby	1
01662	Potassium	SW-846 6010C	1	132250637002	08/23/2013 06:05	Eric L Eby	1
01667	Sodium	SW-846 6010C	1	132250637002	08/23/2013 06:05	Eric L Eby	1
06969	Tin	SW-846 6010C	1	132250637002	08/23/2013 06:05	Eric L Eby	1
06970	Titanium	SW-846 6010C	1	132250637002	08/23/2013 12:10	Katlin N Cataldi	5
06971	Vanadium	SW-846 6010C	1	132250637002	08/23/2013 06:05	Eric L Eby	1
06972	Zinc	SW-846 6010C	1	132250637002	08/23/2013 06:05	Eric L Eby	1
10146	Zirconium	SW-846 6010C	1	132250637002	08/23/2013 06:05	Eric L Eby	1
06141	Selenium	SW-846 6020A	1	132250637002B	08/19/2013 11:46	Choon Y Tian	2
06142	Silver	SW-846 6020A	1	132250637002A	08/19/2013 11:46	Choon Y Tian	2
06144	Strontium	SW-846 6020A	1	132250637002A	08/19/2013 11:46	Choon Y Tian	2

*=This limit was used in the evaluation of the final result

Sample Description: SL-591-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7158602
LL Group # 1410969
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/12/2013 09:50 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/13/2013 09:30

Reported: 08/26/2013 19:26

59100 SDG#: PH089-05

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
06145	Thallium	SW-846 6020A	1	132250637002A	08/19/2013	11:46	Choon Y Tian	2
00159	3a Mercury 7471A	SW-846 7471B	1	132250638001	08/15/2013	16:23	Parker D Lindstrom	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132250637002	08/14/2013	23:15	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132250638001	08/14/2013	15:15	Denise K Conners	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13225039402A	08/13/2013	21:40	Luz M Groff	1
11624	14a Moisture Content by 160.3	EPA 160.3 modified	1	13231162401A	08/20/2013	00:41	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-592-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7158603
LL Group # 1410969
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/12/2013 09:00 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/13/2013 09:30
Reported: 08/26/2013 19:26

59200 SDG#: PH089-06

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	1.7 U	1.7	0.68	1
12969	Acenaphthylene	208-96-8	1.7 U	1.7	0.34	1
12969	Anthracene	120-12-7	1.7 U	1.7	0.34	1
12969	Benzo(a)anthracene	56-55-3	1.7 U	1.7	0.68	1
12969	Benzo(a)pyrene	50-32-8	1.7 U	1.7	0.68	1
12969	Benzo(b)fluoranthene	205-99-2	0.83 J	1.7	0.68	1
12969	Benzo(e)pyrene	192-97-2	17 U	17	3.4	1
12969	Benzo(g,h,i)perylene	191-24-2	1.7 U	1.7	0.68	1
12969	Benzo(k)fluoranthene	207-08-9	1.7 U	1.7	0.68	1
12969	Butylbenzylphthalate	85-68-7	18 U	18	6.1	1
12969	Di-n-butylphthalate	84-74-2	18 U	18	6.1	1
12969	Chrysene	218-01-9	0.79 J	1.7	0.34	1
12969	Dibenz(a,h)anthracene	53-70-3	1.7 U	1.7	0.68	1
12969	Diethylphthalate	84-66-2	18 U	18	6.1	1
12969	Dimethylphthalate	131-11-3	18 U	18	6.1	1
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	10 J	18	6.1	1
12969	Fluoranthene	206-44-0	0.85 J	1.7	0.68	1
12969	Fluorene	86-73-7	1.7 U	1.7	0.68	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	1.7 U	1.7	0.68	1
12969	1-Methylnaphthalene	90-12-0	1.7 U	1.7	0.68	1
12969	2-Methylnaphthalene	91-57-6	1.7 U	1.7	0.68	1
12969	Naphthalene	91-20-3	1.7 U	1.7	0.68	1
12969	N-Nitrosodimethylamine	62-75-9	1.7 U	1.7	0.68	1
12969	Di-n-octylphthalate	117-84-0	18 U	18	6.1	1
12969	Phenanthrene	85-01-8	1.7 U	1.7	0.68	1
12969	Pyrene	129-00-0	0.74 J	1.7	0.68	1

Pesticides/PCBs	SW-846 8082A	ug/kg	ug/kg	ug/kg
10592	Aroclor 5432	63496-31-1	33 U	33
10592	Aroclor 5442	12642-23-8	33 U	33
10592	Aroclor 5460	11126-42-4	18 J	33
10592	PCB-1016	12674-11-2	17 U	17
10592	PCB-1221	11104-28-2	17 U	17
10592	PCB-1232	11141-16-5	17 U	17
10592	PCB-1242	53469-21-9	17 U	17
10592	PCB-1248	12672-29-6	17 U	17
10592	PCB-1254	11097-69-1	8.8 J	17
10592	PCB-1260	11096-82-5	17 U	17
10592	PCB-1262	37324-23-5	17 U	17
10592	PCB-1268	11100-14-4	17 U	17

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The client was contacted and the data reported.

GC Petroleum	SW-846 8015B modified	mg/kg	mg/kg	mg/kg
Hydrocarbons				
12952	EFH (C12-C14)	n.a.	5.1 U	5.1
12952	EFH (C15-C20)	n.a.	5.1 U	5.1
12952	EFH (C21-C30)	n.a.	6.8	5.1
12952	EFH (C30-C40)	n.a.	24	10

*=This limit was used in the evaluation of the final result

Sample Description: SL-592-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7158603
LL Group # 1410969
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/12/2013 09:00 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/13/2013 09:30
Reported: 08/26/2013 19:26

59200 SDG#: PH089-06

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC Petroleum Hydrocarbons							
	SW-846 8015B modified		mg/kg		mg/kg	mg/kg	
12952	EPH (C8-C11)	n.a.	5.1 U		5.1	2.0	1
Metals							
	SW-846 6010C		mg/kg		mg/kg	mg/kg	
01643	Aluminum	7429-90-5	17,200		40.1	7.23	1
06944	Antimony	7440-36-0	4.01 U		4.01	0.742	1
06935	Arsenic	7440-38-2	5.16		4.01	0.702	1
06946	Barium	7440-39-3	103		1.00	0.0331	1
06947	Beryllium	7440-41-7	0.646 J		1.00	0.0672	1
07914	Boron	7440-42-8	3.08 J		10.0	0.843	1
06949	Cadmium	7440-43-9	1.00 U		1.00	0.0762	1
01650	Calcium	7440-70-2	2,730		20.1	3.35	1
06951	Chromium	7440-47-3	20.2		3.01	0.161	1
06952	Cobalt	7440-48-4	5.71		1.00	0.0993	1
06953	Copper	7440-50-8	9.63		2.01	0.291	1
01654	Iron	7439-89-6	22,000		40.1	3.63	1
06955	Lead	7439-92-1	9.10		3.01	0.502	1
01656	Lithium	7439-93-2	24.1		4.0	0.34	1
01657	Magnesium	7439-95-4	4,360		10.0	1.68	1
06958	Manganese	7439-96-5	367		1.00	0.0833	1
06960	Molybdenum	7439-98-7	0.481 J		2.01	0.171	1
06961	Nickel	7440-02-0	12.6		2.01	0.130	1
10145	Phosphorus	7723-14-0	407		10.0	2.90	1
01662	Potassium	7440-09-7	3,820		100	8.37	1
01667	Sodium	7440-23-5	75.1 J		100	16.8	1
06969	Tin	7440-31-5	3.34 J		10.0	0.221	1
06970	Titanium	7440-32-6	1,360		5.02	0.853	5
06971	Vanadium	7440-62-2	37.4		1.00	0.130	1
06972	Zinc	7440-66-6	55.5		4.01	0.201	1
10146	Zirconium	7440-67-7	2.56 J		5.02	0.843	1
SW-846 6020A							
			mg/kg		mg/kg	mg/kg	
06141	Selenium	7782-49-2	0.172 J		0.401	0.100	2
06142	Silver	7440-22-4	0.0479 J		0.201	0.0261	2
06144	Strontium	7440-24-6	29.5		0.401	0.0682	2
06145	Thallium	7440-28-0	0.318		0.201	0.0301	2
SW-846 7471B							
			mg/kg		mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.0173		0.0157	0.0094	1
Wet Chemistry							
	SW-846 9045D modified		Std. Units		Std. Units	Std. Units	
00394	15a pH by 9045D The pH was measured in water at 21.9 C.	n.a.	7.01		0.0100	0.0100	1
Wet Chemistry							
	EPA 160.3 modified		%		%	%	
11624	14a Moisture Content by 160.3	n.a.	1.3		0.10	0.10	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-592-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7158603
LL Group # 1410969
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/12/2013 09:00 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/13/2013 09:30

Reported: 08/26/2013 19:26

59200 SDG#: PH089-06

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Wet Chemistry	EPA 160.3 modified		%	%	%	
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

*=This limit was used in the evaluation of the final result

Sample Description: SL-592-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7158603
LL Group # 1410969
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/12/2013 09:00 by SM

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3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/13/2013 09:30
Reported: 08/26/2013 19:26

59200 SDG#: PH089-06

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
Dioxins/Furans			ng/kg	ng/kg	ng/kg	
EPA 1613B						
11031	2378-TCDD	1746-01-6	0.984 U	0.984	0.0729	1
11031	12378-PeCDD	40321-76-4	0.134 JBQ	4.92	0.0745	1
11031	123478-HxCDD	39227-28-6	4.92 U	4.92	0.0648	1
11031	123678-HxCDD	57653-85-7	0.158 JBQ	4.92	0.0734	1
11031	123789-HxCDD	19408-74-3	0.261 JBQ	4.92	0.0735	1
11031	1234678-HpCDD	35822-46-9	2.40 JB	4.92	0.0644	1
11031	OCDD	3268-87-9	28.9 B	9.84	0.0394	1
11031	2378-TCDF	51207-31-9	0.0976 J	0.984	0.0736	1
11031	12378-PeCDF	57117-41-6	0.142 JBQ	4.92	0.0390	1
11031	23478-PeCDF	57117-31-4	0.0817 JB	4.92	0.0381	1
11031	123478-HxCDF	70648-26-9	0.0494 JB	4.92	0.0312	1
11031	123678-HxCDF	57117-44-9	0.121 JBQ	4.92	0.0295	1
11031	123789-HxCDF	72918-21-9	0.0951 JB	4.92	0.0299	1
11031	234678-HxCDF	60851-34-5	0.0888 JB	4.92	0.0276	1
11031	1234678-HpCDF	67562-39-4	0.477 JB	4.92	0.0327	1
11031	1234789-HpCDF	55673-89-7	4.92 U	4.92	0.0509	1
11031	OCDF	39001-02-0	0.770 JBQ	9.84	0.0574	1

Toxic Equivalents		EPA 1613B	ng/kg	ng/kg	ng/kg	
11031	TEQ WHO 2005 - EDLx0.0	n.a.	0.0951			1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	65	25 - 164
13C12-12378-PeCDD	76	25 - 181
13C12-123478-HxCDD	74	32 - 141
13C12-123678-HxCDD	77	28 - 130
13C12-123789-HxCDD	78	28 - 130
13C12-1234678-HpCDD	96	23 - 140
13C12-OCDD	86	17 - 157
13C12-2378-TCDF	64	24 - 169
13C12-12378-PeCDF	81	24 - 185
13C12-23478-PeCDF	75	21 - 178
13C12-123478-HxCDF	63	26 - 152
13C12-123678-HxCDF	69	26 - 123
13C12-234678-HxCDF	70	28 - 136
13C12-123789-HxCDF	80	29 - 147
13C12-1234678-HpCDF	93	28 - 143
13C12-1234789-HpCDF	76	26 - 138
13C12-OCDF	66	17 - 157

Dioxins/Furans Data Qualifiers:

- B Detected in Method Blank
- U Undetected
- J Estimated concentration between Estimated Detection Limit and Minimum Level
- E Exceeds calibration range
- C Confirmed quantitation on secondary GC column
- Q EMPC - Estimated Maximum Possible Concentration

*=This limit was used in the evaluation of the final result

Sample Description: SL-592-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7158603
LL Group # 1410969
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/12/2013 09:00 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/13/2013 09:30

Reported: 08/26/2013 19:26

59200 SDG#: PH089-06

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
F	Interference is present					
S	Saturation of detection signal					

*=This limit was used in the evaluation of the final result

Sample Description: SL-592-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7158603
LL Group # 1410969
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/12/2013 09:00 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/13/2013 09:30
Reported: 08/26/2013 19:26

59200 SDG#: PH089-06

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13226SLB026	08/17/2013 05:36	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	13226SLB026	08/14/2013 18:30	Nicholas W Shroyer	1
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132320013A	08/23/2013 00:36	Jessica L Miller	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132320013A	08/20/2013 18:20	Sally L Appleyard	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132280016A	08/21/2013 06:54	Heather E Williams	1
12959	EFH soil ext. (microwave)	SW-846 3546	1	132280016A	08/17/2013 12:15	Sally L Appleyard	1
11031	23a Dioxin/Furan by EPA 1613B	EPA 1613B	1	13232002	08/24/2013 03:31	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	13232002	08/20/2013 15:00	Brett M Weidman	1
01643	Aluminum	SW-846 6010C	1	132250637002	08/23/2013 06:09	Eric L Eby	1
06944	Antimony	SW-846 6010C	1	132250637002	08/23/2013 06:09	Eric L Eby	1
06935	Arsenic	SW-846 6010C	1	132250637002	08/23/2013 06:09	Eric L Eby	1
06946	Barium	SW-846 6010C	1	132250637002	08/23/2013 06:09	Eric L Eby	1
06947	Beryllium	SW-846 6010C	1	132250637002	08/23/2013 06:09	Eric L Eby	1
07914	Boron	SW-846 6010C	1	132250637002	08/23/2013 06:09	Eric L Eby	1
06949	Cadmium	SW-846 6010C	1	132250637002	08/23/2013 06:09	Eric L Eby	1
01650	Calcium	SW-846 6010C	1	132250637002	08/23/2013 06:09	Eric L Eby	1
06951	Chromium	SW-846 6010C	1	132250637002	08/23/2013 06:09	Eric L Eby	1
06952	Cobalt	SW-846 6010C	1	132250637002	08/23/2013 06:09	Eric L Eby	1
06953	Copper	SW-846 6010C	1	132250637002	08/23/2013 06:09	Eric L Eby	1
01654	Iron	SW-846 6010C	1	132250637002	08/23/2013 06:09	Eric L Eby	1
06955	Lead	SW-846 6010C	1	132250637002	08/23/2013 06:09	Eric L Eby	1
01656	Lithium	SW-846 6010C	1	132250637002	08/23/2013 06:09	Eric L Eby	1
01657	Magnesium	SW-846 6010C	1	132250637002	08/23/2013 06:09	Eric L Eby	1
06958	Manganese	SW-846 6010C	1	132250637002	08/23/2013 06:09	Eric L Eby	1
06960	Molybdenum	SW-846 6010C	1	132250637002	08/23/2013 06:09	Eric L Eby	1
06961	Nickel	SW-846 6010C	1	132250637002	08/23/2013 06:09	Eric L Eby	1
10145	Phosphorus	SW-846 6010C	1	132250637002	08/23/2013 06:09	Eric L Eby	1
01662	Potassium	SW-846 6010C	1	132250637002	08/23/2013 06:09	Eric L Eby	1
01667	Sodium	SW-846 6010C	1	132250637002	08/23/2013 06:09	Eric L Eby	1
06969	Tin	SW-846 6010C	1	132250637002	08/23/2013 06:09	Eric L Eby	1
06970	Titanium	SW-846 6010C	1	132250637002	08/23/2013 12:13	Katlin N Cataldi	5
06971	Vanadium	SW-846 6010C	1	132250637002	08/23/2013 06:09	Eric L Eby	1
06972	Zinc	SW-846 6010C	1	132250637002	08/23/2013 06:09	Eric L Eby	1
10146	Zirconium	SW-846 6010C	1	132250637002	08/23/2013 06:09	Eric L Eby	1
06141	Selenium	SW-846 6020A	1	132250637002B	08/19/2013 11:48	Choon Y Tian	2
06142	Silver	SW-846 6020A	1	132250637002A	08/19/2013 11:48	Choon Y Tian	2
06144	Strontium	SW-846 6020A	1	132250637002A	08/19/2013 11:48	Choon Y Tian	2

*=This limit was used in the evaluation of the final result

Sample Description: SL-592-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7158603
LL Group # 1410969
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/12/2013 09:00 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/13/2013 09:30

Reported: 08/26/2013 19:26

59200 SDG#: PH089-06

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
06145	Thallium	SW-846 6020A	1	132250637002A	08/19/2013	11:48	Choon Y Tian	2
00159	3a Mercury 7471A	SW-846 7471B	1	132250638001	08/15/2013	16:25	Parker D Lindstrom	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132250637002	08/14/2013	23:15	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132250638001	08/14/2013	15:15	Denise K Conners	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13225039402A	08/13/2013	21:40	Luz M Groff	1
11624	14a Moisture Content by 160.3	EPA 160.3 modified	1	13231162401A	08/20/2013	00:41	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-592-SA8-SB-3.5-4.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7158604
LL Group # 1410969
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/12/2013 09:20 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/13/2013 09:30
Reported: 08/26/2013 19:26

59235 SDG#: PH089-07

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	1.7 U	1.7	0.69	1
12969	Acenaphthylene	208-96-8	1.7 U	1.7	0.35	1
12969	Anthracene	120-12-7	1.7 U	1.7	0.35	1
12969	Benzo(a)anthracene	56-55-3	1.7 U	1.7	0.69	1
12969	Benzo(a)pyrene	50-32-8	1.7 U	1.7	0.69	1
12969	Benzo(b)fluoranthene	205-99-2	1.7 U	1.7	0.69	1
12969	Benzo(e)pyrene	192-97-2	18 U	18	3.5	1
12969	Benzo(g,h,i)perylene	191-24-2	1.7 U	1.7	0.69	1
12969	Benzo(k)fluoranthene	207-08-9	1.7 U	1.7	0.69	1
12969	Butylbenzylphthalate	85-68-7	19 U	19	6.2	1
12969	Di-n-butylphthalate	84-74-2	19 U	19	6.2	1
12969	Chrysene	218-01-9	1.7 U	1.7	0.35	1
12969	Dibenz(a,h)anthracene	53-70-3	1.7 U	1.7	0.69	1
12969	Diethylphthalate	84-66-2	19 U	19	6.2	1
12969	Dimethylphthalate	131-11-3	19 U	19	6.2	1
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	19 U	19	6.2	1
12969	Fluoranthene	206-44-0	1.7 U	1.7	0.69	1
12969	Fluorene	86-73-7	1.7 U	1.7	0.69	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	1.7 U	1.7	0.69	1
12969	1-Methylnaphthalene	90-12-0	1.7 U	1.7	0.69	1
12969	2-Methylnaphthalene	91-57-6	1.7 U	1.7	0.69	1
12969	Naphthalene	91-20-3	1.7 U	1.7	0.69	1
12969	N-Nitrosodimethylamine	62-75-9	1.7 U	1.7	0.69	1
12969	Di-n-octylphthalate	117-84-0	19 U	19	6.2	1
12969	Phenanthrene	85-01-8	1.7 U	1.7	0.69	1
12969	Pyrene	129-00-0	1.7 U	1.7	0.69	1
GC Volatiles	TPH GRO SW-846 8015B mod	mg/kg	mg/kg	mg/kg		
05551	11a TPH by EPA 8015B GRO	n.a.	1.1 U	1.1	0.2	26.04
Pesticides/PCBs	SW-846 8082A	ug/kg	ug/kg	ug/kg		
10592	Aroclor 5432	63496-31-1	34 U	34	10	1
10592	Aroclor 5442	12642-23-8	34 U	34	10	1
10592	Aroclor 5460	11126-42-4	34 U	34	10	1
10592	PCB-1016	12674-11-2	18 U	18	3.4	1
10592	PCB-1221	11104-28-2	18 U	18	5.3	1
10592	PCB-1232	11141-16-5	18 U	18	4.3	1
10592	PCB-1242	53469-21-9	18 U	18	4.3	1
10592	PCB-1248	12672-29-6	18 U	18	3.4	1
10592	PCB-1254	11097-69-1	18 U	18	4.6	1
10592	PCB-1260	11096-82-5	18 U	18	4.1	1
10592	PCB-1262	37324-23-5	18 U	18	3.4	1
10592	PCB-1268	11100-14-4	18 U	18	3.4	1
GC Petroleum	SW-846 8015B modified	mg/kg	mg/kg	mg/kg		
Hydrocarbons						
12952	EFH (C12-C14)	n.a.	5.2 U	5.2	2.1	1
12952	EFH (C15-C20)	n.a.	5.2 U	5.2	2.1	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-592-SA8-SB-3.5-4.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7158604
LL Group # 1410969
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/12/2013 09:20 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/13/2013 09:30
Reported: 08/26/2013 19:26

59235 SDG#: PH089-07

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC Petroleum						
Hydrocarbons						
		SW-846 8015B modified	mg/kg	mg/kg	mg/kg	
12952	EFH (C21-C30)	n.a.	4.6 J	5.2	2.1	1
12952	EFH (C30-C40)	n.a.	16	10	4.2	1
12952	EFH (C8-C11)	n.a.	5.2 U	5.2	2.1	1
Metals						
		SW-846 6010C	mg/kg	mg/kg	mg/kg	
01643	Aluminum	7429-90-5	15,200	40.0	7.21	1
06944	Antimony	7440-36-0	4.00 U	4.00	0.740	1
06935	Arsenic	7440-38-2	4.98	4.00	0.700	1
06946	Barium	7440-39-3	63.3	1.00	0.0330	1
06947	Beryllium	7440-41-7	0.630 J	1.00	0.0670	1
07914	Boron	7440-42-8	1.66 J	10.0	0.840	1
06949	Cadmium	7440-43-9	1.00 U	1.00	0.0760	1
01650	Calcium	7440-70-2	2,290	20.0	3.34	1
06951	Chromium	7440-47-3	21.1	3.00	0.160	1
06952	Cobalt	7440-48-4	5.99	1.00	0.0991	1
06953	Copper	7440-50-8	7.22	2.00	0.290	1
01654	Iron	7439-89-6	22,900	40.0	3.62	1
06955	Lead	7439-92-1	6.02	3.00	0.500	1
01656	Lithium	7439-93-2	21.0	4.0	0.34	1
01657	Magnesium	7439-95-4	4,670	10.0	1.67	1
06958	Manganese	7439-96-5	356	1.00	0.0830	1
06960	Molybdenum	7439-98-7	0.446 J	2.00	0.170	1
06961	Nickel	7440-02-0	9.42	2.00	0.130	1
10145	Phosphorus	7723-14-0	258	10.0	2.89	1
01662	Potassium	7440-09-7	2,590	100	8.34	1
01667	Sodium	7440-23-5	173	100	16.7	1
06969	Tin	7440-31-5	3.24 J	10.0	0.220	1
06970	Titanium	7440-32-6	1,240	5.00	0.850	5
06971	Vanadium	7440-62-2	38.3	1.00	0.130	1
06972	Zinc	7440-66-6	47.0	4.00	0.200	1
10146	Zirconium	7440-67-7	2.77 J	5.00	0.840	1
		SW-846 6020A	mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	0.364 J	0.400	0.100	2
06142	Silver	7440-22-4	0.0378 J	0.200	0.0260	2
06144	Strontium	7440-24-6	19.0	0.400	0.0680	2
06145	Thallium	7440-28-0	0.341	0.200	0.0300	2
		SW-846 7471B	mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.0214	0.0168	0.0101	1
Wet Chemistry						
		SW-846 9045D modified	Std. Units	Std. Units	Std. Units	
00394	15a pH by 9045D The pH was measured in water at 21.9 C.	n.a.	6.96	0.0100	0.0100	1
Wet Chemistry						
		EPA 160.3 modified	%	%	%	
11624	14a Moisture Content by 160.3	n.a.	3.9	0.10	0.10	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-592-SA8-SB-3.5-4.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7158604
LL Group # 1410969
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/12/2013 09:20 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/13/2013 09:30

Reported: 08/26/2013 19:26

59235 SDG#: PH089-07

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Wet Chemistry	EPA 160.3 modified		%	%	%	
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

*=This limit was used in the evaluation of the final result

Sample Description: SL-592-SA8-SB-3.5-4.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7158604
LL Group # 1410969
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Reported: 08/26/2013 19:26

59235 SDG#: PH089-07

CAT No.	Analysis Name	CAS Number	Dry Result		Dry MRL*	Dry EDL	Dilution Factor
Dioxins/Furans			ng/kg		ng/kg	ng/kg	
EPA 1613B							
11031	2378-TCDD	1746-01-6	1.03	U	1.03	0.135	1
11031	12378-PeCDD	40321-76-4	5.17	U	5.17	0.131	1
11031	123478-HxCDD	39227-28-6	5.17	U	5.17	0.0800	1
11031	123678-HxCDD	57653-85-7	5.17	U	5.17	0.0895	1
11031	123789-HxCDD	19408-74-3	5.17	U	5.17	0.0888	1
11031	1234678-HpCDD	35822-46-9	0.773	JB	5.17	0.0916	1
11031	OCDD	3268-87-9	7.93	JB	10.3	0.0632	1
11031	2378-TCDF	51207-31-9	1.03	U	1.03	0.0977	1
11031	12378-PeCDF	57117-41-6	5.17	U	5.17	0.0604	1
11031	23478-PeCDF	57117-31-4	0.0665	JBQ	5.17	0.0557	1
11031	123478-HxCDF	70648-26-9	5.17	U	5.17	0.0345	1
11031	123678-HxCDF	57117-44-9	5.17	U	5.17	0.0352	1
11031	123789-HxCDF	72918-21-9	0.0474	JBQ	5.17	0.0435	1
11031	234678-HxCDF	60851-34-5	5.17	U	5.17	0.0343	1
11031	1234678-HpCDF	67562-39-4	0.190	JB	5.17	0.0378	1
11031	1234789-HpCDF	55673-89-7	0.0871	JBQ	5.17	0.0570	1
11031	OCDF	39001-02-0	0.808	JBQ	10.3	0.0860	1

Toxic Equivalents		EPA 1613B	ng/kg	ng/kg	ng/kg	
11031	TEQ WHO 2005 - EDLx0.0	n.a.	0.0120			1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	42	25 - 164
13C12-12378-PeCDD	48	25 - 181
13C12-123478-HxCDD	48	32 - 141
13C12-123678-HxCDD	52	28 - 130
13C12-123789-HxCDD	50	28 - 130
13C12-1234678-HpCDD	56	23 - 140
13C12-OCDD	58	17 - 157
13C12-2378-TCDF	41	24 - 169
13C12-12378-PeCDF	45	24 - 185
13C12-23478-PeCDF	47	21 - 178
13C12-123478-HxCDF	44	26 - 152
13C12-123678-HxCDF	48	26 - 123
13C12-234678-HxCDF	46	28 - 136
13C12-123789-HxCDF	47	29 - 147
13C12-1234678-HpCDF	51	28 - 143
13C12-1234789-HpCDF	46	26 - 138
13C12-OCDF	49	17 - 157

Dioxins/Furans Data Qualifiers:

- B Detected in Method Blank
- U Undetected
- J Estimated concentration between Estimated Detection Limit and Minimum Level
- E Exceeds calibration range
- C Confirmed quantitation on secondary GC column
- Q EMPC - Estimated Maximum Possible Concentration

*=This limit was used in the evaluation of the final result

Sample Description: SL-592-SA8-SB-3.5-4.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7158604
LL Group # 1410969
Account # 13013

Project Name: SSFL Phase 3 Sampling

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Submitted: 08/13/2013 09:30

Reported: 08/26/2013 19:26

59235 SDG#: PH089-07

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
F	Interference is present					
S	Saturation of detection signal					

*=This limit was used in the evaluation of the final result

Sample Description: SL-592-SA8-SB-3.5-4.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7158604
LL Group # 1410969
Account # 13013

Project Name: SSFL Phase 3 Sampling

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Submitted: 08/13/2013 09:30
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59235 SDG#: PH089-07

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13226SLB026	08/17/2013 06:09	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	13226SLB026	08/14/2013 18:30	Nicholas W Shroyer	1
05551	11a TPH by EPA 8015B GRO	TPH GRO SW-846 8015B mod	1	13226A16A	08/14/2013 20:35	Laura M Krieger	26.04
06130	GC - 5 g HL Encore Prep	SW-846 5035A	1	201322532029	08/13/2013 13:34	Larry E Bevins	n.a.
06130	GC - 5 g HL Encore Prep	SW-846 5035A	2	201322532029	08/13/2013 13:33	Larry E Bevins	n.a.
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132320013A	08/23/2013 00:55	Jessica L Miller	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132320013A	08/20/2013 18:20	Sally L Appleyard	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132280016A	08/21/2013 07:14	Heather E Williams	1
12959	EFH soil ext.(microwave)	SW-846 3546	1	132280016A	08/17/2013 12:15	Sally L Appleyard	1
11031	23a Dioxin/Furan by EPA 1613B	EPA 1613B	1	13232002	08/24/2013 04:28	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	13232002	08/20/2013 15:00	Brett M Weidman	1
01643	Aluminum	SW-846 6010C	1	132250637002	08/23/2013 06:13	Eric L Eby	1
06944	Antimony	SW-846 6010C	1	132250637002	08/23/2013 06:13	Eric L Eby	1
06935	Arsenic	SW-846 6010C	1	132250637002	08/23/2013 06:13	Eric L Eby	1
06946	Barium	SW-846 6010C	1	132250637002	08/23/2013 06:13	Eric L Eby	1
06947	Beryllium	SW-846 6010C	1	132250637002	08/23/2013 06:13	Eric L Eby	1
07914	Boron	SW-846 6010C	1	132250637002	08/23/2013 06:13	Eric L Eby	1
06949	Cadmium	SW-846 6010C	1	132250637002	08/23/2013 06:13	Eric L Eby	1
01650	Calcium	SW-846 6010C	1	132250637002	08/23/2013 06:13	Eric L Eby	1
06951	Chromium	SW-846 6010C	1	132250637002	08/23/2013 06:13	Eric L Eby	1
06952	Cobalt	SW-846 6010C	1	132250637002	08/23/2013 06:13	Eric L Eby	1
06953	Copper	SW-846 6010C	1	132250637002	08/23/2013 06:13	Eric L Eby	1
01654	Iron	SW-846 6010C	1	132250637002	08/23/2013 06:13	Eric L Eby	1
06955	Lead	SW-846 6010C	1	132250637002	08/23/2013 06:13	Eric L Eby	1
01656	Lithium	SW-846 6010C	1	132250637002	08/23/2013 06:13	Eric L Eby	1
01657	Magnesium	SW-846 6010C	1	132250637002	08/23/2013 06:13	Eric L Eby	1
06958	Manganese	SW-846 6010C	1	132250637002	08/23/2013 06:13	Eric L Eby	1
06960	Molybdenum	SW-846 6010C	1	132250637002	08/23/2013 06:13	Eric L Eby	1
06961	Nickel	SW-846 6010C	1	132250637002	08/23/2013 06:13	Eric L Eby	1
10145	Phosphorus	SW-846 6010C	1	132250637002	08/23/2013 06:13	Eric L Eby	1
01662	Potassium	SW-846 6010C	1	132250637002	08/23/2013 06:13	Eric L Eby	1
01667	Sodium	SW-846 6010C	1	132250637002	08/23/2013 06:13	Eric L Eby	1
06969	Tin	SW-846 6010C	1	132250637002	08/23/2013 06:13	Eric L Eby	1
06970	Titanium	SW-846 6010C	1	132250637002	08/23/2013 12:17	Katlin N Cataldi	5
06971	Vanadium	SW-846 6010C	1	132250637002	08/23/2013 06:13	Eric L Eby	1
06972	Zinc	SW-846 6010C	1	132250637002	08/23/2013 06:13	Eric L Eby	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-592-SA8-SB-3.5-4.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7158604
LL Group # 1410969
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/12/2013 09:20 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/13/2013 09:30

Reported: 08/26/2013 19:26

59235 SDG#: PH089-07

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
10146	Zirconium	SW-846 6010C	1	132250637002	08/23/2013	06:13	Eric L Eby	1
06141	Selenium	SW-846 6020A	1	132250637002B	08/19/2013	11:51	Choon Y Tian	2
06142	Silver	SW-846 6020A	1	132250637002A	08/19/2013	11:51	Choon Y Tian	2
06144	Strontium	SW-846 6020A	1	132250637002A	08/19/2013	11:51	Choon Y Tian	2
06145	Thallium	SW-846 6020A	1	132250637002A	08/19/2013	11:51	Choon Y Tian	2
00159	3a Mercury 7471A	SW-846 7471B	1	132250638001	08/15/2013	16:27	Parker D Lindstrom	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132250637002	08/14/2013	23:15	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132250638001	08/14/2013	15:15	Denise K Connors	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13225039402A	08/13/2013	21:40	Luz M Groff	1
11624	14a Moisture Content by 160.3	EPA 160.3 modified	1	13231162401A	08/20/2013	00:41	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-593-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7158605
LL Group # 1410969
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/12/2013 08:05 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/13/2013 09:30
Reported: 08/26/2013 19:26

59300 SDG#: PH089-08

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	1.7 U	1.7	0.68	1
12969	Acenaphthylene	208-96-8	1.7 U	1.7	0.34	1
12969	Anthracene	120-12-7	1.7 U	1.7	0.34	1
12969	Benzo(a)anthracene	56-55-3	1.7 J	1.7	0.68	1
12969	Benzo(a)pyrene	50-32-8	1.9	1.7	0.68	1
12969	Benzo(b)fluoranthene	205-99-2	3.7	1.7	0.68	1
12969	Benzo(e)pyrene	192-97-2	17 U	17	3.4	1
12969	Benzo(g,h,i)perylene	191-24-2	1.1 J	1.7	0.68	1
12969	Benzo(k)fluoranthene	207-08-9	1.6 J	1.7	0.68	1
12969	Butylbenzylphthalate	85-68-7	18 U	18	6.1	1
12969	Di-n-butylphthalate	84-74-2	18 U	18	6.1	1
12969	Chrysene	218-01-9	4.0	1.7	0.34	1
12969	Dibenz(a,h)anthracene	53-70-3	1.7 U	1.7	0.68	1
12969	Diethylphthalate	84-66-2	18 U	18	6.1	1
12969	Dimethylphthalate	131-11-3	18 U	18	6.1	1
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	16 J	18	6.1	1
12969	Fluoranthene	206-44-0	4.4	1.7	0.68	1
12969	Fluorene	86-73-7	0.99 J	1.7	0.68	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	0.98 J	1.7	0.68	1
12969	1-Methylnaphthalene	90-12-0	1.7 U	1.7	0.68	1
12969	2-Methylnaphthalene	91-57-6	1.7 U	1.7	0.68	1
12969	Naphthalene	91-20-3	1.7 U	1.7	0.68	1
12969	N-Nitrosodimethylamine	62-75-9	1.7 U	1.7	0.68	1
12969	Di-n-octylphthalate	117-84-0	18 U	18	6.1	1
12969	Phenanthrene	85-01-8	2.1	1.7	0.68	1
12969	Pyrene	129-00-0	3.8	1.7	0.68	1

Pesticides/PCBs	SW-846 8082A	ug/kg	ug/kg	ug/kg
10592	Aroclor 5432	63496-31-1	33 U	33
10592	Aroclor 5442	12642-23-8	33 U	33
10592	Aroclor 5460	11126-42-4	20 J	33
10592	PCB-1016	12674-11-2	17 U	17
10592	PCB-1221	11104-28-2	17 U	17
10592	PCB-1232	11141-16-5	17 U	17
10592	PCB-1242	53469-21-9	17 U	17
10592	PCB-1248	12672-29-6	17 U	17
10592	PCB-1254	11097-69-1	9.4 J	17
10592	PCB-1260	11096-82-5	17 U	17
10592	PCB-1262	37324-23-5	17 U	17
10592	PCB-1268	11100-14-4	17 U	17

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The client was contacted and the data reported.

GC Petroleum	SW-846 8015B modified	mg/kg	mg/kg	mg/kg
Hydrocarbons				
12952	EFH (C12-C14)	n.a.	5.1 U	5.1
12952	EFH (C15-C20)	n.a.	5.1 U	5.1
12952	EFH (C21-C30)	n.a.	4.3 J	5.1
12952	EFH (C30-C40)	n.a.	14	10

*=This limit was used in the evaluation of the final result

Sample Description: SL-593-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7158605
LL Group # 1410969
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/12/2013 08:05 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/13/2013 09:30
Reported: 08/26/2013 19:26

59300 SDG#: PH089-08

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC Petroleum Hydrocarbons						
SW-846 8015B modified mg/kg mg/kg mg/kg						
12952	EPH (C8-C11)	n.a.	5.1 U	5.1	2.0	1
Metals						
SW-846 6010C mg/kg mg/kg mg/kg						
01643	Aluminum	7429-90-5	14,700	40.2	7.24	1
06944	Antimony	7440-36-0	4.02 U	4.02	0.743	1
06935	Arsenic	7440-38-2	5.02	4.02	0.703	1
06946	Barium	7440-39-3	92.8	1.00	0.0331	1
06947	Beryllium	7440-41-7	0.539 J	1.00	0.0673	1
07914	Boron	7440-42-8	3.24 J	10.0	0.843	1
06949	Cadmium	7440-43-9	0.119 J	1.00	0.0763	1
01650	Calcium	7440-70-2	2,760	20.1	3.35	1
06951	Chromium	7440-47-3	18.0	3.01	0.161	1
06952	Cobalt	7440-48-4	4.96	1.00	0.0994	1
06953	Copper	7440-50-8	9.67	2.01	0.291	1
01654	Iron	7439-89-6	20,100	40.2	3.64	1
06955	Lead	7439-92-1	15.3	3.01	0.502	1
01656	Lithium	7439-93-2	22.4	4.0	0.34	1
01657	Magnesium	7439-95-4	4,080	10.0	1.68	1
06958	Manganese	7439-96-5	323	1.00	0.0833	1
06960	Molybdenum	7439-98-7	0.355 J	2.01	0.171	1
06961	Nickel	7440-02-0	11.3	2.01	0.131	1
10145	Phosphorus	7723-14-0	477	10.0	2.90	1
01662	Potassium	7440-09-7	3,550	100	8.37	1
01667	Sodium	7440-23-5	74.5 J	100	16.8	1
06969	Tin	7440-31-5	3.28 J	10.0	0.221	1
06970	Titanium	7440-32-6	1,170	5.02	0.854	5
06971	Vanadium	7440-62-2	33.0	1.00	0.131	1
06972	Zinc	7440-66-6	75.6	4.02	0.201	1
10146	Zirconium	7440-67-7	2.35 J	5.02	0.843	1
SW-846 6020A mg/kg mg/kg mg/kg						
06141	Selenium	7782-49-2	0.166 J	0.402	0.100	2
06142	Silver	7440-22-4	0.0479 J	0.201	0.0261	2
06144	Strontium	7440-24-6	22.4	0.402	0.0683	2
06145	Thallium	7440-28-0	0.264	0.201	0.0301	2
SW-846 7471B mg/kg mg/kg mg/kg						
00159	3a Mercury 7471A	7439-97-6	0.0261	0.0168	0.0101	1
Wet Chemistry						
SW-846 9045D modified Std. Units Std. Units Std. Units						
00394	15a pH by 9045D The pH was measured in water at 21.9 C.	n.a.	6.78	0.0100	0.0100	1
Wet Chemistry						
EPA 160.3 modified % % %						
11624	14a Moisture Content by 160.3	n.a.	1.4	0.10	0.10	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-593-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7158605
LL Group # 1410969
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/12/2013 08:05 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/13/2013 09:30

Reported: 08/26/2013 19:26

59300 SDG#: PH089-08

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Wet Chemistry	EPA 160.3 modified		%	%	%	
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

*=This limit was used in the evaluation of the final result

Sample Description: SL-593-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7158605
LL Group # 1410969
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/12/2013 08:05 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/13/2013 09:30
Reported: 08/26/2013 19:26

59300 SDG#: PH089-08

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
Dioxins/Furans		EPA 1613B	ng/kg	ng/kg	ng/kg	
11031	2378-TCDD	1746-01-6	0.981 U	0.981	0.0851	1
11031	12378-PeCDD	40321-76-4	0.133 JBQ	4.90	0.0971	1
11031	123478-HxCDD	39227-28-6	0.208 JB	4.90	0.107	1
11031	123678-HxCDD	57653-85-7	0.828 JBQ	4.90	0.116	1
11031	123789-HxCDD	19408-74-3	0.663 JBQ	4.90	0.107	1
11031	1234678-HpCDD	35822-46-9	13.9 B	4.90	0.114	1
11031	OCDD	3268-87-9	128 B	9.81	0.0719	1
11031	2378-TCDF	51207-31-9	0.532 JQ	0.981	0.199	1
11031	12378-PeCDF	57117-41-6	1.21 JB	4.90	0.116	1
11031	23478-PeCDF	57117-31-4	0.178 JBQ	4.90	0.105	1
11031	123478-HxCDF	70648-26-9	0.354 JBQ	4.90	0.0685	1
11031	123678-HxCDF	57117-44-9	0.341 JBQ	4.90	0.0678	1
11031	123789-HxCDF	72918-21-9	0.152 JB	4.90	0.0666	1
11031	234678-HxCDF	60851-34-5	0.283 JB	4.90	0.0623	1
11031	1234678-HpCDF	67562-39-4	1.69 JB	4.90	0.0521	1
11031	1234789-HpCDF	55673-89-7	0.139 JB	4.90	0.0728	1
11031	OCDF	39001-02-0	3.36 JB	9.81	0.0734	1

Toxic Equivalents		EPA 1613B	ng/kg	ng/kg	ng/kg	
11031	TEQ WHO 2005 - EDLx0.0	n.a.	0.298			1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	77	25 - 164
13C12-12378-PeCDD	82	25 - 181
13C12-123478-HxCDD	74	32 - 141
13C12-123678-HxCDD	79	28 - 130
13C12-123789-HxCDD	81	28 - 130
13C12-1234678-HpCDD	85	23 - 140
13C12-OCDD	82	17 - 157
13C12-2378-TCDF	68	24 - 169
13C12-12378-PeCDF	80	24 - 185
13C12-23478-PeCDF	79	21 - 178
13C12-123478-HxCDF	62	26 - 152
13C12-123678-HxCDF	69	26 - 123
13C12-234678-HxCDF	71	28 - 136
13C12-123789-HxCDF	74	29 - 147
13C12-1234678-HpCDF	78	28 - 143
13C12-1234789-HpCDF	73	26 - 138
13C12-OCDF	72	17 - 157

Dioxins/Furans Data Qualifiers:

- B Detected in Method Blank
- U Undetected
- J Estimated concentration between Estimated Detection Limit and Minimum Level
- E Exceeds calibration range
- C Confirmed quantitation on secondary GC column
- Q EMPC - Estimated Maximum Possible Concentration

*=This limit was used in the evaluation of the final result

Sample Description: SL-593-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7158605
LL Group # 1410969
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/12/2013 08:05 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/13/2013 09:30

Reported: 08/26/2013 19:26

59300 SDG#: PH089-08

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
F	Interference is present					
S	Saturation of detection signal					

*=This limit was used in the evaluation of the final result

Sample Description: SL-593-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7158605
LL Group # 1410969
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/12/2013 08:05 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/13/2013 09:30

Reported: 08/26/2013 19:26

59300 SDG#: PH089-08

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13226SLB026	08/17/2013 06:42	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	13226SLB026	08/14/2013 18:30	Nicholas W Shroyer	1
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132320013A	08/23/2013 01:13	Jessica L Miller	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132320013A	08/20/2013 18:20	Sally L Appleyard	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132280016A	08/21/2013 07:35	Heather E Williams	1
12959	EFH soil ext. (microwave)	SW-846 3546	1	132280016A	08/17/2013 12:15	Sally L Appleyard	1
11031	23a Dioxin/Furan by EPA 1613B	EPA 1613B	1	13232002	08/24/2013 10:16	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	13232002	08/20/2013 15:00	Brett M Weidman	1
01643	Aluminum	SW-846 6010C	1	132250637002	08/23/2013 06:17	Eric L Eby	1
06944	Antimony	SW-846 6010C	1	132250637002	08/23/2013 06:17	Eric L Eby	1
06935	Arsenic	SW-846 6010C	1	132250637002	08/23/2013 06:17	Eric L Eby	1
06946	Barium	SW-846 6010C	1	132250637002	08/23/2013 06:17	Eric L Eby	1
06947	Beryllium	SW-846 6010C	1	132250637002	08/23/2013 06:17	Eric L Eby	1
07914	Boron	SW-846 6010C	1	132250637002	08/23/2013 06:17	Eric L Eby	1
06949	Cadmium	SW-846 6010C	1	132250637002	08/23/2013 06:17	Eric L Eby	1
01650	Calcium	SW-846 6010C	1	132250637002	08/23/2013 06:17	Eric L Eby	1
06951	Chromium	SW-846 6010C	1	132250637002	08/23/2013 06:17	Eric L Eby	1
06952	Cobalt	SW-846 6010C	1	132250637002	08/23/2013 06:17	Eric L Eby	1
06953	Copper	SW-846 6010C	1	132250637002	08/23/2013 06:17	Eric L Eby	1
01654	Iron	SW-846 6010C	1	132250637002	08/23/2013 06:17	Eric L Eby	1
06955	Lead	SW-846 6010C	1	132250637002	08/23/2013 06:17	Eric L Eby	1
01656	Lithium	SW-846 6010C	1	132250637002	08/23/2013 06:17	Eric L Eby	1
01657	Magnesium	SW-846 6010C	1	132250637002	08/23/2013 06:17	Eric L Eby	1
06958	Manganese	SW-846 6010C	1	132250637002	08/23/2013 06:17	Eric L Eby	1
06960	Molybdenum	SW-846 6010C	1	132250637002	08/23/2013 06:17	Eric L Eby	1
06961	Nickel	SW-846 6010C	1	132250637002	08/23/2013 06:17	Eric L Eby	1
10145	Phosphorus	SW-846 6010C	1	132250637002	08/23/2013 06:17	Eric L Eby	1
01662	Potassium	SW-846 6010C	1	132250637002	08/23/2013 06:17	Eric L Eby	1
01667	Sodium	SW-846 6010C	1	132250637002	08/23/2013 06:17	Eric L Eby	1
06969	Tin	SW-846 6010C	1	132250637002	08/23/2013 06:17	Eric L Eby	1
06970	Titanium	SW-846 6010C	1	132250637002	08/23/2013 12:21	Katlin N Cataldi	5
06971	Vanadium	SW-846 6010C	1	132250637002	08/23/2013 06:17	Eric L Eby	1
06972	Zinc	SW-846 6010C	1	132250637002	08/23/2013 06:17	Eric L Eby	1
10146	Zirconium	SW-846 6010C	1	132250637002	08/23/2013 06:17	Eric L Eby	1
06141	Selenium	SW-846 6020A	1	132250637002B	08/19/2013 11:54	Choon Y Tian	2
06142	Silver	SW-846 6020A	1	132250637002A	08/19/2013 11:54	Choon Y Tian	2
06144	Strontium	SW-846 6020A	1	132250637002A	08/19/2013 11:54	Choon Y Tian	2

*=This limit was used in the evaluation of the final result

Sample Description: SL-593-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7158605
LL Group # 1410969
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/12/2013 08:05 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/13/2013 09:30

Reported: 08/26/2013 19:26

59300 SDG#: PH089-08

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
06145	Thallium	SW-846 6020A	1	132250637002A	08/19/2013	11:54	Choon Y Tian	2
00159	3a Mercury 7471A	SW-846 7471B	1	132250638001	08/15/2013	16:29	Parker D Lindstrom	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132250637002	08/14/2013	23:15	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132250638001	08/14/2013	15:15	Denise K Conners	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13225039402A	08/13/2013	21:40	Luz M Groff	1
11624	14a Moisture Content by 160.3	EPA 160.3 modified	1	13231162401A	08/20/2013	00:41	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-593-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7158606
LL Group # 1410969
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/12/2013 08:20 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/13/2013 09:30
Reported: 08/26/2013 19:26

59340 SDG#: PH089-09

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	1.7 U	1.7	0.70	1
12969	Acenaphthylene	208-96-8	1.7 U	1.7	0.35	1
12969	Anthracene	120-12-7	1.7 U	1.7	0.35	1
12969	Benzo(a)anthracene	56-55-3	1.7 U	1.7	0.70	1
12969	Benzo(a)pyrene	50-32-8	1.7 U	1.7	0.70	1
12969	Benzo(b)fluoranthene	205-99-2	1.7 U	1.7	0.70	1
12969	Benzo(e)pyrene	192-97-2	18 U	18	3.5	1
12969	Benzo(g,h,i)perylene	191-24-2	1.7 U	1.7	0.70	1
12969	Benzo(k)fluoranthene	207-08-9	1.7 U	1.7	0.70	1
12969	Butylbenzylphthalate	85-68-7	19 U	19	6.3	1
12969	Di-n-butylphthalate	84-74-2	19 U	19	6.3	1
12969	Chrysene	218-01-9	1.7 U	1.7	0.35	1
12969	Dibenz(a,h)anthracene	53-70-3	1.7 U	1.7	0.70	1
12969	Diethylphthalate	84-66-2	19 U	19	6.3	1
12969	Dimethylphthalate	131-11-3	19 U	19	6.3	1
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	19 U	19	6.3	1
12969	Fluoranthene	206-44-0	1.7 U	1.7	0.70	1
12969	Fluorene	86-73-7	1.7 U	1.7	0.70	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	1.7 U	1.7	0.70	1
12969	1-Methylnaphthalene	90-12-0	1.7 U	1.7	0.70	1
12969	2-Methylnaphthalene	91-57-6	1.7 U	1.7	0.70	1
12969	Naphthalene	91-20-3	1.7 U	1.7	0.70	1
12969	N-Nitrosodimethylamine	62-75-9	1.7 U	1.7	0.70	1
12969	Di-n-octylphthalate	117-84-0	19 U	19	6.3	1
12969	Phenanthrene	85-01-8	1.7 U	1.7	0.70	1
12969	Pyrene	129-00-0	1.7 U	1.7	0.70	1
GC Volatiles	TPH GRO SW-846 8015B mod	mg/kg	mg/kg	mg/kg		
05551	11a TPH by EPA 8015B GRO	n.a.	1.1 U	1.1	0.2	26.37
Pesticides/PCBs	SW-846 8082A	ug/kg	ug/kg	ug/kg		
10592	Aroclor 5432	63496-31-1	34 U	34	10	1
10592	Aroclor 5442	12642-23-8	34 U	34	10	1
10592	Aroclor 5460	11126-42-4	34 U	34	10	1
10592	PCB-1016	12674-11-2	18 U	18	3.4	1
10592	PCB-1221	11104-28-2	18 U	18	5.3	1
10592	PCB-1232	11141-16-5	18 U	18	4.3	1
10592	PCB-1242	53469-21-9	18 U	18	4.3	1
10592	PCB-1248	12672-29-6	18 U	18	3.4	1
10592	PCB-1254	11097-69-1	18 U	18	4.6	1
10592	PCB-1260	11096-82-5	18 U	18	4.1	1
10592	PCB-1262	37324-23-5	18 U	18	3.4	1
10592	PCB-1268	11100-14-4	18 U	18	3.4	1
GC Petroleum	SW-846 8015B modified	mg/kg	mg/kg	mg/kg		
Hydrocarbons						
12952	EFH (C12-C14)	n.a.	5.2 U	5.2	2.1	1
12952	EFH (C15-C20)	n.a.	5.2 U	5.2	2.1	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-593-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7158606
LL Group # 1410969
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/12/2013 08:20 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/13/2013 09:30
Reported: 08/26/2013 19:26

59340 SDG#: PH089-09

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC Petroleum						
Hydrocarbons						
		SW-846 8015B modified	mg/kg	mg/kg	mg/kg	
12952	EFH (C21-C30)	n.a.	7.4	5.2	2.1	1
12952	EFH (C30-C40)	n.a.	20	10	4.2	1
12952	EFH (C8-C11)	n.a.	5.2 U	5.2	2.1	1
Metals						
		SW-846 6010C	mg/kg	mg/kg	mg/kg	
01643	Aluminum	7429-90-5	17,500	41.3	7.44	1
06944	Antimony	7440-36-0	4.13 U	4.13	0.764	1
06935	Arsenic	7440-38-2	5.44	4.13	0.723	1
06946	Barium	7440-39-3	86.8	1.03	0.0341	1
06947	Beryllium	7440-41-7	0.642 J	1.03	0.0692	1
07914	Boron	7440-42-8	2.69 J	10.3	0.867	1
06949	Cadmium	7440-43-9	1.03 U	1.03	0.0785	1
01650	Calcium	7440-70-2	2,440	20.6	3.45	1
06951	Chromium	7440-47-3	19.8	3.10	0.165	1
06952	Cobalt	7440-48-4	5.54	1.03	0.102	1
06953	Copper	7440-50-8	8.68	2.06	0.299	1
01654	Iron	7439-89-6	22,400	41.3	3.74	1
06955	Lead	7439-92-1	7.45	3.10	0.516	1
01656	Lithium	7439-93-2	25.9	4.1	0.35	1
01657	Magnesium	7439-95-4	4,580	10.3	1.72	1
06958	Manganese	7439-96-5	319	1.03	0.0857	1
06960	Molybdenum	7439-98-7	0.498 J	2.06	0.176	1
06961	Nickel	7440-02-0	11.6	2.06	0.134	1
10145	Phosphorus	7723-14-0	558	10.3	2.98	1
01662	Potassium	7440-09-7	3,200	103	8.61	1
01667	Sodium	7440-23-5	86.3 J	103	17.2	1
06969	Tin	7440-31-5	3.32 J	10.3	0.227	1
06970	Titanium	7440-32-6	1,260	5.16	0.878	5
06971	Vanadium	7440-62-2	38.3	1.03	0.134	1
06972	Zinc	7440-66-6	58.0	4.13	0.206	1
10146	Zirconium	7440-67-7	2.77 J	5.16	0.867	1
		SW-846 6020A	mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	0.212 J	0.413	0.103	2
06142	Silver	7440-22-4	0.0448 J	0.206	0.0268	2
06144	Strontium	7440-24-6	20.5	0.413	0.0702	2
06145	Thallium	7440-28-0	0.277	0.206	0.0310	2
		SW-846 7471B	mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.0152 J	0.0173	0.0104	1
Wet Chemistry						
		SW-846 9045D modified	Std. Units	Std. Units	Std. Units	
00394	15a pH by 9045D The pH was measured in water at 21.8 C.	n.a.	6.82	0.0100	0.0100	1
Wet Chemistry						
		EPA 160.3 modified	%	%	%	
11624	14a Moisture Content by 160.3	n.a.	4.1	0.10	0.10	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-593-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7158606
LL Group # 1410969
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/12/2013 08:20 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/13/2013 09:30

Reported: 08/26/2013 19:26

59340 SDG#: PH089-09

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Wet Chemistry	EPA 160.3 modified		%	%	%	
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

*=This limit was used in the evaluation of the final result

Sample Description: SL-593-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7158606
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CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
Dioxins/Furans			ng/kg	ng/kg	ng/kg	
EPA 1613B						
11031	2378-TCDD	1746-01-6	1.02 U	1.02	0.0851	1
11031	12378-PeCDD	40321-76-4	5.10 U	5.10	0.0797	1
11031	123478-HxCDD	39227-28-6	5.10 U	5.10	0.0842	1
11031	123678-HxCDD	57653-85-7	0.249 JBQ	5.10	0.0775	1
11031	123789-HxCDD	19408-74-3	0.135 JBQ	5.10	0.0761	1
11031	1234678-HpCDD	35822-46-9	4.32 JB	5.10	0.0828	1
11031	OCDD	3268-87-9	55.2 B	10.2	0.0514	1
11031	2378-TCDF	51207-31-9	0.114 J	1.02	0.0993	1
11031	12378-PeCDF	57117-41-6	0.0930 JBQ	5.10	0.0693	1
11031	23478-PeCDF	57117-31-4	5.10 U	5.10	0.0502	1
11031	123478-HxCDF	70648-26-9	0.0752 JBQ	5.10	0.0319	1
11031	123678-HxCDF	57117-44-9	5.10 U	5.10	0.0334	1
11031	123789-HxCDF	72918-21-9	0.0956 JB	5.10	0.0417	1
11031	234678-HxCDF	60851-34-5	0.0709 JB	5.10	0.0330	1
11031	1234678-HpCDF	67562-39-4	0.599 JBQ	5.10	0.124	1
11031	1234789-HpCDF	55673-89-7	0.239 JBQ	5.10	0.157	1
11031	OCDF	39001-02-0	1.25 JB	10.2	0.0740	1

Toxic Equivalents		EPA 1613B	ng/kg	ng/kg	ng/kg	
11031	TEQ WHO 2005 - EDLx0.0	n.a.	0.0883			1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	72	25 - 164
13C12-12378-PeCDD	86	25 - 181
13C12-123478-HxCDD	78	32 - 141
13C12-123678-HxCDD	83	28 - 130
13C12-123789-HxCDD	82	28 - 130
13C12-1234678-HpCDD	107	23 - 140
13C12-OCDD	97	17 - 157
13C12-2378-TCDF	70	24 - 169
13C12-12378-PeCDF	81	24 - 185
13C12-23478-PeCDF	84	21 - 178
13C12-123478-HxCDF	69	26 - 152
13C12-123678-HxCDF	74	26 - 123
13C12-234678-HxCDF	70	28 - 136
13C12-123789-HxCDF	73	29 - 147
13C12-1234678-HpCDF	82	28 - 143
13C12-1234789-HpCDF	85	26 - 138
13C12-OCDF	82	17 - 157

Dioxins/Furans Data Qualifiers:

- B Detected in Method Blank
- U Undetected
- J Estimated concentration between Estimated Detection Limit and Minimum Level
- E Exceeds calibration range
- C Confirmed quantitation on secondary GC column
- Q EMPC - Estimated Maximum Possible Concentration

*=This limit was used in the evaluation of the final result

Sample Description: SL-593-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7158606
LL Group # 1410969
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/12/2013 08:20 by SM

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Fairfax VA 22030

Submitted: 08/13/2013 09:30

Reported: 08/26/2013 19:26

59340 SDG#: PH089-09

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
F	Interference is present					
S	Saturation of detection signal					

*=This limit was used in the evaluation of the final result

Sample Description: SL-593-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7158606
LL Group # 1410969
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/12/2013 08:20 by SM

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Submitted: 08/13/2013 09:30
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59340 SDG#: PH089-09

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13226SLB026	08/17/2013 07:14	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	13226SLB026	08/14/2013 18:30	Nicholas W Shroyer	1
05551	11a TPH by EPA 8015B GRO	TPH GRO SW-846 8015B mod	1	13226A16A	08/14/2013 21:13	Laura M Krieger	26.37
06130	GC - 5 g HL Encore Prep	SW-846 5035A	1	201322532029	08/13/2013 13:35	Larry E Bevins	n.a.
06130	GC - 5 g HL Encore Prep	SW-846 5035A	2	201322532029	08/13/2013 13:34	Larry E Bevins	n.a.
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132320013A	08/23/2013 01:32	Jessica L Miller	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132320013A	08/20/2013 18:20	Sally L Appleyard	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132280016A	08/21/2013 07:56	Heather E Williams	1
12959	EFH soil ext.(microwave)	SW-846 3546	1	132280016A	08/17/2013 12:15	Sally L Appleyard	1
11031	23a Dioxin/Furan by EPA 1613B	EPA 1613B	1	13232002	08/24/2013 11:13	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	13232002	08/20/2013 15:00	Brett M Weidman	1
01643	Aluminum	SW-846 6010C	1	132250637002	08/23/2013 06:20	Eric L Eby	1
06944	Antimony	SW-846 6010C	1	132250637002	08/23/2013 06:20	Eric L Eby	1
06935	Arsenic	SW-846 6010C	1	132250637002	08/23/2013 06:20	Eric L Eby	1
06946	Barium	SW-846 6010C	1	132250637002	08/23/2013 06:20	Eric L Eby	1
06947	Beryllium	SW-846 6010C	1	132250637002	08/23/2013 06:20	Eric L Eby	1
07914	Boron	SW-846 6010C	1	132250637002	08/23/2013 06:20	Eric L Eby	1
06949	Cadmium	SW-846 6010C	1	132250637002	08/23/2013 06:20	Eric L Eby	1
01650	Calcium	SW-846 6010C	1	132250637002	08/23/2013 06:20	Eric L Eby	1
06951	Chromium	SW-846 6010C	1	132250637002	08/23/2013 06:20	Eric L Eby	1
06952	Cobalt	SW-846 6010C	1	132250637002	08/23/2013 06:20	Eric L Eby	1
06953	Copper	SW-846 6010C	1	132250637002	08/23/2013 06:20	Eric L Eby	1
01654	Iron	SW-846 6010C	1	132250637002	08/23/2013 06:20	Eric L Eby	1
06955	Lead	SW-846 6010C	1	132250637002	08/23/2013 06:20	Eric L Eby	1
01656	Lithium	SW-846 6010C	1	132250637002	08/23/2013 06:20	Eric L Eby	1
01657	Magnesium	SW-846 6010C	1	132250637002	08/23/2013 06:20	Eric L Eby	1
06958	Manganese	SW-846 6010C	1	132250637002	08/23/2013 06:20	Eric L Eby	1
06960	Molybdenum	SW-846 6010C	1	132250637002	08/23/2013 06:20	Eric L Eby	1
06961	Nickel	SW-846 6010C	1	132250637002	08/23/2013 06:20	Eric L Eby	1
10145	Phosphorus	SW-846 6010C	1	132250637002	08/23/2013 06:20	Eric L Eby	1
01662	Potassium	SW-846 6010C	1	132250637002	08/23/2013 06:20	Eric L Eby	1
01667	Sodium	SW-846 6010C	1	132250637002	08/23/2013 06:20	Eric L Eby	1
06969	Tin	SW-846 6010C	1	132250637002	08/23/2013 06:20	Eric L Eby	1
06970	Titanium	SW-846 6010C	1	132250637002	08/23/2013 12:25	Katlin N Cataldi	5
06971	Vanadium	SW-846 6010C	1	132250637002	08/23/2013 06:20	Eric L Eby	1
06972	Zinc	SW-846 6010C	1	132250637002	08/23/2013 06:20	Eric L Eby	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-593-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7158606
LL Group # 1410969
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/12/2013 08:20 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/13/2013 09:30

Reported: 08/26/2013 19:26

59340 SDG#: PH089-09

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
10146	Zirconium	SW-846 6010C	1	132250637002	08/23/2013	06:20	Eric L Eby	1
06141	Selenium	SW-846 6020A	1	132250637002B	08/19/2013	11:56	Choon Y Tian	2
06142	Silver	SW-846 6020A	1	132250637002A	08/19/2013	11:56	Choon Y Tian	2
06144	Strontium	SW-846 6020A	1	132250637002A	08/19/2013	11:56	Choon Y Tian	2
06145	Thallium	SW-846 6020A	1	132250637002A	08/19/2013	11:56	Choon Y Tian	2
00159	3a Mercury 7471A	SW-846 7471B	1	132250638001	08/15/2013	16:31	Parker D Lindstrom	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132250637002	08/14/2013	23:15	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132250638001	08/14/2013	15:15	Denise K Connors	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13225039402A	08/13/2013	21:40	Luz M Groff	1
11624	14a Moisture Content by 160.3	EPA 160.3 modified	1	13231162401A	08/20/2013	00:41	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-585-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7158607
LL Group # 1410969
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/12/2013 13:35 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/13/2013 09:30
Reported: 08/26/2013 19:26

58500 SDG#: PH089-10*

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	1.7 U	1.7	0.67	1
12969	Acenaphthylene	208-96-8	1.7 U	1.7	0.34	1
12969	Anthracene	120-12-7	1.7 U	1.7	0.34	1
12969	Benzo(a)anthracene	56-55-3	1.7 U	1.7	0.67	1
12969	Benzo(a)pyrene	50-32-8	1.7 U	1.7	0.67	1
12969	Benzo(b)fluoranthene	205-99-2	0.87 J	1.7	0.67	1
12969	Benzo(e)pyrene	192-97-2	17 U	17	3.4	1
12969	Benzo(g,h,i)perylene	191-24-2	1.7 U	1.7	0.67	1
12969	Benzo(k)fluoranthene	207-08-9	1.7 U	1.7	0.67	1
12969	Butylbenzylphthalate	85-68-7	18 U	18	6.0	1
12969	Di-n-butylphthalate	84-74-2	18 U	18	6.0	1
12969	Chrysene	218-01-9	0.87 J	1.7	0.34	1
12969	Dibenz(a,h)anthracene	53-70-3	1.7 U	1.7	0.67	1
12969	Diethylphthalate	84-66-2	18 U	18	6.0	1
12969	Dimethylphthalate	131-11-3	18 U	18	6.0	1
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	8.2 J	18	6.0	1
12969	Fluoranthene	206-44-0	0.90 J	1.7	0.67	1
12969	Fluorene	86-73-7	1.7 U	1.7	0.67	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	1.7 U	1.7	0.67	1
12969	1-Methylnaphthalene	90-12-0	1.7 U	1.7	0.67	1
12969	2-Methylnaphthalene	91-57-6	1.7 U	1.7	0.67	1
12969	Naphthalene	91-20-3	1.7 U	1.7	0.67	1
12969	N-Nitrosodimethylamine	62-75-9	1.7 U	1.7	0.67	1
12969	Di-n-octylphthalate	117-84-0	18 U	18	6.0	1
12969	Phenanthrene	85-01-8	1.7 U	1.7	0.67	1
12969	Pyrene	129-00-0	0.77 J	1.7	0.67	1
Pesticides/PCBs	SW-846 8082A		ug/kg	ug/kg	ug/kg	
10592	Aroclor 5432	63496-31-1	33 U	33	10	1
10592	Aroclor 5442	12642-23-8	33 U	33	10	1
10592	Aroclor 5460	11126-42-4	33 U	33	10	1
10592	PCB-1016	12674-11-2	17 U	17	3.3	1
10592	PCB-1221	11104-28-2	17 U	17	5.1	1
10592	PCB-1232	11141-16-5	17 U	17	4.1	1
10592	PCB-1242	53469-21-9	17 U	17	4.1	1
10592	PCB-1248	12672-29-6	17 U	17	3.3	1
10592	PCB-1254	11097-69-1	17 U	17	4.4	1
10592	PCB-1260	11096-82-5	17 U	17	3.9	1
10592	PCB-1262	37324-23-5	17 U	17	3.3	1
10592	PCB-1268	11100-14-4	17 U	17	3.3	1
GC Petroleum	SW-846 8015B modified		mg/kg	mg/kg	mg/kg	
Hydrocarbons						
12952	EFH (C12-C14)	n.a.	5.0 U	5.0	2.0	1
12952	EFH (C15-C20)	n.a.	2.3 J	5.0	2.0	1
12952	EFH (C21-C30)	n.a.	23	5.0	2.0	1
12952	EFH (C30-C40)	n.a.	49	10	4.0	1
12952	EFH (C8-C11)	n.a.	5.0 U	5.0	2.0	1
Metals	SW-846 6010C		mg/kg	mg/kg	mg/kg	

*=This limit was used in the evaluation of the final result

Sample Description: SL-585-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7158607
LL Group # 1410969
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/12/2013 13:35 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/13/2013 09:30
Reported: 08/26/2013 19:26

58500 SDG#: PH089-10*

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals						
		SW-846 6010C	mg/kg	mg/kg	mg/kg	
01643	Aluminum	7429-90-5	16,800	39.9	7.19	1
06944	Antimony	7440-36-0	3.99 U	3.99	0.738	1
06935	Arsenic	7440-38-2	4.73	3.99	0.698	1
06946	Barium	7440-39-3	115	0.997	0.0329	1
06947	Beryllium	7440-41-7	0.598 J	0.997	0.0668	1
07914	Boron	7440-42-8	3.31 J	9.97	0.837	1
06949	Cadmium	7440-43-9	0.0927 J	0.997	0.0758	1
01650	Calcium	7440-70-2	2,390	19.9	3.33	1
06951	Chromium	7440-47-3	14.7	2.99	0.159	1
06952	Cobalt	7440-48-4	4.74	0.997	0.0987	1
06953	Copper	7440-50-8	9.31	1.99	0.289	1
01654	Iron	7439-89-6	19,500	39.9	3.61	1
06955	Lead	7439-92-1	9.57	2.99	0.498	1
01656	Lithium	7439-93-2	20.1	4.0	0.34	1
01657	Magnesium	7439-95-4	3,380	9.97	1.66	1
06958	Manganese	7439-96-5	330	0.997	0.0827	1
06960	Molybdenum	7439-98-7	0.416 J	1.99	0.169	1
06961	Nickel	7440-02-0	9.79	1.99	0.130	1
10145	Phosphorus	7723-14-0	503	9.97	2.88	1
01662	Potassium	7440-09-7	4,170	99.7	8.31	1
01667	Sodium	7440-23-5	71.9 J	99.7	16.6	1
06969	Tin	7440-31-5	3.26 J	9.97	0.219	1
06970	Titanium	7440-32-6	1,130	4.98	0.847	5
06971	Vanadium	7440-62-2	27.5	0.997	0.130	1
06972	Zinc	7440-66-6	67.9	3.99	0.199	1
10146	Zirconium	7440-67-7	2.73 J	4.98	0.837	1
		SW-846 6020A	mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	0.191 J	0.399	0.0997	2
06142	Silver	7440-22-4	0.0440 J	0.199	0.0259	2
06144	Strontium	7440-24-6	30.2	0.399	0.0678	2
06145	Thallium	7440-28-0	0.321	0.199	0.0299	2
		SW-846 7471B	mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.0152 J	0.0165	0.0099	1
Wet Chemistry						
		SW-846 9045D modified	Std. Units	Std. Units	Std. Units	
00394	15a pH by 9045D The pH was measured in water at 21.9 C.	n.a.	9.32	0.0100	0.0100	1
Wet Chemistry						
		EPA 160.3 modified	%	%	%	
11624	14a Moisture Content by 160.3 Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.	n.a.	0.67	0.10	0.10	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-585-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7158607
LL Group # 1410969
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/12/2013 13:35 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/13/2013 09:30
Reported: 08/26/2013 19:26

58500 SDG#: PH089-10*

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
Dioxins/Furans			ng/kg	ng/kg	ng/kg	
EPA 1613B						
11031	2378-TCDD	1746-01-6	0.996 U	0.996	0.0638	1
11031	12378-PeCDD	40321-76-4	0.102 JBQ	4.98	0.0819	1
11031	123478-HxCDD	39227-28-6	4.98 U	4.98	0.0720	1
11031	123678-HxCDD	57653-85-7	0.233 JBQ	4.98	0.0680	1
11031	123789-HxCDD	19408-74-3	0.252 JBQ	4.98	0.0666	1
11031	1234678-HpCDD	35822-46-9	3.49 JB	4.98	0.0830	1
11031	OCDD	3268-87-9	32.3 B	9.96	0.0532	1
11031	2378-TCDF	51207-31-9	0.161 J	0.996	0.0836	1
11031	12378-PeCDF	57117-41-6	0.302 JBQ	4.98	0.0546	1
11031	23478-PeCDF	57117-31-4	0.0675 JBQ	4.98	0.0418	1
11031	123478-HxCDF	70648-26-9	0.0883 JBQ	4.98	0.0318	1
11031	123678-HxCDF	57117-44-9	0.124 JBQ	4.98	0.0308	1
11031	123789-HxCDF	72918-21-9	0.243 JB	4.98	0.0422	1
11031	234678-HxCDF	60851-34-5	0.118 JBQ	4.98	0.0289	1
11031	1234678-HpCDF	67562-39-4	0.601 JB	4.98	0.0848	1
11031	1234789-HpCDF	55673-89-7	4.98 U	4.98	0.119	1
11031	OCDF	39001-02-0	1.10 JB	9.96	0.0670	1

Toxic Equivalents		EPA 1613B	ng/kg	ng/kg	ng/kg	
11031	TEQ WHO 2005 - EDLx0.0	n.a.	0.0914			1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	73	25 - 164
13C12-12378-PeCDD	81	25 - 181
13C12-123478-HxCDD	78	32 - 141
13C12-123678-HxCDD	84	28 - 130
13C12-123789-HxCDD	83	28 - 130
13C12-1234678-HpCDD	100	23 - 140
13C12-OCDD	85	17 - 157
13C12-2378-TCDF	65	24 - 169
13C12-12378-PeCDF	80	24 - 185
13C12-23478-PeCDF	78	21 - 178
13C12-123478-HxCDF	66	26 - 152
13C12-123678-HxCDF	73	26 - 123
13C12-234678-HxCDF	75	28 - 136
13C12-123789-HxCDF	78	29 - 147
13C12-1234678-HpCDF	83	28 - 143
13C12-1234789-HpCDF	77	26 - 138
13C12-OCDF	71	17 - 157

Dioxins/Furans Data Qualifiers:

- B Detected in Method Blank
- U Undetected
- J Estimated concentration between Estimated Detection Limit and Minimum Level
- E Exceeds calibration range
- C Confirmed quantitation on secondary GC column
- Q EMPC - Estimated Maximum Possible Concentration

*=This limit was used in the evaluation of the final result

Sample Description: SL-585-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7158607
LL Group # 1410969
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/12/2013 13:35 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/13/2013 09:30

Reported: 08/26/2013 19:26

58500 SDG#: PH089-10*

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
F	Interference is present					
S	Saturation of detection signal					

*=This limit was used in the evaluation of the final result

Sample Description: SL-585-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7158607
LL Group # 1410969
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/12/2013 13:35 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/13/2013 09:30
Reported: 08/26/2013 19:26

58500 SDG#: PH089-10*

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13226SLB026	08/17/2013 07:47	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	13226SLB026	08/14/2013 18:30	Nicholas W Shroyer	1
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132320013A	08/23/2013 01:50	Jessica L Miller	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132320013A	08/20/2013 18:20	Sally L Appleyard	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132280016A	08/21/2013 08:59	Heather E Williams	1
12959	EPH soil ext. (microwave)	SW-846 3546	1	132280016A	08/17/2013 12:15	Sally L Appleyard	1
11031	23a Dioxin/Furan by EPA 1613B	EPA 1613B	1	13232002	08/24/2013 12:10	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	13232002	08/20/2013 15:00	Brett M Weidman	1
01643	Aluminum	SW-846 6010C	1	132250637002	08/23/2013 06:24	Eric L Eby	1
06944	Antimony	SW-846 6010C	1	132250637002	08/23/2013 06:24	Eric L Eby	1
06935	Arsenic	SW-846 6010C	1	132250637002	08/23/2013 06:24	Eric L Eby	1
06946	Barium	SW-846 6010C	1	132250637002	08/23/2013 06:24	Eric L Eby	1
06947	Beryllium	SW-846 6010C	1	132250637002	08/23/2013 06:24	Eric L Eby	1
07914	Boron	SW-846 6010C	1	132250637002	08/23/2013 06:24	Eric L Eby	1
06949	Cadmium	SW-846 6010C	1	132250637002	08/23/2013 06:24	Eric L Eby	1
01650	Calcium	SW-846 6010C	1	132250637002	08/23/2013 06:24	Eric L Eby	1
06951	Chromium	SW-846 6010C	1	132250637002	08/23/2013 06:24	Eric L Eby	1
06952	Cobalt	SW-846 6010C	1	132250637002	08/23/2013 06:24	Eric L Eby	1
06953	Copper	SW-846 6010C	1	132250637002	08/23/2013 06:24	Eric L Eby	1
01654	Iron	SW-846 6010C	1	132250637002	08/23/2013 06:24	Eric L Eby	1
06955	Lead	SW-846 6010C	1	132250637002	08/23/2013 06:24	Eric L Eby	1
01656	Lithium	SW-846 6010C	1	132250637002	08/23/2013 06:24	Eric L Eby	1
01657	Magnesium	SW-846 6010C	1	132250637002	08/23/2013 06:24	Eric L Eby	1
06958	Manganese	SW-846 6010C	1	132250637002	08/23/2013 06:24	Eric L Eby	1
06960	Molybdenum	SW-846 6010C	1	132250637002	08/23/2013 06:24	Eric L Eby	1
06961	Nickel	SW-846 6010C	1	132250637002	08/23/2013 06:24	Eric L Eby	1
10145	Phosphorus	SW-846 6010C	1	132250637002	08/23/2013 06:24	Eric L Eby	1
01662	Potassium	SW-846 6010C	1	132250637002	08/23/2013 06:24	Eric L Eby	1
01667	Sodium	SW-846 6010C	1	132250637002	08/23/2013 06:24	Eric L Eby	1
06969	Tin	SW-846 6010C	1	132250637002	08/23/2013 06:24	Eric L Eby	1
06970	Titanium	SW-846 6010C	1	132250637002	08/23/2013 12:28	Katlin N Cataldi	5
06971	Vanadium	SW-846 6010C	1	132250637002	08/23/2013 06:24	Eric L Eby	1
06972	Zinc	SW-846 6010C	1	132250637002	08/23/2013 06:24	Eric L Eby	1
10146	Zirconium	SW-846 6010C	1	132250637002	08/23/2013 06:24	Eric L Eby	1
06141	Selenium	SW-846 6020A	1	132250637002B	08/19/2013 11:59	Choon Y Tian	2
06142	Silver	SW-846 6020A	1	132250637002A	08/19/2013 11:59	Choon Y Tian	2
06144	Strontium	SW-846 6020A	1	132250637002A	08/19/2013 11:59	Choon Y Tian	2

*=This limit was used in the evaluation of the final result

Sample Description: SL-585-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7158607
LL Group # 1410969
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/12/2013 13:35 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/13/2013 09:30

Reported: 08/26/2013 19:26

58500 SDG#: PH089-10*

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
06145	Thallium	SW-846 6020A	1	132250637002A	08/19/2013	11:59	Choon Y Tian	2
00159	3a Mercury 7471A	SW-846 7471B	1	132250638001	08/15/2013	16:37	Parker D Lindstrom	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132250637002	08/14/2013	23:15	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132250638001	08/14/2013	15:15	Denise K Conners	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13225039402A	08/13/2013	21:40	Luz M Groff	1
11624	14a Moisture Content by 160.3	EPA 160.3 modified	1	13231162401A	08/20/2013	00:41	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/26/13 at 07:26 PM

Group Number: 1410969

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ**</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 13226SLB026	Sample number(s): 7158599-7158607								
Acenaphthene	1.7 U	1.7	0.67	ug/kg	100		77-116		
Acenaphthylene	1.7 U	1.7	0.33	ug/kg	106		78-120		
Anthracene	1.7 U	1.7	0.33	ug/kg	104		80-116		
Benzo(a)anthracene	1.7 U	1.7	0.67	ug/kg	102		83-119		
Benzo(a)pyrene	1.7 U	1.7	0.67	ug/kg	106		80-122		
Benzo(b)fluoranthene	1.7 U	1.7	0.67	ug/kg	111		82-135		
Benzo(e)pyrene	17 U	17.	3.3	ug/kg	95		81-110		
Benzo(g,h,i)perylene	1.7 U	1.7	0.67	ug/kg	104		79-121		
Benzo(k)fluoranthene	1.7 U	1.7	0.67	ug/kg	108		79-123		
Butylbenzylphthalate	18 U	18.	6.0	ug/kg	115		77-123		
Di-n-butylphthalate	18 U	18.	6.0	ug/kg	115		78-125		
Chrysene	1.7 U	1.7	0.33	ug/kg	103		84-113		
Dibenz(a,h)anthracene	1.7 U	1.7	0.67	ug/kg	108		78-124		
Diethylphthalate	18 U	18.	6.0	ug/kg	110		77-130		
Dimethylphthalate	18 U	18.	6.0	ug/kg	108		85-122		
Bis(2-Ethylhexyl)phthalate	18 U	18.	6.0	ug/kg	111		79-121		
Fluoranthene	1.7 U	1.7	0.67	ug/kg	103		85-116		
Fluorene	1.7 U	1.7	0.67	ug/kg	104		81-126		
Indeno(1,2,3-cd)pyrene	1.7 U	1.7	0.67	ug/kg	107		77-124		
1-Methylnaphthalene	1.7 U	1.7	0.67	ug/kg	111		78-119		
2-Methylnaphthalene	1.7 U	1.7	0.67	ug/kg	109		78-121		
Naphthalene	1.7 U	1.7	0.67	ug/kg	105		79-113		
N-Nitrosodimethylamine	1.7 U	1.7	0.67	ug/kg	98		71-124		
Di-n-octylphthalate	18 U	18.	6.0	ug/kg	113		76-131		
Phenanthrene	1.7 U	1.7	0.67	ug/kg	100		72-110		
Pyrene	1.7 U	1.7	0.67	ug/kg	102		79-112		
Batch number: 13226A16A	Sample number(s): 7158600-7158601,7158604,7158606								
11a TPH by EPA 8015B GRO	1.0 U	1.0	0.2	mg/kg	90		67-119		
Batch number: 13228A94A	Sample number(s): 7158598								
TPH-GRO S.CA water C5-C12	50 U	50.	20	ug/l	118	119	75-135	1	30
Batch number: 132250009A	Sample number(s): 7158599-7158601								
2,4-D	36 U	36.	12	ug/kg	103		59-122		
Dalapon	90 U	90.	44	ug/kg	45		25-100		
2,4-DB	17 U	17.	6.2	ug/kg	108		54-131		
Dicamba	12 U	12.	4.0	ug/kg	83		60-123		
Dinoseb	24 U	24.	9.0	ug/kg	12		10-36		
2,4-DP (Dichlorprop)	17 U	17.	9.0	ug/kg	132		65-158		
MCPA	2,500 U	2,500.	760	ug/kg	85		60-127		
MCPP (Mecoprop)	2,500 U	2,500.	750	ug/kg	93		54-134		

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

- (1) The result for one or both determinations was less than five times the LOQ / MRL.
- (2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/26/13 at 07:26 PM

Group Number: 1410969

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ**</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
2,4,5-T	1.7 U	1.7	0.82	ug/kg	105		58-135		
2,4,5-TP	1.7 U	1.7	0.75	ug/kg	111		63-130		
Batch number: 132250011A	Sample number(s): 7158599-7158601								
Aldrin	0.83 U	0.83	0.17	ug/kg	107		73-119		
Alpha BHC	0.83 U	0.83	0.17	ug/kg	110		72-126		
Beta BHC	1.9 U	1.9	0.96	ug/kg	116		76-123		
Gamma BHC - Lindane	0.83 U	0.83	0.17	ug/kg	111		72-128		
Chlordane	17 U	17	4.0	ug/kg					
p,p-DDD	1.7 U	1.7	0.33	ug/kg	119		76-138		
p,p-DDE	1.7 U	1.7	0.33	ug/kg	121		76-126		
p,p-DDT	1.7 U	1.7	0.35	ug/kg	118		72-131		
Delta BHC	0.83 U	0.83	0.45	ug/kg	117		73-128		
Dieldrin	1.7 U	1.7	0.33	ug/kg	115		78-135		
Endosulfan I	0.83 U	0.83	0.22	ug/kg	109		62-125		
Endosulfan II	1.7 U	1.7	0.33	ug/kg	118		68-128		
Endosulfan Sulfate	1.7 U	1.7	0.33	ug/kg	126		72-138		
Endrin	1.7 U	1.7	0.33	ug/kg	108		75-130		
Endrin Aldehyde	1.7 U	1.7	0.33	ug/kg	112		55-132		
Endrin Ketone	1.8 U	1.8	0.60	ug/kg	121		74-127		
Heptachlor	0.83 U	0.83	0.17	ug/kg	107		69-125		
Heptachlor Epoxide	0.83 U	0.83	0.17	ug/kg	114		78-125		
Methoxychlor	6.7 U	6.7	1.7	ug/kg	117		59-125		
Mirex	1.7 U	1.7	0.35	ug/kg					
Toxaphene	33 U	33	14	ug/kg					
Batch number: 132320013A	Sample number(s): 7158599-7158607								
Aroclor 5432	33 U	33	10	ug/kg					
Aroclor 5442	33 U	33	10	ug/kg	86	82	36-106	5	30
Aroclor 5460	33 U	33	10	ug/kg					
PCB-1016	17 U	17	3.3	ug/kg	100		80-120		
PCB-1221	17 U	17	5.1	ug/kg					
PCB-1232	17 U	17	4.1	ug/kg					
PCB-1242	17 U	17	4.1	ug/kg					
PCB-1248	17 U	17	3.3	ug/kg					
PCB-1254	17 U	17	4.4	ug/kg					
PCB-1260	17 U	17	3.9	ug/kg	121*		72-120		
PCB-1262	17 U	17	3.3	ug/kg					
PCB-1268	17 U	17	3.3	ug/kg					
Batch number: 132280016A	Sample number(s): 7158599-7158607								
EFH (C12-C14)	5.0 U	5.0	2.0	mg/kg	92		70-123		
EFH (C15-C20)	5.0 U	5.0	2.0	mg/kg	99		75-128		
EFH (C21-C30)	5.0 U	5.0	2.0	mg/kg	97		64-134		
EFH (C30-C40)	10 U	10	4.0	mg/kg	91		65-128		
EFH (C8-C11)	5.0 U	5.0	2.0	mg/kg	75		49-107		
Batch number: 132250637002	Sample number(s): 7158600-7158607								
Aluminum	40.0 U	40.0	7.21	mg/kg	103		80-120		
Antimony	4.00 U	4.00	0.740	mg/kg	107		80-120		
Arsenic	4.00 U	4.00	0.700	mg/kg	103		80-120		
Barium	1.00 U	1.00	0.0330	mg/kg	100		80-120		
Beryllium	1.00 U	1.00	0.0670	mg/kg	100		80-120		
Boron	10.0 U	10.0	0.840	mg/kg	99		80-120		
Cadmium	1.00 U	1.00	0.0760	mg/kg	101		80-120		

*- Outside of specification

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- (2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/26/13 at 07:26 PM

Group Number: 1410969

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ**</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCS %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Calcium	20.0 U	20.0	3.34	mg/kg	101		80-120		
Chromium	3.00 U	3.00	0.160	mg/kg	101		80-120		
Cobalt	1.00 U	1.00	0.0990	mg/kg	102		80-120		
Copper	2.00 U	2.00	0.290	mg/kg	100		80-120		
Iron	40.0 U	40.0	3.62	mg/kg	100		80-120		
Lead	3.00 U	3.00	0.500	mg/kg	101		80-120		
Lithium	4.0 U	4.0	0.34	mg/kg	102		80-120		
Magnesium	10.0 U	10.0	1.67	mg/kg	100		80-120		
Manganese	1.00 U	1.00	0.0830	mg/kg	102		80-120		
Molybdenum	2.00 U	2.00	0.170	mg/kg	102		80-120		
Nickel	2.00 U	2.00	0.130	mg/kg	103		80-120		
Phosphorus	10.0 U	10.0	2.89	mg/kg	106		80-120		
Potassium	100 U	100.	8.34	mg/kg	100		80-120		
Sodium	100 U	100.	16.7	mg/kg	99		80-120		
Tin	1.83 J	10.0	0.220	mg/kg	102		80-120		
Titanium	1.00 U	1.00	0.170	mg/kg	101		80-120		
Vanadium	1.00 U	1.00	0.130	mg/kg	101		80-120		
Zinc	0.316 J	4.00	0.200	mg/kg	104		80-120		
Zirconium	5.00 U	5.00	0.840	mg/kg	100		80-120		

Batch number: 132250637002A

Sample number(s): 7158600-7158607

Silver	0.200 U	0.200	0.0260	mg/kg	107		80-120		
Strontium	0.400 U	0.400	0.0680	mg/kg	106		80-120		
Thallium	0.200 U	0.200	0.0300	mg/kg	97		80-120		

Batch number: 132250637002B

Sample number(s): 7158600-7158607

Selenium	0.400 U	0.400	0.100	mg/kg	119		80-120		
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Batch number: 132250638001

Sample number(s): 7158600-7158607

3a Mercury 7471A	0.0167 U	0.0167	0.0100	mg/kg	109		85-120		
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Batch number: 13225039402A

Sample number(s): 7158600-7158607

15a pH by 9045D					99		95-105		
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Batch number: 13231162401A

Sample number(s): 7158599-7158607

14a Moisture Content by 160.3					100		80-120		
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<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MRL**</u>	<u>Blank EDL</u>	<u>Report Units</u>	<u>OPR %REC</u>	<u>OPRD %REC</u>	<u>OPR/OPRD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 13232002	Sample number(s): 7158599-7158600, 7158602-7158607								
2378-TCDD	1.00 U	1.00	0.0621	ng/kg	115		67-158		
12378-PeCDD	0.117 J	5.00	0.0628	ng/kg	111		70-142		
123478-HxCDD	0.0685 J	5.00	0.0320	ng/kg	107		70-164		
123678-HxCDD	0.106 J	5.00	0.0358	ng/kg	108		76-134		
123789-HxCDD	0.0775 J	5.00	0.0369	ng/kg	103		64-162		
1234678-HpCDD	0.110 J	5.00	0.0348	ng/kg	103		70-140		
OCDD	0.396 J	10.0	0.0324	ng/kg	100		78-144		
2378-TCDF	1.00 U	1.00	0.0501	ng/kg	110		75-158		
12378-PeCDF	0.0798 J	5.00	0.0292	ng/kg	109		80-134		
23478-PeCDF	0.0923 J	5.00	0.0253	ng/kg	112		68-160		
123478-HxCDF	0.101 J	5.00	0.0183	ng/kg	101		72-134		
123678-HxCDF	0.0806 J	5.00	0.0182	ng/kg	100		84-130		

*- Outside of specification

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/26/13 at 07:26 PM

Group Number: 1410969

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MRL**</u>	<u>Blank EDL</u>	<u>Report Units</u>	<u>OPR %REC</u>	<u>OPRD %REC</u>	<u>OPR/OPRD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
123789-HxCDF	0.0474 J	5.00	0.0242	ng/kg	98		78-130		
234678-HxCDF	0.0879 J	5.00	0.0169	ng/kg	99		70-156		
1234678-HpCDF	0.0933 J	5.00	0.0134	ng/kg	100		82-122		
1234789-HpCDF	0.0762 J	5.00	0.0210	ng/kg	100		78-138		
OCDF	0.201 J	10.0	0.0313	ng/kg	96		63-170		
TEQ WHO 2005 - EDLx0.0	0.190			ng/kg					

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

<u>Analysis Name</u>	<u>MS %REC</u>	<u>MSD %REC</u>	<u>MS/MSD Limits</u>	<u>RPD</u>	<u>RPD MAX</u>	<u>BKG Conc</u>	<u>DUP Conc</u>	<u>DUP RPD</u>	<u>Dup RPD Max</u>
Batch number: 13226SLB026	Sample number(s): 7158599-7158607 UNSPK: P156760								
Acenaphthene	97	99	48-127	2	30				
Acenaphthylene	103	104	49-121	1	30				
Anthracene	101	103	52-126	2	30				
Benzo(a)anthracene	98	100	44-143	2	30				
Benzo(a)pyrene	99	102	44-140	3	30				
Benzo(b)fluoranthene	101	105	26-142	4	30				
Benzo(e)pyrene	90	91	70-130	1	30				
Benzo(g,h,i)perylene	86	88	33-141	2	30				
Benzo(k)fluoranthene	102	103	54-142	1	30				
Butylbenzylphthalate	117	121	49-151	3	30				
Di-n-butylphthalate	116	117	52-147	0	30				
Chrysene	100	102	29-148	3	30				
Dibenz(a,h)anthracene	97	99	20-137	2	30				
Diethylphthalate	107	110	43-145	3	30				
Dimethylphthalate	103	104	58-129	1	30				
Bis(2-Ethylhexyl)phthalate	112	142	39-167	21	30				
Fluoranthene	98	101	40-148	3	30				
Fluorene	100	100	51-137	1	30				
Indeno(1,2,3-cd)pyrene	97	99	17-136	2	30				
1-Methylnaphthalene	105	109	50-131	4	30				
2-Methylnaphthalene	105	107	35-152	2	30				
Naphthalene	99	101	31-148	1	30				
N-Nitrosodimethylamine	89	85	48-113	4	30				
Di-n-octylphthalate	113	116	52-162	3	30				
Phenanthrene	99	100	29-142	1	30				
Pyrene	95	96	26-143	1	30				
Batch number: 13226A16A	Sample number(s): 7158600-7158601,7158604,7158606 UNSPK: P156760								
11a TPH by EPA 8015B GRO	64	64	39-118	8	30				
Batch number: 132250009A	Sample number(s): 7158599-7158601 UNSPK: P152828								
2,4-D	79	79	42-143	0	35				
Dalapon	29	0*	19-109	200*	50				
2,4-DB	121	116	10-179	4	50				

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/26/13 at 07:26 PM

Group Number: 1410969

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

<u>Analysis Name</u>	<u>MS</u> <u>%REC</u>	<u>MSD</u> <u>%REC</u>	<u>MS/MSD</u> <u>Limits</u>	<u>RPD</u> <u>RPD</u>	<u>RPD</u> <u>MAX</u>	<u>BKG</u> <u>Conc</u>	<u>DUP</u> <u>Conc</u>	<u>DUP</u> <u>RPD</u>	<u>Dup RPD</u> <u>Max</u>
Dicamba	98	92	45-147	6	50				
Dinoseb	26	26	10-52	1	35				
2,4-DP (Dichlorprop)	133	130	32-171	2	50				
MCPA	94	89	23-169	5	50				
MCPP (Mecoprop)	82	82	24-164	1	50				
2,4,5-T	91	87	12-172	4	35				
2,4,5-TP	112	106	10-142	6	35				
Batch number: 132250011A Sample number(s): 7158599-7158601 UNSPK: P152828									
Aldrin	109	97	16-126	11	50				
Alpha BHC	102	95	14-140	7	50				
Beta BHC	107	100	10-173	6	50				
Gamma BHC - Lindane	112	96	30-137	15	50				
p,p-DDD	114	105	43-149	8	50				
p,p-DDE	136	119	18-161	13	50				
p,p-DDT	188	147	12-193	25	50				
Delta BHC	112	115	13-153	2	50				
Dieldrin	116	105	19-154	10	50				
Endosulfan I	106	96	16-137	10	50				
Endosulfan II	135	117	10-156	14	50				
Endosulfan Sulfate	117	107	10-181	9	50				
Endrin	112	101	30-152	11	50				
Endrin Aldehyde	106	95	10-152	11	35				
Endrin Ketone	107	100	10-160	7	50				
Heptachlor	118	97	16-152	20	50				
Heptachlor Epoxide	138	113	17-167	20	50				
Methoxychlor	111	104	34-168	7	50				
Batch number: 132320013A Sample number(s): 7158599-7158607 UNSPK: 7158599									
PCB-1016	101	95	16-146	7	50				
PCB-1260	107	102	40-134	5	50				
Batch number: 132280016A Sample number(s): 7158599-7158607 UNSPK: P156760									
EFH (C12-C14)	86	96	49-123	10	20				
EFH (C15-C20)	101	116	49-123	14	20				
EFH (C21-C30)	110	142*	49-123	26*	20				
EFH (C30-C40)	108	197*	49-123	58*	20				
EFH (C8-C11)	78	77	49-123	1	20				
Batch number: 132250637002 Sample number(s): 7158600-7158607 UNSPK: P160448 BKG: P160448									
Aluminum	1975	2935	75-125	5	20	32,600	31,200	4	20
	(2)	(2)							
Antimony	51*	52*	75-125	3	20	3.96 U	3.96 U	0 (1)	20
Arsenic	95	91	75-125	3	20	2.33 J	2.39 J	3 (1)	20
Barium	101	104	75-125	2	20	143	140	2	20
Beryllium	98	99	75-125	0	20	0.967 J	0.961 J	1 (1)	20
Boron	97	97	75-125	0	20	6.79 J	6.92 J	2 (1)	20
Cadmium	92	90	75-125	2	20	0.990 U	0.990 U	0 (1)	20
Calcium	176 (2)	91 (2)	75-125	4	20	7,190	7,670	7	20
Chromium	101	107	75-125	2	20	36.8	36.0	2	20
Cobalt	95	95	75-125	0	20	9.03	9.56	6	20
Copper	106	106	75-125	0	20	16.9	17.4	3	20

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/26/13 at 07:26 PM

Group Number: 1410969

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

<u>Analysis Name</u>	<u>MS</u> <u>%REC</u>	<u>MSD</u> <u>%REC</u>	<u>MS/MSD</u> <u>Limits</u>	<u>RPD</u> <u>RPD</u>	<u>RPD</u> <u>MAX</u>	<u>BKG</u> <u>Conc</u>	<u>DUP</u> <u>Conc</u>	<u>DUP</u> <u>RPD</u>	<u>Dup</u> <u>RPD</u>	<u>RPD</u> <u>Max</u>
Iron	854 (2)	40 (2)	75-125	2	20	32,600	33,000	1		20
Lead	96	93	75-125	2	20	10.3	11.2	8 (1)		20
Lithium	100	102	75-125	1	20	25.0	24.4	2		20
Magnesium	198 (2)	278 (2)	75-125	2	20	7,050	7,070	0		20
Manganese	132 (2)	129 (2)	75-125	0	20	398	414	4		20
Molybdenum	93	92	75-125	1	20	0.224 J	1.98 U	200* (1)		20
Nickel	95	96	75-125	1	20	19.6	19.8	1		20
Phosphorus	161*	90	75-125	20	20	233	282	19		20
Potassium	190 (2)	152 (2)	75-125	6	20	4,390	4,620	5		20
Sodium	93	98	75-125	4	20	286	276	4 (1)		20
Tin	92	91	75-125	0	20	3.63 J	3.60 J	1 (1)		20
Titanium	225 (2)	242 (2)	75-125	1	20	1,690	1,600	5		20
Vanadium	105	111	75-125	2	20	68.8	67.7	2		20
Zinc	101	98	75-125	1	20	66.7	69.0	3		20
Zirconium	90	93	75-125	3	20	7.42	7.31	2 (1)		20
Batch number: 132250637002A Sample number(s): 7158600-7158607 UNSPK: P160448 BKG: P160448										
Silver	121	124	75-125	2	20	0.0453 J	0.0537 J	17 (1)		20
Strontium	221 (2)	266 (2)	75-125	6	20	43.9	55.3	23*		20
Thallium	111	134*	75-125	11	20	0.359	0.430	18 (1)		20
Batch number: 132250637002B Sample number(s): 7158600-7158607 UNSPK: P160448 BKG: P160448										
Selenium	103	102	75-125	0	20	0.177 J	0.274 J	43* (1)		20
Batch number: 132250638001 Sample number(s): 7158600-7158607 UNSPK: 7158601 BKG: 7158601										
3a Mercury 7471A	122	119	65-135	2	20	0.0164 U	0.0158 U	0 (1)		20
Batch number: 13225039402A Sample number(s): 7158600-7158607 BKG: 7158605										
15a pH by 9045D						6.78	6.76	0		3
Batch number: 13231162401A Sample number(s): 7158599-7158607 BKG: 7158606										
14a Moisture Content by 160.3						4.1	4.0	2		20
Batch number: 13232002 Sample number(s): 7158599-7158600,7158602-7158607 UNSPK: P156760										
2378-TCDD	115	115	40-135	0	20					
12378-PeCDD	113	116	40-135	3	20					
123478-HxCDD	108	110	40-135	3	20					
123678-HxCDD	110	109	40-135	0	20					
123789-HxCDD	109	109	40-135	1	20					
1234678-HpCDD	103	106	40-135	3	20					
OCDD	95	113	40-135	14	20					
2378-TCDF	115	117	40-135	2	20					
12378-PeCDF	113	109	40-135	3	20					
23478-PeCDF	112	110	40-135	1	20					
123478-HxCDF	105	103	40-135	1	20					
123678-HxCDF	104	103	40-135	0	20					
123789-HxCDF	99	102	40-135	3	20					
234678-HxCDF	103	101	40-135	1	20					
1234678-HpCDF	102	99	40-135	3	20					
1234789-HpCDF	99	97	40-135	2	20					
OCDF	98	95	40-135	2	20					

*- Outside of specification

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/26/13 at 07:26 PM

Group Number: 1410969

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: 7a SVOC SIM EPA 8270D
Batch number: 13226SLB026

	Fluoranthene-d10	Benzo(a)pyrene-d12	1-Methylnaphthalene-d10
7158599	83	69	99
7158600	87	93	97
7158601	85	94	95
7158602	91	94	104
7158603	92	97	103
7158604	88	91	95
7158605	82	83	91
7158606	89	95	96
7158607	88	93	98
Blank	92	103	113
LCS	92	104	113
MS	89	99	109
MSD	93	102	111

Limits: 54-129 59-125 61-125

Analysis Name: 11a TPH by EPA 8015B GRO
Batch number: 13226A16A
Trifluorotoluene-F

7158600	80
7158601	79
7158604	80
7158606	78
Blank	82
LCS	88
MS	74
MSD	74

Limits: 61-122

Analysis Name: 11b TPH by EPA 8015B GRO
Batch number: 13228A94A
Trifluorotoluene-F

7158598	84
Blank	83
LCS	80
LCSD	77

Limits: 63-135

Analysis Name: 21a Herbicides by EPA 8151A
Batch number: 13225009A
2,4-Dichlorophenylacetic

*- Outside of specification

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/26/13 at 07:26 PM

Group Number: 1410969

Surrogate Quality Control

acid

7158599	70
7158600	61
7158601	61
Blank	61
LCS	71
MS	66
MSD	64

Limits: 50-150

Analysis Name: 20a Pesticides by EPA 8081B
Batch number: 132250011A

	Tetrachloro-m-xylene	Decachlorobiphenyl
7158599	91	106
7158600	99	117
7158601	100	117
Blank	109	130*
LCS	110	133*
MS	103	114
MSD	95	107

Limits: 50-130 20-120

Analysis Name: 19a PCBs and PCTs 8082A
Batch number: 132320013A

	Tetrachloro-m-xylene	Decachlorobiphenyl
7158599	100	92
7158600	116	108
7158601	118	111
7158602	119	104
7158603	115	108
7158604	111	104
7158605	112	108
7158606	114	102
7158607	111	102
Blank	115	107
LCS	111	102
LCSD	116	115
MS	108	103
MSD	105	108

Limits: 45-120 45-120

Analysis Name: 10a TPH by EPA 8015B (DRO)
Batch number: 132280016A

	Chlorobenzene	Orthoterphenyl
7158599	86	74
7158600	84	77
7158601	87	76
7158602	85	86
7158603	93	99

*- Outside of specification

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/26/13 at 07:26 PM

Group Number: 1410969

Surrogate Quality Control

7158604	88	94
7158605	91	98
7158606	92	100
7158607	92	87
Blank	88	97
LCS	87	92
MS	87	80
MSD	87	81

Limits: 37-125 66-123

Analysis Name: 23a Dioxin/Furan by EPA 1613B
Batch number: 13232002

	13C12-2378-TCDD	13C12-23478-PeCDF	13C12-123478-HxCDF	13C12-123678-HxCDF	13C12-234678-HxCDF	13C12-123789-HxCDF
7158599	82	94	74	78	83	101
7158600	69	85	67	75	77	97
7158602	62	69	62	67	66	73
7158603	65	75	63	69	70	80
7158604	42	47	44	48	46	47
7158605	77	79	62	69	71	74
7158606	72	84	69	74	70	73
7158607	73	78	66	73	75	78
Blank	68	93	79	89	86	84
MS	66	102	78	83	82	82
MSD	63	90	78	85	86	79
OPR	74	116	82	87	88	94

Limits: 25-164 21-178 26-152 26-123 28-136 29-147

	13C12-1234678-HpCDF	13C12-1234789-HpCDF	13C12-OCDF	13C12-12378-PeCDD	13C12-123478-HxCDD	13C12-123678-HxCDD
7158599	87	96	101	94	84	90
7158600	105	84	76	89	82	90
7158602	79	67	71	74	73	74
7158603	93	76	66	76	74	77
7158604	51	46	49	48	48	52
7158605	78	73	72	82	74	79
7158606	82	85	82	86	78	83
7158607	83	77	71	81	78	84
Blank	101	86	93	88	80	85
MS	93	93	96	91	76	78
MSD	95	84	81	79	77	82
OPR	105	96	102	110	86	88

Limits: 28-143 26-138 17-157 25-181 32-141 28-130

	13C12-123789-HxCDD	13C12-1234678-HpCDD	13C12-OCDD	13C12-2378-TCDF	13C12-12378-PeCDF
7158599	90	105	110	84	88
7158600	90	103	99	65	88
7158602	74	85	90	65	68
7158603	78	96	86	64	81
7158604	50	56	58	41	45
7158605	81	85	82	68	80
7158606	82	107	97	70	81

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

- (1) The result for one or both determinations was less than five times the LOQ / MRL.
- (2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/26/13 at 07:26 PM

Group Number: 1410969

Surrogate Quality Control

7158607	83	100	85	65	80
Blank	84	90	104	71	88
MS	76	89	99	70	95
MSD	81	85	89	69	91
OPR	93	101	108	77	114
Limits:	28-130	23-140	17-157	24-169	24-185

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

- (1) The result for one or both determinations was less than five times the LOQ / MRL.
- (2) The unspiked result was more than four times the spike added.

SSFL Phase 3 Chain of Custody

13013 1410969 7158598-607

CDM Smith
 DateShipped: 8/12/2013
 CarrierName: FedEx
 AirbillNo: 796446899679

Contact Name: Pam Hartman
 Contact Phone: (818)466-8007

COC No: 20130812-01
 Cooler #: 1
 Lab: Lancaster
 Lab Phone: 717-556-7259
 Lab Address: 2425 New Holland Pike
 Lancaster, PA 17601

Sample	Date/Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	PCBs/FCTs 8082	Dioxins 1613	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terpenes 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Orfanotin	Methyl Mercury 1630	Other Analysis/Notes	
TB-081213	8/12/13 08:00	WQ	HCl	3 - 40 mL Vial	10 day																		X														
SL-590-SAB-SB-0.0-0.5	8/12/13 10:20	SO	None	2 - SS-Sleeve	10 day							X	X	X						X	X		X														
SL-590-SAB-SB-4.0-5.0	8/12/13 10:45	SO	None	2 - SS-Sleeve	10 day	X	X					X	X	X						X	X		X														
SL-590-SAB-SB-4.0-5.0	8/12/13 10:45	SO	None	1 - 40 mL Vial	10 day												X																				
SL-590-SAB-SB-4.0-5.0	8/12/13 10:45	SO	None	2 - Encore	10 day																		X														
SL-590-SAB-SB-7.0-8.0	8/12/13 11:10	SO	None	2 - 16 oz glass	10 day	X	X					X	X							X	X		X														
SL-590-SAB-SB-7.0-8.0	8/12/13 11:10	SO	None	1 - 40 mL Vial	10 day												X																				
SL-590-SAB-SB-7.0-8.0	8/12/13 11:10	SO	None	2 - Encore	10 day																		X														
SL-591-SAB-SB-0.0-0.5	8/12/13 09:50	SO	None	2 - SS-Sleeve	10 day	X	X					X	X	X											X												
SL-591-SAB-SB-0.0-0.5	8/12/13 09:50	SO	None	1 - 4 oz glass	10 day												X																				
SL-592-SAB-SB-0.0-0.5	8/12/13 09:00	SO	None	2 - SS-Sleeve	10 day	X	X					X	X	X										X													
SL-592-SAB-SB-0.0-0.5	8/12/13 09:00	SO	None	1 - 4 oz glass	10 day												X																				
SL-592-SAB-SB-3.5-4.5	8/12/13 09:20	SO	None	2 - 16 oz glass	10 day	X	X					X	X	X										X													
SL-592-SAB-SB-3.5-4.5	8/12/13 09:20	SO	None	1 - 4 oz glass	10 day												X																				
SL-592-SAB-SB-3.5-4.5	8/12/13 09:20	SO	None	2 - Encore	10 day																		X														
SL-593-SAB-SB-0.0-0.5	8/12/13 08:05	SO	None	2 - SS-Sleeve	10 day	X	X					X	X	X										X													
SL-593-SAB-SB-0.0-0.5	8/12/13 08:05	SO	None	1 - 4 oz glass	10 day												X																				
SL-593-SAB-SB-4.0-5.0	8/12/13 08:20	SO	None	2 - SS-Sleeve	10 day	X	X					X	X	X										X													
SL-593-SAB-SB-4.0-5.0	8/12/13 08:20	SO	None	1 - 4 oz glass	10 day												X																				
SL-593-SAB-SB-4.0-5.0	8/12/13 08:20	SO	None	2 - Encore	10 day																		X														
SL-585-SAB-SB-0.0-0.5	8/12/13 13:35	SO	None	2 - SS-Sleeve	10 day	X	X					X	X	X										X													
SL-585-SAB-SB-0.0-0.5	8/12/13 13:35	SO	None	1 - 4 oz glass	10 day												X																				

SSFL Phase 3 Chain of Custody

13013 1410969 7158598-607

CDM Smith

Date Shipped: 8/12/2013

Carrier Name: FedEx

Airbill No: 796446899679

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

COC No: 20130812-01

Cooler #: 1

Lab: Lancaster

Lab Phone: 717-556-7259

Lab Address: 2425 New Holland Pike
Lancaster, PA 17601

Sample	Date/Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Other Analysis/Notes
						Methyl Mercury 1630 Organotin NDMA 1625 Formaldehyde 8315 Cyanide 9012 Energetics 8330 Nitrates 300.0/9056 Terphenyls 8015 Alcohols 8015 GYCOs 8015 TPH-EFH 8015 TPH-GRO 8015 1,4 Dioxane 8260 SIM VOCs 8260 Pesticides 8081 Herbicides 8151 Hex Cl 7196/7199 pH 9040 (Water) pH 9045 (Soil) Perchlorate Confirm 6850/6860 Perchlorate 314.0/331 PCBs/PCTs 8082 Dioxins 1613 1,4 Dioxane 8270 SIM PAHs 8270 SIM TIC 8270 SVOC 8270 Fluoride 300.0/9056 Mercury 7470 (Water) Mercury 7471 (Soil) Metals 6010 and 6020

Special Instructions: Sampler: *Steve Mason*

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
<i>Steve Mason</i>	08/12/2013	1000									
			<i>AL GH</i>	8-13-13	0930						

13013/1410909/7158598-607

SSFL Phase 3 Chain of Custody

CDM Smith

Date Shipped: 8/12/2013

Carrier Name: FedEx

Airbill No: 796446899679

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

COC No:

20130812-01

Cooler #:

1

Lab:

Lancaster

Lab Phone:

717-556-7259

Lab Address

2425 New Holland Pike

Lancaster, PA 17601

Sample	Date/Time	Matrix	Preserv.	Type/No of Containers	Turn Aaround Time	Methyl Mercury 1630	Organotin	NDMA 1625	Formaldehyde 8315	Cyanide 9012	Ennetes 8330	Nitrates 3001/3056	Terphenyls 8015	Alcohols 8015	Glycols 8015	TPH-EFH 8015	TPH-GRO 8015	1,4 Dioxane 8260 SIM	VOCs 8250	Pesticides 8081	Herbicides 8151	Hex C: 7196/7199	PH 9040 (Water)	PH 9045 (Soil)	Perchlorate Confirm 8850/8860	Perchlorate 3140/3311	PCBs/PCTs 8082	Dioxins 1613	1,4 Dioxane 8270 SIM	PAHs 8270 SIM	TIC 8270	SVOC 8270	Fluoride 3001/3056	Mercury 7427 (Water)	Mercury 7471 (Soil)	Metals 6010 and 6020	Other Analysis/Notes														
TB-081213	8/12/13 08:00	WQ	HCl	3 - 40 ml Vial	10 day																																														
SL-590-SAB-SB-0.0-0.5	8/12/13 10:20	SO	None	2 - SS-Sleeve	10 day											X																																			
SL-590-SAB-SB-4.0-5.0	8/12/13 10:45	SO	None	2 - SS-Sleeve	10 day	X										X						X																													
SL-590-SAB-SB-4.0-5.0	8/12/13 10:45	SO	None	1 - 40 ml Vial	10 day	X										X						X																													
SL-590-SAB-SB-4.0-5.0	8/12/13 10:45	SO	None	2 - Encore	10 day																		X																												
SL-590-SAB-SB-7.0-8.0	8/12/13 11:10	SO	None	2 - 16 oz glass	10 day	X										X						X																													
SL-590-SAB-SB-7.0-8.0	8/12/13 11:10	SO	None	1 - 40 ml Vial	10 day	X										X						X																													
SL-590-SAB-SB-7.0-8.0	8/12/13 11:10	SO	None	2 - Encore	10 day																		X																												
SL-591-SAB-SB-0.0-0.5	8/12/13 09:50	SO	None	2 - SS-Sleeve	10 day	X										X																																			
SL-591-SAB-SB-0.0-0.5	8/12/13 09:50	SO	None	1 - 4 oz glass	10 day	X										X						X																													
SL-592-SAB-SB-0.0-0.5	8/12/13 09:00	SO	None	2 - SS-Sleeve	10 day	X										X							X																												
SL-592-SAB-SB-0.0-0.5	8/12/13 09:00	SO	None	1 - 4 oz glass	10 day	X										X							X																												
SL-592-SAB-SB-3.5-4.5	8/12/13 09:20	SO	None	2 - 16 oz glass	10 day	X										X							X																												
SL-592-SAB-SB-3.5-4.5	8/12/13 09:20	SO	None	1 - 4 oz glass	10 day	X										X							X																												
SL-592-SAB-SB-3.5-4.5	8/12/13 09:20	SO	None	2 - Encore	10 day																		X																												
SL-593-SAB-SB-0.0-0.5	8/12/13 08:05	SO	None	2 - SS-Sleeve	10 day	X										X																																			
SL-593-SAB-SB-0.0-0.5	8/12/13 08:05	SO	None	1 - 4 oz glass	10 day	X										X							X																												
SL-593-SAB-SB-4.0-5.0	8/12/13 08:20	SO	None	2 - SS-Sleeve	10 day	X										X							X																												
SL-593-SAB-SB-4.0-5.0	8/12/13 08:20	SO	None	1 - 4 oz glass	10 day	X										X							X																												
SL-593-SAB-SB-4.0-5.0	8/12/13 08:20	SO	None	2 - Encore	10 day																		X																												
SL-585-SAB-SB-0.0-0.5	8/12/13 13:35	SO	None	2 - SS-Sleeve	10 day	X										X																																			
SL-585-SAB-SB-0.0-0.5	8/12/13 13:35	SO	None	1 - 4 oz glass	10 day	X										X							X																												

Amended Amended COC received 8/13/13

DMK 8/13/13

DMK 8/13/13

13013/1410969/7158598-607

SSFL Phase 3 Chain of Custody

CDM Smith

Date Shipped: 8/12/2013

Carrier Name: FedEx

Airbill No: 796446899679

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

COC No:

20130812-01

Cooler #:

1

Lab:

Lancaster

Lab Phone:

717-556-7259

Lab Address

2425 New Holland Pike
Lancaster, PA 17601

Sample	Date/Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Other Analysis/Notes
						Methyl Mercury 1630 Oxanolin NDMA 1625 Formaldehyde 8315 Cyanide 9012 Energetics 8330 Nitrates 300.0/9056 Terphenyls 8015 Alcohols 8015 GHGs 8015 TPH-EH 8015 TPH-GRO 8015 1,4 Dioxane 8250 SIM VOCs 8280 Pesticides 8081 Herbicides 8151 Hex Cr 7196/7199 PH 9040 (Water) PH 9045 (Soil) Perchlorate Confirm 8850/8860 Perchlorate 314.0/331 PCBs/PCBs 8082 Dioxins 1613 1,4 Dioxane 8270 SIM PAHs 8270 SIM TC 8270 SVOC 8270 Fluoride 300.0/9056 Mercury 7470 (Water) Mercury 7471 (Soil) Metals 6010 and 6020

Special Instructions: Sampler: *Steve Muser*

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
<i>Sly Mysel</i>	08/12/2013	1400									

Amended COC received 8/13/13 *mks 8/13/13*

Environmental Sample Administration 1410969
 Receipt Documentation Log

Client/Project: Encore CDM Smith
 Date of Receipt: 8-13-13
 Time of Receipt: 0930
 Source Code: 50

Shipping Container Sealed: YES NO
 Custody Seal Present * : YES NO
 * Custody seal was intact unless otherwise noted in the discrepancy section
 Package: Chilled Not Chilled

Temperature of Shipping Containers

Cooler #	Thermometer ID	Temperature (°C)	Temp Bottle (TB) or Surface Temp (ST)	Wet Ice (WI) or Dry Ice (DI) or Ice Packs (IP)	Ice Present? Y/N	Loose (L) Bagged Ice (B) or NA	Comments
1	DTB1	10	TB	WI	Y	B	
2	<hr/>						
3	<hr/>						
4	<hr/>						
5	<hr/>						
6	<hr/>						

Number of Trip Blanks received NOT listed on chain of custody: 0

Paperwork Discrepancy/Unpacking Problems:

Unpacker Signature/Emp#: [Signature] 5200 Date/Time: 8-13-13 1030

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	BMQL	Below Minimum Quantitation Level
N.D.	none detected	MPN	Most Probable Number
TNTC	Too Numerous To Count	CP Units	cobalt-chloroplatinate units
IU	International Units	NTU	nephelometric turbidity units
umhos/cm	micromhos/cm	ng	nanogram(s)
C	degrees Celsius	F	degrees Fahrenheit
meq	milliequivalents	lb.	pound(s)
g	gram(s)	kg	kilogram(s)
µg	microgram(s)	mg	milligram(s)
mL	milliliter(s)	L	liter(s)
m³	cubic meter(s)	µL	microliter(s)
		pg/L	picogram/liter

< less than - The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Data Qualifiers:

C – result confirmed by reanalysis.

J - estimated value – The result is \geq the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ).

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers

- A** TIC is a possible aldol-condensation product
- B** Analyte was also detected in the blank
- C** Pesticide result confirmed by GC/MS
- D** Compound quantitated on a diluted sample
- E** Concentration exceeds the calibration range of the instrument
- N** Presumptive evidence of a compound (TICs only)
- P** Concentration difference between primary and confirmation columns $>25\%$
- U** Compound was not detected
- X,Y,Z** Defined in case narrative

Inorganic Qualifiers

- B** Value is $<$ CRDL, but \geq IDL
- E** Estimated due to interference
- M** Duplicate injection precision not met
- N** Spike sample not within control limits
- S** Method of standard additions (MSA) used for calculation
- U** Compound was not detected
- W** Post digestion spike out of control limits
- *** Duplicate analysis not within control limits
- +** Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

SAMPLE DELIVERY GROUP

PH090

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

August 30, 2013

Project: SSFL Phase 3 Sampling

Submittal Date: 08/14/2013
Group Number: 1411330
SDG: PH090
PO Number: 1204-002-001-AL
State of Sample Origin: CA

<u>Client Sample Description</u>	<u>Lancaster Labs (LL) #</u>
TB-081313 Water	7160446
SL-543-SA8-SB-0.0-0.5 Soil	7160447
SL-543-SA8-SB-4.0-5.0 Soil	7160448
SL-543-SA8-SB-4.0-5.0MS Soil	7160449
SL-543-SA8-SB-4.0-5.0MSD Soil	7160450
SL-543-SA8-SB-4.0-5.0DUP Soil	7160451
SL-843-SA8-SB-4.0-5.0 Soil	7160452
SL-609-SA8-SB-0.0-0.5 Soil	7160453
SL-609-SA8-SB-4.0-5.0 Soil	7160454
SL-614-SA8-SB-0.0-0.5 Soil	7160455
SL-614-SA8-SB-4.0-5.0 Soil	7160456

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC Eurofins Lancaster Labs Env
COPY TO

Attn: Nicole Maljovec

Respectfully Submitted,



Natalie R. Luciano
Senior Specialist

(717) 556-7258

Sample Description: TB-081313 Water
SSFL Phase 3 Subarea 8

LL Sample # WW 7160446
LL Group # 1411330
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/13/2013 08:00

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/14/2013 09:20

Reported: 08/30/2013 13:32

543TB SDG#: PH090-01TB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Dilution Factor
GC Volatiles						
	TPH GRO SW-8015B		ug/l	ug/l	ug/l	
08229	TPH-GRO S.CA water C5-C12	n.a.	50 U	50	20	1

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08229	11b TPH by EPA 8015B GRO	TPH GRO SW-8015B	1	13228A94A	08/16/2013 15:01	Catherine J Schwarz	1
01146	GC VOA Water Prep	SW-846 5030B	1	13228A94A	08/16/2013 15:01	Catherine J Schwarz	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-543-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7160447
LL Group # 1411330
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/13/2013 07:45 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/14/2013 09:20
Reported: 08/30/2013 13:32

543-0 SDG#: PH090-02

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	1.7 U	1.7	0.70	1
12969	Acenaphthylene	208-96-8	1.0 J	1.7	0.35	1
12969	Anthracene	120-12-7	2.9	1.7	0.35	1
12969	Benzo(a)anthracene	56-55-3	71	1.7	0.70	1
12969	Benzo(a)pyrene	50-32-8	70	1.7	0.70	1
12969	Benzo(b)fluoranthene	205-99-2	120	1.7	0.70	1
12969	Benzo(e)pyrene	192-97-2	46	18	3.5	1
12969	Benzo(g,h,i)perylene	191-24-2	19	1.7	0.70	1
12969	Benzo(k)fluoranthene	207-08-9	48	1.7	0.70	1
12969	Butylbenzylphthalate	85-68-7	19 U	19	6.3	1
12969	Di-n-butylphthalate	84-74-2	19 U	19	6.3	1
12969	Chrysene	218-01-9	89	1.7	0.35	1
12969	Dibenz(a,h)anthracene	53-70-3	8.7	1.7	0.70	1
12969	Diethylphthalate	84-66-2	19 U	19	6.3	1
12969	Dimethylphthalate	131-11-3	19 U	19	6.3	1
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	19 U	19	6.3	1
12969	Fluoranthene	206-44-0	57	1.7	0.70	1
12969	Fluorene	86-73-7	1.7 U	1.7	0.70	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	24	1.7	0.70	1
12969	1-Methylnaphthalene	90-12-0	0.76 J	1.7	0.70	1
12969	2-Methylnaphthalene	91-57-6	1.5 J	1.7	0.70	1
12969	Naphthalene	91-20-3	2.3	1.7	0.70	1
12969	N-Nitrosodimethylamine	62-75-9	1.7 U	1.7	0.70	1
12969	Di-n-octylphthalate	117-84-0	19 U	19	6.3	1
12969	Phenanthrene	85-01-8	2.7	1.7	0.70	1
12969	Pyrene	129-00-0	70	1.7	0.70	1
Pesticides/PCBs	SW-846 8082A		ug/kg	ug/kg	ug/kg	
10592	Aroclor 5432	63496-31-1	35 U	35	10	1
10592	Aroclor 5442	12642-23-8	35 U	35	10	1
10592	Aroclor 5460	11126-42-4	35 U	35	10	1
10592	PCB-1016	12674-11-2	18 U	18	3.5	1
10592	PCB-1221	11104-28-2	18 U	18	5.3	1
10592	PCB-1232	11141-16-5	18 U	18	4.3	1
10592	PCB-1242	53469-21-9	18 U	18	4.3	1
10592	PCB-1248	12672-29-6	18 U	18	3.5	1
10592	PCB-1254	11097-69-1	17 J	18	4.6	1
10592	PCB-1260	11096-82-5	18 U	18	4.1	1
10592	PCB-1262	37324-23-5	18 U	18	3.5	1
10592	PCB-1268	11100-14-4	18 U	18	3.5	1
GC Petroleum	SW-846 8015B modified		mg/kg	mg/kg	mg/kg	
Hydrocarbons						
12952	EFH (C12-C14)	n.a.	5.2 U	5.2	2.1	1
12952	EFH (C15-C20)	n.a.	5.2 U	5.2	2.1	1
12952	EFH (C21-C30)	n.a.	8.1	5.2	2.1	1
12952	EFH (C30-C40)	n.a.	23	10	4.2	1
12952	EFH (C8-C11)	n.a.	5.2 U	5.2	2.1	1
Metals	SW-846 6010C		mg/kg	mg/kg	mg/kg	

*=This limit was used in the evaluation of the final result

Sample Description: SL-543-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7160447
LL Group # 1411330
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/13/2013 07:45 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/14/2013 09:20
Reported: 08/30/2013 13:32

543-0 SDG#: PH090-02

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals						
		SW-846 6010C	mg/kg	mg/kg	mg/kg	
01643	Aluminum	7429-90-5	28,500	40.7	7.34	1
06944	Antimony	7440-36-0	4.07 U	4.07	0.753	1
06935	Arsenic	7440-38-2	3.35 J	4.07	0.712	1
06946	Barium	7440-39-3	120	1.02	0.0336	1
06947	Beryllium	7440-41-7	0.906 J	1.02	0.0682	1
07914	Boron	7440-42-8	9.80 J	10.2	0.855	1
06949	Cadmium	7440-43-9	0.123 J	1.02	0.0773	1
01650	Calcium	7440-70-2	13,600	20.4	3.40	1
06951	Chromium	7440-47-3	34.7	3.05	0.163	1
06952	Cobalt	7440-48-4	10.2	1.02	0.101	1
06953	Copper	7440-50-8	20.0	2.04	0.295	1
01654	Iron	7439-89-6	31,700	204	18.4	5
06955	Lead	7439-92-1	14.1	3.05	0.509	1
01656	Lithium	7439-93-2	24.2	4.1	0.35	1
01657	Magnesium	7439-95-4	7,350	10.2	1.70	1
06958	Manganese	7439-96-5	468	1.02	0.0845	1
06960	Molybdenum	7439-98-7	0.294 J	2.04	0.173	1
06961	Nickel	7440-02-0	20.0	2.04	0.132	1
10145	Phosphorus	7723-14-0	591	10.2	2.94	1
01662	Potassium	7440-09-7	6,700	102	8.49	1
01667	Sodium	7440-23-5	97.6 J	102	17.0	1
06969	Tin	7440-31-5	3.52 J	10.2	0.224	1
06970	Titanium	7440-32-6	1,570	5.09	0.865	5
06971	Vanadium	7440-62-2	65.0	1.02	0.132	1
06972	Zinc	7440-66-6	81.7	4.07	0.204	1
10146	Zirconium	7440-67-7	5.95	5.09	0.855	1
		SW-846 6020A	mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	0.345 J	0.407	0.102	2
06142	Silver	7440-22-4	0.0469 J	0.204	0.0265	2
06144	Strontium	7440-24-6	57.0	0.407	0.0692	2
06145	Thallium	7440-28-0	0.463	0.204	0.0305	2
		SW-846 7471B	mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.0108 J	0.0163	0.0098	1
Wet Chemistry						
		SW-846 9045D modified	Std. Units	Std. Units	Std. Units	
00394	15a pH by 9045D The pH was measured in water at 20.9 C.	n.a.	7.25	0.0100	0.0100	1
Wet Chemistry						
		EPA 160.3 modified	%	%	%	
11624	14a Moisture Content by 160.3 Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.	n.a.	4.6	0.10	0.10	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-543-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7160447
LL Group # 1411330
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/13/2013 07:45 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/14/2013 09:20
Reported: 08/30/2013 13:32

543-0 SDG#: PH090-02

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
Dioxins/Furans			ng/kg	ng/kg	ng/kg	
EPA 1613B						
11031	2378-TCDD	1746-01-6	1.03 U	1.03	0.0998	1
11031	12378-PeCDD	40321-76-4	0.195 JBQ	5.17	0.150	1
11031	123478-HxCDD	39227-28-6	0.0961 JQ	5.17	0.0747	1
11031	123678-HxCDD	57653-85-7	0.532 JQ	5.17	0.0854	1
11031	123789-HxCDD	19408-74-3	0.532 JQ	5.17	0.0903	1
11031	1234678-HpCDD	35822-46-9	3.71 JBQ	5.17	0.140	1
11031	OCDD	3268-87-9	41.0 B	10.3	0.0632	1
11031	2378-TCDF	51207-31-9	0.355 JQ	1.03	0.158	1
11031	12378-PeCDF	57117-41-6	1.48 J	5.17	0.0835	1
11031	23478-PeCDF	57117-31-4	0.103 JBQ	5.17	0.0786	1
11031	123478-HxCDF	70648-26-9	0.149 JBQ	5.17	0.0612	1
11031	123678-HxCDF	57117-44-9	5.17 U	5.17	0.0551	1
11031	123789-HxCDF	72918-21-9	0.266 JQ	5.17	0.0755	1
11031	234678-HxCDF	60851-34-5	0.164 JQ	5.17	0.0611	1
11031	1234678-HpCDF	67562-39-4	1.05 JB	5.17	0.0388	1
11031	1234789-HpCDF	55673-89-7	0.0945 JB	5.17	0.0783	1
11031	OCDF	39001-02-0	2.33 JB	10.3	0.105	1

Toxic Equivalents		EPA 1613B	ng/kg	ng/kg	ng/kg	
11031	TEQ WHO 2005 - EDLx0.0	n.a.	0.0689			1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	67	25 - 164
13C12-12378-PeCDD	81	25 - 181
13C12-123478-HxCDD	71	32 - 141
13C12-123678-HxCDD	75	28 - 130
13C12-123789-HxCDD	70	28 - 130
13C12-1234678-HpCDD	91	23 - 140
13C12-OCDD	101	17 - 157
13C12-2378-TCDF	66	24 - 169
13C12-12378-PeCDF	92	24 - 185
13C12-23478-PeCDF	90	21 - 178
13C12-123478-HxCDF	72	26 - 152
13C12-123678-HxCDF	85	26 - 123
13C12-234678-HxCDF	72	28 - 136
13C12-123789-HxCDF	79	29 - 147
13C12-1234678-HpCDF	116	28 - 143
13C12-1234789-HpCDF	79	26 - 138
13C12-OCDF	83	17 - 157

Dioxins/Furans Data Qualifiers:

- B Detected in Method Blank
- U Undetected
- J Estimated concentration between Estimated Detection Limit and Minimum Level
- E Exceeds calibration range
- C Confirmed quantitation on secondary GC column
- Q EMPC - Estimated Maximum Possible Concentration

*=This limit was used in the evaluation of the final result

Sample Description: SL-543-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7160447
LL Group # 1411330
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/13/2013 07:45 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/14/2013 09:20

Reported: 08/30/2013 13:32

543-0 SDG#: PH090-02

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
F	Interference is present					
S	Saturation of detection signal					

*=This limit was used in the evaluation of the final result

Sample Description: SL-543-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7160447
LL Group # 1411330
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/13/2013 07:45 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/14/2013 09:20
Reported: 08/30/2013 13:32

543-0 SDG#: PH090-02

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13232SLB026	08/23/2013 05:13	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	13232SLB026	08/20/2013 16:00	David S Schrum	1
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132330010A	08/23/2013 11:42	Jessica L Miller	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132330010A	08/21/2013 15:30	Sally L Appleyard	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132330018A	08/22/2013 01:28	Heather E Williams	1
12959	EFH soil ext. (microwave)	SW-846 3546	1	132330018A	08/21/2013 14:00	David S Schrum	1
11031	23a Dioxin/Furan by EPA 1613B	EPA 1613B	1	13234002	08/26/2013 14:25	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	13234002	08/22/2013 12:30	Deborah M Zimmerman	1
01643	Aluminum	SW-846 6010C	1	132250637002	08/23/2013 06:28	Eric L Eby	1
06944	Antimony	SW-846 6010C	1	132250637002	08/23/2013 06:28	Eric L Eby	1
06935	Arsenic	SW-846 6010C	1	132250637002	08/23/2013 06:28	Eric L Eby	1
06946	Barium	SW-846 6010C	1	132250637002	08/23/2013 06:28	Eric L Eby	1
06947	Beryllium	SW-846 6010C	1	132250637002	08/23/2013 06:28	Eric L Eby	1
07914	Boron	SW-846 6010C	1	132250637002	08/23/2013 06:28	Eric L Eby	1
06949	Cadmium	SW-846 6010C	1	132250637002	08/23/2013 06:28	Eric L Eby	1
01650	Calcium	SW-846 6010C	1	132250637002	08/23/2013 06:28	Eric L Eby	1
06951	Chromium	SW-846 6010C	1	132250637002	08/23/2013 06:28	Eric L Eby	1
06952	Cobalt	SW-846 6010C	1	132250637002	08/23/2013 06:28	Eric L Eby	1
06953	Copper	SW-846 6010C	1	132250637002	08/23/2013 06:28	Eric L Eby	1
01654	Iron	SW-846 6010C	1	132250637002	08/23/2013 07:21	Eric L Eby	5
06955	Lead	SW-846 6010C	1	132250637002	08/23/2013 06:28	Eric L Eby	1
01656	Lithium	SW-846 6010C	1	132250637002	08/23/2013 06:28	Eric L Eby	1
01657	Magnesium	SW-846 6010C	1	132250637002	08/23/2013 06:28	Eric L Eby	1
06958	Manganese	SW-846 6010C	1	132250637002	08/23/2013 06:28	Eric L Eby	1
06960	Molybdenum	SW-846 6010C	1	132250637002	08/23/2013 06:28	Eric L Eby	1
06961	Nickel	SW-846 6010C	1	132250637002	08/23/2013 06:28	Eric L Eby	1
10145	Phosphorus	SW-846 6010C	1	132250637002	08/23/2013 06:28	Eric L Eby	1
01662	Potassium	SW-846 6010C	1	132250637002	08/23/2013 06:28	Eric L Eby	1
01667	Sodium	SW-846 6010C	1	132250637002	08/23/2013 06:28	Eric L Eby	1
06969	Tin	SW-846 6010C	1	132250637002	08/23/2013 06:28	Eric L Eby	1
06970	Titanium	SW-846 6010C	1	132250637002	08/23/2013 07:21	Eric L Eby	5
06971	Vanadium	SW-846 6010C	1	132250637002	08/23/2013 06:28	Eric L Eby	1
06972	Zinc	SW-846 6010C	1	132250637002	08/23/2013 06:28	Eric L Eby	1
10146	Zirconium	SW-846 6010C	1	132250637002	08/23/2013 06:28	Eric L Eby	1
06141	Selenium	SW-846 6020A	1	132250637002B	08/19/2013 12:02	Choon Y Tian	2
06142	Silver	SW-846 6020A	1	132250637002A	08/19/2013 12:02	Choon Y Tian	2
06144	Strontium	SW-846 6020A	1	132250637002A	08/19/2013 12:02	Choon Y Tian	2
06145	Thallium	SW-846 6020A	1	132250637002A	08/19/2013 12:02	Choon Y Tian	2

*=This limit was used in the evaluation of the final result

Sample Description: SL-543-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7160447
LL Group # 1411330
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/13/2013 07:45 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/14/2013 09:20

Reported: 08/30/2013 13:32

543-0 SDG#: PH090-02

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00159	3a Mercury 7471A	SW-846 7471B	1	132320638002	08/22/2013 09:37	Damary Valentin	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132250637002	08/14/2013 23:15	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132320638002	08/21/2013 12:10	Denise K Connors	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13226039404A	08/14/2013 22:50	Clayton C Litchmore	1
11624	14a Moisture Content by 160.3	EPA 160.3 modified	1	13231162401B	08/20/2013 00:41	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-543-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7160448
LL Group # 1411330
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/13/2013 08:15 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/14/2013 09:20
Reported: 08/30/2013 13:32

543-4 SDG#: PH090-03BKG

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	1.9 U	1.9	0.75	1
12969	Acenaphthylene	208-96-8	1.9 U	1.9	0.37	1
12969	Anthracene	120-12-7	1.9 U	1.9	0.37	1
12969	Benzo(a)anthracene	56-55-3	1.9 U	1.9	0.75	1
12969	Benzo(a)pyrene	50-32-8	1.9 U	1.9	0.75	1
12969	Benzo(b)fluoranthene	205-99-2	1.9 U	1.9	0.75	1
12969	Benzo(e)pyrene	192-97-2	19 U	19	3.7	1
12969	Benzo(g,h,i)perylene	191-24-2	1.9 U	1.9	0.75	1
12969	Benzo(k)fluoranthene	207-08-9	1.9 U	1.9	0.75	1
12969	Butylbenzylphthalate	85-68-7	20 U	20	6.7	1
12969	Di-n-butylphthalate	84-74-2	20 U	20	6.7	1
12969	Chrysene	218-01-9	1.9 U	1.9	0.37	1
12969	Dibenz(a,h)anthracene	53-70-3	1.9 U	1.9	0.75	1
12969	Diethylphthalate	84-66-2	20 U	20	6.7	1
12969	Dimethylphthalate	131-11-3	20 U	20	6.7	1
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	20 U	20	6.7	1
12969	Fluoranthene	206-44-0	1.9 U	1.9	0.75	1
12969	Fluorene	86-73-7	1.9 U	1.9	0.75	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	1.9 U	1.9	0.75	1
12969	1-Methylnaphthalene	90-12-0	1.9 U	1.9	0.75	1
12969	2-Methylnaphthalene	91-57-6	1.9 U	1.9	0.75	1
12969	Naphthalene	91-20-3	1.1 J	1.9	0.75	1
12969	N-Nitrosodimethylamine	62-75-9	1.9 U	1.9	0.75	1
12969	Di-n-octylphthalate	117-84-0	20 U	20	6.7	1
12969	Phenanthrene	85-01-8	1.9 U	1.9	0.75	1
12969	Pyrene	129-00-0	1.9 U	1.9	0.75	1
GC Volatiles	TPH GRO SW-846 8015B mod	mg/kg	mg/kg	mg/kg		
05551	11a TPH by EPA 8015B GRO	n.a.	1.1 U	1.1	0.2	24.18
Pesticides/PCBs	SW-846 8082A	ug/kg	ug/kg	ug/kg		
10592	Aroclor 5432	63496-31-1	37 U	37	11	1
10592	Aroclor 5442	12642-23-8	37 U	37	11	1
10592	Aroclor 5460	11126-42-4	37 U	37	11	1
10592	PCB-1016	12674-11-2	19 U	19	3.7	1
10592	PCB-1221	11104-28-2	19 U	19	5.7	1
10592	PCB-1232	11141-16-5	19 U	19	4.6	1
10592	PCB-1242	53469-21-9	19 U	19	4.6	1
10592	PCB-1248	12672-29-6	19 U	19	3.7	1
10592	PCB-1254	11097-69-1	19 U	19	4.9	1
10592	PCB-1260	11096-82-5	19 U	19	4.4	1
10592	PCB-1262	37324-23-5	19 U	19	3.7	1
10592	PCB-1268	11100-14-4	19 U	19	3.7	1
GC Petroleum	SW-846 8015B modified	mg/kg	mg/kg	mg/kg		
Hydrocarbons						
12952	EFH (C12-C14)	n.a.	5.6 U	5.6	2.2	1
12952	EFH (C15-C20)	n.a.	5.6 U	5.6	2.2	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-543-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7160448
LL Group # 1411330
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/13/2013 08:15 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/14/2013 09:20
Reported: 08/30/2013 13:32

543-4 SDG#: PH090-03BKG

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC Petroleum						
Hydrocarbons						
		SW-846 8015B modified	mg/kg	mg/kg	mg/kg	
12952	EFH (C21-C30)	n.a.	5.6 U	5.6	2.2	1
12952	EFH (C30-C40)	n.a.	11 U	11	4.5	1
12952	EFH (C8-C11)	n.a.	5.6 U	5.6	2.2	1
Metals						
		SW-846 6010C	mg/kg	mg/kg	mg/kg	
01643	Aluminum	7429-90-5	36,500	44.3	7.99	1
06944	Antimony	7440-36-0	4.43 U	4.43	0.820	1
06935	Arsenic	7440-38-2	2.60 J	4.43	0.775	1
06946	Barium	7440-39-3	160	1.11	0.0365	1
06947	Beryllium	7440-41-7	1.08 J	1.11	0.0742	1
07914	Boron	7440-42-8	7.60 J	11.1	0.930	1
06949	Cadmium	7440-43-9	1.11 U	1.11	0.0842	1
01650	Calcium	7440-70-2	8,040	22.1	3.70	1
06951	Chromium	7440-47-3	41.1	3.32	0.177	1
06952	Cobalt	7440-48-4	10.1	1.11	0.110	1
06953	Copper	7440-50-8	18.9	2.21	0.321	1
01654	Iron	7439-89-6	36,500	221	20.0	5
06955	Lead	7439-92-1	11.6	3.32	0.554	1
01656	Lithium	7439-93-2	27.9	4.4	0.38	1
01657	Magnesium	7439-95-4	7,890	11.1	1.85	1
06958	Manganese	7439-96-5	445	1.11	0.0919	1
06960	Molybdenum	7439-98-7	0.250 J	2.21	0.188	1
06961	Nickel	7440-02-0	21.9	2.21	0.144	1
10145	Phosphorus	7723-14-0	261	11.1	3.20	1
01662	Potassium	7440-09-7	4,910	111	9.24	1
01667	Sodium	7440-23-5	320	111	18.5	1
06969	Tin	7440-31-5	4.06 J	11.1	0.244	1
06970	Titanium	7440-32-6	1,890	5.54	0.941	5
06971	Vanadium	7440-62-2	76.9	1.11	0.144	1
06972	Zinc	7440-66-6	74.6	4.43	0.221	1
10146	Zirconium	7440-67-7	8.30	5.54	0.930	1
		SW-846 6020A	mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	0.198 J	0.443	0.111	2
06142	Silver	7440-22-4	0.0507 J	0.221	0.0288	2
06144	Strontium	7440-24-6	49.2	0.443	0.0753	2
06145	Thallium	7440-28-0	0.401	0.221	0.0332	2
		SW-846 7471B	mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.0176 U	0.0176	0.0106	1
Wet Chemistry						
		SW-846 9045D modified	Std. Units	Std. Units	Std. Units	
00394	15a pH by 9045D The pH was measured in water at 20.1 C.	n.a.	7.63	0.0100	0.0100	1
Wet Chemistry						
		EPA 160.3 modified	%	%	%	
11624	14a Moisture Content by 160.3	n.a.	10.6	0.10	0.10	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-543-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7160448
LL Group # 1411330
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/13/2013 08:15 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/14/2013 09:20

Reported: 08/30/2013 13:32

543-4 SDG#: PH090-03BKG

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Wet Chemistry	EPA 160.3 modified		%	%	%	
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

*=This limit was used in the evaluation of the final result

Sample Description: SL-543-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7160448
LL Group # 1411330
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/13/2013 08:15 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/14/2013 09:20
Reported: 08/30/2013 13:32

543-4 SDG#: PH090-03BKG

CAT No.	Analysis Name	CAS Number	Dry Result		Dry MRL*	Dry EDL	Dilution Factor
Dioxins/Furans		EPA 1613B	ng/kg		ng/kg	ng/kg	
11031	2378-TCDD	1746-01-6	1.11	U	1.11	0.0727	1
11031	12378-PeCDD	40321-76-4	5.54	U	5.54	0.0849	1
11031	123478-HxCDD	39227-28-6	5.54	U	5.54	0.0559	1
11031	123678-HxCDD	57653-85-7	0.245	JQ	5.54	0.0607	1
11031	123789-HxCDD	19408-74-3	0.380	JQ	5.54	0.0604	1
11031	1234678-HpCDD	35822-46-9	0.436	JBQ	5.54	0.0559	1
11031	OCDD	3268-87-9	2.26	JB	11.1	0.0431	1
11031	2378-TCDF	51207-31-9	1.11	U	1.11	0.0864	1
11031	12378-PeCDF	57117-41-6	0.181	JQ	5.54	0.0359	1
11031	23478-PeCDF	57117-31-4	5.54	U	5.54	0.0418	1
11031	123478-HxCDF	70648-26-9	0.0429	JBQ	5.54	0.0368	1
11031	123678-HxCDF	57117-44-9	0.0787	JB	5.54	0.0321	1
11031	123789-HxCDF	72918-21-9	0.359	J	5.54	0.0457	1
11031	234678-HxCDF	60851-34-5	5.54	U	5.54	0.0349	1
11031	1234678-HpCDF	67562-39-4	0.0899	JBQ	5.54	0.0168	1
11031	1234789-HpCDF	55673-89-7	5.54	U	5.54	0.0426	1
11031	OCDF	39001-02-0	0.265	JBQ	11.1	0.0953	1

Toxic Equivalents		EPA 1613B	ng/kg	ng/kg	ng/kg	
11031	TEQ WHO 2005 - EDLx0.0	n.a.	0.0444			1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	63	25 - 164
13C12-12378-PeCDD	88	25 - 181
13C12-123478-HxCDD	71	32 - 141
13C12-123678-HxCDD	78	28 - 130
13C12-123789-HxCDD	75	28 - 130
13C12-1234678-HpCDD	93	23 - 140
13C12-OCDD	93	17 - 157
13C12-2378-TCDF	65	24 - 169
13C12-12378-PeCDF	101	24 - 185
13C12-23478-PeCDF	88	21 - 178
13C12-123478-HxCDF	64	26 - 152
13C12-123678-HxCDF	82	26 - 123
13C12-234678-HxCDF	72	28 - 136
13C12-123789-HxCDF	73	29 - 147
13C12-1234678-HpCDF	121	28 - 143
13C12-1234789-HpCDF	68	26 - 138
13C12-OCDF	67	17 - 157

Dioxins/Furans Data Qualifiers:

- B Detected in Method Blank
- U Undetected
- J Estimated concentration between Estimated Detection Limit and Minimum Level
- E Exceeds calibration range
- C Confirmed quantitation on secondary GC column
- Q EMPC - Estimated Maximum Possible Concentration

*=This limit was used in the evaluation of the final result

Sample Description: SL-543-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7160448
LL Group # 1411330
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/13/2013 08:15 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/14/2013 09:20

Reported: 08/30/2013 13:32

543-4 SDG#: PH090-03BKG

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
F	Interference is present					
S	Saturation of detection signal					

*=This limit was used in the evaluation of the final result

Sample Description: SL-543-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7160448
LL Group # 1411330
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/13/2013 08:15 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/14/2013 09:20
Reported: 08/30/2013 13:32

543-4 SDG#: PH090-03BKG

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13232SLB026	08/23/2013 03:32	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	13232SLB026	08/20/2013 16:00	David S Schrum	1
05551	11a TPH by EPA 8015B GRO	TPH GRO SW-846 8015B mod	1	13227A16A	08/16/2013 21:47	Laura M Krieger	24.18
06130	GC - 5 g HL Encore Prep	SW-846 5035A	1	201322632040	08/14/2013 16:09	Mitchell R Washel	n.a.
06130	GC - 5 g HL Encore Prep	SW-846 5035A	2	201322632040	08/14/2013 16:09	Mitchell R Washel	n.a.
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132330010A	08/23/2013 12:00	Jessica L Miller	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132330010A	08/21/2013 15:30	Sally L Appleyard	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132330018A	08/22/2013 00:04	Heather E Williams	1
12959	EPH soil ext. (microwave)	SW-846 3546	1	132330018A	08/21/2013 14:00	David S Schrum	1
11031	23a Dioxin/Furan by EPA 1613B	EPA 1613B	1	13234002	08/26/2013 16:18	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	13234002	08/22/2013 12:30	Deborah M Zimmerman	1
01643	Aluminum	SW-846 6010C	1	132250637002	08/23/2013 05:27	Eric L Eby	1
06944	Antimony	SW-846 6010C	1	132250637002	08/23/2013 05:27	Eric L Eby	1
06935	Arsenic	SW-846 6010C	1	132250637002	08/23/2013 05:27	Eric L Eby	1
06946	Barium	SW-846 6010C	1	132250637002	08/23/2013 05:27	Eric L Eby	1
06947	Beryllium	SW-846 6010C	1	132250637002	08/23/2013 05:27	Eric L Eby	1
07914	Boron	SW-846 6010C	1	132250637002	08/23/2013 05:27	Eric L Eby	1
06949	Cadmium	SW-846 6010C	1	132250637002	08/23/2013 05:27	Eric L Eby	1
01650	Calcium	SW-846 6010C	1	132250637002	08/23/2013 05:27	Eric L Eby	1
06951	Chromium	SW-846 6010C	1	132250637002	08/23/2013 05:27	Eric L Eby	1
06952	Cobalt	SW-846 6010C	1	132250637002	08/23/2013 05:27	Eric L Eby	1
06953	Copper	SW-846 6010C	1	132250637002	08/23/2013 05:27	Eric L Eby	1
01654	Iron	SW-846 6010C	1	132250637002	08/23/2013 06:59	Eric L Eby	5
06955	Lead	SW-846 6010C	1	132250637002	08/23/2013 05:27	Eric L Eby	1
01656	Lithium	SW-846 6010C	1	132250637002	08/23/2013 05:27	Eric L Eby	1
01657	Magnesium	SW-846 6010C	1	132250637002	08/23/2013 05:27	Eric L Eby	1
06958	Manganese	SW-846 6010C	1	132250637002	08/23/2013 05:27	Eric L Eby	1
06960	Molybdenum	SW-846 6010C	1	132250637002	08/23/2013 05:27	Eric L Eby	1
06961	Nickel	SW-846 6010C	1	132250637002	08/23/2013 05:27	Eric L Eby	1
10145	Phosphorus	SW-846 6010C	1	132250637002	08/23/2013 05:27	Eric L Eby	1
01662	Potassium	SW-846 6010C	1	132250637002	08/23/2013 05:27	Eric L Eby	1
01667	Sodium	SW-846 6010C	1	132250637002	08/23/2013 05:27	Eric L Eby	1
06969	Tin	SW-846 6010C	1	132250637002	08/23/2013 05:27	Eric L Eby	1
06970	Titanium	SW-846 6010C	1	132250637002	08/23/2013 06:59	Eric L Eby	5
06971	Vanadium	SW-846 6010C	1	132250637002	08/23/2013 05:27	Eric L Eby	1
06972	Zinc	SW-846 6010C	1	132250637002	08/23/2013 05:27	Eric L Eby	1
10146	Zirconium	SW-846 6010C	1	132250637002	08/23/2013 05:27	Eric L Eby	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-543-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7160448
LL Group # 1411330
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/13/2013 08:15 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/14/2013 09:20

Reported: 08/30/2013 13:32

543-4 SDG#: PH090-03BKG

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
06141	Selenium	SW-846 6020A	1	132250637002B	08/19/2013	11:26	Choon Y Tian	2
06142	Silver	SW-846 6020A	1	132250637002A	08/19/2013	11:26	Choon Y Tian	2
06144	Strontium	SW-846 6020A	1	132250637002A	08/19/2013	11:26	Choon Y Tian	2
06145	Thallium	SW-846 6020A	1	132250637002A	08/19/2013	11:26	Choon Y Tian	2
00159	3a Mercury 7471A	SW-846 7471B	1	132320638002	08/22/2013	09:39	Damary Valentin	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132250637002	08/14/2013	23:15	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132320638002	08/21/2013	12:10	Denise K Conners	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13226039404A	08/14/2013	22:50	Clayton C Litchmore	1
11624	14a Moisture Content by 160.3	EPA 160.3 modified	1	13231162401B	08/20/2013	00:41	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-543-SA8-SB-4.0-5.0MS Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7160449
LL Group # 1411330
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/13/2013 08:15 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/14/2013 09:20
Reported: 08/30/2013 13:32

543-4 SDG#: PH090-03MS

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	36	1.9	0.75	1
12969	Acenaphthylene	208-96-8	38	1.9	0.37	1
12969	Anthracene	120-12-7	37	1.9	0.37	1
12969	Benzo(a)anthracene	56-55-3	35	1.9	0.75	1
12969	Benzo(a)pyrene	50-32-8	37	1.9	0.75	1
12969	Benzo(b)fluoranthene	205-99-2	42	1.9	0.75	1
12969	Benzo(e)pyrene	192-97-2	33	19	3.7	1
12969	Benzo(g,h,i)perylene	191-24-2	37	1.9	0.75	1
12969	Benzo(k)fluoranthene	207-08-9	34	1.9	0.75	1
12969	Butylbenzylphthalate	85-68-7	43	20	6.7	1
12969	Di-n-butylphthalate	84-74-2	42	20	6.7	1
12969	Chrysene	218-01-9	36	1.9	0.37	1
12969	Dibenz(a,h)anthracene	53-70-3	39	1.9	0.75	1
12969	Diethylphthalate	84-66-2	39	20	6.7	1
12969	Dimethylphthalate	131-11-3	38	20	6.7	1
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	41	20	6.7	1
12969	Fluoranthene	206-44-0	36	1.9	0.75	1
12969	Fluorene	86-73-7	36	1.9	0.75	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	39	1.9	0.75	1
12969	1-Methylnaphthalene	90-12-0	38	1.9	0.75	1
12969	2-Methylnaphthalene	91-57-6	36	1.9	0.75	1
12969	Naphthalene	91-20-3	36	1.9	0.75	1
12969	N-Nitrosodimethylamine	62-75-9	42	1.9	0.75	1
12969	Di-n-octylphthalate	117-84-0	42	20	6.7	1
12969	Phenanthrene	85-01-8	36	1.9	0.75	1
12969	Pyrene	129-00-0	36	1.9	0.75	1
GC Volatiles	TPH GRO SW-846 8015B mod	mg/kg	mg/kg	mg/kg		
05551	11a TPH by EPA 8015B GRO	n.a.	10	1.3	0.3	29.21
Pesticides/PCBs	SW-846 8082A	ug/kg	ug/kg	ug/kg		
10592	Aroclor 5432	63496-31-1	37 U	37	11	1
10592	Aroclor 5442	12642-23-8	37 U	37	11	1
10592	Aroclor 5460	11126-42-4	37 U	37	11	1
10592	PCB-1016	12674-11-2	170	19	3.7	1
10592	PCB-1221	11104-28-2	19 U	19	5.7	1
10592	PCB-1232	11141-16-5	19 U	19	4.6	1
10592	PCB-1242	53469-21-9	19 U	19	4.6	1
10592	PCB-1248	12672-29-6	19 U	19	3.7	1
10592	PCB-1254	11097-69-1	19 U	19	4.9	1
10592	PCB-1260	11096-82-5	200	19	4.4	1
10592	PCB-1262	37324-23-5	19 U	19	3.7	1
10592	PCB-1268	11100-14-4	19 U	19	3.7	1
GC Petroleum Hydrocarbons	SW-846 8015B modified	mg/kg	mg/kg	mg/kg		
12952	EFH (C12-C14)	n.a.	5.6 U	5.6	2.2	1
12952	EFH (C15-C20)	n.a.	2.4 J	5.6	2.2	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-543-SA8-SB-4.0-5.0MS Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7160449
LL Group # 1411330
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/13/2013 08:15 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/14/2013 09:20
Reported: 08/30/2013 13:32

543-4 SDG#: PH090-03MS

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC Petroleum Hydrocarbons		SW-846 8015B modified	mg/kg		mg/kg	mg/kg	
12952	EFH (C21-C30)	n.a.	4.3 J		5.6	2.2	1
12952	EFH (C30-C40)	n.a.	6.1 J		11	4.5	1
12952	EFH (C8-C11)	n.a.	5.6 U		5.6	2.2	1
Metals		SW-846 6010C	mg/kg		mg/kg	mg/kg	
01643	Aluminum	7429-90-5	40,900		44.3	7.99	1
06944	Antimony	7440-36-0	28.0		4.43	0.820	1
06935	Arsenic	7440-38-2	18.3		4.43	0.775	1
06946	Barium	7440-39-3	383		1.11	0.0365	1
06947	Beryllium	7440-41-7	6.53		1.11	0.0742	1
07914	Boron	7440-42-8	223		11.1	0.930	1
06949	Cadmium	7440-43-9	5.10		1.11	0.0842	1
01650	Calcium	7440-70-2	8,820		22.1	3.70	1
06951	Chromium	7440-47-3	63.5		3.32	0.177	1
06952	Cobalt	7440-48-4	62.7		1.11	0.110	1
06953	Copper	7440-50-8	48.2		2.21	0.321	1
01654	Iron	7439-89-6	37,400		221	20.0	5
06955	Lead	7439-92-1	27.4		3.32	0.554	1
01656	Lithium	7439-93-2	139		4.4	0.38	1
01657	Magnesium	7439-95-4	8,330		11.1	1.85	1
06958	Manganese	7439-96-5	518		1.11	0.0919	1
06960	Molybdenum	7439-98-7	206		2.21	0.188	1
06961	Nickel	7440-02-0	74.6		2.21	0.144	1
10145	Phosphorus	7723-14-0	439		11.1	3.20	1
01662	Potassium	7440-09-7	7,020		111	9.24	1
01667	Sodium	7440-23-5	1,350		111	18.5	1
06969	Tin	7440-31-5	410		11.1	0.244	1
06970	Titanium	7440-32-6	2,140		5.54	0.941	5
06971	Vanadium	7440-62-2	135		1.11	0.144	1
06972	Zinc	7440-66-6	130		4.43	0.221	1
10146	Zirconium	7440-67-7	108		5.54	0.930	1
		SW-846 6020A	mg/kg		mg/kg	mg/kg	
06141	Selenium	7782-49-2	2.47		0.443	0.111	2
06142	Silver	7440-22-4	13.5		0.221	0.0288	2
06144	Strontium	7440-24-6	68.7		0.443	0.0753	2
06145	Thallium	7440-28-0	0.892		0.221	0.0332	2
		SW-846 7471B	mg/kg		mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.212		0.0179	0.0107	1
Wet Chemistry		EPA 160.3 modified	%		%	%	
11625	14a Moisture Content by 160.3	n.a.	10.6		0.10	0.10	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-543-SA8-SB-4.0-5.0MS Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7160449
LL Group # 1411330
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/13/2013 08:15 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/14/2013 09:20
Reported: 08/30/2013 13:32

543-4 SDG#: PH090-03MS

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
Dioxins/Furans			EPA 1613B		ng/kg	
11031	2378-TCDD	1746-01-6	21.6	1.09	0.174	1
11031	12378-PeCDD	40321-76-4	126	B	0.274	1
11031	123478-HxCDD	39227-28-6	128		0.182	1
11031	123678-HxCDD	57653-85-7	126		0.189	1
11031	123789-HxCDD	19408-74-3	124		0.192	1
11031	1234678-HpCDD	35822-46-9	120	B	0.162	1
11031	OCDD	3268-87-9	237	B	0.102	1
11031	2378-TCDF	51207-31-9	26.9	1.09	0.215	1
11031	12378-PeCDF	57117-41-6	130		0.149	1
11031	23478-PeCDF	57117-31-4	122	B	0.145	1
11031	123478-HxCDF	70648-26-9	117	B	0.181	1
11031	123678-HxCDF	57117-44-9	119	B	0.160	1
11031	123789-HxCDF	72918-21-9	112		0.281	1
11031	234678-HxCDF	60851-34-5	118		0.169	1
11031	1234678-HpCDF	67562-39-4	112	B	0.102	1
11031	1234789-HpCDF	55673-89-7	112	B	0.217	1
11031	OCDF	39001-02-0	218	B	0.167	1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	61	25 - 164
13C12-12378-PeCDD	76	25 - 181
13C12-123478-HxCDD	76	32 - 141
13C12-123678-HxCDD	83	28 - 130
13C12-123789-HxCDD	80	28 - 130
13C12-1234678-HpCDD	95	23 - 140
13C12-OCDD	96	17 - 157
13C12-2378-TCDF	65	24 - 169
13C12-12378-PeCDF	95	24 - 185
13C12-23478-PeCDF	88	21 - 178
13C12-123478-HxCDF	76	26 - 152
13C12-123678-HxCDF	94	26 - 123
13C12-234678-HxCDF	84	28 - 136
13C12-123789-HxCDF	69	29 - 147
13C12-1234678-HpCDF	123	28 - 143
13C12-1234789-HpCDF	74	26 - 138
13C12-OCDF	76	17 - 157

Dioxins/Furans Data Qualifiers:

- B Detected in Method Blank
- U Undetected
- J Estimated concentration between Estimated Detection Limit and Minimum Level
- E Exceeds calibration range
- C Confirmed quantitation on secondary GC column
- Q EMPC - Estimated Maximum Possible Concentration
- F Interference is present
- S Saturation of detection signal

*=This limit was used in the evaluation of the final result

Sample Description: SL-543-SA8-SB-4.0-5.0MS Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7160449
LL Group # 1411330
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/13/2013 08:15 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/14/2013 09:20
Reported: 08/30/2013 13:32

543-4 SDG#: PH090-03MS

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13232SLB026	08/23/2013 04:06	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	13232SLB026	08/20/2013 16:00	David S Schrum	1
05551	11a TPH by EPA 8015B GRO	TPH GRO SW-846 8015B mod	1	13227A16A	08/16/2013 22:25	Laura M Krieger	29.21
06130	GC - 5 g HL Encore Prep	SW-846 5035A	1	201322632040	08/14/2013 16:09	Mitchell R Washel	n.a.
06130	GC - 5 g HL Encore Prep	SW-846 5035A	2	201322632040	08/14/2013 16:10	Mitchell R Washel	n.a.
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132330010A	08/23/2013 12:19	Jessica L Miller	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132330010A	08/21/2013 15:30	Sally L Appleyard	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132330018A	08/22/2013 00:25	Heather E Williams	1
12959	EPH soil ext. (microwave)	SW-846 3546	1	132330018A	08/21/2013 14:00	David S Schrum	1
11031	23a Dioxin/Furan by EPA 1613B	EPA 1613B	1	13234002	08/26/2013 17:15	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	13234002	08/22/2013 12:30	Deborah M Zimmerman	1
01643	Aluminum	SW-846 6010C	1	132250637002	08/23/2013 05:38	Eric L Eby	1
06944	Antimony	SW-846 6010C	1	132250637002	08/23/2013 05:38	Eric L Eby	1
06935	Arsenic	SW-846 6010C	1	132250637002	08/23/2013 05:38	Eric L Eby	1
06946	Barium	SW-846 6010C	1	132250637002	08/23/2013 05:38	Eric L Eby	1
06947	Beryllium	SW-846 6010C	1	132250637002	08/23/2013 05:38	Eric L Eby	1
07914	Boron	SW-846 6010C	1	132250637002	08/23/2013 05:38	Eric L Eby	1
06949	Cadmium	SW-846 6010C	1	132250637002	08/23/2013 05:38	Eric L Eby	1
01650	Calcium	SW-846 6010C	1	132250637002	08/23/2013 05:38	Eric L Eby	1
06951	Chromium	SW-846 6010C	1	132250637002	08/23/2013 05:38	Eric L Eby	1
06952	Cobalt	SW-846 6010C	1	132250637002	08/23/2013 05:38	Eric L Eby	1
06953	Copper	SW-846 6010C	1	132250637002	08/23/2013 05:38	Eric L Eby	1
01654	Iron	SW-846 6010C	1	132250637002	08/23/2013 07:10	Eric L Eby	5
06955	Lead	SW-846 6010C	1	132250637002	08/23/2013 05:38	Eric L Eby	1
01656	Lithium	SW-846 6010C	1	132250637002	08/23/2013 05:38	Eric L Eby	1
01657	Magnesium	SW-846 6010C	1	132250637002	08/23/2013 05:38	Eric L Eby	1
06958	Manganese	SW-846 6010C	1	132250637002	08/23/2013 05:38	Eric L Eby	1
06960	Molybdenum	SW-846 6010C	1	132250637002	08/23/2013 05:38	Eric L Eby	1
06961	Nickel	SW-846 6010C	1	132250637002	08/23/2013 05:38	Eric L Eby	1
10145	Phosphorus	SW-846 6010C	1	132250637002	08/23/2013 05:38	Eric L Eby	1
01662	Potassium	SW-846 6010C	1	132250637002	08/23/2013 05:38	Eric L Eby	1
01667	Sodium	SW-846 6010C	1	132250637002	08/23/2013 05:38	Eric L Eby	1
06969	Tin	SW-846 6010C	1	132250637002	08/23/2013 05:38	Eric L Eby	1
06970	Titanium	SW-846 6010C	1	132250637002	08/23/2013 07:10	Eric L Eby	5
06971	Vanadium	SW-846 6010C	1	132250637002	08/23/2013 05:38	Eric L Eby	1
06972	Zinc	SW-846 6010C	1	132250637002	08/23/2013 05:38	Eric L Eby	1
10146	Zirconium	SW-846 6010C	1	132250637002	08/23/2013 05:38	Eric L Eby	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-543-SA8-SB-4.0-5.0MS Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7160449
LL Group # 1411330
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/13/2013 08:15 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/14/2013 09:20

Reported: 08/30/2013 13:32

543-4 SDG#: PH090-03MS

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
06141	Selenium	SW-846 6020A	1	132250637002B	08/19/2013	11:33	Choon Y Tian	2
06142	Silver	SW-846 6020A	1	132250637002A	08/19/2013	11:33	Choon Y Tian	2
06144	Strontium	SW-846 6020A	1	132250637002A	08/19/2013	11:33	Choon Y Tian	2
06145	Thallium	SW-846 6020A	1	132250637002A	08/19/2013	11:33	Choon Y Tian	2
00159	3a Mercury 7471A	SW-846 7471B	1	132320638002	08/22/2013	09:45	Damary Valentin	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132250637002	08/14/2013	23:15	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132320638002	08/21/2013	12:10	Denise K Conners	1
11625	14a Moisture Content by 160.3	EPA 160.3 modified	1	13231162401B	08/20/2013	00:41	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-543-SA8-SB-4.0-5.0MSD Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7160450
LL Group # 1411330
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/13/2013 08:15 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/14/2013 09:20
Reported: 08/30/2013 13:32

543-4 SDG#: PH090-03MSD

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	36	1.9	0.75	1
12969	Acenaphthylene	208-96-8	38	1.9	0.37	1
12969	Anthracene	120-12-7	37	1.9	0.37	1
12969	Benzo(a)anthracene	56-55-3	36	1.9	0.75	1
12969	Benzo(a)pyrene	50-32-8	37	1.9	0.75	1
12969	Benzo(b)fluoranthene	205-99-2	38	1.9	0.75	1
12969	Benzo(e)pyrene	192-97-2	33	19	3.7	1
12969	Benzo(g,h,i)perylene	191-24-2	35	1.9	0.75	1
12969	Benzo(k)fluoranthene	207-08-9	38	1.9	0.75	1
12969	Butylbenzylphthalate	85-68-7	44	20	6.7	1
12969	Di-n-butylphthalate	84-74-2	44	20	6.7	1
12969	Chrysene	218-01-9	36	1.9	0.37	1
12969	Dibenz(a,h)anthracene	53-70-3	38	1.9	0.75	1
12969	Diethylphthalate	84-66-2	42	20	6.7	1
12969	Dimethylphthalate	131-11-3	38	20	6.7	1
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	51	20	6.7	1
12969	Fluoranthene	206-44-0	37	1.9	0.75	1
12969	Fluorene	86-73-7	37	1.9	0.75	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	38	1.9	0.75	1
12969	1-Methylnaphthalene	90-12-0	38	1.9	0.75	1
12969	2-Methylnaphthalene	91-57-6	38	1.9	0.75	1
12969	Naphthalene	91-20-3	37	1.9	0.75	1
12969	N-Nitrosodimethylamine	62-75-9	43	1.9	0.75	1
12969	Di-n-octylphthalate	117-84-0	44	20	6.7	1
12969	Phenanthrene	85-01-8	36	1.9	0.75	1
12969	Pyrene	129-00-0	36	1.9	0.75	1
GC Volatiles	TPH GRO SW-846 8015B mod	mg/kg	mg/kg	mg/kg		
05551	11a TPH by EPA 8015B GRO	n.a.	11	1.3	0.3	28.74
Pesticides/PCBs	SW-846 8082A	ug/kg	ug/kg	ug/kg		
10592	Aroclor 5432	63496-31-1	37 U	37	11	1
10592	Aroclor 5442	12642-23-8	37 U	37	11	1
10592	Aroclor 5460	11126-42-4	37 U	37	11	1
10592	PCB-1016	12674-11-2	170	19	3.7	1
10592	PCB-1221	11104-28-2	19 U	19	5.7	1
10592	PCB-1232	11141-16-5	19 U	19	4.6	1
10592	PCB-1242	53469-21-9	19 U	19	4.6	1
10592	PCB-1248	12672-29-6	19 U	19	3.7	1
10592	PCB-1254	11097-69-1	19 U	19	4.9	1
10592	PCB-1260	11096-82-5	200	19	4.4	1
10592	PCB-1262	37324-23-5	19 U	19	3.7	1
10592	PCB-1268	11100-14-4	19 U	19	3.7	1
GC Petroleum	SW-846 8015B modified	mg/kg	mg/kg	mg/kg		
Hydrocarbons						
12952	EFH (C12-C14)	n.a.	5.6 U	5.6	2.2	1
12952	EFH (C15-C20)	n.a.	2.7 J	5.6	2.2	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-543-SA8-SB-4.0-5.0MSD Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7160450
LL Group # 1411330
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/13/2013 08:15 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/14/2013 09:20
Reported: 08/30/2013 13:32

543-4 SDG#: PH090-03MSD

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC Petroleum Hydrocarbons		SW-846 8015B modified	mg/kg		mg/kg	mg/kg	
12952	EFH (C21-C30)	n.a.	4.9 J		5.6	2.2	1
12952	EFH (C30-C40)	n.a.	9.2 J		11	4.5	1
12952	EFH (C8-C11)	n.a.	5.6 U		5.6	2.2	1
Metals		SW-846 6010C	mg/kg		mg/kg	mg/kg	
01643	Aluminum	7429-90-5	43,000		44.3	7.99	1
06944	Antimony	7440-36-0	28.9		4.43	0.820	1
06935	Arsenic	7440-38-2	17.8		4.43	0.775	1
06946	Barium	7440-39-3	389		1.11	0.0365	1
06947	Beryllium	7440-41-7	6.55		1.11	0.0742	1
07914	Boron	7440-42-8	223		11.1	0.930	1
06949	Cadmium	7440-43-9	4.99		1.11	0.0842	1
01650	Calcium	7440-70-2	8,440		22.1	3.70	1
06951	Chromium	7440-47-3	64.8		3.32	0.177	1
06952	Cobalt	7440-48-4	62.9		1.11	0.110	1
06953	Copper	7440-50-8	48.2		2.21	0.321	1
01654	Iron	7439-89-6	36,500		221	20.0	5
06955	Lead	7439-92-1	27.0		3.32	0.554	1
01656	Lithium	7439-93-2	140		4.4	0.38	1
01657	Magnesium	7439-95-4	8,500		11.1	1.85	1
06958	Manganese	7439-96-5	516		1.11	0.0919	1
06960	Molybdenum	7439-98-7	205		2.21	0.188	1
06961	Nickel	7440-02-0	75.3		2.21	0.144	1
10145	Phosphorus	7723-14-0	361		11.1	3.20	1
01662	Potassium	7440-09-7	6,590		111	9.24	1
01667	Sodium	7440-23-5	1,400		111	18.5	1
06969	Tin	7440-31-5	408		11.1	0.244	1
06970	Titanium	7440-32-6	2,150		5.54	0.941	5
06971	Vanadium	7440-62-2	138		1.11	0.144	1
06972	Zinc	7440-66-6	129		4.43	0.221	1
10146	Zirconium	7440-67-7	111		5.54	0.930	1
		SW-846 6020A	mg/kg		mg/kg	mg/kg	
06141	Selenium	7782-49-2	2.46		0.443	0.111	2
06142	Silver	7440-22-4	13.8		0.221	0.0288	2
06144	Strontium	7440-24-6	72.7		0.443	0.0753	2
06145	Thallium	7440-28-0	0.996		0.221	0.0332	2
		SW-846 7471B	mg/kg		mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.215		0.0178	0.0107	1
Wet Chemistry		EPA 160.3 modified	%		%	%	
11625	14a Moisture Content by 160.3	n.a.	10.6		0.10	0.10	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-543-SA8-SB-4.0-5.0MSD Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7160450
LL Group # 1411330
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/13/2013 08:15 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/14/2013 09:20
Reported: 08/30/2013 13:32

543-4 SDG#: PH090-03MSD

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
Dioxins/Furans			EPA 1613B			
			ng/kg	ng/kg	ng/kg	
11031	2378-TCDD	1746-01-6	23.1	1.11	0.184	1
11031	12378-PeCDD	40321-76-4	130	B	0.278	1
11031	123478-HxCDD	39227-28-6	129		0.174	1
11031	123678-HxCDD	57653-85-7	124		0.197	1
11031	123789-HxCDD	19408-74-3	124		0.210	1
11031	1234678-HpCDD	35822-46-9	120	B	0.150	1
11031	OCDD	3268-87-9	249	B	0.101	1
11031	2378-TCDF	51207-31-9	28.9	1.11	0.202	1
11031	12378-PeCDF	57117-41-6	128		0.141	1
11031	23478-PeCDF	57117-31-4	130	B	0.152	1
11031	123478-HxCDF	70648-26-9	119	B	0.191	1
11031	123678-HxCDF	57117-44-9	122	B	0.165	1
11031	123789-HxCDF	72918-21-9	118		0.257	1
11031	234678-HxCDF	60851-34-5	122		0.186	1
11031	1234678-HpCDF	67562-39-4	113	B	0.0904	1
11031	1234789-HpCDF	55673-89-7	114	B	0.199	1
11031	OCDF	39001-02-0	228	B	0.143	1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	58	25 - 164
13C12-12378-PeCDD	77	25 - 181
13C12-123478-HxCDD	69	32 - 141
13C12-123678-HxCDD	73	28 - 130
13C12-123789-HxCDD	68	28 - 130
13C12-1234678-HpCDD	91	23 - 140
13C12-OCDD	94	17 - 157
13C12-2378-TCDF	59	24 - 169
13C12-12378-PeCDF	92	24 - 185
13C12-23478-PeCDF	83	21 - 178
13C12-123478-HxCDF	71	26 - 152
13C12-123678-HxCDF	83	26 - 123
13C12-234678-HxCDF	70	28 - 136
13C12-123789-HxCDF	71	29 - 147
13C12-1234678-HpCDF	121	28 - 143
13C12-1234789-HpCDF	72	26 - 138
13C12-OCDF	73	17 - 157

Dioxins/Furans Data Qualifiers:

- B Detected in Method Blank
- U Undetected
- J Estimated concentration between Estimated Detection Limit and Minimum Level
- E Exceeds calibration range
- C Confirmed quantitation on secondary GC column
- Q EMPC - Estimated Maximum Possible Concentration
- F Interference is present
- S Saturation of detection signal

*=This limit was used in the evaluation of the final result

Sample Description: SL-543-SA8-SB-4.0-5.0MSD Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7160450
LL Group # 1411330
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/13/2013 08:15 by SM

CDM Federal Programs Corp.

3201 Jermantown Road

Submitted: 08/14/2013 09:20

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Reported: 08/30/2013 13:32

Fairfax VA 22030

543-4 SDG#: PH090-03MSD

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13232SLB026	08/23/2013 04:39	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	13232SLB026	08/20/2013 16:00	David S Schrum	1
05551	11a TPH by EPA 8015B GRO	TPH GRO SW-846 8015B mod	1	13227A16A	08/16/2013 23:03	Laura M Krieger	28.74
06130	GC - 5 g HL Encore Prep	SW-846 5035A	1	201322632040	08/14/2013 16:10	Mitchell R Washel	n.a.
06130	GC - 5 g HL Encore Prep	SW-846 5035A	2	201322632040	08/14/2013 16:10	Mitchell R Washel	n.a.
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132330010A	08/23/2013 12:37	Jessica L Miller	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132330010A	08/21/2013 15:30	Sally L Appleyard	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132330018A	08/22/2013 00:46	Heather E Williams	1
12959	EPH soil ext. (microwave)	SW-846 3546	1	132330018A	08/21/2013 14:00	David S Schrum	1
11031	23a Dioxin/Furan by EPA 1613B	EPA 1613B	1	13234002	08/26/2013 18:12	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	13234002	08/22/2013 12:30	Deborah M Zimmerman	1
01643	Aluminum	SW-846 6010C	1	132250637002	08/23/2013 05:42	Eric L Eby	1
06944	Antimony	SW-846 6010C	1	132250637002	08/23/2013 05:42	Eric L Eby	1
06935	Arsenic	SW-846 6010C	1	132250637002	08/23/2013 05:42	Eric L Eby	1
06946	Barium	SW-846 6010C	1	132250637002	08/23/2013 05:42	Eric L Eby	1
06947	Beryllium	SW-846 6010C	1	132250637002	08/23/2013 05:42	Eric L Eby	1
07914	Boron	SW-846 6010C	1	132250637002	08/23/2013 05:42	Eric L Eby	1
06949	Cadmium	SW-846 6010C	1	132250637002	08/23/2013 05:42	Eric L Eby	1
01650	Calcium	SW-846 6010C	1	132250637002	08/23/2013 05:42	Eric L Eby	1
06951	Chromium	SW-846 6010C	1	132250637002	08/23/2013 05:42	Eric L Eby	1
06952	Cobalt	SW-846 6010C	1	132250637002	08/23/2013 05:42	Eric L Eby	1
06953	Copper	SW-846 6010C	1	132250637002	08/23/2013 05:42	Eric L Eby	1
01654	Iron	SW-846 6010C	1	132250637002	08/23/2013 07:14	Eric L Eby	5
06955	Lead	SW-846 6010C	1	132250637002	08/23/2013 05:42	Eric L Eby	1
01656	Lithium	SW-846 6010C	1	132250637002	08/23/2013 05:42	Eric L Eby	1
01657	Magnesium	SW-846 6010C	1	132250637002	08/23/2013 05:42	Eric L Eby	1
06958	Manganese	SW-846 6010C	1	132250637002	08/23/2013 05:42	Eric L Eby	1
06960	Molybdenum	SW-846 6010C	1	132250637002	08/23/2013 05:42	Eric L Eby	1
06961	Nickel	SW-846 6010C	1	132250637002	08/23/2013 05:42	Eric L Eby	1
10145	Phosphorus	SW-846 6010C	1	132250637002	08/23/2013 05:42	Eric L Eby	1
01662	Potassium	SW-846 6010C	1	132250637002	08/23/2013 05:42	Eric L Eby	1
01667	Sodium	SW-846 6010C	1	132250637002	08/23/2013 05:42	Eric L Eby	1
06969	Tin	SW-846 6010C	1	132250637002	08/23/2013 05:42	Eric L Eby	1
06970	Titanium	SW-846 6010C	1	132250637002	08/23/2013 07:14	Eric L Eby	5
06971	Vanadium	SW-846 6010C	1	132250637002	08/23/2013 05:42	Eric L Eby	1
06972	Zinc	SW-846 6010C	1	132250637002	08/23/2013 05:42	Eric L Eby	1
10146	Zirconium	SW-846 6010C	1	132250637002	08/23/2013 05:42	Eric L Eby	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-543-SA8-SB-4.0-5.0MSD Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7160450
LL Group # 1411330
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/13/2013 08:15 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/14/2013 09:20
Reported: 08/30/2013 13:32

543-4 SDG#: PH090-03MSD

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
06141	Selenium	SW-846 6020A	1	132250637002B	08/19/2013	11:35	Choon Y Tian	2
06142	Silver	SW-846 6020A	1	132250637002A	08/19/2013	11:35	Choon Y Tian	2
06144	Strontium	SW-846 6020A	1	132250637002A	08/19/2013	11:35	Choon Y Tian	2
06145	Thallium	SW-846 6020A	1	132250637002A	08/19/2013	11:35	Choon Y Tian	2
00159	3a Mercury 7471A	SW-846 7471B	1	132320638002	08/22/2013	09:47	Damary Valentin	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132250637002	08/14/2013	23:15	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132320638002	08/21/2013	12:10	Denise K Conners	1
11625	14a Moisture Content by 160.3	EPA 160.3 modified	1	13231162401B	08/20/2013	00:41	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-543-SA8-SB-4.0-5.0DUP Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7160451
LL Group # 1411330
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/13/2013 08:15 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/14/2013 09:20
Reported: 08/30/2013 13:32

543-4 SDG#: PH090-03DUP

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals						
		SW-846 6010C	mg/kg	mg/kg	mg/kg	
01643	Aluminum	7429-90-5	34,900	44.3	7.99	1
06944	Antimony	7440-36-0	4.43 U	4.43	0.820	1
06935	Arsenic	7440-38-2	2.67 J	4.43	0.775	1
06946	Barium	7440-39-3	157	1.11	0.0365	1
06947	Beryllium	7440-41-7	1.08 J	1.11	0.0742	1
07914	Boron	7440-42-8	7.74 J	11.1	0.930	1
06949	Cadmium	7440-43-9	1.11 U	1.11	0.0842	1
01650	Calcium	7440-70-2	8,580	22.1	3.70	1
06951	Chromium	7440-47-3	40.2	3.32	0.177	1
06952	Cobalt	7440-48-4	10.7	1.11	0.110	1
06953	Copper	7440-50-8	19.4	2.21	0.321	1
01654	Iron	7439-89-6	36,900	221	20.0	5
06955	Lead	7439-92-1	12.5	3.32	0.554	1
01656	Lithium	7439-93-2	27.3	4.4	0.38	1
01657	Magnesium	7439-95-4	7,910	11.1	1.85	1
06958	Manganese	7439-96-5	463	1.11	0.0919	1
06960	Molybdenum	7439-98-7	2.21 U	2.21	0.188	1
06961	Nickel	7440-02-0	22.2	2.21	0.144	1
10145	Phosphorus	7723-14-0	315	11.1	3.20	1
01662	Potassium	7440-09-7	5,170	111	9.24	1
01667	Sodium	7440-23-5	308	111	18.5	1
06969	Tin	7440-31-5	4.03 J	11.1	0.244	1
06970	Titanium	7440-32-6	1,790	5.54	0.941	5
06971	Vanadium	7440-62-2	75.7	1.11	0.144	1
06972	Zinc	7440-66-6	77.2	4.43	0.221	1
10146	Zirconium	7440-67-7	8.18	5.54	0.930	1
		SW-846 6020A	mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	0.307 J	0.443	0.111	2
06142	Silver	7440-22-4	0.0601 J	0.221	0.0288	2
06144	Strontium	7440-24-6	61.9	0.443	0.0753	2
06145	Thallium	7440-28-0	0.481	0.221	0.0332	2
		SW-846 7471B	mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.0180 U	0.0180	0.0108	1
Wet Chemistry						
		SW-846 9045D modified	Std. Units	Std. Units	Std. Units	
00394	15a pH by 9045D The pH was measured in water at 21.2 C.	n.a.	7.84	0.0100	0.0100	1
Wet Chemistry						
		EPA 160.3 modified	%	%	%	
11625	14a Moisture Content by 160.3	n.a.	10.6	0.10	0.10	1
11626	14a Moisture Content by 160.3	n.a.	10.9	0.10	0.10	1
The duplicate moisture value is provided to assess the precision of the moisture test. For comparability purposes, the initial moisture determination is the value used to perform dry weight calculations.						

*=This limit was used in the evaluation of the final result

Sample Description: SL-543-SA8-SB-4.0-5.0DUP Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7160451
LL Group # 1411330
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/13/2013 08:15 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/14/2013 09:20
Reported: 08/30/2013 13:32

543-4 SDG#: PH090-03DUP

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01643	Aluminum	SW-846 6010C	1	132250637002	08/23/2013 05:35	Eric L Eby	1
06944	Antimony	SW-846 6010C	1	132250637002	08/23/2013 05:35	Eric L Eby	1
06935	Arsenic	SW-846 6010C	1	132250637002	08/23/2013 05:35	Eric L Eby	1
06946	Barium	SW-846 6010C	1	132250637002	08/23/2013 05:35	Eric L Eby	1
06947	Beryllium	SW-846 6010C	1	132250637002	08/23/2013 05:35	Eric L Eby	1
07914	Boron	SW-846 6010C	1	132250637002	08/23/2013 05:35	Eric L Eby	1
06949	Cadmium	SW-846 6010C	1	132250637002	08/23/2013 05:35	Eric L Eby	1
01650	Calcium	SW-846 6010C	1	132250637002	08/23/2013 05:35	Eric L Eby	1
06951	Chromium	SW-846 6010C	1	132250637002	08/23/2013 05:35	Eric L Eby	1
06952	Cobalt	SW-846 6010C	1	132250637002	08/23/2013 05:35	Eric L Eby	1
06953	Copper	SW-846 6010C	1	132250637002	08/23/2013 05:35	Eric L Eby	1
01654	Iron	SW-846 6010C	1	132250637002	08/23/2013 07:07	Eric L Eby	5
06955	Lead	SW-846 6010C	1	132250637002	08/23/2013 05:35	Eric L Eby	1
01656	Lithium	SW-846 6010C	1	132250637002	08/23/2013 05:35	Eric L Eby	1
01657	Magnesium	SW-846 6010C	1	132250637002	08/23/2013 05:35	Eric L Eby	1
06958	Manganese	SW-846 6010C	1	132250637002	08/23/2013 05:35	Eric L Eby	1
06960	Molybdenum	SW-846 6010C	1	132250637002	08/23/2013 05:35	Eric L Eby	1
06961	Nickel	SW-846 6010C	1	132250637002	08/23/2013 05:35	Eric L Eby	1
10145	Phosphorus	SW-846 6010C	1	132250637002	08/23/2013 05:35	Eric L Eby	1
01662	Potassium	SW-846 6010C	1	132250637002	08/23/2013 05:35	Eric L Eby	1
01667	Sodium	SW-846 6010C	1	132250637002	08/23/2013 05:35	Eric L Eby	1
06969	Tin	SW-846 6010C	1	132250637002	08/23/2013 05:35	Eric L Eby	1
06970	Titanium	SW-846 6010C	1	132250637002	08/23/2013 07:07	Eric L Eby	5
06971	Vanadium	SW-846 6010C	1	132250637002	08/23/2013 05:35	Eric L Eby	1
06972	Zinc	SW-846 6010C	1	132250637002	08/23/2013 05:35	Eric L Eby	1
10146	Zirconium	SW-846 6010C	1	132250637002	08/23/2013 05:35	Eric L Eby	1
06141	Selenium	SW-846 6020A	1	132250637002B	08/19/2013 11:30	Choon Y Tian	2
06142	Silver	SW-846 6020A	1	132250637002A	08/19/2013 11:30	Choon Y Tian	2
06144	Strontium	SW-846 6020A	1	132250637002A	08/19/2013 11:30	Choon Y Tian	2
06145	Thallium	SW-846 6020A	1	132250637002A	08/19/2013 11:30	Choon Y Tian	2
00159	3a Mercury 7471A	SW-846 7471B	1	132320638002	08/22/2013 09:43	Damary Valentin	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132250637002	08/14/2013 23:15	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132320638002	08/21/2013 12:10	Denise K Connors	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13226039404A	08/14/2013 22:50	Clayton C Litchmore	1
11625	14a Moisture Content by 160.3	EPA 160.3 modified	1	13231162401B	08/20/2013 00:41	Scott W Freisher	1
11626	14a Moisture Content by 160.3	EPA 160.3 modified	1	13231162401B	08/20/2013 00:41	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-843-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7160452
LL Group # 1411330
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/13/2013 08:30 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/14/2013 09:20
Reported: 08/30/2013 13:32

843-4 SDG#: PH090-04

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	1.9 U	1.9	0.75	1
12969	Acenaphthylene	208-96-8	1.9 U	1.9	0.37	1
12969	Anthracene	120-12-7	1.9 U	1.9	0.37	1
12969	Benzo(a)anthracene	56-55-3	1.9 U	1.9	0.75	1
12969	Benzo(a)pyrene	50-32-8	1.9 U	1.9	0.75	1
12969	Benzo(b)fluoranthene	205-99-2	1.9 U	1.9	0.75	1
12969	Benzo(e)pyrene	192-97-2	19 U	19	3.7	1
12969	Benzo(g,h,i)perylene	191-24-2	1.9 U	1.9	0.75	1
12969	Benzo(k)fluoranthene	207-08-9	1.9 U	1.9	0.75	1
12969	Butylbenzylphthalate	85-68-7	20 U	20	6.7	1
12969	Di-n-butylphthalate	84-74-2	20 U	20	6.7	1
12969	Chrysene	218-01-9	0.48 J	1.9	0.37	1
12969	Dibenz(a,h)anthracene	53-70-3	1.9 U	1.9	0.75	1
12969	Diethylphthalate	84-66-2	20 U	20	6.7	1
12969	Dimethylphthalate	131-11-3	20 U	20	6.7	1
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	7.5 J	20	6.7	1
12969	Fluoranthene	206-44-0	1.9 U	1.9	0.75	1
12969	Fluorene	86-73-7	1.9 U	1.9	0.75	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	1.9 U	1.9	0.75	1
12969	1-Methylnaphthalene	90-12-0	0.94 J	1.9	0.75	1
12969	2-Methylnaphthalene	91-57-6	1.1 J	1.9	0.75	1
12969	Naphthalene	91-20-3	1.6 J	1.9	0.75	1
12969	N-Nitrosodimethylamine	62-75-9	1.9 U	1.9	0.75	1
12969	Di-n-octylphthalate	117-84-0	20 U	20	6.7	1
12969	Phenanthrene	85-01-8	1.9 U	1.9	0.75	1
12969	Pyrene	129-00-0	1.9 U	1.9	0.75	1
GC Volatiles	TPH GRO SW-846 8015B mod	mg/kg	mg/kg	mg/kg		
05551	11a TPH by EPA 8015B GRO	n.a.	1.1 U	1.1	0.2	24.9
Pesticides/PCBs	SW-846 8082A	ug/kg	ug/kg	ug/kg		
10592	Aroclor 5432	63496-31-1	37 U	37	11	1
10592	Aroclor 5442	12642-23-8	37 U	37	11	1
10592	Aroclor 5460	11126-42-4	37 U	37	11	1
10592	PCB-1016	12674-11-2	19 U	19	3.7	1
10592	PCB-1221	11104-28-2	19 U	19	5.7	1
10592	PCB-1232	11141-16-5	19 U	19	4.6	1
10592	PCB-1242	53469-21-9	19 U	19	4.6	1
10592	PCB-1248	12672-29-6	19 U	19	3.7	1
10592	PCB-1254	11097-69-1	19 U	19	4.9	1
10592	PCB-1260	11096-82-5	19 U	19	4.4	1
10592	PCB-1262	37324-23-5	19 U	19	3.7	1
10592	PCB-1268	11100-14-4	19 U	19	3.7	1
GC Petroleum	SW-846 8015B modified	mg/kg	mg/kg	mg/kg		
Hydrocarbons						
12952	EFH (C12-C14)	n.a.	5.6 U	5.6	2.2	1
12952	EFH (C15-C20)	n.a.	5.6 U	5.6	2.2	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-843-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7160452
LL Group # 1411330
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/13/2013 08:30 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/14/2013 09:20

Reported: 08/30/2013 13:32

843-4 SDG#: PH090-04

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC Petroleum						
Hydrocarbons						
		SW-846 8015B modified	mg/kg	mg/kg	mg/kg	
12952	EFH (C21-C30)	n.a.	5.6 U	5.6	2.2	1
12952	EFH (C30-C40)	n.a.	11 U	11	4.5	1
12952	EFH (C8-C11)	n.a.	5.6 U	5.6	2.2	1
Metals						
		SW-846 6010C	mg/kg	mg/kg	mg/kg	
01643	Aluminum	7429-90-5	35,700	45.0	8.11	1
06944	Antimony	7440-36-0	4.50 U	4.50	0.832	1
06935	Arsenic	7440-38-2	3.25 J	4.50	0.787	1
06946	Barium	7440-39-3	159	1.12	0.0371	1
06947	Beryllium	7440-41-7	1.07 J	1.12	0.0754	1
07914	Boron	7440-42-8	7.10 J	11.2	0.945	1
06949	Cadmium	7440-43-9	1.12 U	1.12	0.0855	1
01650	Calcium	7440-70-2	10,700	22.5	3.76	1
06951	Chromium	7440-47-3	41.1	3.37	0.180	1
06952	Cobalt	7440-48-4	10.8	1.12	0.111	1
06953	Copper	7440-50-8	19.1	2.25	0.326	1
01654	Iron	7439-89-6	36,100	225	20.4	5
06955	Lead	7439-92-1	11.7	3.37	0.562	1
01656	Lithium	7439-93-2	27.8	4.5	0.38	1
01657	Magnesium	7439-95-4	7,810	11.2	1.88	1
06958	Manganese	7439-96-5	498	1.12	0.0934	1
06960	Molybdenum	7439-98-7	0.297 J	2.25	0.191	1
06961	Nickel	7440-02-0	23.1	2.25	0.146	1
10145	Phosphorus	7723-14-0	287	11.2	3.25	1
01662	Potassium	7440-09-7	5,050	112	9.38	1
01667	Sodium	7440-23-5	257	112	18.8	1
06969	Tin	7440-31-5	3.90 J	11.2	0.247	1
06970	Titanium	7440-32-6	1,830	5.62	0.956	5
06971	Vanadium	7440-62-2	75.9	1.12	0.146	1
06972	Zinc	7440-66-6	75.2	4.50	0.225	1
10146	Zirconium	7440-67-7	8.28	5.62	0.945	1
SW-846 6020A						
			mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	0.262 J	0.450	0.112	2
06142	Silver	7440-22-4	0.0616 J	0.225	0.0292	2
06144	Strontium	7440-24-6	59.0	0.450	0.0765	2
06145	Thallium	7440-28-0	0.445	0.225	0.0337	2
SW-846 7471B						
			mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.0185 U	0.0185	0.0111	1
Wet Chemistry						
		SW-846 9045D modified	Std. Units	Std. Units	Std. Units	
00394	15a pH by 9045D The pH was measured in water at 21.1 C.	n.a.	8.09	0.0100	0.0100	1
Wet Chemistry						
		EPA 160.3 modified	%	%	%	
11624	14a Moisture Content by 160.3	n.a.	11.1	0.10	0.10	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-843-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7160452
LL Group # 1411330
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/13/2013 08:30 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/14/2013 09:20

Reported: 08/30/2013 13:32

843-4 SDG#: PH090-04

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Wet Chemistry	EPA 160.3 modified		%	%	%	
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

*=This limit was used in the evaluation of the final result

Sample Description: SL-843-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7160452
LL Group # 1411330
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/13/2013 08:30 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/14/2013 09:20
Reported: 08/30/2013 13:32

843-4 SDG#: PH090-04

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
Dioxins/Furans			ng/kg	ng/kg	ng/kg	
EPA 1613B						
11031	2378-TCDD	1746-01-6	1.07 U	1.07	0.0543	1
11031	12378-PeCDD	40321-76-4	0.194 JB	5.37	0.0816	1
11031	123478-HxCDD	39227-28-6	0.0875 J	5.37	0.0444	1
11031	123678-HxCDD	57653-85-7	0.220 JQ	5.37	0.0494	1
11031	123789-HxCDD	19408-74-3	0.386 JQ	5.37	0.0497	1
11031	1234678-HpCDD	35822-46-9	0.690 JB	5.37	0.0634	1
11031	OCDD	3268-87-9	5.06 JB	10.7	0.0402	1
11031	2378-TCDF	51207-31-9	1.07 U	1.07	0.0848	1
11031	12378-PeCDF	57117-41-6	0.219 J	5.37	0.0369	1
11031	23478-PeCDF	57117-31-4	0.0563 JB	5.37	0.0415	1
11031	123478-HxCDF	70648-26-9	0.105 JBQ	5.37	0.0357	1
11031	123678-HxCDF	57117-44-9	0.126 JB	5.37	0.0298	1
11031	123789-HxCDF	72918-21-9	0.607 JQ	5.37	0.0443	1
11031	234678-HxCDF	60851-34-5	0.112 JQ	5.37	0.0322	1
11031	1234678-HpCDF	67562-39-4	0.195 JBQ	5.37	0.0165	1
11031	1234789-HpCDF	55673-89-7	0.0842 JBQ	5.37	0.0372	1
11031	OCDF	39001-02-0	0.422 JB	10.7	0.0777	1

Toxic Equivalents		EPA 1613B	ng/kg	ng/kg	ng/kg	
11031	TEQ WHO 2005 - EDLx0.0	n.a.	0.247			1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	53	25 - 164
13C12-12378-PeCDD	66	25 - 181
13C12-123478-HxCDD	66	32 - 141
13C12-123678-HxCDD	70	28 - 130
13C12-123789-HxCDD	69	28 - 130
13C12-1234678-HpCDD	80	23 - 140
13C12-OCDD	81	17 - 157
13C12-2378-TCDF	54	24 - 169
13C12-12378-PeCDF	81	24 - 185
13C12-23478-PeCDF	70	21 - 178
13C12-123478-HxCDF	62	26 - 152
13C12-123678-HxCDF	76	26 - 123
13C12-234678-HxCDF	69	28 - 136
13C12-123789-HxCDF	67	29 - 147
13C12-1234678-HpCDF	106	28 - 143
13C12-1234789-HpCDF	61	26 - 138
13C12-OCDF	59	17 - 157

Dioxins/Furans Data Qualifiers:

- B Detected in Method Blank
- U Undetected
- J Estimated concentration between Estimated Detection Limit and Minimum Level
- E Exceeds calibration range
- C Confirmed quantitation on secondary GC column
- Q EMPC - Estimated Maximum Possible Concentration

*=This limit was used in the evaluation of the final result

Sample Description: SL-843-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7160452
LL Group # 1411330
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/13/2013 08:30 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/14/2013 09:20

Reported: 08/30/2013 13:32

843-4 SDG#: PH090-04

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
F	Interference is present					
S	Saturation of detection signal					

*=This limit was used in the evaluation of the final result

Sample Description: SL-843-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7160452
LL Group # 1411330
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/13/2013 08:30 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/14/2013 09:20
Reported: 08/30/2013 13:32

843-4 SDG#: PH090-04

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13232SLB026	08/23/2013 05:46	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	13232SLB026	08/20/2013 16:00	David S Schrum	1
05551	11a TPH by EPA 8015B GRO	TPH GRO SW-846 8015B mod	1	13227A16A	08/16/2013 16:05	Laura M Krieger	24.9
06130	GC - 5 g HL Encore Prep	SW-846 5035A	1	201322632040	08/14/2013 15:44	Mitchell R Washel	n.a.
06130	GC - 5 g HL Encore Prep	SW-846 5035A	2	201322632040	08/14/2013 15:45	Mitchell R Washel	n.a.
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132330010A	08/23/2013 12:55	Jessica L Miller	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132330010A	08/21/2013 15:30	Sally L Appleyard	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132330018A	08/21/2013 23:43	Heather E Williams	1
12959	EPH soil ext. (microwave)	SW-846 3546	1	132330018A	08/21/2013 14:00	David S Schrum	1
11031	23a Dioxin/Furan by EPA 1613B	EPA 1613B	1	13234002	08/26/2013 19:09	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	13234002	08/22/2013 12:30	Deborah M Zimmerman	1
01643	Aluminum	SW-846 6010C	1	132250637002	08/23/2013 06:32	Eric L Eby	1
06944	Antimony	SW-846 6010C	1	132250637002	08/23/2013 06:32	Eric L Eby	1
06935	Arsenic	SW-846 6010C	1	132250637002	08/23/2013 06:32	Eric L Eby	1
06946	Barium	SW-846 6010C	1	132250637002	08/23/2013 06:32	Eric L Eby	1
06947	Beryllium	SW-846 6010C	1	132250637002	08/23/2013 06:32	Eric L Eby	1
07914	Boron	SW-846 6010C	1	132250637002	08/23/2013 06:32	Eric L Eby	1
06949	Cadmium	SW-846 6010C	1	132250637002	08/23/2013 06:32	Eric L Eby	1
01650	Calcium	SW-846 6010C	1	132250637002	08/23/2013 06:32	Eric L Eby	1
06951	Chromium	SW-846 6010C	1	132250637002	08/23/2013 06:32	Eric L Eby	1
06952	Cobalt	SW-846 6010C	1	132250637002	08/23/2013 06:32	Eric L Eby	1
06953	Copper	SW-846 6010C	1	132250637002	08/23/2013 06:32	Eric L Eby	1
01654	Iron	SW-846 6010C	1	132250637002	08/23/2013 07:25	Eric L Eby	5
06955	Lead	SW-846 6010C	1	132250637002	08/23/2013 06:32	Eric L Eby	1
01656	Lithium	SW-846 6010C	1	132250637002	08/23/2013 06:32	Eric L Eby	1
01657	Magnesium	SW-846 6010C	1	132250637002	08/23/2013 06:32	Eric L Eby	1
06958	Manganese	SW-846 6010C	1	132250637002	08/23/2013 06:32	Eric L Eby	1
06960	Molybdenum	SW-846 6010C	1	132250637002	08/23/2013 06:32	Eric L Eby	1
06961	Nickel	SW-846 6010C	1	132250637002	08/23/2013 06:32	Eric L Eby	1
10145	Phosphorus	SW-846 6010C	1	132250637002	08/23/2013 06:32	Eric L Eby	1
01662	Potassium	SW-846 6010C	1	132250637002	08/23/2013 06:32	Eric L Eby	1
01667	Sodium	SW-846 6010C	1	132250637002	08/23/2013 06:32	Eric L Eby	1
06969	Tin	SW-846 6010C	1	132250637002	08/23/2013 06:32	Eric L Eby	1
06970	Titanium	SW-846 6010C	1	132250637002	08/23/2013 07:25	Eric L Eby	5
06971	Vanadium	SW-846 6010C	1	132250637002	08/23/2013 06:32	Eric L Eby	1
06972	Zinc	SW-846 6010C	1	132250637002	08/23/2013 06:32	Eric L Eby	1
10146	Zirconium	SW-846 6010C	1	132250637002	08/23/2013 06:32	Eric L Eby	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-843-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7160452
LL Group # 1411330
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/13/2013 08:30 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/14/2013 09:20

Reported: 08/30/2013 13:32

843-4 SDG#: PH090-04

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
06141	Selenium	SW-846 6020A	1	132250637002B	08/19/2013	12:04	Choon Y Tian	2
06142	Silver	SW-846 6020A	1	132250637002A	08/19/2013	12:04	Choon Y Tian	2
06144	Strontium	SW-846 6020A	1	132250637002A	08/19/2013	12:04	Choon Y Tian	2
06145	Thallium	SW-846 6020A	1	132250637002A	08/19/2013	12:04	Choon Y Tian	2
00159	3a Mercury 7471A	SW-846 7471B	1	132320638002	08/22/2013	09:49	Damary Valentin	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132250637002	08/14/2013	23:15	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132320638002	08/21/2013	12:10	Denise K Conners	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13226039404A	08/14/2013	22:50	Clayton C Litchmore	1
11624	14a Moisture Content by 160.3	EPA 160.3 modified	1	13231162401B	08/20/2013	00:41	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-609-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7160453
LL Group # 1411330
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/13/2013 12:15 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/14/2013 09:20
Reported: 08/30/2013 13:32

609-0 SDG#: PH090-05

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	1.7 U	1.7	0.69	1
12969	Acenaphthylene	208-96-8	1.7 U	1.7	0.35	1
12969	Anthracene	120-12-7	1.7 U	1.7	0.35	1
12969	Benzo(a)anthracene	56-55-3	1.7 U	1.7	0.69	1
12969	Benzo(a)pyrene	50-32-8	1.7 U	1.7	0.69	1
12969	Benzo(b)fluoranthene	205-99-2	1.3 J	1.7	0.69	1
12969	Benzo(e)pyrene	192-97-2	18 U	18	3.5	1
12969	Benzo(g,h,i)perylene	191-24-2	1.7 U	1.7	0.69	1
12969	Benzo(k)fluoranthene	207-08-9	1.7 U	1.7	0.69	1
12969	Butylbenzylphthalate	85-68-7	6.9 J	19	6.3	1
12969	Di-n-butylphthalate	84-74-2	19 U	19	6.3	1
12969	Chrysene	218-01-9	0.97 J	1.7	0.35	1
12969	Dibenz(a,h)anthracene	53-70-3	1.7 U	1.7	0.69	1
12969	Diethylphthalate	84-66-2	19 U	19	6.3	1
12969	Dimethylphthalate	131-11-3	19 U	19	6.3	1
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	19 U	19	6.3	1
12969	Fluoranthene	206-44-0	1.7 U	1.7	0.69	1
12969	Fluorene	86-73-7	1.7 U	1.7	0.69	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	1.7 U	1.7	0.69	1
12969	1-Methylnaphthalene	90-12-0	1.7 U	1.7	0.69	1
12969	2-Methylnaphthalene	91-57-6	0.73 J	1.7	0.69	1
12969	Naphthalene	91-20-3	1.5 J	1.7	0.69	1
12969	N-Nitrosodimethylamine	62-75-9	1.7 U	1.7	0.69	1
12969	Di-n-octylphthalate	117-84-0	19 U	19	6.3	1
12969	Phenanthrene	85-01-8	1.7 U	1.7	0.69	1
12969	Pyrene	129-00-0	1.7 U	1.7	0.69	1
Pesticides/PCBs	SW-846 8082A		ug/kg	ug/kg	ug/kg	
10592	Aroclor 5432	63496-31-1	34 U	34	10	1
10592	Aroclor 5442	12642-23-8	34 U	34	10	1
10592	Aroclor 5460	11126-42-4	34 U	34	10	1
10592	PCB-1016	12674-11-2	18 U	18	3.4	1
10592	PCB-1221	11104-28-2	18 U	18	5.3	1
10592	PCB-1232	11141-16-5	18 U	18	4.3	1
10592	PCB-1242	53469-21-9	18 U	18	4.3	1
10592	PCB-1248	12672-29-6	18 U	18	3.4	1
10592	PCB-1254	11097-69-1	18 U	18	4.6	1
10592	PCB-1260	11096-82-5	18 U	18	4.1	1
10592	PCB-1262	37324-23-5	18 U	18	3.4	1
10592	PCB-1268	11100-14-4	18 U	18	3.4	1
GC Petroleum	SW-846 8015B modified		mg/kg	mg/kg	mg/kg	
Hydrocarbons						
12952	EFH (C12-C14)	n.a.	5.2 U	5.2	2.1	1
12952	EFH (C15-C20)	n.a.	5.2 U	5.2	2.1	1
12952	EFH (C21-C30)	n.a.	5.6	5.2	2.1	1
12952	EFH (C30-C40)	n.a.	19	10	4.2	1
12952	EFH (C8-C11)	n.a.	5.2 U	5.2	2.1	1
Metals	SW-846 6010C		mg/kg	mg/kg	mg/kg	

*=This limit was used in the evaluation of the final result

Sample Description: SL-609-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7160453
LL Group # 1411330
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/13/2013 12:15 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/14/2013 09:20
Reported: 08/30/2013 13:32

609-0 SDG#: PH090-05

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals						
		SW-846 6010C	mg/kg	mg/kg	mg/kg	
01643	Aluminum	7429-90-5	29,700	41.7	7.51	1
06944	Antimony	7440-36-0	4.17 U	4.17	0.771	1
06935	Arsenic	7440-38-2	2.82 J	4.17	0.729	1
06946	Barium	7440-39-3	124	1.04	0.0344	1
06947	Beryllium	7440-41-7	0.923 J	1.04	0.0698	1
07914	Boron	7440-42-8	18.6	10.4	0.875	1
06949	Cadmium	7440-43-9	1.04 U	1.04	0.0792	1
01650	Calcium	7440-70-2	39,400	20.8	3.48	1
06951	Chromium	7440-47-3	36.6	3.13	0.167	1
06952	Cobalt	7440-48-4	10.7	1.04	0.103	1
06953	Copper	7440-50-8	21.3	2.08	0.302	1
01654	Iron	7439-89-6	35,400	208	18.9	5
06955	Lead	7439-92-1	15.8	3.13	0.521	1
01656	Lithium	7439-93-2	28.5	4.2	0.35	1
01657	Magnesium	7439-95-4	9,350	10.4	1.74	1
06958	Manganese	7439-96-5	369	1.04	0.0865	1
06960	Molybdenum	7439-98-7	0.189 J	2.08	0.177	1
06961	Nickel	7440-02-0	21.3	2.08	0.135	1
10145	Phosphorus	7723-14-0	766	10.4	3.01	1
01662	Potassium	7440-09-7	7,800	104	8.69	1
01667	Sodium	7440-23-5	119	104	17.4	1
06969	Tin	7440-31-5	3.63 J	10.4	0.229	1
06970	Titanium	7440-32-6	1,570	5.21	0.885	5
06971	Vanadium	7440-62-2	72.2	1.04	0.135	1
06972	Zinc	7440-66-6	89.9	4.17	0.208	1
10146	Zirconium	7440-67-7	5.75	5.21	0.875	1
		SW-846 6020A	mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	0.434	0.417	0.104	2
06142	Silver	7440-22-4	0.0368 J	0.208	0.0271	2
06144	Strontium	7440-24-6	109	1.04	0.177	5
06145	Thallium	7440-28-0	0.391	0.208	0.0313	2
		SW-846 7471B	mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.0156 J	0.0167	0.0100	1
Wet Chemistry						
		SW-846 9045D modified	Std. Units	Std. Units	Std. Units	
00394	15a pH by 9045D The pH was measured in water at 20.9 C.	n.a.	7.99	0.0100	0.0100	1
Wet Chemistry						
		EPA 160.3 modified	%	%	%	
11624	14a Moisture Content by 160.3 Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.	n.a.	4.0	0.10	0.10	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-609-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7160453
LL Group # 1411330
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/13/2013 12:15 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/14/2013 09:20
Reported: 08/30/2013 13:32

609-0 SDG#: PH090-05

CAT No.	Analysis Name	CAS Number	Dry Result		Dry MRL*	Dry EDL	Dilution Factor
Dioxins/Furans			ng/kg		ng/kg	ng/kg	
EPA 1613B							
11031	2378-TCDD	1746-01-6	1.03	U	1.03	0.0655	1
11031	12378-PeCDD	40321-76-4	5.16	U	5.16	0.0771	1
11031	123478-HxCDD	39227-28-6	5.16	U	5.16	0.0479	1
11031	123678-HxCDD	57653-85-7	0.109	JQ	5.16	0.0535	1
11031	123789-HxCDD	19408-74-3	0.107	JQ	5.16	0.0526	1
11031	1234678-HpCDD	35822-46-9	1.08	JB	5.16	0.0658	1
11031	OCDD	3268-87-9	6.00	JB	10.3	0.0440	1
11031	2378-TCDF	51207-31-9	0.148	J	1.03	0.0951	1
11031	12378-PeCDF	57117-41-6	0.114	JQ	5.16	0.0413	1
11031	23478-PeCDF	57117-31-4	0.0766	JBQ	5.16	0.0469	1
11031	123478-HxCDF	70648-26-9	0.0781	JBQ	5.16	0.0339	1
11031	123678-HxCDF	57117-44-9	0.0890	JBQ	5.16	0.0290	1
11031	123789-HxCDF	72918-21-9	5.16	U	5.16	0.0547	1
11031	234678-HxCDF	60851-34-5	0.0676	JQ	5.16	0.0326	1
11031	1234678-HpCDF	67562-39-4	0.172	JBQ	5.16	0.0168	1
11031	1234789-HpCDF	55673-89-7	0.0507	JBQ	5.16	0.0421	1
11031	OCDF	39001-02-0	0.281	JB	10.3	0.0823	1

Toxic Equivalents		EPA 1613B	ng/kg	ng/kg	ng/kg	
11031	TEQ WHO 2005 - EDLx0.0	n.a.	0.0275			1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	57	25 - 164
13C12-12378-PeCDD	78	25 - 181
13C12-123478-HxCDD	64	32 - 141
13C12-123678-HxCDD	67	28 - 130
13C12-123789-HxCDD	67	28 - 130
13C12-1234678-HpCDD	86	23 - 140
13C12-OCDD	91	17 - 157
13C12-2378-TCDF	58	24 - 169
13C12-12378-PeCDF	93	24 - 185
13C12-23478-PeCDF	78	21 - 178
13C12-123478-HxCDF	61	26 - 152
13C12-123678-HxCDF	78	26 - 123
13C12-234678-HxCDF	65	28 - 136
13C12-123789-HxCDF	54	29 - 147
13C12-1234678-HpCDF	113	28 - 143
13C12-1234789-HpCDF	58	26 - 138
13C12-OCDF	59	17 - 157

Dioxins/Furans Data Qualifiers:

- B Detected in Method Blank
- U Undetected
- J Estimated concentration between Estimated Detection Limit and Minimum Level
- E Exceeds calibration range
- C Confirmed quantitation on secondary GC column
- Q EMPC - Estimated Maximum Possible Concentration

*=This limit was used in the evaluation of the final result

Sample Description: SL-609-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7160453
LL Group # 1411330
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/13/2013 12:15 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/14/2013 09:20

Reported: 08/30/2013 13:32

609-0 SDG#: PH090-05

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
F	Interference is present					
S	Saturation of detection signal					

*=This limit was used in the evaluation of the final result

Sample Description: SL-609-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7160453
LL Group # 1411330
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/13/2013 12:15 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/14/2013 09:20
Reported: 08/30/2013 13:32

609-0 SDG#: PH090-05

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13232SLB026	08/23/2013 06:20	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	13232SLB026	08/20/2013 16:00	David S Schrum	1
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132330010A	08/23/2013 13:14	Jessica L Miller	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132330010A	08/21/2013 15:30	Sally L Appleyard	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132330018A	08/22/2013 01:48	Heather E Williams	1
12959	EFH soil ext.(microwave)	SW-846 3546	1	132330018A	08/21/2013 14:00	David S Schrum	1
11031	23a Dioxin/Furan by EPA 1613B	EPA 1613B	1	13234002	08/26/2013 20:05	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	13234002	08/22/2013 12:30	Deborah M Zimmerman	1
01643	Aluminum	SW-846 6010C	1	132250637002	08/23/2013 06:36	Eric L Eby	1
06944	Antimony	SW-846 6010C	1	132250637002	08/23/2013 06:36	Eric L Eby	1
06935	Arsenic	SW-846 6010C	1	132250637002	08/23/2013 06:36	Eric L Eby	1
06946	Barium	SW-846 6010C	1	132250637002	08/23/2013 06:36	Eric L Eby	1
06947	Beryllium	SW-846 6010C	1	132250637002	08/23/2013 06:36	Eric L Eby	1
07914	Boron	SW-846 6010C	1	132250637002	08/23/2013 06:36	Eric L Eby	1
06949	Cadmium	SW-846 6010C	1	132250637002	08/23/2013 06:36	Eric L Eby	1
01650	Calcium	SW-846 6010C	1	132250637002	08/23/2013 06:36	Eric L Eby	1
06951	Chromium	SW-846 6010C	1	132250637002	08/23/2013 06:36	Eric L Eby	1
06952	Cobalt	SW-846 6010C	1	132250637002	08/23/2013 06:36	Eric L Eby	1
06953	Copper	SW-846 6010C	1	132250637002	08/23/2013 06:36	Eric L Eby	1
01654	Iron	SW-846 6010C	1	132250637002	08/23/2013 07:36	Eric L Eby	5
06955	Lead	SW-846 6010C	1	132250637002	08/23/2013 06:36	Eric L Eby	1
01656	Lithium	SW-846 6010C	1	132250637002	08/23/2013 06:36	Eric L Eby	1
01657	Magnesium	SW-846 6010C	1	132250637002	08/23/2013 06:36	Eric L Eby	1
06958	Manganese	SW-846 6010C	1	132250637002	08/23/2013 06:36	Eric L Eby	1
06960	Molybdenum	SW-846 6010C	1	132250637002	08/23/2013 06:36	Eric L Eby	1
06961	Nickel	SW-846 6010C	1	132250637002	08/23/2013 06:36	Eric L Eby	1
10145	Phosphorus	SW-846 6010C	1	132250637002	08/23/2013 06:36	Eric L Eby	1
01662	Potassium	SW-846 6010C	1	132250637002	08/23/2013 06:36	Eric L Eby	1
01667	Sodium	SW-846 6010C	1	132250637002	08/23/2013 06:36	Eric L Eby	1
06969	Tin	SW-846 6010C	1	132250637002	08/23/2013 06:36	Eric L Eby	1
06970	Titanium	SW-846 6010C	1	132250637002	08/23/2013 07:36	Eric L Eby	5
06971	Vanadium	SW-846 6010C	1	132250637002	08/23/2013 06:36	Eric L Eby	1
06972	Zinc	SW-846 6010C	1	132250637002	08/23/2013 06:36	Eric L Eby	1
10146	Zirconium	SW-846 6010C	1	132250637002	08/23/2013 06:36	Eric L Eby	1
06141	Selenium	SW-846 6020A	1	132250637002B	08/19/2013 12:07	Choon Y Tian	2
06142	Silver	SW-846 6020A	1	132250637002A	08/19/2013 12:07	Choon Y Tian	2
06144	Strontium	SW-846 6020A	1	132250637002A	08/19/2013 12:30	Choon Y Tian	5
06145	Thallium	SW-846 6020A	1	132250637002A	08/19/2013 12:07	Choon Y Tian	2

*=This limit was used in the evaluation of the final result

Sample Description: SL-609-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7160453
LL Group # 1411330
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/13/2013 12:15 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/14/2013 09:20

Reported: 08/30/2013 13:32

609-0 SDG#: PH090-05

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00159	3a Mercury 7471A	SW-846 7471B	1	132320638002	08/22/2013 09:51	Damary Valentin	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132250637002	08/14/2013 23:15	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132320638002	08/21/2013 12:10	Denise K Connors	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13226039404A	08/14/2013 22:50	Clayton C Litchmore	1
11624	14a Moisture Content by 160.3	EPA 160.3 modified	1	13231162401B	08/20/2013 00:41	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-609-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7160454
LL Group # 1411330
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/13/2013 12:45 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/14/2013 09:20
Reported: 08/30/2013 13:32

609-4 SDG#: PH090-06

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	1.8 U	1.8	0.74	1
12969	Acenaphthylene	208-96-8	1.8 U	1.8	0.37	1
12969	Anthracene	120-12-7	1.8 U	1.8	0.37	1
12969	Benzo(a)anthracene	56-55-3	1.8 U	1.8	0.74	1
12969	Benzo(a)pyrene	50-32-8	1.8 U	1.8	0.74	1
12969	Benzo(b)fluoranthene	205-99-2	1.8 U	1.8	0.74	1
12969	Benzo(e)pyrene	192-97-2	19 U	19	3.7	1
12969	Benzo(g,h,i)perylene	191-24-2	1.8 U	1.8	0.74	1
12969	Benzo(k)fluoranthene	207-08-9	1.8 U	1.8	0.74	1
12969	Butylbenzylphthalate	85-68-7	20 U	20	6.7	1
12969	Di-n-butylphthalate	84-74-2	20 U	20	6.7	1
12969	Chrysene	218-01-9	1.8 U	1.8	0.37	1
12969	Dibenz(a,h)anthracene	53-70-3	1.8 U	1.8	0.74	1
12969	Diethylphthalate	84-66-2	20 U	20	6.7	1
12969	Dimethylphthalate	131-11-3	20 U	20	6.7	1
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	20 U	20	6.7	1
12969	Fluoranthene	206-44-0	1.8 U	1.8	0.74	1
12969	Fluorene	86-73-7	1.8 U	1.8	0.74	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	1.8 U	1.8	0.74	1
12969	1-Methylnaphthalene	90-12-0	1.8 U	1.8	0.74	1
12969	2-Methylnaphthalene	91-57-6	1.8 U	1.8	0.74	1
12969	Naphthalene	91-20-3	1.3 J	1.8	0.74	1
12969	N-Nitrosodimethylamine	62-75-9	1.8 U	1.8	0.74	1
12969	Di-n-octylphthalate	117-84-0	20 U	20	6.7	1
12969	Phenanthrene	85-01-8	1.8 U	1.8	0.74	1
12969	Pyrene	129-00-0	1.8 U	1.8	0.74	1
GC Volatiles	TPH GRO SW-846 8015B mod	mg/kg	mg/kg	mg/kg		
05551	11a TPH by EPA 8015B GRO	n.a.	1.2 U	1.2	0.2	27.29
Pesticides/PCBs	SW-846 8082A	ug/kg	ug/kg	ug/kg		
10592	Aroclor 5432	63496-31-1	37 U	37	11	1
10592	Aroclor 5442	12642-23-8	37 U	37	11	1
10592	Aroclor 5460	11126-42-4	37 U	37	11	1
10592	PCB-1016	12674-11-2	19 U	19	3.7	1
10592	PCB-1221	11104-28-2	19 U	19	5.7	1
10592	PCB-1232	11141-16-5	19 U	19	4.5	1
10592	PCB-1242	53469-21-9	19 U	19	4.5	1
10592	PCB-1248	12672-29-6	19 U	19	3.7	1
10592	PCB-1254	11097-69-1	19 U	19	4.9	1
10592	PCB-1260	11096-82-5	19 U	19	4.3	1
10592	PCB-1262	37324-23-5	19 U	19	3.7	1
10592	PCB-1268	11100-14-4	19 U	19	3.7	1
GC Petroleum Hydrocarbons	SW-846 8015B modified	mg/kg	mg/kg	mg/kg		
12952	EFH (C12-C14)	n.a.	5.5 U	5.5	2.2	1
12952	EFH (C15-C20)	n.a.	5.5 U	5.5	2.2	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-609-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7160454
LL Group # 1411330
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/13/2013 12:45 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/14/2013 09:20
Reported: 08/30/2013 13:32

609-4 SDG#: PH090-06

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC Petroleum Hydrocarbons						
	SW-846 8015B modified		mg/kg	mg/kg	mg/kg	
12952	EFH (C21-C30)	n.a.	2.9 J	5.5	2.2	1
12952	EFH (C30-C40)	n.a.	9.2 J	11	4.4	1
12952	EFH (C8-C11)	n.a.	5.5 U	5.5	2.2	1
Metals						
	SW-846 6010C		mg/kg	mg/kg	mg/kg	
01643	Aluminum	7429-90-5	30,500	43.9	7.91	1
06944	Antimony	7440-36-0	4.39 U	4.39	0.812	1
06935	Arsenic	7440-38-2	4.34 J	4.39	0.768	1
06946	Barium	7440-39-3	123	1.10	0.0362	1
06947	Beryllium	7440-41-7	0.857 J	1.10	0.0735	1
07914	Boron	7440-42-8	13.1	11.0	0.922	1
06949	Cadmium	7440-43-9	1.10 U	1.10	0.0834	1
01650	Calcium	7440-70-2	81,700	110	18.3	5
06951	Chromium	7440-47-3	34.9	3.29	0.176	1
06952	Cobalt	7440-48-4	10.2	1.10	0.109	1
06953	Copper	7440-50-8	24.0	2.20	0.318	1
01654	Iron	7439-89-6	33,800	220	19.9	5
06955	Lead	7439-92-1	14.0	3.29	0.549	1
01656	Lithium	7439-93-2	31.0	4.4	0.37	1
01657	Magnesium	7439-95-4	9,020	11.0	1.83	1
06958	Manganese	7439-96-5	281	1.10	0.0911	1
06960	Molybdenum	7439-98-7	2.20 U	2.20	0.187	1
06961	Nickel	7440-02-0	19.3	2.20	0.143	1
10145	Phosphorus	7723-14-0	568	11.0	3.17	1
01662	Potassium	7440-09-7	4,290	110	9.15	1
01667	Sodium	7440-23-5	169	110	18.3	1
06969	Tin	7440-31-5	3.61 J	11.0	0.241	1
06970	Titanium	7440-32-6	1,540	5.49	0.933	5
06971	Vanadium	7440-62-2	78.2	1.10	0.143	1
06972	Zinc	7440-66-6	91.3	4.39	0.220	1
10146	Zirconium	7440-67-7	6.87	5.49	0.922	1
SW-846 6020A						
			mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	0.278 J	0.439	0.110	2
06142	Silver	7440-22-4	0.0362 J	0.220	0.0285	2
06144	Strontium	7440-24-6	187	2.20	0.373	10
06145	Thallium	7440-28-0	0.405	0.220	0.0329	2
SW-846 7471B						
			mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.0178 J	0.0181	0.0108	1
Wet Chemistry						
	SW-846 9045D modified		Std. Units	Std. Units	Std. Units	
00394	15a pH by 9045D The pH was measured in water at 20.9 C.	n.a.	7.96	0.0100	0.0100	1
Wet Chemistry						
	EPA 160.3 modified		%	%	%	
11624	14a Moisture Content by 160.3	n.a.	9.8	0.10	0.10	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-609-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7160454
LL Group # 1411330
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/13/2013 12:45 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/14/2013 09:20

Reported: 08/30/2013 13:32

609-4 SDG#: PH090-06

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Wet Chemistry	EPA 160.3 modified		%	%	%	
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

*=This limit was used in the evaluation of the final result

Sample Description: SL-609-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7160454
LL Group # 1411330
Account # 13013

Project Name: SSFL Phase 3 Sampling

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Fairfax VA 22030

Submitted: 08/14/2013 09:20
Reported: 08/30/2013 13:32

609-4 SDG#: PH090-06

CAT No.	Analysis Name	CAS Number	Dry Result		Dry MRL*	Dry EDL	Dilution Factor
Dioxins/Furans			EPA 1613B		ng/kg	ng/kg	
11031	2378-TCDD	1746-01-6	1.09	U	1.09	0.0711	1
11031	12378-PeCDD	40321-76-4	5.47	U	5.47	0.0553	1
11031	123478-HxCDD	39227-28-6	0.0806	J	5.47	0.0292	1
11031	123678-HxCDD	57653-85-7	0.0532	J	5.47	0.0309	1
11031	123789-HxCDD	19408-74-3	0.0377	JQ	5.47	0.0308	1
11031	1234678-HpCDD	35822-46-9	0.302	JB	5.47	0.0424	1
11031	OCDD	3268-87-9	1.75	JB	10.9	0.0335	1
11031	2378-TCDF	51207-31-9	0.0753	JQ	1.09	0.0724	1
11031	12378-PeCDF	57117-41-6	5.47	U	5.47	0.0350	1
11031	23478-PeCDF	57117-31-4	0.0642	JB	5.47	0.0378	1
11031	123478-HxCDF	70648-26-9	0.0408	JBQ	5.47	0.0276	1
11031	123678-HxCDF	57117-44-9	0.0581	JBQ	5.47	0.0226	1
11031	123789-HxCDF	72918-21-9	5.47	U	5.47	0.0389	1
11031	234678-HxCDF	60851-34-5	0.0309	JQ	5.47	0.0251	1
11031	1234678-HpCDF	67562-39-4	0.0859	JBQ	5.47	0.0102	1
11031	1234789-HpCDF	55673-89-7	0.0811	JBQ	5.47	0.0292	1
11031	OCDF	39001-02-0	0.209	JB	10.9	0.0731	1

Toxic Equivalents		EPA 1613B	ng/kg	ng/kg	ng/kg	
11031	TEQ WHO 2005 - EDLx0.0	n.a.	0.0364			1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	61	25 - 164
13C12-12378-PeCDD	74	25 - 181
13C12-123478-HxCDD	70	32 - 141
13C12-123678-HxCDD	76	28 - 130
13C12-123789-HxCDD	74	28 - 130
13C12-1234678-HpCDD	78	23 - 140
13C12-OCDD	91	17 - 157
13C12-2378-TCDF	54	24 - 169
13C12-12378-PeCDF	68	24 - 185
13C12-23478-PeCDF	61	21 - 178
13C12-123478-HxCDF	55	26 - 152
13C12-123678-HxCDF	72	26 - 123
13C12-234678-HxCDF	61	28 - 136
13C12-123789-HxCDF	54	29 - 147
13C12-1234678-HpCDF	96	28 - 143
13C12-1234789-HpCDF	47	26 - 138
13C12-OCDF	51	17 - 157

Dioxins/Furans Data Qualifiers:

- B Detected in Method Blank
- U Undetected
- J Estimated concentration between Estimated Detection Limit and Minimum Level
- E Exceeds calibration range
- C Confirmed quantitation on secondary GC column
- Q EMPC - Estimated Maximum Possible Concentration

*=This limit was used in the evaluation of the final result

Sample Description: SL-609-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7160454
LL Group # 1411330
Account # 13013

Project Name: SSFL Phase 3 Sampling

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Submitted: 08/14/2013 09:20

Reported: 08/30/2013 13:32

609-4 SDG#: PH090-06

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
F	Interference is present					
S	Saturation of detection signal					

*=This limit was used in the evaluation of the final result

Sample Description: SL-609-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7160454
LL Group # 1411330
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/13/2013 12:45 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/14/2013 09:20
Reported: 08/30/2013 13:32

609-4 SDG#: PH090-06

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13232SLB026	08/23/2013 06:53	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	13232SLB026	08/20/2013 16:00	David S Schrum	1
05551	11a TPH by EPA 8015B GRO	TPH GRO SW-846 8015B mod	1	13227A16A	08/16/2013 16:43	Laura M Krieger	27.29
06130	GC - 5 g HL Encore Prep	SW-846 5035A	1	201322632040	08/14/2013 15:46	Mitchell R Washel	n.a.
06130	GC - 5 g HL Encore Prep	SW-846 5035A	2	201322632040	08/14/2013 15:46	Mitchell R Washel	n.a.
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132330010A	08/23/2013 13:32	Jessica L Miller	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132330010A	08/21/2013 15:30	Sally L Appleyard	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132330018A	08/22/2013 01:07	Heather E Williams	1
12959	EPH soil ext. (microwave)	SW-846 3546	1	132330018A	08/21/2013 14:00	David S Schrum	1
11031	23a Dioxin/Furan by EPA 1613B	EPA 1613B	1	13234002	08/28/2013 06:47	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	13234002	08/22/2013 12:30	Deborah M Zimmerman	1
01643	Aluminum	SW-846 6010C	1	132250637002	08/23/2013 06:40	Eric L Eby	1
06944	Antimony	SW-846 6010C	1	132250637002	08/23/2013 06:40	Eric L Eby	1
06935	Arsenic	SW-846 6010C	1	132250637002	08/23/2013 06:40	Eric L Eby	1
06946	Barium	SW-846 6010C	1	132250637002	08/23/2013 06:40	Eric L Eby	1
06947	Beryllium	SW-846 6010C	1	132250637002	08/23/2013 06:40	Eric L Eby	1
07914	Boron	SW-846 6010C	1	132250637002	08/23/2013 06:40	Eric L Eby	1
06949	Cadmium	SW-846 6010C	1	132250637002	08/23/2013 06:40	Eric L Eby	1
01650	Calcium	SW-846 6010C	1	132250637002	08/23/2013 07:39	Eric L Eby	5
06951	Chromium	SW-846 6010C	1	132250637002	08/23/2013 06:40	Eric L Eby	1
06952	Cobalt	SW-846 6010C	1	132250637002	08/23/2013 06:40	Eric L Eby	1
06953	Copper	SW-846 6010C	1	132250637002	08/23/2013 06:40	Eric L Eby	1
01654	Iron	SW-846 6010C	1	132250637002	08/23/2013 07:39	Eric L Eby	5
06955	Lead	SW-846 6010C	1	132250637002	08/23/2013 06:40	Eric L Eby	1
01656	Lithium	SW-846 6010C	1	132250637002	08/23/2013 06:40	Eric L Eby	1
01657	Magnesium	SW-846 6010C	1	132250637002	08/23/2013 06:40	Eric L Eby	1
06958	Manganese	SW-846 6010C	1	132250637002	08/23/2013 06:40	Eric L Eby	1
06960	Molybdenum	SW-846 6010C	1	132250637002	08/23/2013 06:40	Eric L Eby	1
06961	Nickel	SW-846 6010C	1	132250637002	08/23/2013 06:40	Eric L Eby	1
10145	Phosphorus	SW-846 6010C	1	132250637002	08/23/2013 06:40	Eric L Eby	1
01662	Potassium	SW-846 6010C	1	132250637002	08/23/2013 06:40	Eric L Eby	1
01667	Sodium	SW-846 6010C	1	132250637002	08/23/2013 06:40	Eric L Eby	1
06969	Tin	SW-846 6010C	1	132250637002	08/23/2013 06:40	Eric L Eby	1
06970	Titanium	SW-846 6010C	1	132250637002	08/23/2013 07:39	Eric L Eby	5
06971	Vanadium	SW-846 6010C	1	132250637002	08/23/2013 06:40	Eric L Eby	1
06972	Zinc	SW-846 6010C	1	132250637002	08/23/2013 06:40	Eric L Eby	1
10146	Zirconium	SW-846 6010C	1	132250637002	08/23/2013 06:40	Eric L Eby	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-609-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7160454
LL Group # 1411330
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/13/2013 12:45 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/14/2013 09:20

Reported: 08/30/2013 13:32

609-4 SDG#: PH090-06

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
06141	Selenium	SW-846 6020A	1	132250637002B	08/19/2013	12:09	Choon Y Tian	2
06142	Silver	SW-846 6020A	1	132250637002A	08/19/2013	12:09	Choon Y Tian	2
06144	Strontium	SW-846 6020A	1	132250637002A	08/19/2013	12:32	Choon Y Tian	10
06145	Thallium	SW-846 6020A	1	132250637002A	08/19/2013	12:09	Choon Y Tian	2
00159	3a Mercury 7471A	SW-846 7471B	1	132320638002	08/22/2013	09:57	Damary Valentin	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132250637002	08/14/2013	23:15	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132320638002	08/21/2013	12:10	Denise K Conners	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13226039404A	08/14/2013	22:50	Clayton C Litchmore	1
11624	14a Moisture Content by 160.3	EPA 160.3 modified	1	13231162401B	08/20/2013	00:41	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-614-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7160455
LL Group # 1411330
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/13/2013 13:45 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/14/2013 09:20
Reported: 08/30/2013 13:32

614-0 SDG#: PH090-07

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	1.8 U	1.8	0.71	1
12969	Acenaphthylene	208-96-8	1.8 U	1.8	0.35	1
12969	Anthracene	120-12-7	1.8 U	1.8	0.35	1
12969	Benzo(a)anthracene	56-55-3	1.8 U	1.8	0.71	1
12969	Benzo(a)pyrene	50-32-8	0.76 J	1.8	0.71	1
12969	Benzo(b)fluoranthene	205-99-2	1.9	1.8	0.71	1
12969	Benzo(e)pyrene	192-97-2	18 U	18	3.5	1
12969	Benzo(g,h,i)perylene	191-24-2	0.87 J	1.8	0.71	1
12969	Benzo(k)fluoranthene	207-08-9	1.1 J	1.8	0.71	1
12969	Butylbenzylphthalate	85-68-7	19 U	19	6.4	1
12969	Di-n-butylphthalate	84-74-2	19 U	19	6.4	1
12969	Chrysene	218-01-9	1.0 J	1.8	0.35	1
12969	Dibenz(a,h)anthracene	53-70-3	1.8 U	1.8	0.71	1
12969	Diethylphthalate	84-66-2	19 U	19	6.4	1
12969	Dimethylphthalate	131-11-3	19 U	19	6.4	1
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	19 U	19	6.4	1
12969	Fluoranthene	206-44-0	0.90 J	1.8	0.71	1
12969	Fluorene	86-73-7	1.8 U	1.8	0.71	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	0.77 J	1.8	0.71	1
12969	1-Methylnaphthalene	90-12-0	0.97 J	1.8	0.71	1
12969	2-Methylnaphthalene	91-57-6	1.0 J	1.8	0.71	1
12969	Naphthalene	91-20-3	2.1	1.8	0.71	1
12969	N-Nitrosodimethylamine	62-75-9	1.8 U	1.8	0.71	1
12969	Di-n-octylphthalate	117-84-0	19 U	19	6.4	1
12969	Phenanthrene	85-01-8	1.8 U	1.8	0.71	1
12969	Pyrene	129-00-0	0.97 J	1.8	0.71	1
Pesticides/PCBs	SW-846 8082A		ug/kg	ug/kg	ug/kg	
10592	Aroclor 5432	63496-31-1	35 U	35	11	1
10592	Aroclor 5442	12642-23-8	35 U	35	11	1
10592	Aroclor 5460	11126-42-4	35 U	35	11	1
10592	PCB-1016	12674-11-2	18 U	18	3.5	1
10592	PCB-1221	11104-28-2	18 U	18	5.4	1
10592	PCB-1232	11141-16-5	18 U	18	4.3	1
10592	PCB-1242	53469-21-9	18 U	18	4.3	1
10592	PCB-1248	12672-29-6	18 U	18	3.5	1
10592	PCB-1254	11097-69-1	18 U	18	4.7	1
10592	PCB-1260	11096-82-5	18 U	18	4.1	1
10592	PCB-1262	37324-23-5	18 U	18	3.5	1
10592	PCB-1268	11100-14-4	18 U	18	3.5	1
GC Petroleum	SW-846 8015B modified		mg/kg	mg/kg	mg/kg	
Hydrocarbons						
12952	EFH (C12-C14)	n.a.	5.3 U	5.3	2.1	1
12952	EFH (C15-C20)	n.a.	5.3 U	5.3	2.1	1
12952	EFH (C21-C30)	n.a.	11	5.3	2.1	1
12952	EFH (C30-C40)	n.a.	38	11	4.2	1
12952	EFH (C8-C11)	n.a.	5.3 U	5.3	2.1	1
Metals	SW-846 6010C		mg/kg	mg/kg	mg/kg	

*=This limit was used in the evaluation of the final result

Sample Description: SL-614-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7160455
LL Group # 1411330
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/13/2013 13:45 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/14/2013 09:20
Reported: 08/30/2013 13:32

614-0 SDG#: PH090-07

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals						
SW-846 6010C			mg/kg	mg/kg	mg/kg	
01643	Aluminum	7429-90-5	25,600	42.0	7.56	1
06944	Antimony	7440-36-0	4.20 U	4.20	0.776	1
06935	Arsenic	7440-38-2	5.11	4.20	0.734	1
06946	Barium	7440-39-3	100	1.05	0.0346	1
06947	Beryllium	7440-41-7	0.692 J	1.05	0.0703	1
07914	Boron	7440-42-8	14.7	10.5	0.881	1
06949	Cadmium	7440-43-9	0.148 J	1.05	0.0797	1
01650	Calcium	7440-70-2	73,500	105	17.5	5
06951	Chromium	7440-47-3	33.7	3.15	0.168	1
06952	Cobalt	7440-48-4	9.17	1.05	0.104	1
06953	Copper	7440-50-8	20.2	2.10	0.304	1
01654	Iron	7439-89-6	29,200	210	19.0	5
06955	Lead	7439-92-1	15.5	3.15	0.524	1
01656	Lithium	7439-93-2	28.5	4.2	0.36	1
01657	Magnesium	7439-95-4	8,240	10.5	1.75	1
06958	Manganese	7439-96-5	324	1.05	0.0871	1
06960	Molybdenum	7439-98-7	0.208 J	2.10	0.178	1
06961	Nickel	7440-02-0	18.4	2.10	0.136	1
10145	Phosphorus	7723-14-0	539	10.5	3.03	1
01662	Potassium	7440-09-7	5,780	105	8.75	1
01667	Sodium	7440-23-5	148	105	17.5	1
06969	Tin	7440-31-5	3.42 J	10.5	0.231	1
06970	Titanium	7440-32-6	1,430	5.24	0.892	5
06971	Vanadium	7440-62-2	65.0	1.05	0.136	1
06972	Zinc	7440-66-6	81.2	4.20	0.210	1
10146	Zirconium	7440-67-7	6.45	5.24	0.881	1
SW-846 6020A			mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	0.344 J	0.420	0.105	2
06142	Silver	7440-22-4	0.0465 J	0.210	0.0273	2
06144	Strontium	7440-24-6	191	2.10	0.357	10
06145	Thallium	7440-28-0	0.349	0.210	0.0315	2
SW-846 7471B			mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.0289	0.0165	0.0099	1
Wet Chemistry						
SW-846 9045D modified			Std. Units	Std. Units	Std. Units	
00394	15a pH by 9045D The pH was measured in water at 20 C.	n.a.	8.04	0.0100	0.0100	1
Wet Chemistry						
EPA 160.3 modified			%	%	%	
11624	14a Moisture Content by 160.3 Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.	n.a.	5.6	0.10	0.10	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-614-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7160455
LL Group # 1411330
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/13/2013 13:45 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/14/2013 09:20
Reported: 08/30/2013 13:32

614-0 SDG#: PH090-07

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
Dioxins/Furans			ng/kg	ng/kg	ng/kg	
EPA 1613B						
11031	2378-TCDD	1746-01-6	0.106	J	1.03	0.0656
11031	12378-PeCDD	40321-76-4	0.337	JBQ	5.15	0.0666
11031	123478-HxCDD	39227-28-6	0.201	JQ	5.15	0.0478
11031	123678-HxCDD	57653-85-7	0.296	J	5.15	0.0528
11031	123789-HxCDD	19408-74-3	0.228	JQ	5.15	0.0520
11031	1234678-HpCDD	35822-46-9	4.27	JB	5.15	0.0576
11031	OCDD	3268-87-9	34.4	B	10.3	0.0395
11031	2378-TCDF	51207-31-9	0.262	J	1.03	0.0944
11031	12378-PeCDF	57117-41-6	0.358	J	5.15	0.0469
11031	23478-PeCDF	57117-31-4	0.470	JBQ	5.15	0.0524
11031	123478-HxCDF	70648-26-9	0.236	JBQ	5.15	0.0505
11031	123678-HxCDF	57117-44-9	0.223	JBQ	5.15	0.0439
11031	123789-HxCDF	72918-21-9	5.15	U	5.15	0.0655
11031	234678-HxCDF	60851-34-5	0.266	J	5.15	0.0445
11031	1234678-HpCDF	67562-39-4	0.832	JB	5.15	0.0251
11031	1234789-HpCDF	55673-89-7	0.169	JB	5.15	0.0583
11031	OCDF	39001-02-0	1.56	JBQ	10.3	0.0565

Toxic Equivalents		EPA 1613B	ng/kg	ng/kg	ng/kg	
11031	TEQ WHO 2005 - EDLx0.0	n.a.	0.262			1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	76	25 - 164
13C12-12378-PeCDD	92	25 - 181
13C12-123478-HxCDD	89	32 - 141
13C12-123678-HxCDD	93	28 - 130
13C12-123789-HxCDD	95	28 - 130
13C12-1234678-HpCDD	109	23 - 140
13C12-OCDD	106	17 - 157
13C12-2378-TCDF	73	24 - 169
13C12-12378-PeCDF	103	24 - 185
13C12-23478-PeCDF	86	21 - 178
13C12-123478-HxCDF	75	26 - 152
13C12-123678-HxCDF	90	26 - 123
13C12-234678-HxCDF	84	28 - 136
13C12-123789-HxCDF	76	29 - 147
13C12-1234678-HpCDF	134	28 - 143
13C12-1234789-HpCDF	75	26 - 138
13C12-OCDF	66	17 - 157

Dioxins/Furans Data Qualifiers:

- B Detected in Method Blank
- U Undetected
- J Estimated concentration between Estimated Detection Limit and Minimum Level
- E Exceeds calibration range
- C Confirmed quantitation on secondary GC column
- Q EMPC - Estimated Maximum Possible Concentration

*=This limit was used in the evaluation of the final result

Sample Description: SL-614-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7160455
LL Group # 1411330
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/13/2013 13:45 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/14/2013 09:20

Reported: 08/30/2013 13:32

614-0 SDG#: PH090-07

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
F	Interference is present					
S	Saturation of detection signal					

*=This limit was used in the evaluation of the final result

Sample Description: SL-614-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7160455
LL Group # 1411330
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/13/2013 13:45 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/14/2013 09:20
Reported: 08/30/2013 13:32

614-0 SDG#: PH090-07

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13232SLB026	08/23/2013 07:27	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	13232SLB026	08/20/2013 16:00	David S Schrum	1
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132330010A	08/23/2013 13:51	Jessica L Miller	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132330010A	08/21/2013 15:30	Sally L Appleyard	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132330018A	08/22/2013 02:51	Heather E Williams	1
12959	EFH soil ext. (microwave)	SW-846 3546	1	132330018A	08/21/2013 14:00	David S Schrum	1
11031	23a Dioxin/Furan by EPA 1613B	EPA 1613B	1	13234002	08/28/2013 07:44	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	13234002	08/22/2013 12:30	Deborah M Zimmerman	1
01643	Aluminum	SW-846 6010C	1	132250637002	08/23/2013 06:51	Eric L Eby	1
06944	Antimony	SW-846 6010C	1	132250637002	08/23/2013 06:51	Eric L Eby	1
06935	Arsenic	SW-846 6010C	1	132250637002	08/23/2013 06:51	Eric L Eby	1
06946	Barium	SW-846 6010C	1	132250637002	08/23/2013 06:51	Eric L Eby	1
06947	Beryllium	SW-846 6010C	1	132250637002	08/23/2013 06:51	Eric L Eby	1
07914	Boron	SW-846 6010C	1	132250637002	08/23/2013 06:51	Eric L Eby	1
06949	Cadmium	SW-846 6010C	1	132250637002	08/23/2013 06:51	Eric L Eby	1
01650	Calcium	SW-846 6010C	1	132250637002	08/23/2013 07:43	Eric L Eby	5
06951	Chromium	SW-846 6010C	1	132250637002	08/23/2013 06:51	Eric L Eby	1
06952	Cobalt	SW-846 6010C	1	132250637002	08/23/2013 06:51	Eric L Eby	1
06953	Copper	SW-846 6010C	1	132250637002	08/23/2013 06:51	Eric L Eby	1
01654	Iron	SW-846 6010C	1	132250637002	08/23/2013 07:43	Eric L Eby	5
06955	Lead	SW-846 6010C	1	132250637002	08/23/2013 06:51	Eric L Eby	1
01656	Lithium	SW-846 6010C	1	132250637002	08/23/2013 06:51	Eric L Eby	1
01657	Magnesium	SW-846 6010C	1	132250637002	08/23/2013 06:51	Eric L Eby	1
06958	Manganese	SW-846 6010C	1	132250637002	08/23/2013 06:51	Eric L Eby	1
06960	Molybdenum	SW-846 6010C	1	132250637002	08/23/2013 06:51	Eric L Eby	1
06961	Nickel	SW-846 6010C	1	132250637002	08/23/2013 06:51	Eric L Eby	1
10145	Phosphorus	SW-846 6010C	1	132250637002	08/23/2013 06:51	Eric L Eby	1
01662	Potassium	SW-846 6010C	1	132250637002	08/23/2013 06:51	Eric L Eby	1
01667	Sodium	SW-846 6010C	1	132250637002	08/23/2013 06:51	Eric L Eby	1
06969	Tin	SW-846 6010C	1	132250637002	08/23/2013 06:51	Eric L Eby	1
06970	Titanium	SW-846 6010C	1	132250637002	08/23/2013 07:43	Eric L Eby	5
06971	Vanadium	SW-846 6010C	1	132250637002	08/23/2013 06:51	Eric L Eby	1
06972	Zinc	SW-846 6010C	1	132250637002	08/23/2013 06:51	Eric L Eby	1
10146	Zirconium	SW-846 6010C	1	132250637002	08/23/2013 06:51	Eric L Eby	1
06141	Selenium	SW-846 6020A	1	132250637002B	08/19/2013 12:25	Choon Y Tian	2
06142	Silver	SW-846 6020A	1	132250637002A	08/19/2013 12:25	Choon Y Tian	2
06144	Strontium	SW-846 6020A	1	132250637002A	08/19/2013 12:47	Choon Y Tian	10
06145	Thallium	SW-846 6020A	1	132250637002A	08/19/2013 12:25	Choon Y Tian	2

*=This limit was used in the evaluation of the final result

Sample Description: SL-614-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7160455
LL Group # 1411330
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/13/2013 13:45 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/14/2013 09:20

Reported: 08/30/2013 13:32

614-0 SDG#: PH090-07

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00159	3a Mercury 7471A	SW-846 7471B	1	132320638002	08/22/2013 09:59	Damary Valentin	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132250637002	08/14/2013 23:15	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132320638002	08/21/2013 12:10	Denise K Connors	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13226039404A	08/14/2013 22:50	Clayton C Litchmore	1
11624	14a Moisture Content by 160.3	EPA 160.3 modified	1	13231162401B	08/20/2013 00:41	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-614-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7160456
LL Group # 1411330
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/13/2013 14:10 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/14/2013 09:20
Reported: 08/30/2013 13:32

614-4 SDG#: PH090-08*

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	1.8 U	1.8	0.72	1
12969	Acenaphthylene	208-96-8	1.8 U	1.8	0.36	1
12969	Anthracene	120-12-7	1.8 U	1.8	0.36	1
12969	Benzo(a)anthracene	56-55-3	1.8 U	1.8	0.72	1
12969	Benzo(a)pyrene	50-32-8	1.8 U	1.8	0.72	1
12969	Benzo(b)fluoranthene	205-99-2	0.86 J	1.8	0.72	1
12969	Benzo(e)pyrene	192-97-2	18 U	18	3.6	1
12969	Benzo(g,h,i)perylene	191-24-2	1.8 U	1.8	0.72	1
12969	Benzo(k)fluoranthene	207-08-9	1.8 U	1.8	0.72	1
12969	Butylbenzylphthalate	85-68-7	20 U	20	6.5	1
12969	Di-n-butylphthalate	84-74-2	20 U	20	6.5	1
12969	Chrysene	218-01-9	1.1 J	1.8	0.36	1
12969	Dibenz(a,h)anthracene	53-70-3	1.8 U	1.8	0.72	1
12969	Diethylphthalate	84-66-2	20 U	20	6.5	1
12969	Dimethylphthalate	131-11-3	20 U	20	6.5	1
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	20 U	20	6.5	1
12969	Fluoranthene	206-44-0	0.97 J	1.8	0.72	1
12969	Fluorene	86-73-7	1.8 U	1.8	0.72	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	1.8 U	1.8	0.72	1
12969	1-Methylnaphthalene	90-12-0	2.2 U	1.8	0.72	1
12969	2-Methylnaphthalene	91-57-6	2.9 U	1.8	0.72	1
12969	Naphthalene	91-20-3	4.9 U	1.8	0.72	1
12969	N-Nitrosodimethylamine	62-75-9	1.8 U	1.8	0.72	1
12969	Di-n-octylphthalate	117-84-0	20 U	20	6.5	1
12969	Phenanthrene	85-01-8	2.0 U	1.8	0.72	1
12969	Pyrene	129-00-0	1.1 J	1.8	0.72	1
GC Volatiles	TPH GRO SW-846 8015B mod	mg/kg	mg/kg	mg/kg		
05551	11a TPH by EPA 8015B GRO	n.a.	1.1 U	1.1	0.2	25.1
Pesticides/PCBs	SW-846 8082A	ug/kg	ug/kg	ug/kg		
10592	Aroclor 5432	63496-31-1	36 U	36	11	1
10592	Aroclor 5442	12642-23-8	36 U	36	11	1
10592	Aroclor 5460	11126-42-4	36 U	36	11	1
10592	PCB-1016	12674-11-2	18 U	18	3.6	1
10592	PCB-1221	11104-28-2	18 U	18	5.5	1
10592	PCB-1232	11141-16-5	18 U	18	4.4	1
10592	PCB-1242	53469-21-9	18 U	18	4.4	1
10592	PCB-1248	12672-29-6	18 U	18	3.6	1
10592	PCB-1254	11097-69-1	18 U	18	4.8	1
10592	PCB-1260	11096-82-5	18 U	18	4.2	1
10592	PCB-1262	37324-23-5	18 U	18	3.6	1
10592	PCB-1268	11100-14-4	18 U	18	3.6	1
GC Petroleum	SW-846 8015B modified	mg/kg	mg/kg	mg/kg		
Hydrocarbons						
12952	EFH (C12-C14)	n.a.	5.4 U	5.4	2.2	1
12952	EFH (C15-C20)	n.a.	5.4 U	5.4	2.2	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-614-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7160456
LL Group # 1411330
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/13/2013 14:10 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/14/2013 09:20
Reported: 08/30/2013 13:32

614-4 SDG#: PH090-08*

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC Petroleum						
Hydrocarbons						
		SW-846 8015B modified	mg/kg	mg/kg	mg/kg	
12952	EFH (C21-C30)	n.a.	6.7	5.4	2.2	1
12952	EFH (C30-C40)	n.a.	26	11	4.3	1
12952	EFH (C8-C11)	n.a.	5.4 U	5.4	2.2	1
Metals						
		SW-846 6010C	mg/kg	mg/kg	mg/kg	
01643	Aluminum	7429-90-5	25,800	42.5	7.67	1
06944	Antimony	7440-36-0	4.25 U	4.25	0.787	1
06935	Arsenic	7440-38-2	4.71	4.25	0.744	1
06946	Barium	7440-39-3	112	1.06	0.0351	1
06947	Beryllium	7440-41-7	0.713 J	1.06	0.0712	1
07914	Boron	7440-42-8	11.1	10.6	0.893	1
06949	Cadmium	7440-43-9	0.101 J	1.06	0.0808	1
01650	Calcium	7440-70-2	68,300	106	17.8	5
06951	Chromium	7440-47-3	33.4	3.19	0.170	1
06952	Cobalt	7440-48-4	11.3	1.06	0.105	1
06953	Copper	7440-50-8	21.5	2.13	0.308	1
01654	Iron	7439-89-6	32,000	213	19.2	5
06955	Lead	7439-92-1	14.4	3.19	0.532	1
01656	Lithium	7439-93-2	34.9	4.3	0.36	1
01657	Magnesium	7439-95-4	9,030	10.6	1.78	1
06958	Manganese	7439-96-5	301	1.06	0.0883	1
06960	Molybdenum	7439-98-7	2.13 U	2.13	0.181	1
06961	Nickel	7440-02-0	20.2	2.13	0.138	1
10145	Phosphorus	7723-14-0	529	10.6	3.07	1
01662	Potassium	7440-09-7	5,010	106	8.87	1
01667	Sodium	7440-23-5	151	106	17.8	1
06969	Tin	7440-31-5	3.56 J	10.6	0.234	1
06970	Titanium	7440-32-6	1,450	5.32	0.904	5
06971	Vanadium	7440-62-2	65.2	1.06	0.138	1
06972	Zinc	7440-66-6	88.1	4.25	0.213	1
10146	Zirconium	7440-67-7	7.31	5.32	0.893	1
		SW-846 6020A	mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	0.218 J	0.425	0.106	2
06142	Silver	7440-22-4	0.0338 J	0.213	0.0276	2
06144	Strontium	7440-24-6	186	2.13	0.362	10
06145	Thallium	7440-28-0	0.368	0.213	0.0319	2
		SW-846 7471B	mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.0119 J	0.0170	0.0102	1
Wet Chemistry						
		SW-846 9045D modified	Std. Units	Std. Units	Std. Units	
00394	15a pH by 9045D The pH was measured in water at 20.5 C.	n.a.	8.11	0.0100	0.0100	1
Wet Chemistry						
		EPA 160.3 modified	%	%	%	
11624	14a Moisture Content by 160.3	n.a.	7.8	0.10	0.10	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-614-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7160456
LL Group # 1411330
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/13/2013 14:10 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/14/2013 09:20

Reported: 08/30/2013 13:32

614-4 SDG#: PH090-08*

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Wet Chemistry	EPA 160.3 modified		%	%	%	
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

*=This limit was used in the evaluation of the final result

Sample Description: SL-614-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7160456
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614-4 SDG#: PH090-08*

CAT No.	Analysis Name	CAS Number	Dry Result		Dry MRL*	Dry EDL	Dilution Factor
Dioxins/Furans			EPA 1613B		ng/kg	ng/kg	
11031	2378-TCDD	1746-01-6	1.08	U	1.08	0.0804	1
11031	12378-PeCDD	40321-76-4	0.129	JBQ	5.41	0.0674	1
11031	123478-HxCDD	39227-28-6	0.208	JQ	5.41	0.0441	1
11031	123678-HxCDD	57653-85-7	0.215	JQ	5.41	0.0484	1
11031	123789-HxCDD	19408-74-3	0.169	J	5.41	0.0514	1
11031	1234678-HpCDD	35822-46-9	2.73	JB	5.41	0.0581	1
11031	OCDD	3268-87-9	29.2	B	10.8	0.0447	1
11031	2378-TCDF	51207-31-9	0.224	JQ	1.08	0.0857	1
11031	12378-PeCDF	57117-41-6	0.438	J	5.41	0.0508	1
11031	23478-PeCDF	57117-31-4	0.284	JBQ	5.41	0.0525	1
11031	123478-HxCDF	70648-26-9	0.229	JB	5.41	0.0389	1
11031	123678-HxCDF	57117-44-9	0.213	JBQ	5.41	0.0329	1
11031	123789-HxCDF	72918-21-9	5.41	U	5.41	0.0580	1
11031	234678-HxCDF	60851-34-5	0.176	JQ	5.41	0.0359	1
11031	1234678-HpCDF	67562-39-4	0.406	JB	5.41	0.0218	1
11031	1234789-HpCDF	55673-89-7	0.0823	JBQ	5.41	0.0557	1
11031	OCDF	39001-02-0	0.958	JB	10.8	0.0761	1

Toxic Equivalents		EPA 1613B	ng/kg	ng/kg	ng/kg	
11031	TEQ WHO 2005 - EDLx0.0	n.a.	0.0934			1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	62	25 - 164
13C12-12378-PeCDD	76	25 - 181
13C12-123478-HxCDD	71	32 - 141
13C12-123678-HxCDD	78	28 - 130
13C12-123789-HxCDD	74	28 - 130
13C12-1234678-HpCDD	86	23 - 140
13C12-OCDD	88	17 - 157
13C12-2378-TCDF	58	24 - 169
13C12-12378-PeCDF	70	24 - 185
13C12-23478-PeCDF	64	21 - 178
13C12-123478-HxCDF	60	26 - 152
13C12-123678-HxCDF	76	26 - 123
13C12-234678-HxCDF	66	28 - 136
13C12-123789-HxCDF	54	29 - 147
13C12-1234678-HpCDF	95	28 - 143
13C12-1234789-HpCDF	52	26 - 138
13C12-OCDF	53	17 - 157

Dioxins/Furans Data Qualifiers:

- B Detected in Method Blank
- U Undetected
- J Estimated concentration between Estimated Detection Limit and Minimum Level
- E Exceeds calibration range
- C Confirmed quantitation on secondary GC column
- Q EMPC - Estimated Maximum Possible Concentration

*=This limit was used in the evaluation of the final result

Sample Description: SL-614-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7160456
LL Group # 1411330
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/13/2013 14:10 by SM

CDM Federal Programs Corp.
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Submitted: 08/14/2013 09:20

Reported: 08/30/2013 13:32

614-4 SDG#: PH090-08*

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
F	Interference is present					
S	Saturation of detection signal					

*=This limit was used in the evaluation of the final result

Sample Description: SL-614-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7160456
LL Group # 1411330
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/13/2013 14:10 by SM

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Fairfax VA 22030

Submitted: 08/14/2013 09:20
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614-4 SDG#: PH090-08*

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13232SLB026	08/23/2013 08:00	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	13232SLB026	08/20/2013 16:00	David S Schrum	1
05551	11a TPH by EPA 8015B GRO	TPH GRO SW-846 8015B mod	1	13227A16A	08/16/2013 17:21	Laura M Krieger	25.1
06130	GC - 5 g HL Encore Prep	SW-846 5035A	1	201322632040	08/14/2013 16:11	Mitchell R Washel	n.a.
06130	GC - 5 g HL Encore Prep	SW-846 5035A	2	201322632040	08/14/2013 16:12	Mitchell R Washel	n.a.
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132330010A	08/23/2013 14:09	Jessica L Miller	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132330010A	08/21/2013 15:30	Sally L Appleyard	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132330018A	08/22/2013 02:09	Heather E Williams	1
12959	EPH soil ext. (microwave)	SW-846 3546	1	132330018A	08/21/2013 14:00	David S Schrum	1
11031	23a Dioxin/Furan by EPA 1613B	EPA 1613B	1	13234002	08/28/2013 08:41	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	13234002	08/22/2013 12:30	Deborah M Zimmerman	1
01643	Aluminum	SW-846 6010C	1	132250637002	08/23/2013 06:55	Eric L Eby	1
06944	Antimony	SW-846 6010C	1	132250637002	08/23/2013 06:55	Eric L Eby	1
06935	Arsenic	SW-846 6010C	1	132250637002	08/23/2013 06:55	Eric L Eby	1
06946	Barium	SW-846 6010C	1	132250637002	08/23/2013 06:55	Eric L Eby	1
06947	Beryllium	SW-846 6010C	1	132250637002	08/23/2013 06:55	Eric L Eby	1
07914	Boron	SW-846 6010C	1	132250637002	08/23/2013 06:55	Eric L Eby	1
06949	Cadmium	SW-846 6010C	1	132250637002	08/23/2013 06:55	Eric L Eby	1
01650	Calcium	SW-846 6010C	1	132250637002	08/23/2013 07:47	Eric L Eby	5
06951	Chromium	SW-846 6010C	1	132250637002	08/23/2013 06:55	Eric L Eby	1
06952	Cobalt	SW-846 6010C	1	132250637002	08/23/2013 06:55	Eric L Eby	1
06953	Copper	SW-846 6010C	1	132250637002	08/23/2013 06:55	Eric L Eby	1
01654	Iron	SW-846 6010C	1	132250637002	08/23/2013 07:47	Eric L Eby	5
06955	Lead	SW-846 6010C	1	132250637002	08/23/2013 06:55	Eric L Eby	1
01656	Lithium	SW-846 6010C	1	132250637002	08/23/2013 06:55	Eric L Eby	1
01657	Magnesium	SW-846 6010C	1	132250637002	08/23/2013 06:55	Eric L Eby	1
06958	Manganese	SW-846 6010C	1	132250637002	08/23/2013 06:55	Eric L Eby	1
06960	Molybdenum	SW-846 6010C	1	132250637002	08/23/2013 06:55	Eric L Eby	1
06961	Nickel	SW-846 6010C	1	132250637002	08/23/2013 06:55	Eric L Eby	1
10145	Phosphorus	SW-846 6010C	1	132250637002	08/23/2013 06:55	Eric L Eby	1
01662	Potassium	SW-846 6010C	1	132250637002	08/23/2013 06:55	Eric L Eby	1
01667	Sodium	SW-846 6010C	1	132250637002	08/23/2013 06:55	Eric L Eby	1
06969	Tin	SW-846 6010C	1	132250637002	08/23/2013 06:55	Eric L Eby	1
06970	Titanium	SW-846 6010C	1	132250637002	08/23/2013 07:47	Eric L Eby	5
06971	Vanadium	SW-846 6010C	1	132250637002	08/23/2013 06:55	Eric L Eby	1
06972	Zinc	SW-846 6010C	1	132250637002	08/23/2013 06:55	Eric L Eby	1
10146	Zirconium	SW-846 6010C	1	132250637002	08/23/2013 06:55	Eric L Eby	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-614-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7160456
LL Group # 1411330
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/13/2013 14:10 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/14/2013 09:20

Reported: 08/30/2013 13:32

614-4 SDG#: PH090-08*

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
06141	Selenium	SW-846 6020A	1	132250637002B	08/19/2013	12:27	Choon Y Tian	2
06142	Silver	SW-846 6020A	1	132250637002A	08/19/2013	12:27	Choon Y Tian	2
06144	Strontium	SW-846 6020A	1	132250637002A	08/19/2013	12:49	Choon Y Tian	10
06145	Thallium	SW-846 6020A	1	132250637002A	08/19/2013	12:27	Choon Y Tian	2
00159	3a Mercury 7471A	SW-846 7471B	1	132320638002	08/22/2013	10:01	Damary Valentin	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132250637002	08/14/2013	23:15	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132320638002	08/21/2013	12:10	Denise K Conners	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13226039404A	08/14/2013	22:50	Clayton C Litchmore	1
11624	14a Moisture Content by 160.3	EPA 160.3 modified	1	13231162401B	08/20/2013	00:41	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/30/13 at 01:32 PM

Group Number: 1411330

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ**</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 13232SLB026	Sample number(s): 7160447-7160450, 7160452-7160456								
Acenaphthene	1.7 U	1.7	0.67	ug/kg	100		77-116		
Acenaphthylene	1.7 U	1.7	0.33	ug/kg	107		78-120		
Anthracene	1.7 U	1.7	0.33	ug/kg	105		80-116		
Benzo(a)anthracene	1.7 U	1.7	0.67	ug/kg	98		83-119		
Benzo(a)pyrene	1.7 U	1.7	0.67	ug/kg	105		80-122		
Benzo(b)fluoranthene	1.7 U	1.7	0.67	ug/kg	107		82-135		
Benzo(e)pyrene	17 U	17.	3.3	ug/kg	93		81-110		
Benzo(g,h,i)perylene	1.7 U	1.7	0.67	ug/kg	102		79-121		
Benzo(k)fluoranthene	1.7 U	1.7	0.67	ug/kg	111		79-123		
Butylbenzylphthalate	18 U	18.	6.0	ug/kg	109		77-123		
Di-n-butylphthalate	18 U	18.	6.0	ug/kg	113		78-125		
Chrysene	1.7 U	1.7	0.33	ug/kg	100		84-113		
Dibenz(a,h)anthracene	1.7 U	1.7	0.67	ug/kg	103		78-124		
Diethylphthalate	18 U	18.	6.0	ug/kg	111		77-130		
Dimethylphthalate	18 U	18.	6.0	ug/kg	106		85-122		
Bis(2-Ethylhexyl)phthalate	18 U	18.	6.0	ug/kg	101		79-121		
Fluoranthene	1.7 U	1.7	0.67	ug/kg	102		85-116		
Fluorene	1.7 U	1.7	0.67	ug/kg	104		81-126		
Indeno(1,2,3-cd)pyrene	1.7 U	1.7	0.67	ug/kg	102		77-124		
1-Methylnaphthalene	1.7 U	1.7	0.67	ug/kg	104		78-119		
2-Methylnaphthalene	1.7 U	1.7	0.67	ug/kg	101		78-121		
Naphthalene	1.7 U	1.7	0.67	ug/kg	99		79-113		
N-Nitrosodimethylamine	1.7 U	1.7	0.67	ug/kg	119		71-124		
Di-n-octylphthalate	18 U	18.	6.0	ug/kg	110		76-131		
Phenanthrene	1.7 U	1.7	0.67	ug/kg	101		72-110		
Pyrene	1.7 U	1.7	0.67	ug/kg	100		79-112		
Batch number: 13227A16A	Sample number(s): 7160448-7160450, 7160452, 7160454, 7160456								
11a TPH by EPA 8015B GRO	1.0 U	1.0	0.2	mg/kg	79		67-119		
Batch number: 13228A94A	Sample number(s): 7160446								
TPH-GRO S.CA water C5-C12	50 U	50.	20	ug/l	118	119	75-135	1	30
Batch number: 132330010A	Sample number(s): 7160447-7160450, 7160452-7160456								
Aroclor 5432	33 U	33.	10	ug/kg					
Aroclor 5442	33 U	33.	10	ug/kg	84	87	36-106	4	30
Aroclor 5460	33 U	33.	10	ug/kg					
PCB-1016	17 U	17.	3.3	ug/kg	100		80-120		
PCB-1221	17 U	17.	5.1	ug/kg					
PCB-1232	17 U	17.	4.1	ug/kg					
PCB-1242	17 U	17.	4.1	ug/kg					
PCB-1248	17 U	17.	3.3	ug/kg					
PCB-1254	17 U	17.	4.4	ug/kg					

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/30/13 at 01:32 PM

Group Number: 1411330

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ**</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
PCB-1260	17 U	17.	3.9	ug/kg	107		72-120		
PCB-1262	17 U	17.	3.3	ug/kg					
PCB-1268	17 U	17.	3.3	ug/kg					
Batch number: 132330018A	Sample number(s): 7160447-7160450, 7160452-7160456								
EFH (C12-C14)	5.0 U	5.0	2.0	mg/kg	83		70-123		
EFH (C15-C20)	5.0 U	5.0	2.0	mg/kg	84		75-128		
EFH (C21-C30)	5.0 U	5.0	2.0	mg/kg	85		64-134		
EFH (C30-C40)	10 U	10.	4.0	mg/kg	81		65-128		
EFH (C8-C11)	5.0 U	5.0	2.0	mg/kg	69		49-107		
Batch number: 132250637002	Sample number(s): 7160447-7160456								
Aluminum	40.0 U	40.0	7.21	mg/kg	103		80-120		
Antimony	4.00 U	4.00	0.740	mg/kg	107		80-120		
Arsenic	4.00 U	4.00	0.700	mg/kg	103		80-120		
Barium	1.00 U	1.00	0.0330	mg/kg	100		80-120		
Beryllium	1.00 U	1.00	0.0670	mg/kg	100		80-120		
Boron	10.0 U	10.0	0.840	mg/kg	99		80-120		
Cadmium	1.00 U	1.00	0.0760	mg/kg	101		80-120		
Calcium	20.0 U	20.0	3.34	mg/kg	101		80-120		
Chromium	3.00 U	3.00	0.160	mg/kg	101		80-120		
Cobalt	1.00 U	1.00	0.0990	mg/kg	102		80-120		
Copper	2.00 U	2.00	0.290	mg/kg	100		80-120		
Iron	40.0 U	40.0	3.62	mg/kg	100		80-120		
Lead	3.00 U	3.00	0.500	mg/kg	101		80-120		
Lithium	4.0 U	4.0	0.34	mg/kg	102		80-120		
Magnesium	10.0 U	10.0	1.67	mg/kg	100		80-120		
Manganese	1.00 U	1.00	0.0830	mg/kg	102		80-120		
Molybdenum	2.00 U	2.00	0.170	mg/kg	102		80-120		
Nickel	2.00 U	2.00	0.130	mg/kg	103		80-120		
Phosphorus	10.0 U	10.0	2.89	mg/kg	106		80-120		
Potassium	100 U	100.	8.34	mg/kg	100		80-120		
Sodium	100 U	100.	16.7	mg/kg	99		80-120		
Tin	1.83 J	10.0	0.220	mg/kg	102		80-120		
Titanium	1.00 U	1.00	0.170	mg/kg	101		80-120		
Vanadium	1.00 U	1.00	0.130	mg/kg	101		80-120		
Zinc	0.316 J	4.00	0.200	mg/kg	104		80-120		
Zirconium	5.00 U	5.00	0.840	mg/kg	100		80-120		
Batch number: 132250637002A	Sample number(s): 7160447-7160456								
Silver	0.200 U	0.200	0.0260	mg/kg	107		80-120		
Strontium	0.400 U	0.400	0.0680	mg/kg	106		80-120		
Thallium	0.200 U	0.200	0.0300	mg/kg	97		80-120		
Batch number: 132250637002B	Sample number(s): 7160447-7160456								
Selenium	0.400 U	0.400	0.100	mg/kg	119		80-120		
Batch number: 132320638002	Sample number(s): 7160447-7160456								
3a Mercury 7471A	0.0167 U	0.0167	0.0100	mg/kg	115		85-120		
Batch number: 13226039404A	Sample number(s): 7160447-7160448, 7160451-7160456								
15a pH by 9045D					100		95-105		
Batch number: 13231162401B	Sample number(s): 7160447-7160456								

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/30/13 at 01:32 PM

Group Number: 1411330

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ**</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
14a Moisture Content by 160.3					100		80-120		
14a Moisture Content by 160.3					100		80-120		
14a Moisture Content by 160.3					100		80-120		

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MRL**</u>	<u>Blank EDL</u>	<u>Report Units</u>	<u>OPR %REC</u>	<u>OPRD %REC</u>	<u>OPR/OPRD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 13234002	Sample number(s): 7160447-7160450, 7160452-7160456								
2378-TCDD	1.00 U	1.00	0.0920	ng/kg	101		67-158		
12378-PeCDD	0.0869 J	5.00	0.0732	ng/kg	102		70-142		
123478-HxCDD	5.00 U	5.00	0.0379	ng/kg	98		70-164		
123678-HxCDD	5.00 U	5.00	0.0401	ng/kg	97		76-134		
123789-HxCDD	5.00 U	5.00	0.0409	ng/kg	95		64-162		
1234678-HpCDD	0.0505 J	5.00	0.0484	ng/kg	93		70-140		
OCDD	0.294 J	10.0	0.0320	ng/kg	93		78-144		
2378-TCDF	1.00 U	1.00	0.0703	ng/kg	105		75-158		
12378-PeCDF	5.00 U	5.00	0.0446	ng/kg	96		80-134		
23478-PeCDF	0.0473 J	5.00	0.0412	ng/kg	98		68-160		
123478-HxCDF	0.0573 J	5.00	0.0262	ng/kg	91		72-134		
123678-HxCDF	0.0277 J	5.00	0.0242	ng/kg	92		84-130		
123789-HxCDF	5.00 U	5.00	0.0390	ng/kg	87		78-130		
234678-HxCDF	5.00 U	5.00	0.0242	ng/kg	90		70-156		
1234678-HpCDF	0.0404 J	5.00	0.0133	ng/kg	88		82-122		
1234789-HpCDF	0.0549 J	5.00	0.0234	ng/kg	91		78-138		
OCDF	0.126 J	10.0	0.0614	ng/kg	89		63-170		
TEQ WHO 2005 - EDLx0.0	U			ng/kg					

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

<u>Analysis Name</u>	<u>MS %REC</u>	<u>MSD %REC</u>	<u>MS/MSD Limits</u>	<u>RPD</u>	<u>RPD MAX</u>	<u>BKG Conc</u>	<u>DUP Conc</u>	<u>DUP RPD</u>	<u>Dup RPD Max</u>
Batch number: 13232SLB026	Sample number(s): 7160447-7160450, 7160452-7160456 UNSPK: 7160448								
Acenaphthene	96	98	48-127	2	30				
Acenaphthylene	101	103	49-121	2	30				
Anthracene	99	100	52-126	2	30				
Benzo (a) anthracene	94	98	44-143	4	30				
Benzo (a) pyrene	100	99	44-140	1	30				
Benzo (b) fluoranthene	114	101	26-142	12	30				
Benzo (e) pyrene	87	88	70-130	0	30				
Benzo (g, h, i) perylene	98	94	33-141	4	30				
Benzo (k) fluoranthene	91	103	54-142	13	30				
Butylbenzylphthalate	116	119	49-151	3	30				
Di-n-butylphthalate	114	119	52-147	5	30				
Chrysene	96	97	29-148	2	30				
Dibenz (a, h) anthracene	105	103	20-137	3	30				

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/30/13 at 01:32 PM

Group Number: 1411330

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

<u>Analysis Name</u>	<u>MS</u> <u>%REC</u>	<u>MSD</u> <u>%REC</u>	<u>MS/MSD</u> <u>Limits</u>	<u>RPD</u> <u>RPD</u>	<u>RPD</u> <u>MAX</u>	<u>BKG</u> <u>Conc</u>	<u>DUP</u> <u>Conc</u>	<u>DUP</u> <u>RPD</u>	<u>Dup RPD</u> <u>Max</u>
Diethylphthalate	106	113	43-145	6	30				
Dimethylphthalate	102	103	58-129	1	30				
Bis(2-Ethylhexyl)phthalate	110	137	39-167	22	30				
Fluoranthene	98	100	40-148	2	30				
Fluorene	96	100	51-137	4	30				
Indeno(1,2,3-cd)pyrene	103	101	17-136	2	30				
1-Methylnaphthalene	102	102	50-131	1	30				
2-Methylnaphthalene	98	101	35-152	3	30				
Naphthalene	95	97	31-148	2	30				
N-Nitrosodimethylamine	112	115*	48-113	2	30				
Di-n-octylphthalate	111	117	52-162	5	30				
Phenanthrene	95	97	29-142	2	30				
Pyrene	96	96	26-143	1	30				
Batch number: 13227A16A Sample number(s): 7160448-7160450,7160452,7160454,7160456 UNSPK: 7160448									
11a TPH by EPA 8015B GRO	62	76	39-118	5	30				
Batch number: 132330010A Sample number(s): 7160447-7160450,7160452-7160456 UNSPK: 7160448									
PCB-1016	90	92	16-146	2	50				
PCB-1260	107	109	40-134	2	50				
Batch number: 132330018A Sample number(s): 7160447-7160450,7160452-7160456 UNSPK: 7160448									
EFH (C12-C14)	78	81	49-123	3	20				
EFH (C15-C20)	87	95	49-123	9	20				
EFH (C21-C30)	93	105	49-123	13	20				
EFH (C30-C40)	109	163*	49-123	40*	20				
EFH (C8-C11)	66	69	49-123	4	20				
Batch number: 132250637002 Sample number(s): 7160447-7160456 UNSPK: 7160448 BKG: 7160448									
Aluminum	1975 (2)	2935 (2)	75-125	5	20	32,600	31,200	4	20
Antimony	51*	52*	75-125	3	20	3.96 U	3.96 U	0 (1)	20
Arsenic	95	91	75-125	3	20	2.33 J	2.39 J	3 (1)	20
Barium	101	104	75-125	2	20	143	140	2	20
Beryllium	98	99	75-125	0	20	0.967 J	0.961 J	1 (1)	20
Boron	97	97	75-125	0	20	6.79 J	6.92 J	2 (1)	20
Cadmium	92	90	75-125	2	20	0.990 U	0.990 U	0 (1)	20
Calcium	176 (2)	91 (2)	75-125	4	20	7,190	7,670	7	20
Chromium	101	107	75-125	2	20	36.8	36.0	2	20
Cobalt	95	95	75-125	0	20	9.03	9.56	6	20
Copper	106	106	75-125	0	20	16.9	17.4	3	20
Iron	854 (2)	40 (2)	75-125	2	20	32,600	33,000	1	20
Lead	96	93	75-125	2	20	10.3	11.2	8 (1)	20
Lithium	100	102	75-125	1	20	25.0	24.4	2	20
Magnesium	198 (2)	278 (2)	75-125	2	20	7,050	7,070	0	20
Manganese	132 (2)	129 (2)	75-125	0	20	398	414	4	20
Molybdenum	93	92	75-125	1	20	0.224 J	1.98 U	200* (1)	20
Nickel	95	96	75-125	1	20	19.6	19.8	1	20
Phosphorus	161*	90	75-125	20	20	233	282	19	20
Potassium	190 (2)	152 (2)	75-125	6	20	4,390	4,620	5	20
Sodium	93	98	75-125	4	20	286	276	4 (1)	20
Tin	92	91	75-125	0	20	3.63 J	3.60 J	1 (1)	20

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/30/13 at 01:32 PM

Group Number: 1411330

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

<u>Analysis Name</u>	<u>MS</u> <u>%REC</u>	<u>MSD</u> <u>%REC</u>	<u>MS/MSD</u> <u>Limits</u>	<u>RPD</u>	<u>RPD</u> <u>MAX</u>	<u>BKG</u> <u>Conc</u>	<u>DUP</u> <u>Conc</u>	<u>DUP</u> <u>RPD</u>	<u>Dup</u> <u>RPD</u> <u>Max</u>
Titanium	225 (2)	242 (2)	75-125	1	20	1,690	1,600	5	20
Vanadium	105	111	75-125	2	20	68.8	67.7	2	20
Zinc	101	98	75-125	1	20	66.7	69.0	3	20
Zirconium	90	93	75-125	3	20	7.42	7.31	2 (1)	20
Batch number: 132250637002A									
Silver	121	124	75-125	2	20	0.0453 J	0.0537 J	17 (1)	20
Strontium	221 (2)	266 (2)	75-125	6	20	43.9	55.3	23*	20
Thallium	111	134*	75-125	11	20	0.359	0.430	18 (1)	20
Batch number: 132250637002B									
Selenium	103	102	75-125	0	20	0.177 J	0.274 J	43* (1)	20
Batch number: 132320638002									
3a Mercury 7471A	119	120	65-135	1	20	0.0157 U	0.0161 U	0 (1)	20
Batch number: 13226039404A									
15a pH by 9045D						7.63	7.84	3	3
Batch number: 13231162401B									
14a Moisture Content by 160.3						10.6	10.9	3	20
14a Moisture Content by 160.3						10.6	10.9	3	20
14a Moisture Content by 160.3						10.6	10.9	3	20
Batch number: 13234002									
2378-TCDD	99	104	40-135	7	20				
12378-PeCDD	115	117	40-135	3	20				
123478-HxCDD	117	116	40-135	1	20				
123678-HxCDD	115	111	40-135	2	20				
123789-HxCDD	113	111	40-135	0	20				
1234678-HpCDD	109	107	40-135	0	20				
OCDD	107	111	40-135	5	20				
2378-TCDF	123	130	40-135	7	20				
12378-PeCDF	119	114	40-135	2	20				
23478-PeCDF	111	117	40-135	7	20				
123478-HxCDF	107	107	40-135	2	20				
123678-HxCDF	109	110	40-135	2	20				
123789-HxCDF	103	105	40-135	5	20				
234678-HxCDF	108	110	40-135	4	20				
1234678-HpCDF	103	102	40-135	1	20				
1234789-HpCDF	102	103	40-135	2	20				
OCDF	100	102	40-135	4	20				

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: 7a SVOC SIM EPA 8270D

*- Outside of specification

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/30/13 at 01:32 PM

Group Number: 1411330

Surrogate Quality Control

Batch number: 13232SLB026

	Fluoranthene-d10	Benzo(a)pyrene-d12	1-Methylnaphthalene-d10
7160447	88	92	99
7160448	85	94	99
7160449	87	96	98
7160450	89	97	100
7160452	89	97	101
7160453	86	95	96
7160454	89	96	97
7160455	85	95	92
7160456	88	94	97
Blank	89	98	103
LCS	91	102	103
MS	87	96	98
MSD	89	97	100

Limits: 54-129 59-125 61-125

Analysis Name: 11a TPH by EPA 8015B GRO
Batch number: 13227A16A
Trifluorotoluene-F

7160448	127*
7160449	60*
7160450	70
7160452	74
7160454	71
7160456	67
Blank	85
LCS	81
MS	60*
MSD	70

Limits: 61-122

Analysis Name: 11b TPH by EPA 8015B GRO
Batch number: 13228A94A
Trifluorotoluene-F

7160446	82
Blank	83
LCS	80
LCSD	77

Limits: 63-135

Analysis Name: 19a PCBs and PCTs 8082A
Batch number: 132330010A
Tetrachloro-m-xylene Decachlorobiphenyl

7160447	104	103
7160448	103	111
7160449	102	105
7160450	101	111

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/30/13 at 01:32 PM

Group Number: 1411330

Surrogate Quality Control

7160452	111	114
7160453	99	103
7160454	100	105
7160455	96	101
7160456	91	85
Blank	112	120
LCS	101	106
LCSD	113	128*
MS	102	105
MSD	101	111

Limits: 45-120 45-120

Analysis Name: 10a TPH by EPA 8015B (DRO)
Batch number: 132330018A

Chlorobenzene Orthoterphenyl

7160447	75	80
7160448	74	76
7160449	75	77
7160450	78	80
7160452	74	76
7160453	75	76
7160454	76	78
7160455	78	83
7160456	77	79
Blank	82	83
LCS	81	84
MS	75	77
MSD	78	80

Limits: 37-125 66-123

Analysis Name: 23a Dioxin/Furan by EPA 1613B
Batch number: 13234002

	13C12-2378-TCDD	13C12-23478-PeCDF	13C12-123478-HxCDF	13C12-123678-HxCDF	13C12-234678-HxCDF	13C12-123789-HxCDF
7160447	67	90	72	85	72	79
7160448	63	88	64	82	72	73
7160449	61	88	76	94	84	69
7160450	58	83	71	83	70	71
7160452	53	70	62	76	69	67
7160453	57	78	61	78	65	54
7160454	61	61	55	72	61	54
7160455	76	86	75	90	84	76
7160456	62	64	60	76	66	54
Blank	68	82	68	80	74	66
MS	61	88	76	94	84	69
MSD	58	83	71	83	70	71
OPR	57	69	52	61	57	64

Limits: 25-164 21-178 26-152 26-123 28-136 29-147

	13C12-1234678-HpCDF	13C12-1234789-HpCDF	13C12-OCDF	13C12-12378-PeCDD	13C12-123478-HxCDD	13C12-123678-HxCDD
7160447	116	79	83	81	71	75

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/30/13 at 01:32 PM

Group Number: 1411330

Surrogate Quality Control

7160448	121	68	67	88	71	78
7160449	123	74	76	76	76	83
7160450	121	72	73	77	69	73
7160452	106	61	59	66	66	70
7160453	113	58	59	78	64	67
7160454	96	47	51	74	70	76
7160455	134	75	66	92	89	93
7160456	95	52	53	76	71	78
Blank	106	78	79	89	83	92
MS	123	74	76	76	76	83
MSD	121	72	73	77	69	73
OPR	89	57	54	77	68	70

Limits: 28-143 26-138 17-157 25-181 32-141 28-130

13C12-123789-HxCDD 13C12-1234678-HpCDD 13C12-OCDD 13C12-2378-TCDF 13C12-12378-PeCDF

7160447	70	91	101	66	92
7160448	75	93	93	65	101
7160449	80	95	96	65	95
7160450	68	91	94	59	92
7160452	69	80	81	54	81
7160453	67	86	91	58	93
7160454	74	78	91	54	68
7160455	95	109	106	73	103
7160456	74	86	88	58	70
Blank	89	105	114	63	83
MS	80	95	96	65	95
MSD	68	91	94	59	92
OPR	72	83	88	52	74

Limits: 28-130 23-140 17-157 24-169 24-185

*- Outside of specification

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acct# 13013 Cp# 1411330

sample# 7160446-56

SSFL Phase 3 Chain of Custody

CDM Smith
Date Shipped: 8/13/2013
Carrier Name: FedEx
Airbill No: 796456924398

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20130813-01
Cooler #: 1
Lab: Lancaster
Lab Phone: 717-556-7259
Lab Address: 2425 New Holland Pike
Lancaster, PA 17601

Sample	Date/Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Methyl Mercury 1630	Organotin	NDMA 1625	Formaldehyde 8315	Cyanide 9012	Energetics 8330	Nitrates 300.0/9056	Terphenyls 8015	Alcohols 8015	Glycols 8015	TPH-EH 8015	TPH-GRO 8015	1,4 Dioxane 8260 SIM	VOCs 8260	Pesticides 8081	Herbicides 8151	Hex Cr 7196/7199	pH 9045 (Water)	pH 9045 (Soil)	Perchlorate Confirm 6850/6860	Perchlorate 314.0/331	PCBs/PCTs 8082	Dioxins 1613	1,4 Dioxane 8270 SIM	PAHs 8270 SIM	TIC 8270	SVOC 8270	Fluoride 300.0/9056	Mercury 7470 (Water)	Mercury 7471 (Soil)	Metals 6010 and 6020	Other Analysis/Notes		
TB-081313	8/13/13 08:00	WQ	HCl	3 - 40 mL Vial	10 day																																		
SL-543-SA8-SB-0.0-0.5	8/13/13 07:45	SO	None	2 - SS-Sleeve	10 day	X	X																																
SL-543-SA8-SB-0.0-0.5	8/13/13 07:45	SO	None	1 - 4 oz glass	10 day																																		
SL-543-SA8-SB-4.0-5.0MS	8/13/13 08:15	SO	None	6 - SS-Sleeve	10 day	X	X																																MS/MSD
SL-543-SA8-SB-4.0-5.0MS	8/13/13 08:15	SO	None	1 - 16 oz glass	10 day																																		MS/MSD
SL-543-SA8-SB-4.0-5.0MS	8/13/13 08:15	SO	None	6 - Encore	10 day																																		MS/MSD
SL-843-SA8-SB-4.0-5.0	8/13/13 08:30	SO	None	2 - SS-Sleeve	10 day	X	X																																
SL-843-SA8-SB-4.0-5.0	8/13/13 08:30	SO	None	1 - 4 oz glass	10 day																																		
SL-843-SA8-SB-4.0-5.0	8/13/13 08:30	SO	None	2 - Encore	10 day																																		
SL-609-SA8-SB-0.0-0.5	8/13/13 12:15	SO	None	2 - SS-Sleeve	10 day	X	X																																
SL-609-SA8-SB-0.0-0.5	8/13/13 12:15	SO	None	1 - 4 oz glass	10 day																																		
SL-609-SA8-SB-4.0-5.0	8/13/13 12:45	SO	None	2 - 16 oz glass	10 day	X	X																																
SL-609-SA8-SB-4.0-5.0	8/13/13 12:45	SO	None	1 - 4 oz glass	10 day																																		
SL-609-SA8-SB-4.0-5.0	8/13/13 12:45	SO	None	2 - Encore	10 day																																		
SL-614-SA8-SB-0.0-0.5	8/13/13 13:45	SO	None	2 - SS-Sleeve	10 day	X	X																																
SL-614-SA8-SB-0.0-0.5	8/13/13 13:45	SO	None	1 - 4 oz glass	10 day																																		
SL-614-SA8-SB-4.0-5.0	8/13/13 14:10	SO	None	2 - 16 oz glass	10 day	X	X																																
SL-614-SA8-SB-4.0-5.0	8/13/13 14:10	SO	None	1 - 4 oz glass	10 day																																		
SL-614-SA8-SB-4.0-5.0	8/13/13 14:10	SO	None	2 - Encore	10 day																																		

Rec by *Brandy Barely* ELLE 8.14.13 920

acct# 13013 Cp# 1411330 Sample# 7160446-56

SSFL Phase 3 Chain of Custody

CDM Smith

Date Shipped: 8/13/2013

Carrier Name: FedEx

Airbill No: 796456924398

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

COC No: 20130813-01

Cooler #: 1

Lab: Lancaster

Lab Phone: 717-556-7259

Lab Address: 2425 New Holland Pike
Lancaster, PA 17601

Sample	Date/Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Other Analysis/Notes
						Methyl Mercury 1630 Organotin NDMA 1625 Formaldehyde 8315 Cyanide 9012 Energetics 8330 Nitrates 300.0/9056 Terphenyls 8015 Alcohols 8015 Glycols 8015 TPH-EFH 8015 TPH-GRO 8015 1,4 Dioxane 8260 SIM VOCs 8260 Pesticides 8081 Herbicides 8151 Hex Cr 7196/7199 pH 9040 (Water) pH 9045 (Soil) Perchlorate Confirm 6850/6860 Perchlorate 314.0/331 PCBs/PCTS 8082 Dioxins 1613 1,4 Dioxane 8270 SIM PAHs 8270 SIM TIC 8270 SVOC 8270 Fluoride 300.0/9056 Mercury 7470 (Water) Mercury 7471 (Soil) Metals 6010 and 6020

Special Instructions: Sampler: *Steve M...*

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
<i>Steve M...</i>	8/13/2013	1600									
<i>Bin...</i> 8.14.13 920											

2 of 2

**Environmental Sample Administration
Receipt Documentation Log**

Client/Project: CDM
 Date of Receipt: 8.14.13
 Time of Receipt: 920
 Source Code: 50-1

Shipping Container Sealed: YES NO
 Custody Seal Present * : YES NO
 * Custody seal was intact unless otherwise noted in the discrepancy section
 Package: Chilled Not Chilled

Temperature of Shipping Containers

Cooler #	Thermometer ID	Temperature (°C)	Temp Bottle (TB) or Surface Temp (ST)	Wet Ice (WI) or Dry Ice (DI) or Ice Packs (IP)	Ice Present? Y/N	Loose (L) Bagged Ice (B) or NA	Comments
1	D146	0.8	TB	WI	Y	B	
2							
3							
4							
5							
6							

Number of Trip Blanks received NOT listed on chain of custody: 0

Paperwork Discrepancy/Unpacking Problems:

Unpacker Signature/Emp#: Branely Barclay 2299 Date/Time: 8.14.13 940

Issued by Dept. 6042 Management

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	BMQL	Below Minimum Quantitation Level
N.D.	none detected	MPN	Most Probable Number
TNTC	Too Numerous To Count	CP Units	cobalt-chloroplatinate units
IU	International Units	NTU	nephelometric turbidity units
umhos/cm	micromhos/cm	ng	nanogram(s)
C	degrees Celsius	F	degrees Fahrenheit
meq	milliequivalents	lb.	pound(s)
g	gram(s)	kg	kilogram(s)
µg	microgram(s)	mg	milligram(s)
mL	milliliter(s)	L	liter(s)
m³	cubic meter(s)	µL	microliter(s)
		pg/L	picogram/liter

< less than - The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Data Qualifiers:

C – result confirmed by reanalysis.

J - estimated value – The result is \geq the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ).

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers

- A** TIC is a possible aldol-condensation product
- B** Analyte was also detected in the blank
- C** Pesticide result confirmed by GC/MS
- D** Compound quantitated on a diluted sample
- E** Concentration exceeds the calibration range of the instrument
- N** Presumptive evidence of a compound (TICs only)
- P** Concentration difference between primary and confirmation columns $>25\%$
- U** Compound was not detected
- X,Y,Z** Defined in case narrative

Inorganic Qualifiers

- B** Value is $<$ CRDL, but \geq IDL
- E** Estimated due to interference
- M** Duplicate injection precision not met
- N** Spike sample not within control limits
- S** Method of standard additions (MSA) used for calculation
- U** Compound was not detected
- W** Post digestion spike out of control limits
- *** Duplicate analysis not within control limits
- +** Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

SAMPLE DELIVERY GROUP

PH091

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

August 30, 2013

Project: SSFL Phase 3 Sampling

Submittal Date: 08/15/2013
Group Number: 1411680
SDG: PH091
PO Number: 1204-002-001-AL
State of Sample Origin: CA

<u>Client Sample Description</u>	<u>Lancaster Labs (LL) #</u>
EB-081413 Water	7162021
TB-081413 Water	7162022
SL-600-SA8-SB-0.0-0.5 Soil	7162023
SL-600-SA8-SB-4.0-5.0 Soil	7162024
SL-602-SA8-SB-0.0-0.5 Soil	7162025
SL-602-SA8-SB-4.0-5.0 Soil	7162026
SL-613-SA8-SB-0.0-0.5 Soil	7162027
SL-613-SA8-SB-4.0-5.0 Soil	7162028

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC Eurofins Lancaster Labs Env
COPY TO

Attn: Nicole Maljovec

Respectfully Submitted,



Natalie R. Luciano
Senior Specialist

(717) 556-7258

Sample Description: **EB-081413 Water**
SSFL Phase 3 Subarea 8

LL Sample # **WW 7162021**
LL Group # **1411680**
Account # **13013**

Project Name: **SSFL Phase 3 Sampling**

Collected: 08/14/2013 15:00 by PH

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/15/2013 09:05
Reported: 08/30/2013 13:38

EB814 SDG#: PH091-01EB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/l	ug/l	ug/l	
12971	Acenaphthene	83-32-9	0.053 U	0.053	0.011	1
12971	Acenaphthylene	208-96-8	0.053 U	0.053	0.011	1
12971	Anthracene	120-12-7	0.053 U	0.053	0.011	1
12971	Benzo(a)anthracene	56-55-3	0.053 U	0.053	0.011	1
12971	Benzo(a)pyrene	50-32-8	0.053 U	0.053	0.011	1
12971	Benzo(b)fluoranthene	205-99-2	0.053 U	0.053	0.011	1
12971	Benzo(e)pyrene	192-97-2	0.053 U	0.053	0.011	1
12971	Benzo(g,h,i)perylene	191-24-2	0.053 U	0.053	0.011	1
12971	Benzo(k)fluoranthene	207-08-9	0.053 U	0.053	0.011	1
12971	Butylbenzylphthalate	85-68-7	1.1 U	1.1	0.053	1
12971	Di-n-butylphthalate	84-74-2	0.20 J	1.1	0.053	1
12971	Chrysene	218-01-9	0.053 U	0.053	0.011	1
12971	Dibenz(a,h)anthracene	53-70-3	0.053 U	0.053	0.011	1
12971	Diethylphthalate	84-66-2	0.31 J	1.1	0.053	1
12971	Dimethylphthalate	131-11-3	1.1 U	1.1	0.053	1
12971	Bis(2-Ethylhexyl)phthalate	117-81-7	0.30 J	1.1	0.053	1
12971	Fluoranthene	206-44-0	0.053 U	0.053	0.011	1
12971	Fluorene	86-73-7	0.053 U	0.053	0.011	1
12971	Indeno(1,2,3-cd)pyrene	193-39-5	0.053 U	0.053	0.011	1
12971	1-Methylnaphthalene	90-12-0	0.053 U	0.053	0.011	1
12971	2-Methylnaphthalene	91-57-6	0.012 J	0.053	0.011	1
12971	Naphthalene	91-20-3	0.058 U	0.053	0.032	1
12971	N-Nitrosodimethylamine	62-75-9	0.053 U	0.053	0.011	1
12971	Di-n-octylphthalate	117-84-0	1.1 U	1.1	0.053	1
12971	Phenanthrene	85-01-8	0.053 U	0.053	0.032	1
12971	Pyrene	129-00-0	0.053 U	0.053	0.011	1

Target analytes were detected in the method blank associated with the samples as noted on the QC Summary. Since the result is within the acceptance range allowed by the method, the data is reported.

GC Volatiles	TPH GRO SW-8015B	ug/l	ug/l	ug/l
08229	TPH-GRO S.CA water C5-C12 n.a.	50 U	50	20

Herbicides	SW-846 8151A	ug/l	ug/l	ug/l
10407	2,4-D	94-75-7	0.49 U	0.49
10407	Dalapon	75-99-0	1.2 U	1.2
10407	2,4-DB	94-82-6	0.98 U	0.98
10407	Dicamba	1918-00-9	0.29 U	0.29
10407	Dinoseb	88-85-7	0.49 U	0.49

The QC window for dinoseb is advisory due to the erratic performance of the analyte using this method.

10407	2,4-DP (Dichlorprop)	120-36-5	0.49 U	0.49
10407	MCPA	94-74-6	200 U	200
10407	MCPP	93-65-2	200 U	200
10407	2,4,5-T	93-76-5	0.049 U	0.049
10407	2,4,5-TP	93-72-1	0.049 U	0.049

Pesticides/PCBs	SW-846 8081B	ug/l	ug/l	ug/l
10589	Aldrin	309-00-2	0.0081 U	0.0081

*=This limit was used in the evaluation of the final result

Sample Description: EB-081413 Water
SSFL Phase 3 Subarea 8

LL Sample # WW 7162021
LL Group # 1411680
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/14/2013 15:00 by PH

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/15/2013 09:05
Reported: 08/30/2013 13:38

EB814 SDG#: PH091-01EB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Dilution Factor
Pesticides/PCBs SW-846 8081B						
10589	Alpha BHC	319-84-6	0.0081 U	ug/l	0.0024	1
10589	Beta BHC	319-85-7	0.0081 U	ug/l	0.0028	1
10589	Gamma BHC - Lindane	58-89-9	0.0081 U	ug/l	0.0016	1
10589	Chlordane	57-74-9	0.41 U	ug/l	0.13	1
10589	p,p-DDD	72-54-8	0.016 U	ug/l	0.0041	1
10589	p,p-DDE	72-55-9	0.016 U	ug/l	0.0041	1
10589	p,p-DDT	50-29-3	0.016 U	ug/l	0.0042	1
10589	Delta BHC	319-86-8	0.0081 U	ug/l	0.0028	1
10589	Dieldrin	60-57-1	0.016 U	ug/l	0.0043	1
10589	Endosulfan I	959-98-8	0.0081 U	ug/l	0.0035	1
10589	Endosulfan II	33213-65-9	0.016 U	ug/l	0.012	1
10589	Endosulfan Sulfate	1031-07-8	0.016 U	ug/l	0.0047	1
10589	Endrin	72-20-8	0.016 U	ug/l	0.0066	1
10589	Endrin Aldehyde	7421-93-4	0.081 U	ug/l	0.016	1
10589	Endrin Ketone	53494-70-5	0.016 U	ug/l	0.0041	1
10589	Heptachlor	76-44-8	0.0081 U	ug/l	0.0016	1
10589	Heptachlor Epoxide	1024-57-3	0.0081 U	ug/l	0.0019	1
10589	Methoxychlor	72-43-5	0.081 U	ug/l	0.024	1
10589	Mirex	2385-85-5	0.20 U	ug/l	0.069	1
10589	Toxaphene	8001-35-2	2.4 U	ug/l	0.81	1
Pesticides/PCBs SW-846 8082A						
10591	Aroclor 5432	63496-31-1	0.41 U	ug/l	0.081	1
10591	Aroclor 5442	12642-23-8	0.41 U	ug/l	0.081	1
10591	Aroclor 5460	11126-42-4	0.41 U	ug/l	0.089	1
10591	PCB-1016	12674-11-2	0.41 U	ug/l	0.081	1
10591	PCB-1221	11104-28-2	0.41 U	ug/l	0.081	1
10591	PCB-1232	11141-16-5	0.41 U	ug/l	0.16	1
10591	PCB-1242	53469-21-9	0.41 U	ug/l	0.081	1
10591	PCB-1248	12672-29-6	0.41 U	ug/l	0.081	1
10591	PCB-1254	11097-69-1	0.41 U	ug/l	0.081	1
10591	PCB-1260	11096-82-5	0.41 U	ug/l	0.12	1
10591	PCB-1262	37324-23-5	0.41 U	ug/l	0.16	1
10591	PCB-1268	11100-14-4	0.41 U	ug/l	0.13	1
GC Petroleum Hydrocarbons SW-846 8015B modified						
10365	EFH (C12-C14)	n.a.	0.099 U	mg/l	0.049	1
10365	EFH (C15-C20)	n.a.	0.099 U	mg/l	0.049	1
10365	EFH (C21-C30)	n.a.	0.099 U	mg/l	0.049	1
10365	EFH (C30 - C40)	n.a.	0.49 U	mg/l	0.099	1
10365	EFH (C8-C11)	n.a.	0.099 U	mg/l	0.049	1
The stated QC limits are advisory only until sufficient data points can be obtained to calculate statistical limits.						
Metals SW-846 6010C						
01743	Aluminum	7429-90-5	0.400 U	mg/l	0.0828	1
07044	Antimony	7440-36-0	0.0400 U	mg/l	0.0053	1
07035	Arsenic	7440-38-2	0.0400 U	mg/l	0.0068	1
07046	Barium	7440-39-3	0.0100 U	mg/l	0.00033	1

*=This limit was used in the evaluation of the final result

Sample Description: EB-081413 Water
SSFL Phase 3 Subarea 8

LL Sample # WW 7162021
LL Group # 1411680
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/14/2013 15:00 by PH

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/15/2013 09:05
Reported: 08/30/2013 13:38

EB814 SDG#: PH091-01EB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Dilution Factor
Metals						
		SW-846 6010C	mg/l	mg/l	mg/l	
07047	Beryllium	7440-41-7	0.0100 U	0.0100	0.00067	1
08014	Boron	7440-42-8	0.0106 J	0.100	0.0084	1
07049	Cadmium	7440-43-9	0.0100 U	0.0100	0.00076	1
01750	Calcium	7440-70-2	0.0798 J	0.400	0.0334	1
07051	Chromium	7440-47-3	0.0300 U	0.0300	0.0016	1
07052	Cobalt	7440-48-4	0.0100 U	0.0100	0.0013	1
07053	Copper	7440-50-8	0.0200 U	0.0200	0.0027	1
01754	Iron	7439-89-6	0.400 U	0.400	0.0430	1
07055	Lead	7439-92-1	0.0300 U	0.0300	0.0047	1
01756	Lithium	7439-93-2	0.0400 U	0.0400	0.0047	1
01757	Magnesium	7439-95-4	0.200 U	0.200	0.0167	1
07058	Manganese	7439-96-5	0.0100 U	0.0100	0.00083	1
07060	Molybdenum	7439-98-7	0.0200 U	0.0200	0.0017	1
07061	Nickel	7440-02-0	0.0200 U	0.0200	0.0015	1
10143	Phosphorus	7723-14-0	0.200 U	0.200	0.0418	1
01762	Potassium	7440-09-7	1.00 U	1.00	0.0980	1
01767	Sodium	7440-23-5	2.00 U	2.00	0.167	1
07069	Tin	7440-31-5	0.0400 U	0.0400	0.0029	1
07070	Titanium	7440-32-6	0.0200 U	0.0200	0.0017	1
07071	Vanadium	7440-62-2	0.0100 U	0.0100	0.0020	1
07072	Zinc	7440-66-6	0.0400 U	0.0400	0.0020	1
10144	Zirconium	7440-67-7	0.100 U	0.100	0.0084	1
		SW-846 6020A	mg/l	mg/l	mg/l	
06041	Selenium	7782-49-2	0.0040 U	0.0040	0.00050	1
06042	Silver	7440-22-4	0.0010 U	0.0010	0.00011	1
06044	Strontium	7440-24-6	0.0020 U	0.0020	0.00034	1
06045	Thallium	7440-28-0	0.0010 U	0.0010	0.00015	1
		SW-846 7470A	mg/l	mg/l	mg/l	
00259	3b Mercury 7470A	7439-97-6	0.00020 U	0.00020	0.000060	1
Wet Chemistry						
		SW-846 9040C	Std. Units	Std. Units	Std. Units	
12152	28b pH (9040B and 9040C)	n.a.	5.8	0.010	0.010	1

*=This limit was used in the evaluation of the final result

Sample Description: EB-081413 Water
SSFL Phase 3 Subarea 8

LL Sample # WW 7162021
LL Group # 1411680
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/14/2013 15:00 by PH

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/15/2013 09:05
Reported: 08/30/2013 13:38

EB814 SDG#: PH091-01EB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received MRL*	As Received EDL	Dilution Factor
Dioxins/Furans		EPA 1613B	pg/l	pg/l	pg/l	
10915	2378-TCDD	1746-01-6	0.406 JBQ	1.96	0.270	1
10915	12378-PeCDD	40321-76-4	0.617 JBQ	9.79	0.359	1
10915	123478-HxCDD	39227-28-6	0.594 JBQ	9.79	0.207	1
10915	123678-HxCDD	57653-85-7	0.708 JB	9.79	0.211	1
10915	123789-HxCDD	19408-74-3	0.501 JBQ	9.79	0.203	1
10915	1234678-HpCDD	35822-46-9	1.09 JBQ	9.79	0.258	1
10915	OCDD	3268-87-9	1.96 JBQ	19.6	0.390	1
10915	2378-TCDF	51207-31-9	0.235 JB	1.96	0.218	1
10915	12378-PeCDF	57117-41-6	0.985 JBQ	9.79	0.200	1
10915	23478-PeCDF	57117-31-4	0.744 JBQ	9.79	0.182	1
10915	123478-HxCDF	70648-26-9	0.495 JBQ	9.79	0.112	1
10915	123678-HxCDF	57117-44-9	0.528 JBQ	9.79	0.115	1
10915	123789-HxCDF	72918-21-9	0.826 JBQ	9.79	0.127	1
10915	234678-HxCDF	60851-34-5	0.129 JBQ	9.79	0.107	1
10915	1234678-HpCDF	67562-39-4	0.776 JB	9.79	0.0814	1
10915	1234789-HpCDF	55673-89-7	0.597 JBQ	9.79	0.0898	1
10915	OCDF	39001-02-0	1.52 JB	19.6	0.312	1

Toxic Equivalents		EPA 1613B	pg/l	pg/l	pg/l	
10915	TEQ WHO 2005 - EDLx0.0	n.a.	0.103			1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	56	25 - 164
13C12-12378-PeCDD	59	25 - 181
13C12-123478-HxCDD	66	32 - 141
13C12-123678-HxCDD	66	28 - 130
13C12-123789-HxCDD	64	28 - 130
13C12-1234678-HpCDD	67	23 - 140
13C12-OCDD	72	17 - 157
13C12-2378-TCDF	67	24 - 169
13C12-12378-PeCDF	70	24 - 185
13C12-23478-PeCDF	72	21 - 178
13C12-123478-HxCDF	78	26 - 152
13C12-123678-HxCDF	78	26 - 123
13C12-234678-HxCDF	77	28 - 136
13C12-123789-HxCDF	74	29 - 147
13C12-1234678-HpCDF	77	28 - 143
13C12-1234789-HpCDF	77	26 - 138
13C12-OCDF	79	17 - 157

Dioxins/Furans Data Qualifiers:

- B Detected in Method Blank
- U Undetected
- J Estimated concentration between Estimated Detection Limit and Minimum Level
- E Exceeds calibration range
- C Confirmed quantitation on secondary GC column
- Q EMPC - Estimated Maximum Possible Concentration

*=This limit was used in the evaluation of the final result

Sample Description: EB-081413 Water
SSFL Phase 3 Subarea 8

LL Sample # WW 7162021
LL Group # 1411680
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/14/2013 15:00 by PH

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/15/2013 09:05
Reported: 08/30/2013 13:38

EB814 SDG#: PH091-01EB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received MRL*	As Received EDL	Dilution Factor
F	Interference is present					
S	Saturation of detection signal					

*=This limit was used in the evaluation of the final result

Sample Description: EB-081413 Water
SSFL Phase 3 Subarea 8

LL Sample # WW 7162021
LL Group # 1411680
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/14/2013 15:00 by PH

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/15/2013 09:05
Reported: 08/30/2013 13:38

EB814 SDG#: PH091-01EB

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12971	7b SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13231WAH026	08/28/2013 01:35	Brian K Graham	1
10466	BNA Water Extraction SIM	SW-846 3510C	1	13231WAH026	08/20/2013 09:30	Anna E Stager	1
08229	11b TPH by EPA 8015B GRO	TPH GRO SW-8015B	1	13228A94A	08/16/2013 15:27	Catherine J Schwarz	1
01146	GC VOA Water Prep	SW-846 5030B	1	13228A94A	08/16/2013 15:27	Catherine J Schwarz	1
10407	24b Herbicides by EPA 8151A	SW-846 8151A	1	132320015A	08/26/2013 19:48	Elizabeth J Marin	1
10589	22b Pesticides by EPA 8081B	SW-846 8081B	1	132320010A	08/21/2013 14:16	Lisa A Reinert	1
10591	21b PCBs and PCTs 8082A	SW-846 8082A	1	132320009A	08/23/2013 18:47	Monica M Souders	1
11121	PCB Waters Update IV Ext	SW-846 3510C	1	132320009A	08/20/2013 16:55	JoElla L Rice	1
11120	Pesticide Waters Update IV Ext	SW-846 3510C	1	132320010A	08/20/2013 16:55	JoElla L Rice	1
00816	Water Sample Herbicide Extract	SW-846 8151A	1	132320015A	08/20/2013 21:05	Karen L Beyer	1
10365	10b TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132330013A	08/22/2013 20:41	Heather E Williams	1
11203	EFH Waters Extraction	SW-846 3510C	1	132330013A	08/21/2013 21:40	Karen L Beyer	1
10915	17b Dioxin/Furan by EPA 1613B	EPA 1613B	1	13232004	08/26/2013 14:59	Robert Brown	1
10914	Dioxins/Furans in Water - SepF	EPA 1613B	1	13232004	08/22/2013 09:30	Deborah M Zimmerman	1
01743	Aluminum	SW-846 6010C	1	132270635001	08/25/2013 13:44	Katlin N Cataldi	1
07044	Antimony	SW-846 6010C	1	132270635001	08/25/2013 13:44	Katlin N Cataldi	1
07035	Arsenic	SW-846 6010C	1	132270635001	08/25/2013 13:44	Katlin N Cataldi	1
07046	Barium	SW-846 6010C	1	132270635001	08/25/2013 13:44	Katlin N Cataldi	1
07047	Beryllium	SW-846 6010C	1	132270635001	08/25/2013 13:44	Katlin N Cataldi	1
08014	Boron	SW-846 6010C	1	132270635001	08/25/2013 13:44	Katlin N Cataldi	1
07049	Cadmium	SW-846 6010C	1	132270635001	08/25/2013 13:44	Katlin N Cataldi	1
01750	Calcium	SW-846 6010C	1	132270635001	08/25/2013 13:44	Katlin N Cataldi	1
07051	Chromium	SW-846 6010C	1	132270635001	08/25/2013 13:44	Katlin N Cataldi	1
07052	Cobalt	SW-846 6010C	1	132270635001	08/25/2013 13:44	Katlin N Cataldi	1
07053	Copper	SW-846 6010C	1	132270635001	08/25/2013 13:44	Katlin N Cataldi	1
01754	Iron	SW-846 6010C	1	132270635001	08/25/2013 13:44	Katlin N Cataldi	1
07055	Lead	SW-846 6010C	1	132270635001	08/25/2013 13:44	Katlin N Cataldi	1
01756	Lithium	SW-846 6010C	1	132270635001	08/25/2013 13:44	Katlin N Cataldi	1
01757	Magnesium	SW-846 6010C	1	132270635001	08/25/2013 13:44	Katlin N Cataldi	1
07058	Manganese	SW-846 6010C	1	132270635001	08/25/2013 13:44	Katlin N Cataldi	1
07060	Molybdenum	SW-846 6010C	1	132270635001	08/25/2013 13:44	Katlin N Cataldi	1
07061	Nickel	SW-846 6010C	1	132270635001	08/25/2013 13:44	Katlin N Cataldi	1

*=This limit was used in the evaluation of the final result

Sample Description: EB-081413 Water
SSFL Phase 3 Subarea 8

LL Sample # WW 7162021
LL Group # 1411680
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/14/2013 15:00 by PH

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/15/2013 09:05
Reported: 08/30/2013 13:38

EB814 SDG#: PH091-01EB

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
10143	Phosphorus	SW-846 6010C	1	132270635001	08/25/2013	13:44	Katlin N Cataldi	1
01762	Potassium	SW-846 6010C	1	132270635001	08/25/2013	13:44	Katlin N Cataldi	1
01767	Sodium	SW-846 6010C	1	132270635001	08/25/2013	13:44	Katlin N Cataldi	1
07069	Tin	SW-846 6010C	1	132270635001	08/25/2013	13:44	Katlin N Cataldi	1
07070	Titanium	SW-846 6010C	1	132270635001	08/25/2013	13:44	Katlin N Cataldi	1
07071	Vanadium	SW-846 6010C	1	132270635001	08/25/2013	13:44	Katlin N Cataldi	1
07072	Zinc	SW-846 6010C	1	132270635001	08/25/2013	13:44	Katlin N Cataldi	1
10144	Zirconium	SW-846 6010C	1	132270635001	08/25/2013	13:44	Katlin N Cataldi	1
06041	Selenium	SW-846 6020A	1	132270639001B	08/21/2013	10:39	Choon Y Tian	1
06042	Silver	SW-846 6020A	1	132270639001A	08/21/2013	10:39	Choon Y Tian	1
06044	Strontium	SW-846 6020A	1	132270639001A	08/21/2013	10:39	Choon Y Tian	1
06045	Thallium	SW-846 6020A	1	132270639001A	08/21/2013	10:39	Choon Y Tian	1
00259	3b Mercury 7470A	SW-846 7470A	1	132355713007	08/26/2013	09:17	Damary Valentin	1
10635	WW SW846(IV) ICP Dig (tot rec)	SW-846 3005A	1	132270635001	08/20/2013	23:30	Annamaria Stipkovits	1
10639	ICP/MS SW846 (IV) Water Digest	SW-846 3010A modified	1	132270639001	08/20/2013	23:30	Annamaria Stipkovits	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132355713007	08/25/2013	08:30	Damary Valentin	1
12152	28b pH (9040B and 9040C)	SW-846 9040C	1	13227002101A	08/15/2013	21:44	Clayton C Litchmore	1

*=This limit was used in the evaluation of the final result

Sample Description: TB-081413 Water
SSFL Phase 3 Subarea 8

LL Sample # WW 7162022
LL Group # 1411680
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/14/2013 08:00
Submitted: 08/15/2013 09:05
Reported: 08/30/2013 13:38

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

TB814 SDG#: PH091-02TB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Dilution Factor
GC Volatiles	TPH GRO SW-8015B		ug/l	ug/l	ug/l	
08229	TPH-GRO S.CA water C5-C12	n.a.	50 U	50	20	1

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08229	11b TPH by EPA 8015B GRO	TPH GRO SW-8015B	1	13228A94A	08/16/2013 15:52	Catherine J Schwarz	1
01146	GC VOA Water Prep	SW-846 5030B	1	13228A94A	08/16/2013 15:52	Catherine J Schwarz	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-600-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7162023
LL Group # 1411680
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/14/2013 08:25 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/15/2013 09:05
Reported: 08/30/2013 13:38

60000 SDG#: PH091-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	1.7 U	1.7	0.68	1
12969	Acenaphthylene	208-96-8	1.7 U	1.7	0.34	1
12969	Anthracene	120-12-7	1.7 U	1.7	0.34	1
12969	Benzo(a)anthracene	56-55-3	1.7 U	1.7	0.68	1
12969	Benzo(a)pyrene	50-32-8	1.7 U	1.7	0.68	1
12969	Benzo(b)fluoranthene	205-99-2	1.3 J	1.7	0.68	1
12969	Benzo(e)pyrene	192-97-2	17 U	17	3.4	1
12969	Benzo(g,h,i)perylene	191-24-2	1.7 U	1.7	0.68	1
12969	Benzo(k)fluoranthene	207-08-9	1.7 U	1.7	0.68	1
12969	Butylbenzylphthalate	85-68-7	18 U	18	6.2	1
12969	Di-n-butylphthalate	84-74-2	18 U	18	6.2	1
12969	Chrysene	218-01-9	1.0 J	1.7	0.34	1
12969	Dibenz(a,h)anthracene	53-70-3	1.7 U	1.7	0.68	1
12969	Diethylphthalate	84-66-2	18 U	18	6.2	1
12969	Dimethylphthalate	131-11-3	18 U	18	6.2	1
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	6.5 J	18	6.2	1
12969	Fluoranthene	206-44-0	0.94 J	1.7	0.68	1
12969	Fluorene	86-73-7	1.7 U	1.7	0.68	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	1.7 U	1.7	0.68	1
12969	1-Methylnaphthalene	90-12-0	1.7 U	1.7	0.68	1
12969	2-Methylnaphthalene	91-57-6	1.7 U	1.7	0.68	1
12969	Naphthalene	91-20-3	1.1 J	1.7	0.68	1
12969	N-Nitrosodimethylamine	62-75-9	1.7 U	1.7	0.68	1
12969	Di-n-octylphthalate	117-84-0	18 U	18	6.2	1
12969	Phenanthrene	85-01-8	1.7 U	1.7	0.68	1
12969	Pyrene	129-00-0	0.93 J	1.7	0.68	1
Pesticides/PCBs	SW-846 8082A		ug/kg	ug/kg	ug/kg	
10592	Aroclor 5432	63496-31-1	34 U	34	10	1
10592	Aroclor 5442	12642-23-8	34 U	34	10	1
10592	Aroclor 5460	11126-42-4	34 U	34	10	1
10592	PCB-1016	12674-11-2	17 U	17	3.4	1
10592	PCB-1221	11104-28-2	17 U	17	5.2	1
10592	PCB-1232	11141-16-5	17 U	17	4.2	1
10592	PCB-1242	53469-21-9	17 U	17	4.2	1
10592	PCB-1248	12672-29-6	17 U	17	3.4	1
10592	PCB-1254	11097-69-1	17 U	17	4.5	1
10592	PCB-1260	11096-82-5	17 U	17	4.0	1
10592	PCB-1262	37324-23-5	17 U	17	3.4	1
10592	PCB-1268	11100-14-4	17 U	17	3.4	1
GC Petroleum	SW-846 8015B modified		mg/kg	mg/kg	mg/kg	
Hydrocarbons						
12952	EFH (C12-C14)	n.a.	5.1 U	5.1	2.1	1
12952	EFH (C15-C20)	n.a.	5.1 U	5.1	2.1	1
12952	EFH (C21-C30)	n.a.	12	5.1	2.1	1
12952	EFH (C30-C40)	n.a.	47	10	4.1	1
12952	EFH (C8-C11)	n.a.	5.1 U	5.1	2.1	1
Metals	SW-846 6010C		mg/kg	mg/kg	mg/kg	

*=This limit was used in the evaluation of the final result

Sample Description: SL-600-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7162023
LL Group # 1411680
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/14/2013 08:25 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/15/2013 09:05
Reported: 08/30/2013 13:38

60000 SDG#: PH091-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals						
		SW-846 6010C	mg/kg	mg/kg	mg/kg	
01643	Aluminum	7429-90-5	20,600	39.9	7.19	1
06944	Antimony	7440-36-0	3.99 U	3.99	0.738	1
06935	Arsenic	7440-38-2	5.47	3.99	0.698	1
06946	Barium	7440-39-3	89.1	0.997	0.0329	1
06947	Beryllium	7440-41-7	0.692 J	0.997	0.0668	1
07914	Boron	7440-42-8	15.7	9.97	0.837	1
06949	Cadmium	7440-43-9	0.647 J	0.997	0.0758	1
01650	Calcium	7440-70-2	62,300	99.7	16.6	5
06951	Chromium	7440-47-3	29.9	2.99	0.159	1
06952	Cobalt	7440-48-4	8.81	0.997	0.0987	1
06953	Copper	7440-50-8	19.1	1.99	0.289	1
01654	Iron	7439-89-6	26,500	39.9	3.61	1
06955	Lead	7439-92-1	14.1	2.99	0.498	1
01656	Lithium	7439-93-2	22.5	4.0	0.34	1
01657	Magnesium	7439-95-4	7,160	9.97	1.66	1
06958	Manganese	7439-96-5	475	0.997	0.0827	1
06960	Molybdenum	7439-98-7	0.355 J	1.99	0.169	1
06961	Nickel	7440-02-0	17.8	1.99	0.130	1
10145	Phosphorus	7723-14-0	707	9.97	2.88	1
01662	Potassium	7440-09-7	5,690	99.7	8.31	1
01667	Sodium	7440-23-5	93.3 J	99.7	16.6	1
06969	Tin	7440-31-5	3.27 J	9.97	0.219	1
06970	Titanium	7440-32-6	974	4.98	0.847	5
06971	Vanadium	7440-62-2	49.1	0.997	0.130	1
06972	Zinc	7440-66-6	70.7	3.99	0.199	1
10146	Zirconium	7440-67-7	3.86 J	4.98	0.837	1
		SW-846 6020A	mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	0.416	0.399	0.0997	2
06142	Silver	7440-22-4	0.0273 J	0.199	0.0259	2
06144	Strontium	7440-24-6	80.9	0.399	0.0678	2
06145	Thallium	7440-28-0	0.296	0.199	0.0299	2
		SW-846 7471B	mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.0192	0.0167	0.0100	1
Wet Chemistry						
		SW-846 9045D modified	Std. Units	Std. Units	Std. Units	
00394	15a pH by 9045D The pH was measured in water at 21.8 C.	n.a.	7.55	0.0100	0.0100	1
Wet Chemistry						
		EPA 160.3 modified	%	%	%	
11624	14a Moisture Content by 160.3 Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.	n.a.	2.6	0.10	0.10	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-600-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7162023
LL Group # 1411680
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/14/2013 08:25 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/15/2013 09:05
Reported: 08/30/2013 13:38

60000 SDG#: PH091-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
Dioxins/Furans			ng/kg	ng/kg	ng/kg	
EPA 1613B						
11031	2378-TCDD	1746-01-6	0.986 U	0.986	0.0652	1
11031	12378-PeCDD	40321-76-4	0.213 JBQ	4.93	0.0576	1
11031	123478-HxCDD	39227-28-6	0.0772 JQ	4.93	0.0448	1
11031	123678-HxCDD	57653-85-7	0.163 JQ	4.93	0.0500	1
11031	123789-HxCDD	19408-74-3	0.169 JQ	4.93	0.0469	1
11031	1234678-HpCDD	35822-46-9	2.12 JB	4.93	0.0496	1
11031	OCDD	3268-87-9	15.7 B	9.86	0.0337	1
11031	2378-TCDF	51207-31-9	0.109 JQ	0.986	0.0701	1
11031	12378-PeCDF	57117-41-6	0.356 J	4.93	0.0419	1
11031	23478-PeCDF	57117-31-4	0.325 JB	4.93	0.0443	1
11031	123478-HxCDF	70648-26-9	0.196 JBQ	4.93	0.0372	1
11031	123678-HxCDF	57117-44-9	0.155 JBQ	4.93	0.0318	1
11031	123789-HxCDF	72918-21-9	0.0570 JQ	4.93	0.0419	1
11031	234678-HxCDF	60851-34-5	0.208 J	4.93	0.0334	1
11031	1234678-HpCDF	67562-39-4	0.447 JB	4.93	0.0224	1
11031	1234789-HpCDF	55673-89-7	0.137 JBQ	4.93	0.0482	1
11031	OCDF	39001-02-0	0.780 JB	9.86	0.0543	1

Toxic Equivalents		EPA 1613B	ng/kg	ng/kg	ng/kg	
11031	TEQ WHO 2005 - EDLx0.0	n.a.	0.160			1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	68	25 - 164
13C12-12378-PeCDD	82	25 - 181
13C12-123478-HxCDD	79	32 - 141
13C12-123678-HxCDD	81	28 - 130
13C12-123789-HxCDD	83	28 - 130
13C12-1234678-HpCDD	103	23 - 140
13C12-OCDD	97	17 - 157
13C12-2378-TCDF	66	24 - 169
13C12-12378-PeCDF	89	24 - 185
13C12-23478-PeCDF	78	21 - 178
13C12-123478-HxCDF	67	26 - 152
13C12-123678-HxCDF	79	26 - 123
13C12-234678-HxCDF	74	28 - 136
13C12-123789-HxCDF	78	29 - 147
13C12-1234678-HpCDF	118	28 - 143
13C12-1234789-HpCDF	74	26 - 138
13C12-OCDF	64	17 - 157

Dioxins/Furans Data Qualifiers:

- B Detected in Method Blank
- U Undetected
- J Estimated concentration between Estimated Detection Limit and Minimum Level
- E Exceeds calibration range
- C Confirmed quantitation on secondary GC column
- Q EMPC - Estimated Maximum Possible Concentration

*=This limit was used in the evaluation of the final result

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Sample Description: SL-600-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7162023
LL Group # 1411680
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/14/2013 08:25 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/15/2013 09:05

Reported: 08/30/2013 13:38

60000 SDG#: PH091-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
F	Interference is present					
S	Saturation of detection signal					

*=This limit was used in the evaluation of the final result

Sample Description: SL-600-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7162023
LL Group # 1411680
Account # 13013

Project Name: SSFL Phase 3 Sampling

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Submitted: 08/15/2013 09:05
Reported: 08/30/2013 13:38

60000 SDG#: PH091-03

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13232SLB026	08/23/2013 08:33	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	13232SLB026	08/20/2013 16:00	David S Schrum	1
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132330010A	08/23/2013 14:28	Jessica L Miller	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132330010A	08/21/2013 15:30	Sally L Appleyard	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132340019A	08/23/2013 21:12	Heather E Williams	1
12959	EFH soil ext. (microwave)	SW-846 3546	1	132340019A	08/22/2013 16:30	JoElla L Rice	1
11031	23a Dioxin/Furan by EPA 1613B	EPA 1613B	1	13234002	08/28/2013 09:38	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	13234002	08/22/2013 12:30	Deborah M Zimmerman	1
01643	Aluminum	SW-846 6010C	1	132330637001	08/25/2013 13:01	Katlin N Cataldi	1
06944	Antimony	SW-846 6010C	1	132330637001	08/25/2013 13:01	Katlin N Cataldi	1
06935	Arsenic	SW-846 6010C	1	132330637001	08/25/2013 13:01	Katlin N Cataldi	1
06946	Barium	SW-846 6010C	1	132330637001	08/25/2013 13:01	Katlin N Cataldi	1
06947	Beryllium	SW-846 6010C	1	132330637001	08/25/2013 13:01	Katlin N Cataldi	1
07914	Boron	SW-846 6010C	1	132330637001	08/25/2013 13:01	Katlin N Cataldi	1
06949	Cadmium	SW-846 6010C	1	132330637001	08/25/2013 13:01	Katlin N Cataldi	1
01650	Calcium	SW-846 6010C	1	132330637001	08/26/2013 10:00	Eric L Eby	5
06951	Chromium	SW-846 6010C	1	132330637001	08/25/2013 13:01	Katlin N Cataldi	1
06952	Cobalt	SW-846 6010C	1	132330637001	08/25/2013 13:01	Katlin N Cataldi	1
06953	Copper	SW-846 6010C	1	132330637001	08/25/2013 13:01	Katlin N Cataldi	1
01654	Iron	SW-846 6010C	1	132330637001	08/25/2013 13:01	Katlin N Cataldi	1
06955	Lead	SW-846 6010C	1	132330637001	08/25/2013 13:01	Katlin N Cataldi	1
01656	Lithium	SW-846 6010C	1	132330637001	08/25/2013 13:01	Katlin N Cataldi	1
01657	Magnesium	SW-846 6010C	1	132330637001	08/25/2013 13:01	Katlin N Cataldi	1
06958	Manganese	SW-846 6010C	1	132330637001	08/25/2013 13:01	Katlin N Cataldi	1
06960	Molybdenum	SW-846 6010C	1	132330637001	08/25/2013 13:01	Katlin N Cataldi	1
06961	Nickel	SW-846 6010C	1	132330637001	08/25/2013 13:01	Katlin N Cataldi	1
10145	Phosphorus	SW-846 6010C	1	132330637001	08/25/2013 13:01	Katlin N Cataldi	1
01662	Potassium	SW-846 6010C	1	132330637001	08/25/2013 13:01	Katlin N Cataldi	1
01667	Sodium	SW-846 6010C	1	132330637001	08/25/2013 13:01	Katlin N Cataldi	1
06969	Tin	SW-846 6010C	1	132330637001	08/25/2013 13:01	Katlin N Cataldi	1
06970	Titanium	SW-846 6010C	1	132330637001	08/26/2013 10:00	Eric L Eby	5
06971	Vanadium	SW-846 6010C	1	132330637001	08/25/2013 13:01	Katlin N Cataldi	1
06972	Zinc	SW-846 6010C	1	132330637001	08/25/2013 13:01	Katlin N Cataldi	1
10146	Zirconium	SW-846 6010C	1	132330637001	08/25/2013 13:01	Katlin N Cataldi	1
06141	Selenium	SW-846 6020A	1	132330637001B	08/22/2013 23:58	David K Beck	2
06142	Silver	SW-846 6020A	1	132330637001A	08/22/2013 23:58	David K Beck	2
06144	Strontium	SW-846 6020A	1	132330637001A	08/22/2013 23:58	David K Beck	2
06145	Thallium	SW-846 6020A	1	132330637001A	08/22/2013 23:58	David K Beck	2

*=This limit was used in the evaluation of the final result

Sample Description: SL-600-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7162023
LL Group # 1411680
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/14/2013 08:25 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/15/2013 09:05

Reported: 08/30/2013 13:38

60000 SDG#: PH091-03

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00159	3a Mercury 7471A	SW-846 7471B	1	132320638002	08/22/2013 10:03	Damary Valentin	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132330637001	08/21/2013 22:52	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132320638002	08/21/2013 12:10	Denise K Connors	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13227039402A	08/15/2013 21:20	Luz M Groff	1
11624	14a Moisture Content by 160.3	EPA 160.3 modified	1	13235162401A	08/24/2013 00:12	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-600-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7162024
LL Group # 1411680
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/14/2013 08:40 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/15/2013 09:05
Reported: 08/30/2013 13:38

60040 SDG#: PH091-04

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	1.8 U	1.8	0.73	1
12969	Acenaphthylene	208-96-8	1.8 U	1.8	0.37	1
12969	Anthracene	120-12-7	1.8 U	1.8	0.37	1
12969	Benzo(a)anthracene	56-55-3	1.8 U	1.8	0.73	1
12969	Benzo(a)pyrene	50-32-8	1.8 U	1.8	0.73	1
12969	Benzo(b)fluoranthene	205-99-2	1.8 U	1.8	0.73	1
12969	Benzo(e)pyrene	192-97-2	19 U	19	3.7	1
12969	Benzo(g,h,i)perylene	191-24-2	1.8 U	1.8	0.73	1
12969	Benzo(k)fluoranthene	207-08-9	1.8 U	1.8	0.73	1
12969	Butylbenzylphthalate	85-68-7	20 U	20	6.6	1
12969	Di-n-butylphthalate	84-74-2	20 U	20	6.6	1
12969	Chrysene	218-01-9	0.44 J	1.8	0.37	1
12969	Dibenz(a,h)anthracene	53-70-3	1.8 U	1.8	0.73	1
12969	Diethylphthalate	84-66-2	20 U	20	6.6	1
12969	Dimethylphthalate	131-11-3	20 U	20	6.6	1
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	7.3 J	20	6.6	1
12969	Fluoranthene	206-44-0	1.8 U	1.8	0.73	1
12969	Fluorene	86-73-7	1.8 U	1.8	0.73	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	1.8 U	1.8	0.73	1
12969	1-Methylnaphthalene	90-12-0	0.89 J	1.8	0.73	1
12969	2-Methylnaphthalene	91-57-6	0.83 J	1.8	0.73	1
12969	Naphthalene	91-20-3	1.7 J	1.8	0.73	1
12969	N-Nitrosodimethylamine	62-75-9	1.8 U	1.8	0.73	1
12969	Di-n-octylphthalate	117-84-0	20 U	20	6.6	1
12969	Phenanthrene	85-01-8	1.8 U	1.8	0.73	1
12969	Pyrene	129-00-0	1.8 U	1.8	0.73	1
GC Volatiles	TPH GRO SW-846 8015B mod	mg/kg	mg/kg	mg/kg		
05551	11a TPH by EPA 8015B GRO	n.a.	1.3 U	1.3	0.3	28.54
Pesticides/PCBs	SW-846 8082A	ug/kg	ug/kg	ug/kg		
10592	Aroclor 5432	63496-31-1	36 U	36	11	1
10592	Aroclor 5442	12642-23-8	36 U	36	11	1
10592	Aroclor 5460	11126-42-4	36 U	36	11	1
10592	PCB-1016	12674-11-2	19 U	19	3.6	1
10592	PCB-1221	11104-28-2	19 U	19	5.6	1
10592	PCB-1232	11141-16-5	19 U	19	4.5	1
10592	PCB-1242	53469-21-9	19 U	19	4.5	1
10592	PCB-1248	12672-29-6	19 U	19	3.6	1
10592	PCB-1254	11097-69-1	19 U	19	4.8	1
10592	PCB-1260	11096-82-5	19 U	19	4.3	1
10592	PCB-1262	37324-23-5	19 U	19	3.6	1
10592	PCB-1268	11100-14-4	19 U	19	3.6	1
GC Petroleum	SW-846 8015B modified	mg/kg	mg/kg	mg/kg		
Hydrocarbons						
12952	EFH (C12-C14)	n.a.	5.5 U	5.5	2.2	1
12952	EFH (C15-C20)	n.a.	5.5 U	5.5	2.2	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-600-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7162024
LL Group # 1411680
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/14/2013 08:40 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/15/2013 09:05
Reported: 08/30/2013 13:38

60040 SDG#: PH091-04

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC Petroleum						
Hydrocarbons						
		SW-846 8015B modified	mg/kg	mg/kg	mg/kg	
12952	EFH (C21-C30)	n.a.	6.3	5.5	2.2	1
12952	EFH (C30-C40)	n.a.	11	11	4.4	1
12952	EFH (C8-C11)	n.a.	5.5 U	5.5	2.2	1
Metals						
		SW-846 6010C	mg/kg	mg/kg	mg/kg	
01643	Aluminum	7429-90-5	24,100	42.6	7.68	1
06944	Antimony	7440-36-0	4.26 U	4.26	0.789	1
06935	Arsenic	7440-38-2	5.85	4.26	0.746	1
06946	Barium	7440-39-3	102	1.07	0.0352	1
06947	Beryllium	7440-41-7	0.756 J	1.07	0.0714	1
07914	Boron	7440-42-8	14.3	10.7	0.895	1
06949	Cadmium	7440-43-9	0.633 J	1.07	0.0810	1
01650	Calcium	7440-70-2	68,100	107	17.8	5
06951	Chromium	7440-47-3	33.0	3.20	0.171	1
06952	Cobalt	7440-48-4	9.33	1.07	0.106	1
06953	Copper	7440-50-8	19.0	2.13	0.309	1
01654	Iron	7439-89-6	28,500	42.6	3.86	1
06955	Lead	7439-92-1	11.1	3.20	0.533	1
01656	Lithium	7439-93-2	25.3	4.3	0.36	1
01657	Magnesium	7439-95-4	7,250	10.7	1.78	1
06958	Manganese	7439-96-5	477	1.07	0.0885	1
06960	Molybdenum	7439-98-7	0.355 J	2.13	0.181	1
06961	Nickel	7440-02-0	19.4	2.13	0.139	1
10145	Phosphorus	7723-14-0	589	10.7	3.08	1
01662	Potassium	7440-09-7	4,490	107	8.89	1
01667	Sodium	7440-23-5	99.9 J	107	17.8	1
06969	Tin	7440-31-5	3.39 J	10.7	0.234	1
06970	Titanium	7440-32-6	1,070	5.33	0.906	5
06971	Vanadium	7440-62-2	55.5	1.07	0.139	1
06972	Zinc	7440-66-6	68.3	4.26	0.213	1
10146	Zirconium	7440-67-7	4.65 J	5.33	0.895	1
SW-846 6020A						
			mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	0.225 J	0.426	0.107	2
06142	Silver	7440-22-4	0.0339 J	0.213	0.0277	2
06144	Strontium	7440-24-6	79.6	0.426	0.0725	2
06145	Thallium	7440-28-0	0.309	0.213	0.0320	2
SW-846 7471B						
			mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.0181 U	0.0181	0.0109	1
Wet Chemistry						
		SW-846 9045D modified	Std. Units	Std. Units	Std. Units	
00394	15a pH by 9045D The pH was measured in water at 22.2 C.	n.a.	7.88	0.0100	0.0100	1
Wet Chemistry						
		EPA 160.3 modified	%	%	%	
11624	14a Moisture Content by 160.3	n.a.	8.9	0.10	0.10	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-600-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7162024
LL Group # 1411680
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/14/2013 08:40 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/15/2013 09:05

Reported: 08/30/2013 13:38

60040 SDG#: PH091-04

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Wet Chemistry	EPA 160.3 modified		%	%	%	
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

*=This limit was used in the evaluation of the final result

Sample Description: SL-600-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7162024
LL Group # 1411680
Account # 13013

Project Name: SSFL Phase 3 Sampling

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Submitted: 08/15/2013 09:05
Reported: 08/30/2013 13:38

60040 SDG#: PH091-04

CAT No.	Analysis Name	CAS Number	Dry Result		Dry MRL*	Dry EDL	Dilution Factor
Dioxins/Furans			EPA 1613B		ng/kg	ng/kg	
11031	2378-TCDD	1746-01-6	1.05	U	1.05	0.0532	1
11031	12378-PeCDD	40321-76-4	5.26	U	5.26	0.0582	1
11031	123478-HxCDD	39227-28-6	0.0774	JQ	5.26	0.0291	1
11031	123678-HxCDD	57653-85-7	0.0531	JQ	5.26	0.0313	1
11031	123789-HxCDD	19408-74-3	0.0629	J	5.26	0.0327	1
11031	1234678-HpCDD	35822-46-9	0.319	JBQ	5.26	0.0333	1
11031	OCDD	3268-87-9	2.35	JB	10.5	0.0281	1
11031	2378-TCDF	51207-31-9	0.0724	J	1.05	0.0604	1
11031	12378-PeCDF	57117-41-6	0.105	J	5.26	0.0325	1
11031	23478-PeCDF	57117-31-4	0.0800	JBQ	5.26	0.0341	1
11031	123478-HxCDF	70648-26-9	0.105	JB	5.26	0.0262	1
11031	123678-HxCDF	57117-44-9	0.0536	JB	5.26	0.0212	1
11031	123789-HxCDF	72918-21-9	0.0774	JQ	5.26	0.0303	1
11031	234678-HxCDF	60851-34-5	0.0537	JQ	5.26	0.0238	1
11031	1234678-HpCDF	67562-39-4	0.0667	JB	5.26	0.0113	1
11031	1234789-HpCDF	55673-89-7	0.0420	JBQ	5.26	0.0273	1
11031	OCDF	39001-02-0	0.390	JB	10.5	0.0562	1

Toxic Equivalents		EPA 1613B	ng/kg	ng/kg	ng/kg	
11031	TEQ WHO 2005 - EDLx0.0	n.a.	0.0340			1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	56	25 - 164
13C12-12378-PeCDD	65	25 - 181
13C12-123478-HxCDD	69	32 - 141
13C12-123678-HxCDD	73	28 - 130
13C12-123789-HxCDD	72	28 - 130
13C12-1234678-HpCDD	77	23 - 140
13C12-OCDD	83	17 - 157
13C12-2378-TCDF	53	24 - 169
13C12-12378-PeCDF	67	24 - 185
13C12-23478-PeCDF	58	21 - 178
13C12-123478-HxCDF	57	26 - 152
13C12-123678-HxCDF	72	26 - 123
13C12-234678-HxCDF	63	28 - 136
13C12-123789-HxCDF	60	29 - 147
13C12-1234678-HpCDF	93	28 - 143
13C12-1234789-HpCDF	49	26 - 138
13C12-OCDF	50	17 - 157

Dioxins/Furans Data Qualifiers:

- B Detected in Method Blank
- U Undetected
- J Estimated concentration between Estimated Detection Limit and Minimum Level
- E Exceeds calibration range
- C Confirmed quantitation on secondary GC column
- Q EMPC - Estimated Maximum Possible Concentration

*=This limit was used in the evaluation of the final result

Sample Description: SL-600-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7162024
LL Group # 1411680
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Project Name: SSFL Phase 3 Sampling

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Reported: 08/30/2013 13:38

60040 SDG#: PH091-04

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
F	Interference is present					
S	Saturation of detection signal					

*=This limit was used in the evaluation of the final result

Sample Description: SL-600-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7162024
LL Group # 1411680
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/14/2013 08:40 by SM

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Submitted: 08/15/2013 09:05
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60040 SDG#: PH091-04

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13232SLB026	08/23/2013 09:06	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	13232SLB026	08/20/2013 16:00	David S Schrum	1
05551	11a TPH by EPA 8015B GRO	TPH GRO SW-846 8015B mod	1	13227A16A	08/16/2013 17:59	Laura M Krieger	28.54
06130	GC - 5 g HL Encore Prep	SW-846 5035A	1	201322732053	08/15/2013 16:23	Mitchell R Washel	n.a.
06130	GC - 5 g HL Encore Prep	SW-846 5035A	2	201322732053	08/15/2013 16:23	Mitchell R Washel	n.a.
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132330010A	08/23/2013 14:46	Jessica L Miller	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132330010A	08/21/2013 15:30	Sally L Appleyard	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132340019A	08/23/2013 20:10	Heather E Williams	1
12959	EPH soil ext. (microwave)	SW-846 3546	1	132340019A	08/22/2013 16:30	JoElla L Rice	1
11031	23a Dioxin/Furan by EPA 1613B	EPA 1613B	1	13234002	08/28/2013 10:34	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	13234002	08/22/2013 12:30	Deborah M Zimmerman	1
01643	Aluminum	SW-846 6010C	1	132330637001	08/25/2013 13:05	Katlin N Cataldi	1
06944	Antimony	SW-846 6010C	1	132330637001	08/25/2013 13:05	Katlin N Cataldi	1
06935	Arsenic	SW-846 6010C	1	132330637001	08/25/2013 13:05	Katlin N Cataldi	1
06946	Barium	SW-846 6010C	1	132330637001	08/25/2013 13:05	Katlin N Cataldi	1
06947	Beryllium	SW-846 6010C	1	132330637001	08/25/2013 13:05	Katlin N Cataldi	1
07914	Boron	SW-846 6010C	1	132330637001	08/25/2013 13:05	Katlin N Cataldi	1
06949	Cadmium	SW-846 6010C	1	132330637001	08/25/2013 13:05	Katlin N Cataldi	1
01650	Calcium	SW-846 6010C	1	132330637001	08/26/2013 10:03	Eric L Eby	5
06951	Chromium	SW-846 6010C	1	132330637001	08/25/2013 13:05	Katlin N Cataldi	1
06952	Cobalt	SW-846 6010C	1	132330637001	08/25/2013 13:05	Katlin N Cataldi	1
06953	Copper	SW-846 6010C	1	132330637001	08/25/2013 13:05	Katlin N Cataldi	1
01654	Iron	SW-846 6010C	1	132330637001	08/25/2013 13:05	Katlin N Cataldi	1
06955	Lead	SW-846 6010C	1	132330637001	08/25/2013 13:05	Katlin N Cataldi	1
01656	Lithium	SW-846 6010C	1	132330637001	08/25/2013 13:05	Katlin N Cataldi	1
01657	Magnesium	SW-846 6010C	1	132330637001	08/25/2013 13:05	Katlin N Cataldi	1
06958	Manganese	SW-846 6010C	1	132330637001	08/25/2013 13:05	Katlin N Cataldi	1
06960	Molybdenum	SW-846 6010C	1	132330637001	08/25/2013 13:05	Katlin N Cataldi	1
06961	Nickel	SW-846 6010C	1	132330637001	08/25/2013 13:05	Katlin N Cataldi	1
10145	Phosphorus	SW-846 6010C	1	132330637001	08/25/2013 13:05	Katlin N Cataldi	1
01662	Potassium	SW-846 6010C	1	132330637001	08/25/2013 13:05	Katlin N Cataldi	1
01667	Sodium	SW-846 6010C	1	132330637001	08/25/2013 13:05	Katlin N Cataldi	1
06969	Tin	SW-846 6010C	1	132330637001	08/25/2013 13:05	Katlin N Cataldi	1
06970	Titanium	SW-846 6010C	1	132330637001	08/26/2013 10:03	Eric L Eby	5
06971	Vanadium	SW-846 6010C	1	132330637001	08/25/2013 13:05	Katlin N Cataldi	1
06972	Zinc	SW-846 6010C	1	132330637001	08/25/2013 13:05	Katlin N Cataldi	1
10146	Zirconium	SW-846 6010C	1	132330637001	08/25/2013 13:05	Katlin N Cataldi	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-600-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7162024
LL Group # 1411680
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/14/2013 08:40 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/15/2013 09:05

Reported: 08/30/2013 13:38

60040 SDG#: PH091-04

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
06141	Selenium	SW-846 6020A	1	132330637001B	08/23/2013	00:00	David K Beck	2
06142	Silver	SW-846 6020A	1	132330637001A	08/23/2013	00:00	David K Beck	2
06144	Strontium	SW-846 6020A	1	132330637001A	08/23/2013	00:00	David K Beck	2
06145	Thallium	SW-846 6020A	1	132330637001A	08/23/2013	00:00	David K Beck	2
00159	3a Mercury 7471A	SW-846 7471B	1	132320638002	08/22/2013	10:05	Damary Valentin	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132330637001	08/21/2013	22:52	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132320638002	08/21/2013	12:10	Denise K Conners	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13227039402A	08/15/2013	21:20	Luz M Groff	1
11624	14a Moisture Content by 160.3	EPA 160.3 modified	1	13235162401A	08/24/2013	00:12	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-602-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7162025
LL Group # 1411680
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/14/2013 10:15 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/15/2013 09:05
Reported: 08/30/2013 13:38

60200 SDG#: PH091-05

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	1.7 U	1.7	0.69	1
12969	Acenaphthylene	208-96-8	1.7 U	1.7	0.34	1
12969	Anthracene	120-12-7	0.42 J	1.7	0.34	1
12969	Benzo(a)anthracene	56-55-3	1.9	1.7	0.69	1
12969	Benzo(a)pyrene	50-32-8	1.8	1.7	0.69	1
12969	Benzo(b)fluoranthene	205-99-2	4.4	1.7	0.69	1
12969	Benzo(e)pyrene	192-97-2	18 U	18	3.4	1
12969	Benzo(g,h,i)perylene	191-24-2	1.3 J	1.7	0.69	1
12969	Benzo(k)fluoranthene	207-08-9	1.3 J	1.7	0.69	1
12969	Butylbenzylphthalate	85-68-7	16 J	19	6.2	1
12969	Di-n-butylphthalate	84-74-2	19 U	19	6.2	1
12969	Chrysene	218-01-9	3.6	1.7	0.34	1
12969	Dibenz(a,h)anthracene	53-70-3	1.7 U	1.7	0.69	1
12969	Diethylphthalate	84-66-2	19 U	19	6.2	1
12969	Dimethylphthalate	131-11-3	19 U	19	6.2	1
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	9.2 J	19	6.2	1
12969	Fluoranthene	206-44-0	3.8	1.7	0.69	1
12969	Fluorene	86-73-7	1.7 U	1.7	0.69	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	1.2 J	1.7	0.69	1
12969	1-Methylnaphthalene	90-12-0	1.9	1.7	0.69	1
12969	2-Methylnaphthalene	91-57-6	2.5	1.7	0.69	1
12969	Naphthalene	91-20-3	5.2	1.7	0.69	1
12969	N-Nitrosodimethylamine	62-75-9	1.7 U	1.7	0.69	1
12969	Di-n-octylphthalate	117-84-0	19 U	19	6.2	1
12969	Phenanthrene	85-01-8	3.8	1.7	0.69	1
12969	Pyrene	129-00-0	3.1	1.7	0.69	1
Pesticides/PCBs	SW-846 8082A		ug/kg	ug/kg	ug/kg	
10592	Aroclor 5432	63496-31-1	34 U	34	10	1
10592	Aroclor 5442	12642-23-8	34 U	34	10	1
10592	Aroclor 5460	11126-42-4	34 U	34	10	1
10592	PCB-1016	12674-11-2	18 U	18	3.4	1
10592	PCB-1221	11104-28-2	18 U	18	5.3	1
10592	PCB-1232	11141-16-5	18 U	18	4.2	1
10592	PCB-1242	53469-21-9	18 U	18	4.2	1
10592	PCB-1248	12672-29-6	18 U	18	3.4	1
10592	PCB-1254	11097-69-1	18 U	18	4.5	1
10592	PCB-1260	11096-82-5	18 U	18	4.0	1
10592	PCB-1262	37324-23-5	18 U	18	3.4	1
10592	PCB-1268	11100-14-4	18 U	18	3.4	1
GC Petroleum	SW-846 8015B modified		mg/kg	mg/kg	mg/kg	
Hydrocarbons						
12952	EFH (C12-C14)	n.a.	5.2 U	5.2	2.1	1
12952	EFH (C15-C20)	n.a.	3.6 J	5.2	2.1	1
12952	EFH (C21-C30)	n.a.	28	5.2	2.1	1
12952	EFH (C30-C40)	n.a.	55	10	4.1	1
12952	EFH (C8-C11)	n.a.	5.2 U	5.2	2.1	1
Metals	SW-846 6010C		mg/kg	mg/kg	mg/kg	

*=This limit was used in the evaluation of the final result

Sample Description: SL-602-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7162025
LL Group # 1411680
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/14/2013 10:15 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/15/2013 09:05
Reported: 08/30/2013 13:38

60200 SDG#: PH091-05

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals						
		SW-846 6010C	mg/kg	mg/kg	mg/kg	
01643	Aluminum	7429-90-5	19,200	41.3	7.45	1
06944	Antimony	7440-36-0	0.811 J	4.13	0.764	1
06935	Arsenic	7440-38-2	5.96	4.13	0.723	1
06946	Barium	7440-39-3	86.6	1.03	0.0341	1
06947	Beryllium	7440-41-7	0.638 J	1.03	0.0692	1
07914	Boron	7440-42-8	17.1	10.3	0.868	1
06949	Cadmium	7440-43-9	0.697 J	1.03	0.0785	1
01650	Calcium	7440-70-2	75,300	103	17.3	5
06951	Chromium	7440-47-3	27.4	3.10	0.165	1
06952	Cobalt	7440-48-4	8.91	1.03	0.102	1
06953	Copper	7440-50-8	20.1	2.07	0.300	1
01654	Iron	7439-89-6	25,500	41.3	3.74	1
06955	Lead	7439-92-1	16.7	3.10	0.517	1
01656	Lithium	7439-93-2	18.5	4.1	0.35	1
01657	Magnesium	7439-95-4	6,780	10.3	1.73	1
06958	Manganese	7439-96-5	437	1.03	0.0857	1
06960	Molybdenum	7439-98-7	0.386 J	2.07	0.176	1
06961	Nickel	7440-02-0	17.2	2.07	0.134	1
10145	Phosphorus	7723-14-0	730	10.3	2.99	1
01662	Potassium	7440-09-7	6,180	103	8.62	1
01667	Sodium	7440-23-5	101 J	103	17.3	1
06969	Tin	7440-31-5	3.05 J	10.3	0.227	1
06970	Titanium	7440-32-6	917	1.03	0.176	1
06971	Vanadium	7440-62-2	45.9	1.03	0.134	1
06972	Zinc	7440-66-6	73.6	4.13	0.207	1
10146	Zirconium	7440-67-7	4.34 J	5.17	0.868	1
		SW-846 6020A	mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	0.301 J	0.413	0.103	2
06142	Silver	7440-22-4	0.0351 J	0.207	0.0269	2
06144	Strontium	7440-24-6	98.6	1.03	0.176	5
06145	Thallium	7440-28-0	0.240	0.207	0.0310	2
		SW-846 7471B	mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.0251	0.0163	0.0098	1
Wet Chemistry						
		SW-846 9045D modified	Std. Units	Std. Units	Std. Units	
00394	15a pH by 9045D The pH was measured in water at 22 C.	n.a.	7.97	0.0100	0.0100	1
Wet Chemistry						
		EPA 160.3 modified	%	%	%	
11624	14a Moisture Content by 160.3 Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.	n.a.	3.2	0.10	0.10	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-602-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7162025
LL Group # 1411680
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/14/2013 10:15 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/15/2013 09:05
Reported: 08/30/2013 13:38

60200 SDG#: PH091-05

CAT No.	Analysis Name	CAS Number	Dry Result		Dry MRL*	Dry EDL	Dilution Factor
Dioxins/Furans			EPA 1613B		ng/kg	ng/kg	
11031	2378-TCDD	1746-01-6	1.00	U	1.00	0.0629	1
11031	12378-PeCDD	40321-76-4	5.01	U	5.01	0.0605	1
11031	123478-HxCDD	39227-28-6	0.112	JQ	5.01	0.0457	1
11031	123678-HxCDD	57653-85-7	0.295	JQ	5.01	0.0527	1
11031	123789-HxCDD	19408-74-3	0.161	JQ	5.01	0.0528	1
11031	1234678-HpCDD	35822-46-9	6.64	B	5.01	0.0506	1
11031	OCDD	3268-87-9	88.3	B	10.0	0.0444	1
11031	2378-TCDF	51207-31-9	0.357	J	1.00	0.115	1
11031	12378-PeCDF	57117-41-6	0.511	J	5.01	0.0518	1
11031	23478-PeCDF	57117-31-4	0.226	JB	5.01	0.0579	1
11031	123478-HxCDF	70648-26-9	0.200	JBQ	5.01	0.0541	1
11031	123678-HxCDF	57117-44-9	0.195	JB	5.01	0.0450	1
11031	123789-HxCDF	72918-21-9	5.01	U	5.01	0.0723	1
11031	234678-HxCDF	60851-34-5	0.297	JQ	5.01	0.0505	1
11031	1234678-HpCDF	67562-39-4	2.21	JB	5.01	0.0364	1
11031	1234789-HpCDF	55673-89-7	0.273	JB	5.01	0.0948	1
11031	OCDF	39001-02-0	7.14	JB	10.0	0.0720	1

Toxic Equivalents		EPA 1613B	ng/kg	ng/kg	ng/kg	
11031	TEQ WHO 2005 - EDLx0.0	n.a.	0.258			1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	65	25 - 164
13C12-12378-PeCDD	81	25 - 181
13C12-123478-HxCDD	76	32 - 141
13C12-123678-HxCDD	79	28 - 130
13C12-123789-HxCDD	79	28 - 130
13C12-1234678-HpCDD	104	23 - 140
13C12-OCDD	91	17 - 157
13C12-2378-TCDF	63	24 - 169
13C12-12378-PeCDF	91	24 - 185
13C12-23478-PeCDF	73	21 - 178
13C12-123478-HxCDF	62	26 - 152
13C12-123678-HxCDF	78	26 - 123
13C12-234678-HxCDF	67	28 - 136
13C12-123789-HxCDF	59	29 - 147
13C12-1234678-HpCDF	116	28 - 143
13C12-1234789-HpCDF	62	26 - 138
13C12-OCDF	53	17 - 157

Dioxins/Furans Data Qualifiers:

- B Detected in Method Blank
- U Undetected
- J Estimated concentration between Estimated Detection Limit and Minimum Level
- E Exceeds calibration range
- C Confirmed quantitation on secondary GC column
- Q EMPC - Estimated Maximum Possible Concentration

*=This limit was used in the evaluation of the final result

Sample Description: SL-602-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7162025
LL Group # 1411680
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/14/2013 10:15 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/15/2013 09:05

Reported: 08/30/2013 13:38

60200 SDG#: PH091-05

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
F	Interference is present					
S	Saturation of detection signal					

*=This limit was used in the evaluation of the final result

Sample Description: SL-602-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7162025
LL Group # 1411680
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/14/2013 10:15 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/15/2013 09:05
Reported: 08/30/2013 13:38

60200 SDG#: PH091-05

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13232SLB026	08/23/2013 09:40	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	13232SLB026	08/20/2013 16:00	David S Schrum	1
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132330010A	08/23/2013 15:05	Jessica L Miller	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132330010A	08/21/2013 15:30	Sally L Appleyard	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132340019A	08/23/2013 21:33	Heather E Williams	1
12959	EFH soil ext. (microwave)	SW-846 3546	1	132340019A	08/22/2013 16:30	JoElla L Rice	1
11031	23a Dioxin/Furan by EPA 1613B	EPA 1613B	1	13234002	08/28/2013 11:31	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	13234002	08/22/2013 12:30	Deborah M Zimmerman	1
01643	Aluminum	SW-846 6010C	1	132330637001	08/25/2013 12:37	Katlin N Cataldi	1
06944	Antimony	SW-846 6010C	1	132330637001	08/25/2013 12:37	Katlin N Cataldi	1
06935	Arsenic	SW-846 6010C	1	132330637001	08/25/2013 12:37	Katlin N Cataldi	1
06946	Barium	SW-846 6010C	1	132330637001	08/25/2013 12:37	Katlin N Cataldi	1
06947	Beryllium	SW-846 6010C	1	132330637001	08/25/2013 12:37	Katlin N Cataldi	1
07914	Boron	SW-846 6010C	1	132330637001	08/25/2013 12:37	Katlin N Cataldi	1
06949	Cadmium	SW-846 6010C	1	132330637001	08/25/2013 12:37	Katlin N Cataldi	1
01650	Calcium	SW-846 6010C	1	132330637001	08/26/2013 09:37	Eric L Eby	5
06951	Chromium	SW-846 6010C	1	132330637001	08/25/2013 12:37	Katlin N Cataldi	1
06952	Cobalt	SW-846 6010C	1	132330637001	08/25/2013 12:37	Katlin N Cataldi	1
06953	Copper	SW-846 6010C	1	132330637001	08/25/2013 12:37	Katlin N Cataldi	1
01654	Iron	SW-846 6010C	1	132330637001	08/25/2013 12:37	Katlin N Cataldi	1
06955	Lead	SW-846 6010C	1	132330637001	08/25/2013 12:37	Katlin N Cataldi	1
01656	Lithium	SW-846 6010C	1	132330637001	08/25/2013 12:37	Katlin N Cataldi	1
01657	Magnesium	SW-846 6010C	1	132330637001	08/25/2013 12:37	Katlin N Cataldi	1
06958	Manganese	SW-846 6010C	1	132330637001	08/25/2013 12:37	Katlin N Cataldi	1
06960	Molybdenum	SW-846 6010C	1	132330637001	08/25/2013 12:37	Katlin N Cataldi	1
06961	Nickel	SW-846 6010C	1	132330637001	08/25/2013 12:37	Katlin N Cataldi	1
10145	Phosphorus	SW-846 6010C	1	132330637001	08/25/2013 12:37	Katlin N Cataldi	1
01662	Potassium	SW-846 6010C	1	132330637001	08/25/2013 12:37	Katlin N Cataldi	1
01667	Sodium	SW-846 6010C	1	132330637001	08/25/2013 12:37	Katlin N Cataldi	1
06969	Tin	SW-846 6010C	1	132330637001	08/25/2013 12:37	Katlin N Cataldi	1
06970	Titanium	SW-846 6010C	1	132330637001	08/25/2013 12:37	Katlin N Cataldi	1
06971	Vanadium	SW-846 6010C	1	132330637001	08/25/2013 12:37	Katlin N Cataldi	1
06972	Zinc	SW-846 6010C	1	132330637001	08/25/2013 12:37	Katlin N Cataldi	1
10146	Zirconium	SW-846 6010C	1	132330637001	08/25/2013 12:37	Katlin N Cataldi	1
06141	Selenium	SW-846 6020A	1	132330637001B	08/22/2013 23:44	David K Beck	2
06142	Silver	SW-846 6020A	1	132330637001A	08/22/2013 23:44	David K Beck	2
06144	Strontium	SW-846 6020A	1	132330637001A	08/23/2013 22:49	David K Beck	5
06145	Thallium	SW-846 6020A	1	132330637001A	08/22/2013 23:44	David K Beck	2

*=This limit was used in the evaluation of the final result

Sample Description: SL-602-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7162025
LL Group # 1411680
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/14/2013 10:15 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/15/2013 09:05

Reported: 08/30/2013 13:38

60200 SDG#: PH091-05

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
00159	3a Mercury 7471A	SW-846 7471B	1	132320638002	08/22/2013	10:07	Damary Valentin	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132330637001	08/21/2013	22:52	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132320638002	08/21/2013	12:10	Denise K Connors	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13227039402A	08/15/2013	21:20	Luz M Groff	1
11624	14a Moisture Content by 160.3	EPA 160.3 modified	1	13235162401A	08/24/2013	00:12	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-602-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7162026
LL Group # 1411680
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/14/2013 10:40 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/15/2013 09:05
Reported: 08/30/2013 13:38

60240 SDG#: PH091-06

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	1.8 U	1.8	0.72	1
12969	Acenaphthylene	208-96-8	1.8 U	1.8	0.36	1
12969	Anthracene	120-12-7	1.8 U	1.8	0.36	1
12969	Benzo(a)anthracene	56-55-3	1.8 U	1.8	0.72	1
12969	Benzo(a)pyrene	50-32-8	1.8 U	1.8	0.72	1
12969	Benzo(b)fluoranthene	205-99-2	1.0 J	1.8	0.72	1
12969	Benzo(e)pyrene	192-97-2	18 U	18	3.6	1
12969	Benzo(g,h,i)perylene	191-24-2	1.8 U	1.8	0.72	1
12969	Benzo(k)fluoranthene	207-08-9	1.8 U	1.8	0.72	1
12969	Butylbenzylphthalate	85-68-7	19 U	19	6.5	1
12969	Di-n-butylphthalate	84-74-2	19 U	19	6.5	1
12969	Chrysene	218-01-9	1.2 J	1.8	0.36	1
12969	Dibenz(a,h)anthracene	53-70-3	1.8 U	1.8	0.72	1
12969	Diethylphthalate	84-66-2	19 U	19	6.5	1
12969	Dimethylphthalate	131-11-3	19 U	19	6.5	1
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	19 U	19	6.5	1
12969	Fluoranthene	206-44-0	0.88 J	1.8	0.72	1
12969	Fluorene	86-73-7	1.8 U	1.8	0.72	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	1.8 U	1.8	0.72	1
12969	1-Methylnaphthalene	90-12-0	1.8 J	1.8	0.72	1
12969	2-Methylnaphthalene	91-57-6	1.5 J	1.8	0.72	1
12969	Naphthalene	91-20-3	3.2 U	1.8	0.72	1
12969	N-Nitrosodimethylamine	62-75-9	1.8 U	1.8	0.72	1
12969	Di-n-octylphthalate	117-84-0	19 U	19	6.5	1
12969	Phenanthrene	85-01-8	1.9 U	1.8	0.72	1
12969	Pyrene	129-00-0	1.8 U	1.8	0.72	1
GC Volatiles	TPH GRO SW-846 8015B mod	mg/kg	mg/kg	mg/kg		
05551	11a TPH by EPA 8015B GRO	n.a.	1.2 U	1.2	0.2	26.71
Pesticides/PCBs	SW-846 8082A	ug/kg	ug/kg	ug/kg		
10592	Aroclor 5432	63496-31-1	36 U	36	11	1
10592	Aroclor 5442	12642-23-8	36 U	36	11	1
10592	Aroclor 5460	11126-42-4	36 U	36	11	1
10592	PCB-1016	12674-11-2	18 U	18	3.6	1
10592	PCB-1221	11104-28-2	18 U	18	5.5	1
10592	PCB-1232	11141-16-5	18 U	18	4.4	1
10592	PCB-1242	53469-21-9	18 U	18	4.4	1
10592	PCB-1248	12672-29-6	18 U	18	3.6	1
10592	PCB-1254	11097-69-1	18 U	18	4.8	1
10592	PCB-1260	11096-82-5	18 U	18	4.2	1
10592	PCB-1262	37324-23-5	18 U	18	3.6	1
10592	PCB-1268	11100-14-4	18 U	18	3.6	1
GC Petroleum	SW-846 8015B modified	mg/kg	mg/kg	mg/kg		
Hydrocarbons						
12952	EFH (C12-C14)	n.a.	5.4 U	5.4	2.2	1
12952	EFH (C15-C20)	n.a.	2.5 J	5.4	2.2	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-602-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7162026
LL Group # 1411680
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/14/2013 10:40 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/15/2013 09:05
Reported: 08/30/2013 13:38

60240 SDG#: PH091-06

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC Petroleum						
Hydrocarbons						
		SW-846 8015B modified	mg/kg	mg/kg	mg/kg	
12952	EFH (C21-C30)	n.a.	11	5.4	2.2	1
12952	EFH (C30-C40)	n.a.	33	11	4.3	1
12952	EFH (C8-C11)	n.a.	5.4 U	5.4	2.2	1
Metals						
		SW-846 6010C	mg/kg	mg/kg	mg/kg	
01643	Aluminum	7429-90-5	21,400	42.4	7.65	1
06944	Antimony	7440-36-0	4.24 U	4.24	0.785	1
06935	Arsenic	7440-38-2	6.20	4.24	0.743	1
06946	Barium	7440-39-3	83.2	1.06	0.0350	1
06947	Beryllium	7440-41-7	0.643 J	1.06	0.0711	1
07914	Boron	7440-42-8	14.2	10.6	0.891	1
06949	Cadmium	7440-43-9	0.625 J	1.06	0.0806	1
01650	Calcium	7440-70-2	107,000	106	17.7	5
06951	Chromium	7440-47-3	29.1	3.18	0.170	1
06952	Cobalt	7440-48-4	8.52	1.06	0.105	1
06953	Copper	7440-50-8	19.7	2.12	0.308	1
01654	Iron	7439-89-6	25,500	42.4	3.84	1
06955	Lead	7439-92-1	11.6	3.18	0.531	1
01656	Lithium	7439-93-2	22.5	4.2	0.36	1
01657	Magnesium	7439-95-4	7,110	10.6	1.77	1
06958	Manganese	7439-96-5	381	1.06	0.0881	1
06960	Molybdenum	7439-98-7	0.248 J	2.12	0.180	1
06961	Nickel	7440-02-0	16.8	2.12	0.138	1
10145	Phosphorus	7723-14-0	599	10.6	3.07	1
01662	Potassium	7440-09-7	4,650	106	8.85	1
01667	Sodium	7440-23-5	113	106	17.7	1
06969	Tin	7440-31-5	3.15 J	10.6	0.233	1
06970	Titanium	7440-32-6	1,020	5.31	0.902	5
06971	Vanadium	7440-62-2	50.2	1.06	0.138	1
06972	Zinc	7440-66-6	65.9	4.24	0.212	1
10146	Zirconium	7440-67-7	5.12 J	5.31	0.891	1
SW-846 6020A						
			mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	0.300 J	0.424	0.106	2
06142	Silver	7440-22-4	0.212 U	0.212	0.0276	2
06144	Strontium	7440-24-6	136	1.06	0.180	5
06145	Thallium	7440-28-0	0.258	0.212	0.0318	2
SW-846 7471B						
			mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.0168 U	0.0168	0.0101	1
Wet Chemistry						
		SW-846 9045D modified	Std. Units	Std. Units	Std. Units	
00394	15a pH by 9045D The pH was measured in water at 21.9 C.	n.a.	7.99	0.0100	0.0100	1
Wet Chemistry						
		EPA 160.3 modified	%	%	%	
11624	14a Moisture Content by 160.3	n.a.	7.6	0.10	0.10	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-602-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7162026
LL Group # 1411680
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/14/2013 10:40 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/15/2013 09:05

Reported: 08/30/2013 13:38

60240 SDG#: PH091-06

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Wet Chemistry	EPA 160.3 modified		%	%	%	
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

*=This limit was used in the evaluation of the final result

Sample Description: SL-602-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7162026
LL Group # 1411680
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/14/2013 10:40 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
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Fairfax VA 22030

Submitted: 08/15/2013 09:05
Reported: 08/30/2013 13:38

60240 SDG#: PH091-06

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
Dioxins/Furans			ng/kg	ng/kg	ng/kg	
EPA 1613B						
11031	2378-TCDD	1746-01-6	1.05 U	1.05	0.0591	1
11031	12378-PeCDD	40321-76-4	0.0716 JBQ	5.26	0.0681	1
11031	123478-HxCDD	39227-28-6	5.26 U	5.26	0.0331	1
11031	123678-HxCDD	57653-85-7	0.0522 JQ	5.26	0.0367	1
11031	123789-HxCDD	19408-74-3	5.26 U	5.26	0.0366	1
11031	1234678-HpCDD	35822-46-9	0.485 JBQ	5.26	0.0393	1
11031	OCDD	3268-87-9	3.37 JB	10.5	0.0361	1
11031	2378-TCDF	51207-31-9	1.05 U	1.05	0.0677	1
11031	12378-PeCDF	57117-41-6	0.231 J	5.26	0.0345	1
11031	23478-PeCDF	57117-31-4	0.0518 JBQ	5.26	0.0400	1
11031	123478-HxCDF	70648-26-9	0.0697 JBQ	5.26	0.0241	1
11031	123678-HxCDF	57117-44-9	0.0352 JBQ	5.26	0.0213	1
11031	123789-HxCDF	72918-21-9	0.0370 JQ	5.26	0.0282	1
11031	234678-HxCDF	60851-34-5	0.0319 JQ	5.26	0.0232	1
11031	1234678-HpCDF	67562-39-4	0.117 JB	5.26	0.0154	1
11031	1234789-HpCDF	55673-89-7	5.26 U	5.26	0.0366	1
11031	OCDF	39001-02-0	0.183 JBQ	10.5	0.0695	1

Toxic Equivalents		EPA 1613B	ng/kg	ng/kg	ng/kg	
11031	TEQ WHO 2005 - EDLx0.0	n.a.	0.00909			1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	62	25 - 164
13C12-12378-PeCDD	57	25 - 181
13C12-123478-HxCDD	59	32 - 141
13C12-123678-HxCDD	61	28 - 130
13C12-123789-HxCDD	62	28 - 130
13C12-1234678-HpCDD	68	23 - 140
13C12-OCDD	68	17 - 157
13C12-2378-TCDF	51	24 - 169
13C12-12378-PeCDF	61	24 - 185
13C12-23478-PeCDF	50	21 - 178
13C12-123478-HxCDF	50	26 - 152
13C12-123678-HxCDF	61	26 - 123
13C12-234678-HxCDF	54	28 - 136
13C12-123789-HxCDF	58	29 - 147
13C12-1234678-HpCDF	79	28 - 143
13C12-1234789-HpCDF	44	26 - 138
13C12-OCDF	42	17 - 157

Dioxins/Furans Data Qualifiers:

- B Detected in Method Blank
- U Undetected
- J Estimated concentration between Estimated Detection Limit and Minimum Level
- E Exceeds calibration range
- C Confirmed quantitation on secondary GC column
- Q EMPC - Estimated Maximum Possible Concentration

*=This limit was used in the evaluation of the final result

Sample Description: SL-602-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7162026
LL Group # 1411680
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/14/2013 10:40 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/15/2013 09:05

Reported: 08/30/2013 13:38

60240 SDG#: PH091-06

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
F	Interference is present					
S	Saturation of detection signal					

*=This limit was used in the evaluation of the final result

Sample Description: SL-602-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7162026
LL Group # 1411680
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/14/2013 10:40 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/15/2013 09:05
Reported: 08/30/2013 13:38

60240 SDG#: PH091-06

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13232SLB026	08/23/2013 10:13	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	13232SLB026	08/20/2013 16:00	David S Schrum	1
05551	11a TPH by EPA 8015B GRO	TPH GRO SW-846 8015B mod	1	13227A16A	08/16/2013 18:37	Laura M Krieger	26.71
06130	GC - 5 g HL Encore Prep	SW-846 5035A	1	201322732053	08/15/2013 16:24	Mitchell R Washel	n.a.
06130	GC - 5 g HL Encore Prep	SW-846 5035A	2	201322732053	08/15/2013 16:24	Mitchell R Washel	n.a.
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132330010A	08/23/2013 15:23	Jessica L Miller	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132330010A	08/21/2013 15:30	Sally L Appleyard	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132340019A	08/23/2013 20:51	Heather E Williams	1
12959	EPH soil ext. (microwave)	SW-846 3546	1	132340019A	08/22/2013 16:30	JoElla L Rice	1
11031	23a Dioxin/Furan by EPA 1613B	EPA 1613B	1	13234002	08/28/2013 12:28	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	13234002	08/22/2013 12:30	Deborah M Zimmerman	1
01643	Aluminum	SW-846 6010C	1	132330637001	08/25/2013 13:17	Katlin N Cataldi	1
06944	Antimony	SW-846 6010C	1	132330637001	08/25/2013 13:17	Katlin N Cataldi	1
06935	Arsenic	SW-846 6010C	1	132330637001	08/25/2013 13:17	Katlin N Cataldi	1
06946	Barium	SW-846 6010C	1	132330637001	08/25/2013 13:17	Katlin N Cataldi	1
06947	Beryllium	SW-846 6010C	1	132330637001	08/25/2013 13:17	Katlin N Cataldi	1
07914	Boron	SW-846 6010C	1	132330637001	08/25/2013 13:17	Katlin N Cataldi	1
06949	Cadmium	SW-846 6010C	1	132330637001	08/25/2013 13:17	Katlin N Cataldi	1
01650	Calcium	SW-846 6010C	1	132330637001	08/26/2013 10:07	Eric L Eby	5
06951	Chromium	SW-846 6010C	1	132330637001	08/25/2013 13:17	Katlin N Cataldi	1
06952	Cobalt	SW-846 6010C	1	132330637001	08/25/2013 13:17	Katlin N Cataldi	1
06953	Copper	SW-846 6010C	1	132330637001	08/25/2013 13:17	Katlin N Cataldi	1
01654	Iron	SW-846 6010C	1	132330637001	08/25/2013 13:17	Katlin N Cataldi	1
06955	Lead	SW-846 6010C	1	132330637001	08/25/2013 13:17	Katlin N Cataldi	1
01656	Lithium	SW-846 6010C	1	132330637001	08/25/2013 13:17	Katlin N Cataldi	1
01657	Magnesium	SW-846 6010C	1	132330637001	08/25/2013 13:17	Katlin N Cataldi	1
06958	Manganese	SW-846 6010C	1	132330637001	08/25/2013 13:17	Katlin N Cataldi	1
06960	Molybdenum	SW-846 6010C	1	132330637001	08/25/2013 13:17	Katlin N Cataldi	1
06961	Nickel	SW-846 6010C	1	132330637001	08/25/2013 13:17	Katlin N Cataldi	1
10145	Phosphorus	SW-846 6010C	1	132330637001	08/25/2013 13:17	Katlin N Cataldi	1
01662	Potassium	SW-846 6010C	1	132330637001	08/25/2013 13:17	Katlin N Cataldi	1
01667	Sodium	SW-846 6010C	1	132330637001	08/25/2013 13:17	Katlin N Cataldi	1
06969	Tin	SW-846 6010C	1	132330637001	08/25/2013 13:17	Katlin N Cataldi	1
06970	Titanium	SW-846 6010C	1	132330637001	08/26/2013 10:07	Eric L Eby	5
06971	Vanadium	SW-846 6010C	1	132330637001	08/25/2013 13:17	Katlin N Cataldi	1
06972	Zinc	SW-846 6010C	1	132330637001	08/25/2013 13:17	Katlin N Cataldi	1
10146	Zirconium	SW-846 6010C	1	132330637001	08/25/2013 13:17	Katlin N Cataldi	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-602-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7162026
LL Group # 1411680
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/14/2013 10:40 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/15/2013 09:05

Reported: 08/30/2013 13:38

60240 SDG#: PH091-06

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
06141	Selenium	SW-846 6020A	1	132330637001B	08/23/2013	00:07	David K Beck	2
06142	Silver	SW-846 6020A	1	132330637001A	08/23/2013	00:07	David K Beck	2
06144	Strontium	SW-846 6020A	1	132330637001A	08/23/2013	22:59	David K Beck	5
06145	Thallium	SW-846 6020A	1	132330637001A	08/23/2013	00:07	David K Beck	2
00159	3a Mercury 7471A	SW-846 7471B	1	132320638002	08/22/2013	10:09	Damary Valentin	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132330637001	08/21/2013	22:52	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132320638002	08/21/2013	12:10	Denise K Conners	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13227039402A	08/15/2013	21:20	Luz M Groff	1
11624	14a Moisture Content by 160.3	EPA 160.3 modified	1	13235162401A	08/24/2013	00:12	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-613-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7162027
LL Group # 1411680
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/14/2013 13:30 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/15/2013 09:05
Reported: 08/30/2013 13:38

61300 SDG#: PH091-07

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	1.7 U	1.7	0.69	1
12969	Acenaphthylene	208-96-8	1.7 U	1.7	0.35	1
12969	Anthracene	120-12-7	1.7 U	1.7	0.35	1
12969	Benzo(a)anthracene	56-55-3	0.96 J	1.7	0.69	1
12969	Benzo(a)pyrene	50-32-8	0.92 J	1.7	0.69	1
12969	Benzo(b)fluoranthene	205-99-2	2.4	1.7	0.69	1
12969	Benzo(e)pyrene	192-97-2	18 U	18	3.4	1
12969	Benzo(g,h,i)perylene	191-24-2	0.95 J	1.7	0.69	1
12969	Benzo(k)fluoranthene	207-08-9	0.88 J	1.7	0.69	1
12969	Butylbenzylphthalate	85-68-7	6.3 J	19	6.2	1
12969	Di-n-butylphthalate	84-74-2	19 U	19	6.2	1
12969	Chrysene	218-01-9	1.9	1.7	0.35	1
12969	Dibenz(a,h)anthracene	53-70-3	1.7 U	1.7	0.69	1
12969	Diethylphthalate	84-66-2	19 U	19	6.2	1
12969	Dimethylphthalate	131-11-3	19 U	19	6.2	1
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	11 J	19	6.2	1
12969	Fluoranthene	206-44-0	2.1	1.7	0.69	1
12969	Fluorene	86-73-7	1.7 U	1.7	0.69	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	0.77 J	1.7	0.69	1
12969	1-Methylnaphthalene	90-12-0	0.74 J	1.7	0.69	1
12969	2-Methylnaphthalene	91-57-6	0.77 J	1.7	0.69	1
12969	Naphthalene	91-20-3	1.4 J	1.7	0.69	1
12969	N-Nitrosodimethylamine	62-75-9	1.7 U	1.7	0.69	1
12969	Di-n-octylphthalate	117-84-0	19 U	19	6.2	1
12969	Phenanthrene	85-01-8	1.4 J	1.7	0.69	1
12969	Pyrene	129-00-0	2.0	1.7	0.69	1
Pesticides/PCBs	SW-846 8082A		ug/kg	ug/kg	ug/kg	
10592	Aroclor 5432	63496-31-1	34 U	34	10	1
10592	Aroclor 5442	12642-23-8	34 U	34	10	1
10592	Aroclor 5460	11126-42-4	34 U	34	10	1
10592	PCB-1016	12674-11-2	18 U	18	3.4	1
10592	PCB-1221	11104-28-2	18 U	18	5.3	1
10592	PCB-1232	11141-16-5	18 U	18	4.2	1
10592	PCB-1242	53469-21-9	18 U	18	4.2	1
10592	PCB-1248	12672-29-6	18 U	18	3.4	1
10592	PCB-1254	11097-69-1	18 U	18	4.6	1
10592	PCB-1260	11096-82-5	18 U	18	4.0	1
10592	PCB-1262	37324-23-5	18 U	18	3.4	1
10592	PCB-1268	11100-14-4	18 U	18	3.4	1
GC Petroleum	SW-846 8015B modified		mg/kg	mg/kg	mg/kg	
Hydrocarbons						
12952	EFH (C12-C14)	n.a.	5.2 U	5.2	2.1	1
12952	EFH (C15-C20)	n.a.	3.7 J	5.2	2.1	1
12952	EFH (C21-C30)	n.a.	25	5.2	2.1	1
12952	EFH (C30-C40)	n.a.	76	10	4.1	1
12952	EFH (C8-C11)	n.a.	5.2 U	5.2	2.1	1
Metals	SW-846 6010C		mg/kg	mg/kg	mg/kg	

*=This limit was used in the evaluation of the final result

Sample Description: SL-613-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7162027
LL Group # 1411680
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/14/2013 13:30 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/15/2013 09:05
Reported: 08/30/2013 13:38

61300 SDG#: PH091-07

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals						
		SW-846 6010C	mg/kg	mg/kg	mg/kg	
01643	Aluminum	7429-90-5	22,400	41.0	7.39	1
06944	Antimony	7440-36-0	4.10 U	4.10	0.758	1
06935	Arsenic	7440-38-2	4.93	4.10	0.717	1
06946	Barium	7440-39-3	93.4	1.02	0.0338	1
06947	Beryllium	7440-41-7	0.652 J	1.02	0.0687	1
07914	Boron	7440-42-8	16.9	10.2	0.861	1
06949	Cadmium	7440-43-9	0.723 J	1.02	0.0779	1
01650	Calcium	7440-70-2	74,900	102	17.1	5
06951	Chromium	7440-47-3	30.7	3.07	0.164	1
06952	Cobalt	7440-48-4	9.50	1.02	0.101	1
06953	Copper	7440-50-8	18.4	2.05	0.297	1
01654	Iron	7439-89-6	30,400	205	18.6	5
06955	Lead	7439-92-1	15.2	3.07	0.512	1
01656	Lithium	7439-93-2	22.7	4.1	0.35	1
01657	Magnesium	7439-95-4	7,590	10.2	1.71	1
06958	Manganese	7439-96-5	374	1.02	0.0851	1
06960	Molybdenum	7439-98-7	0.256 J	2.05	0.174	1
06961	Nickel	7440-02-0	19.4	2.05	0.133	1
10145	Phosphorus	7723-14-0	661	10.2	2.96	1
01662	Potassium	7440-09-7	6,700	102	8.55	1
01667	Sodium	7440-23-5	111	102	17.1	1
06969	Tin	7440-31-5	3.28 J	10.2	0.225	1
06970	Titanium	7440-32-6	1,150	5.12	0.871	5
06971	Vanadium	7440-62-2	56.5	1.02	0.133	1
06972	Zinc	7440-66-6	76.8	4.10	0.205	1
10146	Zirconium	7440-67-7	5.15	5.12	0.861	1
		SW-846 6020A	mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	0.360 J	0.410	0.102	2
06142	Silver	7440-22-4	0.0355 J	0.205	0.0266	2
06144	Strontium	7440-24-6	144	1.02	0.174	5
06145	Thallium	7440-28-0	0.275	0.205	0.0307	2
		SW-846 7471B	mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.0188	0.0167	0.0100	1
Wet Chemistry						
		SW-846 9045D modified	Std. Units	Std. Units	Std. Units	
00394	15a pH by 9045D The pH was measured in water at 22 C.	n.a.	7.99	0.0100	0.0100	1
Wet Chemistry						
		EPA 160.3 modified	%	%	%	
11624	14a Moisture Content by 160.3 Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.	n.a.	3.4	0.10	0.10	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-613-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7162027
LL Group # 1411680
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/14/2013 13:30 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/15/2013 09:05
Reported: 08/30/2013 13:38

61300 SDG#: PH091-07

CAT No.	Analysis Name	CAS Number	Dry Result		Dry MRL*	Dry EDL	Dilution Factor
Dioxins/Furans			EPA 1613B		ng/kg	ng/kg	
11031	2378-TCDD	1746-01-6	0.987	U	0.987	0.0703	1
11031	12378-PeCDD	40321-76-4	4.93	U	4.93	0.0680	1
11031	123478-HxCDD	39227-28-6	0.135	JQ	4.93	0.0530	1
11031	123678-HxCDD	57653-85-7	0.195	JQ	4.93	0.0591	1
11031	123789-HxCDD	19408-74-3	0.253	J	4.93	0.0613	1
11031	1234678-HpCDD	35822-46-9	6.69	B	4.93	0.0784	1
11031	OCDD	3268-87-9	107	B	9.87	0.0552	1
11031	2378-TCDF	51207-31-9	0.287	J	0.987	0.118	1
11031	12378-PeCDF	57117-41-6	0.617	J	4.93	0.0589	1
11031	23478-PeCDF	57117-31-4	0.258	JB	4.93	0.0580	1
11031	123478-HxCDF	70648-26-9	0.145	JB	4.93	0.0550	1
11031	123678-HxCDF	57117-44-9	4.93	U	4.93	0.0480	1
11031	123789-HxCDF	72918-21-9	4.93	U	4.93	0.0762	1
11031	234678-HxCDF	60851-34-5	0.231	J	4.93	0.0497	1
11031	1234678-HpCDF	67562-39-4	1.23	JB	4.93	0.0286	1
11031	1234789-HpCDF	55673-89-7	4.93	U	4.93	0.0633	1
11031	OCDF	39001-02-0	2.66	JB	9.87	0.0686	1

Toxic Equivalents		EPA 1613B	ng/kg	ng/kg	ng/kg	
11031	TEQ WHO 2005 - EDLx0.0	n.a.	0.300			1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	66	25 - 164
13C12-12378-PeCDD	82	25 - 181
13C12-123478-HxCDD	74	32 - 141
13C12-123678-HxCDD	78	28 - 130
13C12-123789-HxCDD	77	28 - 130
13C12-1234678-HpCDD	98	23 - 140
13C12-OCDD	89	17 - 157
13C12-2378-TCDF	63	24 - 169
13C12-12378-PeCDF	86	24 - 185
13C12-23478-PeCDF	77	21 - 178
13C12-123478-HxCDF	63	26 - 152
13C12-123678-HxCDF	74	26 - 123
13C12-234678-HxCDF	68	28 - 136
13C12-123789-HxCDF	59	29 - 147
13C12-1234678-HpCDF	110	28 - 143
13C12-1234789-HpCDF	66	26 - 138
13C12-OCDF	56	17 - 157

Dioxins/Furans Data Qualifiers:

- B Detected in Method Blank
- U Undetected
- J Estimated concentration between Estimated Detection Limit and Minimum Level
- E Exceeds calibration range
- C Confirmed quantitation on secondary GC column
- Q EMPC - Estimated Maximum Possible Concentration

*=This limit was used in the evaluation of the final result

Sample Description: SL-613-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7162027
LL Group # 1411680
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/14/2013 13:30 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/15/2013 09:05

Reported: 08/30/2013 13:38

61300 SDG#: PH091-07

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
F	Interference is present					
S	Saturation of detection signal					

*=This limit was used in the evaluation of the final result

Sample Description: SL-613-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7162027
LL Group # 1411680
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/14/2013 13:30 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/15/2013 09:05
Reported: 08/30/2013 13:38

61300 SDG#: PH091-07

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13232SLB026	08/23/2013 10:47	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	13232SLB026	08/20/2013 16:00	David S Schrum	1
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132330010A	08/23/2013 15:42	Jessica L Miller	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132330010A	08/21/2013 15:30	Sally L Appleyard	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132340019A	08/23/2013 22:14	Heather E Williams	1
12959	EFH soil ext. (microwave)	SW-846 3546	1	132340019A	08/22/2013 16:30	JoElla L Rice	1
11031	23a Dioxin/Furan by EPA 1613B	EPA 1613B	1	13234002	08/28/2013 13:24	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	13234002	08/22/2013 12:30	Deborah M Zimmerman	1
01643	Aluminum	SW-846 6010C	1	132330637001	08/25/2013 13:21	Katlin N Cataldi	1
06944	Antimony	SW-846 6010C	1	132330637001	08/25/2013 13:21	Katlin N Cataldi	1
06935	Arsenic	SW-846 6010C	1	132330637001	08/25/2013 13:21	Katlin N Cataldi	1
06946	Barium	SW-846 6010C	1	132330637001	08/25/2013 13:21	Katlin N Cataldi	1
06947	Beryllium	SW-846 6010C	1	132330637001	08/25/2013 13:21	Katlin N Cataldi	1
07914	Boron	SW-846 6010C	1	132330637001	08/25/2013 13:21	Katlin N Cataldi	1
06949	Cadmium	SW-846 6010C	1	132330637001	08/25/2013 13:21	Katlin N Cataldi	1
01650	Calcium	SW-846 6010C	1	132330637001	08/26/2013 10:11	Eric L Eby	5
06951	Chromium	SW-846 6010C	1	132330637001	08/25/2013 13:21	Katlin N Cataldi	1
06952	Cobalt	SW-846 6010C	1	132330637001	08/25/2013 13:21	Katlin N Cataldi	1
06953	Copper	SW-846 6010C	1	132330637001	08/25/2013 13:21	Katlin N Cataldi	1
01654	Iron	SW-846 6010C	1	132330637001	08/26/2013 10:11	Eric L Eby	5
06955	Lead	SW-846 6010C	1	132330637001	08/25/2013 13:21	Katlin N Cataldi	1
01656	Lithium	SW-846 6010C	1	132330637001	08/25/2013 13:21	Katlin N Cataldi	1
01657	Magnesium	SW-846 6010C	1	132330637001	08/25/2013 13:21	Katlin N Cataldi	1
06958	Manganese	SW-846 6010C	1	132330637001	08/25/2013 13:21	Katlin N Cataldi	1
06960	Molybdenum	SW-846 6010C	1	132330637001	08/25/2013 13:21	Katlin N Cataldi	1
06961	Nickel	SW-846 6010C	1	132330637001	08/25/2013 13:21	Katlin N Cataldi	1
10145	Phosphorus	SW-846 6010C	1	132330637001	08/25/2013 13:21	Katlin N Cataldi	1
01662	Potassium	SW-846 6010C	1	132330637001	08/25/2013 13:21	Katlin N Cataldi	1
01667	Sodium	SW-846 6010C	1	132330637001	08/25/2013 13:21	Katlin N Cataldi	1
06969	Tin	SW-846 6010C	1	132330637001	08/25/2013 13:21	Katlin N Cataldi	1
06970	Titanium	SW-846 6010C	1	132330637001	08/26/2013 10:11	Eric L Eby	5
06971	Vanadium	SW-846 6010C	1	132330637001	08/25/2013 13:21	Katlin N Cataldi	1
06972	Zinc	SW-846 6010C	1	132330637001	08/25/2013 13:21	Katlin N Cataldi	1
10146	Zirconium	SW-846 6010C	1	132330637001	08/25/2013 13:21	Katlin N Cataldi	1
06141	Selenium	SW-846 6020A	1	132330637001B	08/23/2013 00:10	David K Beck	2
06142	Silver	SW-846 6020A	1	132330637001A	08/23/2013 00:10	David K Beck	2
06144	Strontium	SW-846 6020A	1	132330637001A	08/23/2013 23:01	David K Beck	5
06145	Thallium	SW-846 6020A	1	132330637001A	08/23/2013 00:10	David K Beck	2

*=This limit was used in the evaluation of the final result

Sample Description: SL-613-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7162027
LL Group # 1411680
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/14/2013 13:30 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/15/2013 09:05

Reported: 08/30/2013 13:38

61300 SDG#: PH091-07

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
00159	3a Mercury 7471A	SW-846 7471B	1	132320638002	08/22/2013	10:11	Damary Valentin	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132330637001	08/21/2013	22:52	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132320638002	08/21/2013	12:10	Denise K Connors	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13227039402A	08/15/2013	21:20	Luz M Groff	1
11624	14a Moisture Content by 160.3	EPA 160.3 modified	1	13235162401A	08/24/2013	00:12	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-613-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7162028
LL Group # 1411680
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/14/2013 13:50 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/15/2013 09:05
Reported: 08/30/2013 13:38

61340 SDG#: PH091-08*

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	1.9 U	1.9	0.74	1
12969	Acenaphthylene	208-96-8	1.9 U	1.9	0.37	1
12969	Anthracene	120-12-7	1.9 U	1.9	0.37	1
12969	Benzo(a)anthracene	56-55-3	1.9 U	1.9	0.74	1
12969	Benzo(a)pyrene	50-32-8	1.9 U	1.9	0.74	1
12969	Benzo(b)fluoranthene	205-99-2	1.9 U	1.9	0.74	1
12969	Benzo(e)pyrene	192-97-2	19 U	19	3.7	1
12969	Benzo(g,h,i)perylene	191-24-2	1.9 U	1.9	0.74	1
12969	Benzo(k)fluoranthene	207-08-9	1.9 U	1.9	0.74	1
12969	Butylbenzylphthalate	85-68-7	20 U	20	6.7	1
12969	Di-n-butylphthalate	84-74-2	20 U	20	6.7	1
12969	Chrysene	218-01-9	1.9 U	1.9	0.37	1
12969	Dibenz(a,h)anthracene	53-70-3	1.9 U	1.9	0.74	1
12969	Diethylphthalate	84-66-2	20 U	20	6.7	1
12969	Dimethylphthalate	131-11-3	20 U	20	6.7	1
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	20 U	20	6.7	1
12969	Fluoranthene	206-44-0	1.9 U	1.9	0.74	1
12969	Fluorene	86-73-7	1.9 U	1.9	0.74	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	1.9 U	1.9	0.74	1
12969	1-Methylnaphthalene	90-12-0	1.3 J	1.9	0.74	1
12969	2-Methylnaphthalene	91-57-6	1.2 J	1.9	0.74	1
12969	Naphthalene	91-20-3	2.4	1.9	0.74	1
12969	N-Nitrosodimethylamine	62-75-9	1.9 U	1.9	0.74	1
12969	Di-n-octylphthalate	117-84-0	20 U	20	6.7	1
12969	Phenanthrene	85-01-8	1.9 U	1.9	0.74	1
12969	Pyrene	129-00-0	1.9 U	1.9	0.74	1
GC Volatiles	TPH GRO SW-846 8015B mod	mg/kg	mg/kg	mg/kg		
05551	11a TPH by EPA 8015B GRO	n.a.	1.5 U	1.5	0.3	32.81
Pesticides/PCBs	SW-846 8082A	ug/kg	ug/kg	ug/kg		
10592	Aroclor 5432	63496-31-1	37 U	37	11	1
10592	Aroclor 5442	12642-23-8	37 U	37	11	1
10592	Aroclor 5460	11126-42-4	37 U	37	11	1
10592	PCB-1016	12674-11-2	19 U	19	3.7	1
10592	PCB-1221	11104-28-2	19 U	19	5.7	1
10592	PCB-1232	11141-16-5	19 U	19	4.6	1
10592	PCB-1242	53469-21-9	19 U	19	4.6	1
10592	PCB-1248	12672-29-6	19 U	19	3.7	1
10592	PCB-1254	11097-69-1	19 U	19	4.9	1
10592	PCB-1260	11096-82-5	19 U	19	4.3	1
10592	PCB-1262	37324-23-5	19 U	19	3.7	1
10592	PCB-1268	11100-14-4	19 U	19	3.7	1
GC Petroleum	SW-846 8015B modified	mg/kg	mg/kg	mg/kg		
Hydrocarbons						
12952	EFH (C12-C14)	n.a.	5.6 U	5.6	2.2	1
12952	EFH (C15-C20)	n.a.	5.6 U	5.6	2.2	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-613-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7162028
LL Group # 1411680
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/14/2013 13:50 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/15/2013 09:05
Reported: 08/30/2013 13:38

61340 SDG#: PH091-08*

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC Petroleum						
Hydrocarbons						
		SW-846 8015B modified	mg/kg	mg/kg	mg/kg	
12952	EFH (C21-C30)	n.a.	5.9	5.6	2.2	1
12952	EFH (C30-C40)	n.a.	12	11	4.5	1
12952	EFH (C8-C11)	n.a.	3.1 J	5.6	2.2	1
Metals						
		SW-846 6010C	mg/kg	mg/kg	mg/kg	
01643	Aluminum	7429-90-5	24,300	44.6	8.04	1
06944	Antimony	7440-36-0	4.46 U	4.46	0.825	1
06935	Arsenic	7440-38-2	5.92	4.46	0.780	1
06946	Barium	7440-39-3	93.8	1.11	0.0368	1
06947	Beryllium	7440-41-7	0.657 J	1.11	0.0747	1
07914	Boron	7440-42-8	13.7	11.1	0.936	1
06949	Cadmium	7440-43-9	0.635 J	1.11	0.0847	1
01650	Calcium	7440-70-2	84,100	111	18.6	5
06951	Chromium	7440-47-3	32.8	3.34	0.178	1
06952	Cobalt	7440-48-4	9.32	1.11	0.110	1
06953	Copper	7440-50-8	17.6	2.23	0.323	1
01654	Iron	7439-89-6	29,700	44.6	4.04	1
06955	Lead	7439-92-1	9.76	3.34	0.557	1
01656	Lithium	7439-93-2	24.5	4.5	0.38	1
01657	Magnesium	7439-95-4	7,670	11.1	1.86	1
06958	Manganese	7439-96-5	380	1.11	0.0925	1
06960	Molybdenum	7439-98-7	0.190 J	2.23	0.190	1
06961	Nickel	7440-02-0	19.3	2.23	0.145	1
10145	Phosphorus	7723-14-0	585	11.1	3.22	1
01662	Potassium	7440-09-7	4,760	111	9.30	1
01667	Sodium	7440-23-5	117	111	18.6	1
06969	Tin	7440-31-5	3.37 J	11.1	0.245	1
06970	Titanium	7440-32-6	1,130	5.57	0.948	5
06971	Vanadium	7440-62-2	59.5	1.11	0.145	1
06972	Zinc	7440-66-6	71.1	4.46	0.223	1
10146	Zirconium	7440-67-7	5.52 J	5.57	0.936	1
SW-846 6020A						
			mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	0.241 J	0.446	0.111	2
06142	Silver	7440-22-4	0.223 U	0.223	0.0290	2
06144	Strontium	7440-24-6	156	1.11	0.190	5
06145	Thallium	7440-28-0	0.309	0.223	0.0334	2
SW-846 7471B						
			mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.0173 U	0.0173	0.0104	1
Wet Chemistry						
		SW-846 9045D modified	Std. Units	Std. Units	Std. Units	
00394	15a pH by 9045D The pH was measured in water at 21.9 C.	n.a.	8.03	0.0100	0.0100	1
Wet Chemistry						
		EPA 160.3 modified	%	%	%	
11624	14a Moisture Content by 160.3	n.a.	10.3	0.10	0.10	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-613-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7162028
LL Group # 1411680
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/14/2013 13:50 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/15/2013 09:05

Reported: 08/30/2013 13:38

61340 SDG#: PH091-08*

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Wet Chemistry	EPA 160.3 modified		%	%	%	
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

*=This limit was used in the evaluation of the final result

Sample Description: SL-613-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7162028
LL Group # 1411680
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/14/2013 13:50 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/15/2013 09:05
Reported: 08/30/2013 13:38

61340 SDG#: PH091-08*

CAT No.	Analysis Name	CAS Number	Dry Result		Dry MRL*	Dry EDL	Dilution Factor
Dioxins/Furans			ng/kg		ng/kg	ng/kg	
EPA 1613B							
11031	2378-TCDD	1746-01-6	1.08	U	1.08	0.0921	1
11031	12378-PeCDD	40321-76-4	5.41	U	5.41	0.0905	1
11031	123478-HxCDD	39227-28-6	5.41	U	5.41	0.0417	1
11031	123678-HxCDD	57653-85-7	0.0446	JQ	5.41	0.0424	1
11031	123789-HxCDD	19408-74-3	5.41	U	5.41	0.0453	1
11031	1234678-HpCDD	35822-46-9	0.112	JBQ	5.41	0.0477	1
11031	OCDD	3268-87-9	0.593	JBQ	10.8	0.0485	1
11031	2378-TCDF	51207-31-9	0.114	JQ	1.08	0.0910	1
11031	12378-PeCDF	57117-41-6	5.41	U	5.41	0.0480	1
11031	23478-PeCDF	57117-31-4	5.41	U	5.41	0.0522	1
11031	123478-HxCDF	70648-26-9	0.0711	JBQ	5.41	0.0321	1
11031	123678-HxCDF	57117-44-9	0.0362	JBQ	5.41	0.0266	1
11031	123789-HxCDF	72918-21-9	5.41	U	5.41	0.0492	1
11031	234678-HxCDF	60851-34-5	5.41	U	5.41	0.0271	1
11031	1234678-HpCDF	67562-39-4	0.0635	JBQ	5.41	0.0169	1
11031	1234789-HpCDF	55673-89-7	5.41	U	5.41	0.0474	1
11031	OCDF	39001-02-0	0.175	JBQ	10.8	0.104	1

Toxic Equivalents		EPA 1613B	ng/kg	ng/kg	ng/kg	
11031	TEQ WHO 2005 - EDLx0.0	n.a.	U			1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	58	25 - 164
13C12-12378-PeCDD	67	25 - 181
13C12-123478-HxCDD	70	32 - 141
13C12-123678-HxCDD	79	28 - 130
13C12-123789-HxCDD	75	28 - 130
13C12-1234678-HpCDD	90	23 - 140
13C12-OCDD	78	17 - 157
13C12-2378-TCDF	53	24 - 169
13C12-12378-PeCDF	70	24 - 185
13C12-23478-PeCDF	58	21 - 178
13C12-123478-HxCDF	56	26 - 152
13C12-123678-HxCDF	73	26 - 123
13C12-234678-HxCDF	64	28 - 136
13C12-123789-HxCDF	50	29 - 147
13C12-1234678-HpCDF	98	28 - 143
13C12-1234789-HpCDF	48	26 - 138
13C12-OCDF	44	17 - 157

Dioxins/Furans Data Qualifiers:

- B Detected in Method Blank
- U Undetected
- J Estimated concentration between Estimated Detection Limit and Minimum Level
- E Exceeds calibration range
- C Confirmed quantitation on secondary GC column
- Q EMPC - Estimated Maximum Possible Concentration

*=This limit was used in the evaluation of the final result

Sample Description: SL-613-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7162028
LL Group # 1411680
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/14/2013 13:50 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/15/2013 09:05

Reported: 08/30/2013 13:38

61340 SDG#: PH091-08*

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
F	Interference is present					
S	Saturation of detection signal					

*=This limit was used in the evaluation of the final result

Sample Description: SL-613-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7162028
LL Group # 1411680
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/14/2013 13:50 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/15/2013 09:05
Reported: 08/30/2013 13:38

61340 SDG#: PH091-08*

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13232SLB026	08/23/2013 11:20	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	13232SLB026	08/20/2013 16:00	David S Schrum	1
05551	11a TPH by EPA 8015B GRO	TPH GRO SW-846 8015B mod	1	13227A16A	08/16/2013 19:15	Laura M Krieger	32.81
06130	GC - 5 g HL Encore Prep	SW-846 5035A	1	201322732053	08/15/2013 16:26	Mitchell R Washel	n.a.
06130	GC - 5 g HL Encore Prep	SW-846 5035A	2	201322732053	08/15/2013 16:26	Mitchell R Washel	n.a.
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132330010A	08/23/2013 16:00	Jessica L Miller	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132330010A	08/21/2013 15:30	Sally L Appleyard	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132340019A	08/23/2013 20:30	Heather E Williams	1
12959	EPH soil ext. (microwave)	SW-846 3546	1	132340019A	08/22/2013 16:30	JoElla L Rice	1
11031	23a Dioxin/Furan by EPA 1613B	EPA 1613B	1	13234002	08/28/2013 14:21	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	13234002	08/22/2013 12:30	Deborah M Zimmerman	1
01643	Aluminum	SW-846 6010C	1	132330637001	08/25/2013 13:25	Katlin N Cataldi	1
06944	Antimony	SW-846 6010C	1	132330637001	08/25/2013 13:25	Katlin N Cataldi	1
06935	Arsenic	SW-846 6010C	1	132330637001	08/25/2013 13:25	Katlin N Cataldi	1
06946	Barium	SW-846 6010C	1	132330637001	08/25/2013 13:25	Katlin N Cataldi	1
06947	Beryllium	SW-846 6010C	1	132330637001	08/25/2013 13:25	Katlin N Cataldi	1
07914	Boron	SW-846 6010C	1	132330637001	08/25/2013 13:25	Katlin N Cataldi	1
06949	Cadmium	SW-846 6010C	1	132330637001	08/25/2013 13:25	Katlin N Cataldi	1
01650	Calcium	SW-846 6010C	1	132330637001	08/26/2013 10:22	Eric L Eby	5
06951	Chromium	SW-846 6010C	1	132330637001	08/25/2013 13:25	Katlin N Cataldi	1
06952	Cobalt	SW-846 6010C	1	132330637001	08/25/2013 13:25	Katlin N Cataldi	1
06953	Copper	SW-846 6010C	1	132330637001	08/25/2013 13:25	Katlin N Cataldi	1
01654	Iron	SW-846 6010C	1	132330637001	08/25/2013 13:25	Katlin N Cataldi	1
06955	Lead	SW-846 6010C	1	132330637001	08/25/2013 13:25	Katlin N Cataldi	1
01656	Lithium	SW-846 6010C	1	132330637001	08/25/2013 13:25	Katlin N Cataldi	1
01657	Magnesium	SW-846 6010C	1	132330637001	08/25/2013 13:25	Katlin N Cataldi	1
06958	Manganese	SW-846 6010C	1	132330637001	08/25/2013 13:25	Katlin N Cataldi	1
06960	Molybdenum	SW-846 6010C	1	132330637001	08/25/2013 13:25	Katlin N Cataldi	1
06961	Nickel	SW-846 6010C	1	132330637001	08/25/2013 13:25	Katlin N Cataldi	1
10145	Phosphorus	SW-846 6010C	1	132330637001	08/25/2013 13:25	Katlin N Cataldi	1
01662	Potassium	SW-846 6010C	1	132330637001	08/25/2013 13:25	Katlin N Cataldi	1
01667	Sodium	SW-846 6010C	1	132330637001	08/25/2013 13:25	Katlin N Cataldi	1
06969	Tin	SW-846 6010C	1	132330637001	08/25/2013 13:25	Katlin N Cataldi	1
06970	Titanium	SW-846 6010C	1	132330637001	08/26/2013 10:22	Eric L Eby	5
06971	Vanadium	SW-846 6010C	1	132330637001	08/25/2013 13:25	Katlin N Cataldi	1
06972	Zinc	SW-846 6010C	1	132330637001	08/25/2013 13:25	Katlin N Cataldi	1
10146	Zirconium	SW-846 6010C	1	132330637001	08/25/2013 13:25	Katlin N Cataldi	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-613-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7162028
LL Group # 1411680
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/14/2013 13:50 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/15/2013 09:05

Reported: 08/30/2013 13:38

61340 SDG#: PH091-08*

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
06141	Selenium	SW-846 6020A	1	132330637001B	08/23/2013	00:12	David K Beck	2
06142	Silver	SW-846 6020A	1	132330637001A	08/23/2013	00:12	David K Beck	2
06144	Strontium	SW-846 6020A	1	132330637001A	08/23/2013	23:03	David K Beck	5
06145	Thallium	SW-846 6020A	1	132330637001A	08/23/2013	00:12	David K Beck	2
00159	3a Mercury 7471A	SW-846 7471B	1	132320638002	08/22/2013	10:13	Damary Valentin	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132330637001	08/21/2013	22:52	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132320638002	08/21/2013	12:10	Denise K Conners	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13227039402A	08/15/2013	21:20	Luz M Groff	1
11624	14a Moisture Content by 160.3	EPA 160.3 modified	1	13235162401A	08/24/2013	00:12	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/30/13 at 01:38 PM

Group Number: 1411680

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ**</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 13231WAH026	Sample number(s): 7162021								
Acenaphthene	0.050 U	0.050	0.010	ug/l	102	93	77-118	9	30
Acenaphthylene	0.050 U	0.050	0.010	ug/l	110	101	80-123	9	30
Anthracene	0.050 U	0.050	0.010	ug/l	105	96	78-123	8	30
Benzo(a)anthracene	0.050 U	0.050	0.010	ug/l	101	91	73-127	10	30
Benzo(a)pyrene	0.050 U	0.050	0.010	ug/l	101	96	72-120	5	30
Benzo(b)fluoranthene	0.050 U	0.050	0.010	ug/l	110	101	79-136	9	30
Benzo(e)pyrene	0.050 U	0.050	0.010	ug/l	86	81	70-130	6	30
Benzo(g,h,i)perylene	0.050 U	0.050	0.010	ug/l	97	93	64-130	4	30
Benzo(k)fluoranthene	0.050 U	0.050	0.010	ug/l	101	95	73-131	6	30
Butylbenzylphthalate	1.0 U	1.0	0.050	ug/l	96	85	40-138	12	30
Di-n-butylphthalate	1.0 U	1.0	0.050	ug/l	112	101	64-141	11	30
Chrysene	0.050 U	0.050	0.010	ug/l	102	96	76-125	6	30
Dibenz(a,h)anthracene	0.050 U	0.050	0.010	ug/l	100	95	58-131	4	30
Diethylphthalate	1.0 U	1.0	0.050	ug/l	108	99	64-128	9	30
Dimethylphthalate	1.0 U	1.0	0.050	ug/l	100	91	23-139	9	30
Bis(2-Ethylhexyl)phthalate	0.099 J	1.0	0.050	ug/l	106	90	70-143	16	30
Fluoranthene	0.050 U	0.050	0.010	ug/l	103	95	79-124	8	30
Fluorene	0.050 U	0.050	0.010	ug/l	102	93	74-115	9	30
Indeno(1,2,3-cd)pyrene	0.050 U	0.050	0.010	ug/l	97	92	62-130	6	30
1-Methylnaphthalene	0.050 U	0.050	0.010	ug/l	105	97	80-126	8	30
2-Methylnaphthalene	0.050 U	0.050	0.010	ug/l	103	96	81-124	7	30
Naphthalene	0.050 U	0.050	0.030	ug/l	102	95	75-120	7	30
N-Nitrosodimethylamine	0.050 U	0.050	0.010	ug/l	75	74	36-120	0	30
Di-n-octylphthalate	1.0 U	1.0	0.050	ug/l	92	78	57-145	17	30
Phenanthrene	0.050 U	0.050	0.030	ug/l	98	92	75-120	7	30
Pyrene	0.050 U	0.050	0.010	ug/l	106	96	71-130	9	30
Batch number: 13232SLB026	Sample number(s): 7162023-7162028								
Acenaphthene	1.7 U	1.7	0.67	ug/kg	100		77-116		
Acenaphthylene	1.7 U	1.7	0.33	ug/kg	107		78-120		
Anthracene	1.7 U	1.7	0.33	ug/kg	105		80-116		
Benzo(a)anthracene	1.7 U	1.7	0.67	ug/kg	98		83-119		
Benzo(a)pyrene	1.7 U	1.7	0.67	ug/kg	105		80-122		
Benzo(b)fluoranthene	1.7 U	1.7	0.67	ug/kg	107		82-135		
Benzo(e)pyrene	17 U	17	3.3	ug/kg	93		81-110		
Benzo(g,h,i)perylene	1.7 U	1.7	0.67	ug/kg	102		79-121		
Benzo(k)fluoranthene	1.7 U	1.7	0.67	ug/kg	111		79-123		
Butylbenzylphthalate	18 U	18	6.0	ug/kg	109		77-123		
Di-n-butylphthalate	18 U	18	6.0	ug/kg	113		78-125		
Chrysene	1.7 U	1.7	0.33	ug/kg	100		84-113		
Dibenz(a,h)anthracene	1.7 U	1.7	0.67	ug/kg	103		78-124		
Diethylphthalate	18 U	18	6.0	ug/kg	111		77-130		
Dimethylphthalate	18 U	18	6.0	ug/kg	106		85-122		

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

- (1) The result for one or both determinations was less than five times the LOQ / MRL.
- (2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/30/13 at 01:38 PM

Group Number: 1411680

Analysis Name	Blank Result	Blank LOQ**	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Bis (2-Ethylhexyl) phthalate	18 U	18.	6.0	ug/kg	101		79-121		
Fluoranthene	1.7 U	1.7	0.67	ug/kg	102		85-116		
Fluorene	1.7 U	1.7	0.67	ug/kg	104		81-126		
Indeno (1,2,3-cd) pyrene	1.7 U	1.7	0.67	ug/kg	102		77-124		
1-Methylnaphthalene	1.7 U	1.7	0.67	ug/kg	104		78-119		
2-Methylnaphthalene	1.7 U	1.7	0.67	ug/kg	101		78-121		
Naphthalene	1.7 U	1.7	0.67	ug/kg	99		79-113		
N-Nitrosodimethylamine	1.7 U	1.7	0.67	ug/kg	119		71-124		
Di-n-octylphthalate	18 U	18.	6.0	ug/kg	110		76-131		
Phenanthrene	1.7 U	1.7	0.67	ug/kg	101		72-110		
Pyrene	1.7 U	1.7	0.67	ug/kg	100		79-112		
Batch number: 13227A16A 11a TPH by EPA 8015B GRO	Sample number(s): 7162024,7162026,7162028 1.0 U	1.0	0.2	mg/kg	79		67-119		
Batch number: 13228A94A TPH-GRO S.CA water C5-C12	Sample number(s): 7162021-7162022 50 U	50.	20	ug/l	118	119	75-135	1	30
Batch number: 132320015A	Sample number(s): 7162021								
2,4-D	0.50 U	0.50	0.16	ug/l	118	101	68-155	16	30
Dalapon	1.3 U	1.3	0.25	ug/l	83	72	39-115	14	30
2,4-DB	1.0 U	1.0	0.30	ug/l	106	89	50-163	17	30
Dicamba	0.30 U	0.30	0.080	ug/l	115	99	55-163	15	30
Dinoseb	0.50 U	0.50	0.12	ug/l	81	69	16-163	16	30
2,4-DP (Dichlorprop)	0.50 U	0.50	0.16	ug/l	140	121	89-162	15	30
MCPA	200 U	200.	50	ug/l	100	85	68-154	16	30
MCPP	200 U	200.	50	ug/l	103	88	46-173	16	30
2,4,5-T	0.050 U	0.050	0.015	ug/l	114	99	55-169	13	30
2,4,5-TP	0.050 U	0.050	0.010	ug/l	123	103	58-155	17	30
Batch number: 132320009A	Sample number(s): 7162021								
Aroclor 5432	0.40 U	0.40	0.080	ug/l					
Aroclor 5442	0.40 U	0.40	0.080	ug/l	64	79	35-84	20	30
Aroclor 5460	0.40 U	0.40	0.088	ug/l					
PCB-1016	0.40 U	0.40	0.080	ug/l	100	97	69-120	3	30
PCB-1221	0.40 U	0.40	0.080	ug/l					
PCB-1232	0.40 U	0.40	0.16	ug/l					
PCB-1242	0.40 U	0.40	0.080	ug/l					
PCB-1248	0.40 U	0.40	0.080	ug/l					
PCB-1254	0.40 U	0.40	0.080	ug/l					
PCB-1260	0.40 U	0.40	0.12	ug/l	121	119	69-128	2	30
PCB-1262	0.40 U	0.40	0.16	ug/l					
PCB-1268	0.40 U	0.40	0.13	ug/l					
Batch number: 132320010A	Sample number(s): 7162021								
Aldrin	0.0080 U	0.0080	0.0016	ug/l	74	79	55-126	7	30
Alpha BHC	0.0080 U	0.0080	0.0024	ug/l	84	89	63-132	6	30
Beta BHC	0.0080 U	0.0080	0.0027	ug/l	92	98	63-132	6	30
Gamma BHC - Lindane	0.0080 U	0.0080	0.0016	ug/l	87	90	68-128	4	30
Chlordane	0.40 U	0.40	0.13	ug/l					
p,p-DDD	0.016 U	0.016	0.0040	ug/l	92	95	62-143	3	30
p,p-DDE	0.016 U	0.016	0.0040	ug/l	88	92	56-137	5	30
p,p-DDT	0.016 U	0.016	0.0042	ug/l	90	98	45-134	8	30
Delta BHC	0.0080 U	0.0080	0.0027	ug/l	87	92	63-131	6	30

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/30/13 at 01:38 PM

Group Number: 1411680

Analysis Name	Blank Result	Blank LOQ**	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Dieldrin	0.016 U	0.016	0.0042	ug/l	85	89	65-135	5	30
Endosulfan I	0.0080 U	0.0080	0.0034	ug/l	85	88	48-124	3	30
Endosulfan II	0.016 U	0.016	0.012	ug/l	88	91	53-123	4	30
Endosulfan Sulfate	0.016 U	0.016	0.0046	ug/l	82	86	60-129	5	30
Endrin	0.016 U	0.016	0.0065	ug/l	85	89	43-139	4	30
Endrin Aldehyde	0.080 U	0.080	0.016	ug/l	87	92	55-123	5	20
Endrin Ketone	0.016 U	0.016	0.0040	ug/l	85	90	51-138	6	30
Heptachlor	0.0080 U	0.0080	0.0016	ug/l	90	95	57-126	5	30
Heptachlor Epoxide	0.0080 U	0.0080	0.0018	ug/l	84	88	65-128	4	30
Methoxychlor	0.080 U	0.080	0.024	ug/l	91	97	46-134	6	30
Mirex	0.20 U	0.20	0.068	ug/l					
Toxaphene	2.4 U	2.4	0.80	ug/l					

Batch number: 132330010A	Sample number(s): 7162023-7162028								
Aroclor 5432	33 U 33.	10	ug/kg						
Aroclor 5442	33 U 33.	10	ug/kg	84	87	36-106	4	30	
Aroclor 5460	33 U 33.	10	ug/kg						
PCB-1016	17 U 17.	3.3	ug/kg	100		80-120			
PCB-1221	17 U 17.	5.1	ug/kg						
PCB-1232	17 U 17.	4.1	ug/kg						
PCB-1242	17 U 17.	4.1	ug/kg						
PCB-1248	17 U 17.	3.3	ug/kg						
PCB-1254	17 U 17.	4.4	ug/kg						
PCB-1260	17 U 17.	3.9	ug/kg	107		72-120			
PCB-1262	17 U 17.	3.3	ug/kg						
PCB-1268	17 U 17.	3.3	ug/kg						

Batch number: 132330013A	Sample number(s): 7162021								
EFH (C12-C14)	0.10 U 0.10	0.050	mg/l	92	95	70-130	3	30	
EFH (C15-C20)	0.10 U 0.10	0.050	mg/l	97	100	70-130	4	30	
EFH (C21-C30)	0.051 J 0.10	0.050	mg/l	98	100	70-130	2	30	
EFH (C30 - C40)	0.50 U 0.50	0.10	mg/l	104	94	70-130	10	30	
EFH (C8-C11)	0.10 U 0.10	0.050	mg/l	76	79	70-130	4	30	

Batch number: 132340019A	Sample number(s): 7162023-7162028								
EFH (C12-C14)	5.0 U 5.0	2.0	mg/kg	86	84	70-123	2	20	
EFH (C15-C20)	5.0 U 5.0	2.0	mg/kg	87	86	75-128	2	20	
EFH (C21-C30)	5.0 U 5.0	2.0	mg/kg	88	87	64-134	1	20	
EFH (C30-C40)	10 U 10.	4.0	mg/kg	81	82	65-128	2	20	
EFH (C8-C11)	5.0 U 5.0	2.0	mg/kg	72	69	49-107	3	20	

Batch number: 132270635001	Sample number(s): 7162021								
Aluminum	0.400 U 0.400	0.0828	mg/l	104		90-112			
Antimony	0.0400 U 0.0400	0.0053	mg/l	105		88-111			
Arsenic	0.0400 U 0.0400	0.0068	mg/l	105		90-113			
Barium	0.0100 U 0.0100	0.00033	mg/l	105		90-110			
Beryllium	0.0100 U 0.0100	0.00067	mg/l	102		88-110			
Boron	0.100 U 0.100	0.0084	mg/l	98		89-110			
Cadmium	0.0100 U 0.0100	0.00076	mg/l	105		90-112			
Calcium	0.0464 J 0.400	0.0334	mg/l	102		90-110			
Chromium	0.0300 U 0.0300	0.0016	mg/l	103		90-110			
Cobalt	0.0100 U 0.0100	0.0013	mg/l	106		90-110			
Copper	0.0200 U 0.0200	0.0027	mg/l	106		90-112			
Iron	0.400 U 0.400	0.0430	mg/l	101		90-112			
Lead	0.0300 U 0.0300	0.0047	mg/l	105		88-110			
Lithium	0.0400 U 0.0400	0.0047	mg/l	105		90-110			

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/30/13 at 01:38 PM

Group Number: 1411680

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ**</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Magnesium	0.200 U	0.200	0.0167	mg/l	102		90-110		
Manganese	0.0100 U	0.0100	0.00083	mg/l	104		90-110		
Molybdenum	0.0200 U	0.0200	0.0017	mg/l	104		90-110		
Nickel	0.0200 U	0.0200	0.0015	mg/l	108		90-111		
Phosphorus	0.200 U	0.200	0.0418	mg/l	105		90-110		
Potassium	1.00 U	1.00	0.0980	mg/l	102		85-115		
Sodium	2.00 U	2.00	0.167	mg/l	102		87-114		
Tin	0.0400 U	0.0400	0.0029	mg/l	102		90-110		
Titanium	0.0200 U	0.0200	0.0017	mg/l	107		90-113		
Vanadium	0.0100 U	0.0100	0.0020	mg/l	104		90-110		
Zinc	0.0400 U	0.0400	0.0020	mg/l	104		90-110		
Zirconium	0.100 U	0.100	0.0084	mg/l	104		90-110		
Batch number: 132270639001A Sample number(s): 7162021									
Silver	0.0010 U	0.0010	0.00011	mg/l	102		90-115		
Strontium	0.0020 U	0.0020	0.00034	mg/l	103		80-120		
Thallium	0.0010 U	0.0010	0.00015	mg/l	105		80-120		
Batch number: 132270639001B Sample number(s): 7162021									
Selenium	0.0040 U	0.0040	0.00050	mg/l	103		80-120		
Batch number: 132320638002 Sample number(s): 7162023-7162028									
3a Mercury 7471A	0.0167 U	0.0167	0.0100	mg/kg	115		85-120		
Batch number: 132330637001 Sample number(s): 7162023-7162028									
Aluminum	40.0 U	40.0	7.21	mg/kg	104		80-120		
Antimony	4.00 U	4.00	0.740	mg/kg	107		80-120		
Arsenic	4.00 U	4.00	0.700	mg/kg	101		80-120		
Barium	1.00 U	1.00	0.0330	mg/kg	103		80-120		
Beryllium	1.00 U	1.00	0.0670	mg/kg	99		80-120		
Boron	10.0 U	10.0	0.840	mg/kg	99		80-120		
Cadmium	1.00 U	1.00	0.0760	mg/kg	100		80-120		
Calcium	8.85 J	20.0	3.34	mg/kg	102		80-120		
Chromium	3.00 U	3.00	0.160	mg/kg	102		80-120		
Cobalt	1.00 U	1.00	0.0990	mg/kg	103		80-120		
Copper	2.00 U	2.00	0.290	mg/kg	104		80-120		
Iron	40.0 U	40.0	3.62	mg/kg	99		80-120		
Lead	3.00 U	3.00	0.500	mg/kg	98		80-120		
Lithium	4.0 U	4.0	0.34	mg/kg	105		80-120		
Magnesium	10.0 U	10.0	1.67	mg/kg	100		80-120		
Manganese	1.00 U	1.00	0.0830	mg/kg	102		80-120		
Molybdenum	2.00 U	2.00	0.170	mg/kg	103		80-120		
Nickel	0.208 J	2.00	0.130	mg/kg	104		80-120		
Phosphorus	10.0 U	10.0	2.89	mg/kg	104		80-120		
Potassium	100 U	100.	8.34	mg/kg	100		80-120		
Sodium	100 U	100.	16.7	mg/kg	101		80-120		
Tin	1.66 J	10.0	0.220	mg/kg	102		80-120		
Titanium	1.00 U	1.00	0.170	mg/kg	104		80-120		
Vanadium	1.00 U	1.00	0.130	mg/kg	104		80-120		
Zinc	0.326 J	4.00	0.200	mg/kg	102		80-120		
Zirconium	5.00 U	5.00	0.840	mg/kg	103		80-120		
Batch number: 132330637001A Sample number(s): 7162023-7162028									
Silver	0.200 U	0.200	0.0260	mg/kg	107		80-120		

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/30/13 at 01:38 PM

Group Number: 1411680

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ**</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Strontium	0.400 U	0.400	0.0680	mg/kg	111		80-120		
Thallium	0.200 U	0.200	0.0300	mg/kg	108		80-120		
Batch number: 132330637001B	Sample number(s): 7162023-7162028								
Selenium	0.400 U	0.400	0.100	mg/kg	109		80-120		
Batch number: 132355713007	Sample number(s): 7162021								
3b Mercury 7470A	0.00020 U	0.00020	0.00006	mg/l	97		90-115		
Batch number: 13227002101A	Sample number(s): 7162021								
28b pH (9040B and 9040C)					99		99-103		
Batch number: 13227039402A	Sample number(s): 7162023-7162028								
15a pH by 9045D					100		95-105		
Batch number: 13235162401A	Sample number(s): 7162023-7162028								
14a Moisture Content by 160.3					100		80-120		

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MRL**</u>	<u>Blank EDL</u>	<u>Report Units</u>	<u>OPR %REC</u>	<u>OPRD %REC</u>	<u>OPR/OPRD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 13232004	Sample number(s): 7162021								
2378-TCDD	0.318 J	2.00	0.121	pg/l	106		60-150		
12378-PeCDD	0.454 J	10.0	0.169	pg/l	109		60-150		
123478-HxCDD	0.364 J	10.0	0.119	pg/l	110		60-150		
123678-HxCDD	0.413 J	10.0	0.117	pg/l	104		60-150		
123789-HxCDD	0.373 J	10.0	0.112	pg/l	106		60-150		
1234678-HpCDD	1.05 J	10.0	0.141	pg/l	105		60-150		
OCDD	1.90 J	20.0	0.183	pg/l	103		60-150		
2378-TCDF	0.149 J	2.00	0.110	pg/l	108		60-150		
12378-PeCDF	0.859 J	10.0	0.101	pg/l	109		60-150		
23478-PeCDF	0.497 J	10.0	0.0856	pg/l	109		60-150		
123478-HxCDF	0.477 J	10.0	0.0610	pg/l	110		60-150		
123678-HxCDF	0.404 J	10.0	0.0633	pg/l	108		60-150		
123789-HxCDF	0.681 J	10.0	0.0595	pg/l	108		60-150		
234678-HxCDF	0.454 J	10.0	0.0555	pg/l	110		60-150		
1234678-HpCDF	0.894 J	10.0	0.0461	pg/l	108		60-150		
1234789-HpCDF	0.686 J	10.0	0.0531	pg/l	105		60-150		
OCDF	1.57 J	20.0	0.142	pg/l	104		60-150		
Batch number: 13234002	Sample number(s): 7162023-7162028								
2378-TCDD	1.00 U	1.00	0.0920	ng/kg	101		67-158		
12378-PeCDD	0.0869 J	5.00	0.0732	ng/kg	102		70-142		
123478-HxCDD	5.00 U	5.00	0.0379	ng/kg	98		70-164		
123678-HxCDD	5.00 U	5.00	0.0401	ng/kg	97		76-134		
123789-HxCDD	5.00 U	5.00	0.0409	ng/kg	95		64-162		
1234678-HpCDD	0.0505 J	5.00	0.0484	ng/kg	93		70-140		
OCDD	0.294 J	10.0	0.0320	ng/kg	93		78-144		
2378-TCDF	1.00 U	1.00	0.0703	ng/kg	105		75-158		
12378-PeCDF	5.00 U	5.00	0.0446	ng/kg	96		80-134		
23478-PeCDF	0.0473 J	5.00	0.0412	ng/kg	98		68-160		
123478-HxCDF	0.0573 J	5.00	0.0262	ng/kg	91		72-134		
123678-HxCDF	0.0277 J	5.00	0.0242	ng/kg	92		84-130		
123789-HxCDF	5.00 U	5.00	0.0390	ng/kg	87		78-130		

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/30/13 at 01:38 PM

Group Number: 1411680

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MRL**</u>	<u>Blank EDL</u>	<u>Report Units</u>	<u>OPR %REC</u>	<u>OPRD %REC</u>	<u>OPR/OPRD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
234678-HxCDF	5.00 U	5.00	0.0242	ng/kg	90		70-156		
1234678-HpCDF	0.0404 J	5.00	0.0133	ng/kg	88		82-122		
1234789-HpCDF	0.0549 J	5.00	0.0234	ng/kg	91		78-138		
OCDF	0.126 J	10.0	0.0614	ng/kg	89		63-170		

Batch number: 13232004
TEQ WHO 2005 - EDLx0.0

Sample number(s): 7162021
0.667 pg/l

Batch number: 13234002
TEQ WHO 2005 - EDLx0.0

Sample number(s): 7162023-7162028
U ng/kg

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

<u>Analysis Name</u>	<u>MS %REC</u>	<u>MSD %REC</u>	<u>MS/MSD Limits</u>	<u>RPD</u>	<u>RPD MAX</u>	<u>BKG Conc</u>	<u>DUP Conc</u>	<u>DUP RPD</u>	<u>Dup RPD Max</u>
Batch number: 13232SLB026	Sample number(s): 7162023-7162028 UNSPK: P160448								
Acenaphthene	96	98	48-127	2	30				
Acenaphthylene	101	103	49-121	2	30				
Anthracene	99	100	52-126	2	30				
Benzo(a)anthracene	94	98	44-143	4	30				
Benzo(a)pyrene	100	99	44-140	1	30				
Benzo(b)fluoranthene	114	101	26-142	12	30				
Benzo(e)pyrene	87	88	70-130	0	30				
Benzo(g,h,i)perylene	98	94	33-141	4	30				
Benzo(k)fluoranthene	91	103	54-142	13	30				
Butylbenzylphthalate	116	119	49-151	3	30				
Di-n-butylphthalate	114	119	52-147	5	30				
Chrysene	96	97	29-148	2	30				
Dibenz(a,h)anthracene	105	103	20-137	3	30				
Diethylphthalate	106	113	43-145	6	30				
Dimethylphthalate	102	103	58-129	1	30				
Bis(2-Ethylhexyl)phthalate	110	137	39-167	22	30				
Fluoranthene	98	100	40-148	2	30				
Fluorene	96	100	51-137	4	30				
Indeno(1,2,3-cd)pyrene	103	101	17-136	2	30				
1-Methylnaphthalene	102	102	50-131	1	30				
2-Methylnaphthalene	98	101	35-152	3	30				
Naphthalene	95	97	31-148	2	30				
N-Nitrosodimethylamine	112	115*	48-113	2	30				
Di-n-octylphthalate	111	117	52-162	5	30				
Phenanthrene	95	97	29-142	2	30				
Pyrene	96	96	26-143	1	30				
Batch number: 13227A16A 11a TPH by EPA 8015B GRO	Sample number(s): 7162024,7162026,7162028 UNSPK: P160448								
	62	76	39-118	5	30				

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/30/13 at 01:38 PM

Group Number: 1411680

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 132330010A	Sample number(s): 7162023-7162028 UNSPK: P160448								
PCB-1016	90	92	16-146	2	50				
PCB-1260	107	109	40-134	2	50				
Batch number: 132270635001	Sample number(s): 7162021 UNSPK: P162045 BKG: P162045								
Aluminum	2846 (2)	2628 (2)	75-125	2	20	158	168	6	20
Antimony	44*	43*	75-125	4	20	0.0400 U	0.0400 U	0 (1)	20
Arsenic	104	105	75-125	0	20	0.0344 J	0.0351 J	2 (1)	20
Barium	102	100	75-125	1	20	1.09	1.12	3	20
Beryllium	101	100	75-125	1	20	0.0058 J	0.0062 J	7 (1)	20
Boron	97	97	75-125	0	20	0.130	0.143	9 (1)	20
Cadmium	93	92	75-125	1	20	0.0069 J	0.0069 J	1 (1)	20
Calcium	216 (2)	136 (2)	75-125	3	20	91.3	93.9	3	20
Chromium	117	114	75-125	1	20	0.305	0.324	6	20
Cobalt	96	94	75-125	2	20	0.262	0.268	2	20
Copper	109	109	75-125	0	20	0.118	0.122	3	20
Iron	2359 (2)	1611 (2)	75-125	3	20	236	244	3	20
Lead	99	95	75-125	3	20	0.0598	0.0623	4 (1)	20
Lithium	109	106	75-125	2	20	0.201	0.211	5	20
Magnesium	266 (2)	225 (2)	75-125	2	20	32.7	33.7	3	20
Manganese	127 (2)	121 (2)	75-125	1	20	2.67	2.79	5	20
Molybdenum	96	95	75-125	1	20	0.0439	0.0416	5 (1)	20
Nickel	97	95	75-125	1	20	0.113	0.121	6	20
Phosphorus	762 (2)	294 (2)	75-125	3	20	143	153	7	20
Potassium	124	118	75-125	2	20	15.5	16.1	4	20
Sodium	364 (2)	210 (2)	75-125	3	20	551	586	6	20
Tin	91	90	75-125	1	20	0.0248 J	0.0238 J	4 (1)	20
Titanium	167 (2)	167 (2)	75-125	0	20	4.04	4.27	5	20
Vanadium	111	109	75-125	2	20	0.258	0.270	5	20
Zinc	106	101	75-125	2	20	0.871	0.887	2	20
Zirconium	87	87	75-125	1	20	0.0234 J	0.0271 J	15 (1)	20
Batch number: 132270639001A	Sample number(s): 7162021 UNSPK: P162042 BKG: P162042								
Silver	94	97	75-125	2	20	0.00029 J	0.00021 J	32* (1)	20
Strontium	89 (2)	99 (2)	75-125	2	20	0.235	0.236	0	20
Thallium	104	100	75-125	3	20	0.00057 J	0.00053 J	8 (1)	20
Batch number: 132270639001B	Sample number(s): 7162021 UNSPK: P162042 BKG: P162042								
Selenium	94	101	75-125	7	20	0.00061 J	0.00055 J	10 (1)	20
Batch number: 132320638002	Sample number(s): 7162023-7162028 UNSPK: P160448 BKG: P160448								
3a Mercury 7471A	119	120	65-135	1	20	0.0157 U	0.0161 U	0 (1)	20
Batch number: 132330637001	Sample number(s): 7162023-7162028 UNSPK: 7162025 BKG: 7162025								
Aluminum	3772 (2)	4554 (2)	75-125	6	20	18,600	19,300	4	20
Antimony	50*	51*	75-125	1	20	0.785 J	4.00 U	200* (1)	20
Arsenic	102	101	75-125	1	20	5.77	6.05	5 (1)	20
Barium	110	112	75-125	1	20	83.8	86.2	3	20
Beryllium	99	102	75-125	3	20	0.618 J	0.647 J	5 (1)	20

*- Outside of specification

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(1) The result for one or both determinations was less than five times the LOQ / MRL.

(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/30/13 at 01:38 PM

Group Number: 1411680

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

<u>Analysis Name</u>	<u>MS</u>	<u>MSD</u>	<u>MS/MSD</u>	<u>RPD</u>	<u>RPD</u>	<u>BKG</u>	<u>DUP</u>	<u>DUP</u>	<u>Dup</u>	<u>RPD</u>
	<u>%REC</u>	<u>%REC</u>	<u>Limits</u>	<u>RPD</u>	<u>MAX</u>	<u>Conc</u>	<u>Conc</u>	<u>RPD</u>	<u>Max</u>	
Boron	99	102	75-125	2	20	16.6	16.3	2 (1)		20
Cadmium	92	93	75-125	1	20	0.675 J	0.660 J	2 (1)		20
Calcium	1148 (2)	-1573 (2)	75-125	15	20	72,900	65,800	10		20
Chromium	120	130*	75-125	4	20	26.5	27.0	2		20
Cobalt	93	96	75-125	3	20	8.62	8.49	2		20
Copper	109	115	75-125	3	20	19.5	20.2	4		20
Iron	1950 (2)	2375 (2)	75-125	2	20	24,700	25,800	5		20
Lead	91	99	75-125	4	20	16.2	17.2	6		20
Lithium	107	110	75-125	3	20	17.9	18.2	2 (1)		20
Magnesium	503 (2)	706 (2)	75-125	5	20	6,570	6,770	3		20
Manganese	100 (2)	112 (2)	75-125	1	20	423	425	1		20
Molybdenum	95	97	75-125	1	20	0.374 J	0.483 J	25* (1)		20
Nickel	95	98	75-125	3	20	16.6	17.1	3		20
Phosphorus	221 (2)	111 (2)	75-125	13	20	707	728	3		20
Potassium	191 (2)	234 (2)	75-125	5	20	5,980	6,190	3		20
Sodium	101	103	75-125	1	20	97.7 J	103	6 (1)		20
Tin	92	93	75-125	2	20	2.95 J	3.02 J	2 (1)		20
Titanium	504 (2)	577 (2)	75-125	5	20	887	933	5		20
Vanadium	122	130*	75-125	4	20	44.4	45.9	3		20
Zinc	102	106	75-125	2	20	71.2	73.2	3		20
Zirconium	80	82	75-125	2	20	4.20 J	4.38 J	4 (1)		20
Batch number: 132330637001A	Sample number(s): 7162023-7162028 UNSPK: 7162025 BKG: 7162025									
Silver	100	100	75-125	1	20	0.0340 J	0.0496 J	37* (1)		20
Strontium	164 (2)	123 (2)	75-125	3	20	95.4	93.7	2		20
Thallium	96	98	75-125	2	20	0.232	0.280	19 (1)		20
Batch number: 132330637001B	Sample number(s): 7162023-7162028 UNSPK: 7162025 BKG: 7162025									
Selenium	100	95	75-125	5	20	0.291 J	0.282 J	3 (1)		20
Batch number: 132355713007	Sample number(s): 7162021 UNSPK: P162044 BKG: P162044									
3b Mercury 7470A	99	91	75-125	8	20	0.00020 U	0.00020 U	0 (1)		20
Batch number: 13227002101A	Sample number(s): 7162021 BKG: P161774									
28b pH (9040B and 9040C)						6.8	7.1	4*		3
Batch number: 13227039402A	Sample number(s): 7162023-7162028 BKG: 7162023									
15a pH by 9045D						7.55	7.55	0		3
Batch number: 13235162401A	Sample number(s): 7162023-7162028 BKG: 7162028									
14a Moisture Content by 160.3						10.3	10.0	2		20
Batch number: 13234002	Sample number(s): 7162023-7162028 UNSPK: P160448									
2378-TCDD	99	104	40-135	7	20					
12378-PeCDD	115	117	40-135	3	20					
123478-HxCDD	117	116	40-135	1	20					
123678-HxCDD	115	111	40-135	2	20					
123789-HxCDD	113	111	40-135	0	20					
1234678-HpCDD	109	107	40-135	0	20					
OCDD	107	111	40-135	5	20					

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ / MRL.

(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/30/13 at 01:38 PM

Group Number: 1411680

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

<u>Analysis Name</u>	<u>MS</u> <u>%REC</u>	<u>MSD</u> <u>%REC</u>	<u>MS/MSD</u> <u>Limits</u>	<u>RPD</u> <u>RPD</u>	<u>RPD</u> <u>MAX</u>	<u>BKG</u> <u>Conc</u>	<u>DUP</u> <u>Conc</u>	<u>DUP</u> <u>RPD</u>	<u>Dup RPD</u> <u>Max</u>
2378-TCDF	123	130	40-135	7	20				
12378-PeCDF	119	114	40-135	2	20				
23478-PeCDF	111	117	40-135	7	20				
123478-HxCDF	107	107	40-135	2	20				
123678-HxCDF	109	110	40-135	2	20				
123789-HxCDF	103	105	40-135	5	20				
234678-HxCDF	108	110	40-135	4	20				
1234678-HpCDF	103	102	40-135	1	20				
1234789-HpCDF	102	103	40-135	2	20				
OCDF	100	102	40-135	4	20				

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: 7b SVOC SIM EPA 8270D

Batch number: 13231WAH026

Fluoranthene-d10 Benzo(a)pyrene-d12 1-Methylnaphthalene-d10

7162021	92	94	104
Blank	87	91	95
LCS	90	96	101
LCSD	83	92	94

Limits: 44-137 62-141 51-136

Analysis Name: 7a SVOC SIM EPA 8270D

Batch number: 13232SLB026

Fluoranthene-d10 Benzo(a)pyrene-d12 1-Methylnaphthalene-d10

7162023	87	97	97
7162024	85	95	95
7162025	84	91	95
7162026	90	100	101
7162027	85	93	98
7162028	92	103	102
Blank	89	98	103
LCS	91	102	103
MS	87	96	98
MSD	89	97	100

Limits: 54-129 59-125 61-125

Analysis Name: 11a TPH by EPA 8015B GRO

Batch number: 13227A16A

*- Outside of specification

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/30/13 at 01:38 PM

Group Number: 1411680

Surrogate Quality Control

Trifluorotoluene-F

7162024	75
7162026	147*
7162028	158*
Blank	85
LCS	81
MS	60*
MSD	70

Limits: 61-122

Analysis Name: 11b TPH by EPA 8015B GRO
Batch number: 13228A94A
Trifluorotoluene-F

7162021	73
7162022	82
Blank	83
LCS	80
LCSD	77

Limits: 63-135

Analysis Name: 21b PCBs and PCTs 8082A
Batch number: 132320009A
Tetrachloro-m-xylene Decachlorobiphenyl

7162021	103	87
Blank	102	101
LCS	118	79
LCSD	110	103

Limits: 45-120 45-120

Analysis Name: 22b Pesticides by EPA 8081B
Batch number: 132320010A
Tetrachloro-m-xylene Decachlorobiphenyl

7162021	78	69
Blank	78	82
LCS	79	47
LCSD	85	53

Limits: 60-140 20-120

Analysis Name: 24b Herbicides by EPA 8151A
Batch number: 132320015A
2,4-Dichlorophenylacetic acid

7162021	63
Blank	67
LCS	89
LCSD	79

*- Outside of specification

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/30/13 at 01:38 PM

Group Number: 1411680

Surrogate Quality Control

Limits: 50-150

Analysis Name: 19a PCBs and PCTs 8082A

Batch number: 132330010A

	Tetrachloro-m-xylene	Decachlorobiphenyl
7162023	104	101
7162024	99	96
7162025	89	93
7162026	103	109
7162027	103	101
7162028	102	104
Blank	112	120
LCS	101	106
LCSD	113	128*
MS	102	105
MSD	101	111

Limits: 45-120 45-120

Analysis Name: 10b TPH by EPA 8015B (DRO)

Batch number: 132330013A

	Chlorobenzene	Orthoterphenyl
7162021	99	94
Blank	103	94
LCS	97	96
LCSD	99	98

Limits: 45-126 69-119

Analysis Name: 10a TPH by EPA 8015B (DRO)

Batch number: 132340019A

	Chlorobenzene	Orthoterphenyl
7162023	78	77
7162024	79	77
7162025	77	78
7162026	82	81
7162027	80	82
7162028	74	70
Blank	81	79
LCS	82	84
LCSD	80	82

Limits: 37-125 66-123

Analysis Name: 17b Dioxin/Furan by EPA 1613B

Batch number: 13232004

	13C12-2378-TCDD	13C12-23478-PeCDF	13C12-123478-HxCDF	13C12-123678-HxCDF	13C12-234678-HxCDF	13C12-123789-HxCDF
7162021	56	72	78	78	77	74
Blank	62	75	72	71	73	78
OPR	66	79	84	85	84	85

Limits: 25-164 21-178 26-152 26-123 28-136 29-147

*- Outside of specification

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/30/13 at 01:38 PM

Group Number: 1411680

Surrogate Quality Control

	13C12-1234678-HpCDF	13C12-1234789-HpCDF	13C12-OCDF	13C12-12378-PeCDD	13C12-123478-HxCDD	13C12-123678-HxCDD
7162021	77	77	79	59	66	66
Blank	75	74	74	63	65	64
OPR	87	88	87	74	81	83

Limits:	28-143	26-138	17-157	25-181	32-141	28-130
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	13C12-123789-HxCDD	13C12-1234678-HpCDD	13C12-OCDD	13C12-2378-TCDF	13C12-12378-PeCDF
7162021	64	67	72	67	70
Blank	64	66	71	62	67
OPR	81	84	85	72	78

Limits:	28-130	23-140	17-157	24-169	24-185
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Analysis Name: 23a Dioxin/Furan by EPA 1613B
Batch number: 13234002

	13C12-2378-TCDD	13C12-23478-PeCDF	13C12-123478-HxCDF	13C12-123678-HxCDF	13C12-234678-HxCDF	13C12-123789-HxCDF
7162023	68	78	67	79	74	78
7162024	56	58	57	72	63	60
7162025	65	73	62	78	67	59
7162026	62	50	50	61	54	58
7162027	66	77	63	74	68	59
7162028	58	58	56	73	64	50
Blank	68	82	68	80	74	66
MS	61	88	76	94	84	69
MSD	58	83	71	83	70	71
OPR	57	69	52	61	57	64

Limits:	25-164	21-178	26-152	26-123	28-136	29-147
---------	--------	--------	--------	--------	--------	--------

	13C12-1234678-HpCDF	13C12-1234789-HpCDF	13C12-OCDF	13C12-12378-PeCDD	13C12-123478-HxCDD	13C12-123678-HxCDD
7162023	118	74	64	82	79	81
7162024	93	49	50	65	69	73
7162025	116	62	53	81	76	79
7162026	79	44	42	57	59	61
7162027	110	66	56	82	74	78
7162028	98	48	44	67	70	79
Blank	106	78	79	89	83	92
MS	123	74	76	76	76	83
MSD	121	72	73	77	69	73
OPR	89	57	54	77	68	70

Limits:	28-143	26-138	17-157	25-181	32-141	28-130
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	13C12-123789-HxCDD	13C12-1234678-HpCDD	13C12-OCDD	13C12-2378-TCDF	13C12-12378-PeCDF
7162023	83	103	97	66	89
7162024	72	77	83	53	67
7162025	79	104	91	63	91
7162026	62	68	68	51	61
7162027	77	98	89	63	86

*- Outside of specification

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 08/30/13 at 01:38 PM

Group Number: 1411680

Surrogate Quality Control

7162028	75	90	78	53	70
Blank	89	105	114	63	83
MS	80	95	96	65	95
MSD	68	91	94	59	92
OPR	72	83	88	52	74
Limits:	28-130	23-140	17-157	24-169	24-185

*- Outside of specification

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- (2) The unspiked result was more than four times the spike added.

SSFL Phase 3 Chain of Custody

13013

1411680

7162021-28

CDM Smith

Date Shipped: 8/14/2013

Carrier Name: FedEx

Airbill No: 796466403239

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

COC No: 20130814-01

Cooler #: 2

Lab: Lancaster

Lab Phone: 717-556-7259

Lab Address: 2425 New Holland Pike
Lancaster, PA 17601

Sample	Date/Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Methyl Mercury 1630	Organotin	NDMA 1625	Formaldehyde 8315	Cyanide 9012	Energetics 8330	Nitrates 300.0/9056	Terphenyls 8015	Alcohols 8015	Glycols 8015	TPH-EFH 8015	TPH-GRO 8015	1,4 Dioxane 8260 SIM	VOCs 8260	Pesticides 8081	Herbicides 8151	Hex Cr 7196/7199	pH 9040 (Water)	pH 9045 (Soil)	Perchlorate Confirm 6850/6860	Perchlorate 314.0/331	PCBs/PCTs 8082	Dioxins 1613	1,4 Dioxane 8270 SIM	PAHs 8270 SIM	TIC 8270	SVOC 8270	Fluoride 300.0/9056	Mercury 7470 (Water)	Mercury 7471 (Soil)	Metals 6010 and 6020	Other Analysis/Notes			
EB-081413	8/14/13 15:00	WQ	HNO3 pH<2	1 - 250 mL Poly	10 day	X	X																																	
EB-081413	8/14/13 15:00	WQ	None	3 - 250 mL Amber	10 day													X							X															
EB-081413	8/14/13 15:00	WQ	None	4 - 1 L Amber	10 day																				X															
EB-081413	8/14/13 15:00	WQ	HCl	2 - 1 L Amber	10 day											X																								
EB-081413	8/14/13 15:00	WQ	None	1 - 250 mL Poly	10 day																			X																
EB-081413	8/14/13 15:00	WQ	HCl	3 - 40 mL Vial	10 day											X																								

Special Instructions: _____ Sampler: *Pam Hartman*

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
<i>Steph Mysel</i>	8/14/2013	1600									
									<i>Bruno</i>	8-15-13	905

SSFL Phase 3 Chain of Custody

CDM Smith
 DateShipped: 8/14/2013
 CarrierName: FedEx
 AirbillNo: 796466403239

Contact Name: Pam Hartman
 Contact Phone: (818)466-8007

COC No: 20130814-02
 Cooler #: 3
 Lab: Lancaster
 Lab Phone: 717-556-7259
 Lab Address: 2425 New Holland Pike
 Lancaster, PA 17601

Sample	Date/Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Fluoride 300.0/9056	Mercury 7470 (Water)	Mercury 7471 (Soil)	Metals 6010 and 6020	TIC 8270	SVOC 8270	1,4 Dioxane 8270 SIM	PAHs 8270 SIM	Pesticides 8081	Herbicides 8151	Hex Cr 7196/7199	pH 9040 (Water)	pH 9045 (Soil)	Perchlorate Confirm 6850/6860	Perchlorate 314.0/331	PCBs/PCTs 8082	Dioxins 1613	1,4 Dioxane 8260 SIM	VOCs 8260	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Nitrates 3001/9036	Terphenyls 8015	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Methyl Mercury 1630	Organotin	Other Analysis/Notes						
TB-081413	8/14/13 08:00	WQ	HCl	3 - 40 mL Vial	10 day																																						
SL-600-SA8-SB-0.0-0.5	8/14/13 08:25	SO	None	2 - SS-Sleeve	10 day	X	X					X	X												X																		
SL-600-SA8-SB-0.0-0.5	8/14/13 08:25	SO	None	1 - 4 oz glass	10 day														X																								
SL-600-SA8-SB-4.0-5.0	8/14/13 08:40	SO	None	2 - SS-Sleeve	10 day	X	X					X	X												X																		
SL-600-SA8-SB-4.0-5.0	8/14/13 08:40	SO	None	1 - 4 oz glass	10 day														X																								
SL-600-SA8-SB-4.0-5.0	8/14/13 08:40	SO	None	2 - Encore	10 day																				X																		
SL-602-SA8-SB-0.0-0.5	8/14/13 10:15	SO	None	2 - SS-Sleeve	10 day	X	X					X	X												X																		
SL-602-SA8-SB-0.0-0.5	8/14/13 10:15	SO	None	1 - 4 oz glass	10 day														X																								
SL-602-SA8-SB-4.0-5.0	8/14/13 10:40	SO	None	2 - SS-Sleeve	10 day	X	X					X	X												X																		
SL-602-SA8-SB-4.0-5.0	8/14/13 10:40	SO	None	1 - 4 oz glass	10 day														X																								
SL-602-SA8-SB-4.0-5.0	8/14/13 10:40	SO	None	2 - Encore	10 day																				X																		
SL-613-SA8-SB-0.0-0.5	8/14/13 13:30	SO	None	2 - SS-Sleeve	10 day	X	X					X	X												X																		
SL-613-SA8-SB-0.0-0.5	8/14/13 13:30	SO	None	1 - 4 oz glass	10 day														X																								
SL-613-SA8-SB-4.0-5.0	8/14/13 13:50	SO	None	2 - 16 oz glass	10 day	X	X					X	X												X																		
SL-613-SA8-SB-4.0-5.0	8/14/13 13:50	SO	None	1 - 4 oz glass	10 day														X																								
SL-613-SA8-SB-4.0-5.0	8/14/13 13:50	SO	None	2 - Encore	10 day																				X																		

Special Instructions: Sampler: *Stu Mene*

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
<i>Stu Mene</i>	8/14/2013	1600									

Brenely 8:15:13 905
Brenely
 1 of 1

Environmental Sample Administration
Receipt Documentation Log

1411680

Client/Project: CDM
 Date of Receipt: 8.15.13
 Time of Receipt: 905
 Source Code: 50-1

Shipping Container Sealed: YES NO

Custody Seal Present * : YES NO

* Custody seal was intact unless otherwise noted in the discrepancy section

Package: Chilled Not Chilled

Temperature of Shipping Containers

Cooler #	Thermometer ID	Temperature (°C)	Temp Bottle (TB) or Surface Temp (ST)	Wet Ice (WI) or Dry Ice (DI) or Ice Packs (IP)	Ice Present? Y/N	Loose (L) Bagged Ice (B) or NA	Comments
1	DH46	0.7	TB	WI	X	B	
2	↓	1.8	↓	↓	↓	↓	
3	↓	1.1	↓	↓	↓	↓	
4	/						
5	/						
6	/						

Number of Trip Blanks received NOT listed on chain of custody: 0

Paperwork Discrepancy/Unpacking Problems:

Unpacker Signature/Emp#: Branely Bauchy 2299 Date/Time: 8.15.13 1234

Issued by Dept. 6042 Management

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	BMQL	Below Minimum Quantitation Level
N.D.	none detected	MPN	Most Probable Number
TNTC	Too Numerous To Count	CP Units	cobalt-chloroplatinate units
IU	International Units	NTU	nephelometric turbidity units
umhos/cm	micromhos/cm	ng	nanogram(s)
C	degrees Celsius	F	degrees Fahrenheit
meq	milliequivalents	lb.	pound(s)
g	gram(s)	kg	kilogram(s)
µg	microgram(s)	mg	milligram(s)
mL	milliliter(s)	L	liter(s)
m³	cubic meter(s)	µL	microliter(s)
		pg/L	picogram/liter

< less than - The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Data Qualifiers:

C – result confirmed by reanalysis.

J - estimated value – The result is \geq the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ).

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers

- A** TIC is a possible aldol-condensation product
- B** Analyte was also detected in the blank
- C** Pesticide result confirmed by GC/MS
- D** Compound quantitated on a diluted sample
- E** Concentration exceeds the calibration range of the instrument
- N** Presumptive evidence of a compound (TICs only)
- P** Concentration difference between primary and confirmation columns $>25\%$
- U** Compound was not detected
- X,Y,Z** Defined in case narrative

Inorganic Qualifiers

- B** Value is $<$ CRDL, but \geq IDL
- E** Estimated due to interference
- M** Duplicate injection precision not met
- N** Spike sample not within control limits
- S** Method of standard additions (MSA) used for calculation
- U** Compound was not detected
- W** Post digestion spike out of control limits
- *** Duplicate analysis not within control limits
- +** Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

SAMPLE DELIVERY GROUP

PH092

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

September 03, 2013

Project: SSFL Phase 3 Sampling

Submittal Date: 08/16/2013
Group Number: 1411980
SDG: PH092
PO Number: 1204-002-001-AL
State of Sample Origin: CA

Client Sample Description

SL-594-SA8-SB-0.0-0.5 Soil
SL-595-SA8-SB-0.0-0.5 Soil
SL-597-SA8-SB-0.0-0.5 Soil

Lancaster Labs (LL) #

7163550
7163551
7163552

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC Eurofins Lancaster Labs Env
COPY TO

Attn: Nicole Maljovec

Respectfully Submitted,



Natalie R. Luciano
Senior Specialist

(717) 556-7258

Sample Description: SL-594-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7163550
LL Group # 1411980
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/15/2013 08:00 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/16/2013 08:50
Reported: 09/03/2013 10:14

SL594 SDG#: PH092-01

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	1.7 U	1.7	0.67	1
12969	Acenaphthylene	208-96-8	1.7 U	1.7	0.34	1
12969	Anthracene	120-12-7	1.7 U	1.7	0.34	1
12969	Benzo(a)anthracene	56-55-3	0.68 J	1.7	0.67	1
12969	Benzo(a)pyrene	50-32-8	1.7 U	1.7	0.67	1
12969	Benzo(b)fluoranthene	205-99-2	1.3 J	1.7	0.67	1
12969	Benzo(e)pyrene	192-97-2	17 U	17	3.4	1
12969	Benzo(g,h,i)perylene	191-24-2	1.7 U	1.7	0.67	1
12969	Benzo(k)fluoranthene	207-08-9	1.7 U	1.7	0.67	1
12969	Butylbenzylphthalate	85-68-7	18 U	18	6.1	1
12969	Di-n-butylphthalate	84-74-2	18 U	18	6.1	1
12969	Chrysene	218-01-9	1.1 J	1.7	0.34	1
12969	Dibenz(a,h)anthracene	53-70-3	1.7 U	1.7	0.67	1
12969	Diethylphthalate	84-66-2	18 U	18	6.1	1
12969	Dimethylphthalate	131-11-3	18 U	18	6.1	1
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	18 U	18	6.1	1
12969	Fluoranthene	206-44-0	1.6 J	1.7	0.67	1
12969	Fluorene	86-73-7	1.7 U	1.7	0.67	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	1.7 U	1.7	0.67	1
12969	1-Methylnaphthalene	90-12-0	1.0 J	1.7	0.67	1
12969	2-Methylnaphthalene	91-57-6	0.86 J	1.7	0.67	1
12969	Naphthalene	91-20-3	2.0 U	1.7	0.67	1
12969	N-Nitrosodimethylamine	62-75-9	1.7 U	1.7	0.67	1
12969	Di-n-octylphthalate	117-84-0	18 U	18	6.1	1
12969	Phenanthrene	85-01-8	1.2 J	1.7	0.67	1
12969	Pyrene	129-00-0	1.2 J	1.7	0.67	1
Pesticides/PCBs	SW-846 8082A		ug/kg	ug/kg	ug/kg	
10592	Aroclor 5432	63496-31-1	33 U	33	10	1
10592	Aroclor 5442	12642-23-8	33 U	33	10	1
10592	Aroclor 5460	11126-42-4	33 U	33	10	1
10592	PCB-1016	12674-11-2	17 U	17	3.3	1
10592	PCB-1221	11104-28-2	17 U	17	5.2	1
10592	PCB-1232	11141-16-5	17 U	17	4.1	1
10592	PCB-1242	53469-21-9	17 U	17	4.1	1
10592	PCB-1248	12672-29-6	17 U	17	3.3	1
10592	PCB-1254	11097-69-1	160 U	17	4.5	1
10592	PCB-1260	11096-82-5	17 U	17	3.9	1
10592	PCB-1262	37324-23-5	17 U	17	3.3	1
10592	PCB-1268	11100-14-4	17 U	17	3.3	1
GC Petroleum	SW-846 8015B modified		mg/kg	mg/kg	mg/kg	
Hydrocarbons						
12952	EFH (C12-C14)	n.a.	5.1 U	5.1	2.0	1
12952	EFH (C15-C20)	n.a.	5.1 U	5.1	2.0	1
12952	EFH (C21-C30)	n.a.	3.6 J	5.1	2.0	1
12952	EFH (C30-C40)	n.a.	7.0 J	10	4.0	1
12952	EFH (C8-C11)	n.a.	5.1 U	5.1	2.0	1
Metals	SW-846 6010C		mg/kg	mg/kg	mg/kg	

*=This limit was used in the evaluation of the final result

Sample Description: SL-594-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7163550
LL Group # 1411980
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/15/2013 08:00 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/16/2013 08:50
Reported: 09/03/2013 10:14

SL594 SDG#: PH092-01

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals						
		SW-846 6010C	mg/kg	mg/kg	mg/kg	
01643	Aluminum	7429-90-5	14,500	38.9	7.02	1
06944	Antimony	7440-36-0	3.89 U	3.89	0.720	1
06935	Arsenic	7440-38-2	4.64	3.89	0.681	1
06946	Barium	7440-39-3	89.7	0.973	0.0321	1
06947	Beryllium	7440-41-7	0.486 J	0.973	0.0652	1
07914	Boron	7440-42-8	5.01 J	9.73	0.818	1
06949	Cadmium	7440-43-9	0.290 J	0.973	0.0740	1
01650	Calcium	7440-70-2	4,040	19.5	3.25	1
06951	Chromium	7440-47-3	19.4	2.92	0.156	1
06952	Cobalt	7440-48-4	5.23	0.973	0.0963	1
06953	Copper	7440-50-8	8.48	1.95	0.282	1
01654	Iron	7439-89-6	21,100	38.9	3.52	1
06955	Lead	7439-92-1	8.75	2.92	0.487	1
01656	Lithium	7439-93-2	26.4	3.9	0.33	1
01657	Magnesium	7439-95-4	4,570	9.73	1.63	1
06958	Manganese	7439-96-5	305	0.973	0.0808	1
06960	Molybdenum	7439-98-7	0.244 J	1.95	0.165	1
06961	Nickel	7440-02-0	10.3	1.95	0.127	1
10145	Phosphorus	7723-14-0	337	9.73	2.81	1
01662	Potassium	7440-09-7	3,170	97.3	8.12	1
01667	Sodium	7440-23-5	80.3 J	97.3	16.3	1
06969	Tin	7440-31-5	3.23 J	9.73	0.214	1
06970	Titanium	7440-32-6	1,130	4.87	0.827	5
06971	Vanadium	7440-62-2	32.7	0.973	0.127	1
06972	Zinc	7440-66-6	68.9	3.89	0.195	1
10146	Zirconium	7440-67-7	3.49 J	4.87	0.818	1
		SW-846 6020A	mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	0.140 J	0.389	0.0973	2
06142	Silver	7440-22-4	0.195 U	0.195	0.0253	2
06144	Strontium	7440-24-6	17.6	0.389	0.0662	2
06145	Thallium	7440-28-0	0.273	0.195	0.0292	2
		SW-846 7471B	mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.0162 U	0.0162	0.0097	1
Wet Chemistry						
		SW-846 9045D modified	Std. Units	Std. Units	Std. Units	
00394	15a pH by 9045D The pH was measured in water at 21.9 C.	n.a.	7.09	0.0100	0.0100	1
Wet Chemistry						
		EPA 160.3 modified	%	%	%	
11624	14a Moisture Content by 160.3 Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.	n.a.	1.2	0.10	0.10	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-594-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7163550
LL Group # 1411980
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/15/2013 08:00 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/16/2013 08:50
Reported: 09/03/2013 10:14

SL594 SDG#: PH092-01

CAT No.	Analysis Name	CAS Number	Dry Result		Dry MRL*	Dry EDL	Dilution Factor
Dioxins/Furans			EPA 1613B		ng/kg	ng/kg	
11031	2378-TCDD	1746-01-6	1.00	U	1.00	0.0645	1
11031	12378-PeCDD	40321-76-4	0.162	JBQ	5.01	0.0801	1
11031	123478-HxCDD	39227-28-6	0.107	JQ	5.01	0.0463	1
11031	123678-HxCDD	57653-85-7	0.275	J	5.01	0.0532	1
11031	123789-HxCDD	19408-74-3	0.177	JQ	5.01	0.0533	1
11031	1234678-HpCDD	35822-46-9	3.89	JB	5.01	0.0612	1
11031	OCDD	3268-87-9	34.2	B	10.0	0.0516	1
11650	2378-TCDF-Conf	51207-31-9	0.938	JC	1.00	0.159	1
11031	12378-PeCDF	57117-41-6	7.84		5.01	0.0825	1
11031	23478-PeCDF	57117-31-4	1.95	JB	5.01	0.0915	1
11031	123478-HxCDF	70648-26-9	0.878	JB	5.01	0.0546	1
11031	123678-HxCDF	57117-44-9	0.273	JBQ	5.01	0.0457	1
11031	123789-HxCDF	72918-21-9	0.189	JQ	5.01	0.0600	1
11031	234678-HxCDF	60851-34-5	0.185	JQ	5.01	0.0478	1
11031	1234678-HpCDF	67562-39-4	1.12	JB	5.01	0.0254	1
11031	1234789-HpCDF	55673-89-7	0.188	JBQ	5.01	0.0551	1
11031	OCDF	39001-02-0	3.16	JBQ	10.0	0.0750	1

Toxic Equivalents		EPA 1613B	ng/kg	ng/kg	ng/kg	
11031	TEQ WHO 2005 - EDLx0.0	n.a.	1.09			1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	69	25 - 164
13C12-2378-TCDF-Conf	74	24 - 169
13C12-12378-PeCDD	76	25 - 181
13C12-123478-HxCDD	77	32 - 141
13C12-123678-HxCDD	82	28 - 130
13C12-123789-HxCDD	81	28 - 130
13C12-1234678-HpCDD	96	23 - 140
13C12-OCDD	84	17 - 157
13C12-12378-PeCDF	82	24 - 185
13C12-23478-PeCDF	70	21 - 178
13C12-123478-HxCDF	64	26 - 152
13C12-123678-HxCDF	78	26 - 123
13C12-234678-HxCDF	72	28 - 136
13C12-123789-HxCDF	73	29 - 147
13C12-1234678-HpCDF	108	28 - 143
13C12-1234789-HpCDF	63	26 - 138
13C12-OCDF	56	17 - 157

Dioxins/Furans Data Qualifiers:

- B Detected in Method Blank
- U Undetected
- J Estimated concentration between Estimated Detection Limit and Minimum Level
- E Exceeds calibration range
- C Confirmed quantitation on secondary GC column
- Q EMPC - Estimated Maximum Possible Concentration

*=This limit was used in the evaluation of the final result

Sample Description: SL-594-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7163550
LL Group # 1411980
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/15/2013 08:00 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/16/2013 08:50

Reported: 09/03/2013 10:14

SL594 SDG#: PH092-01

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
F	Interference is present					
S	Saturation of detection signal					

*=This limit was used in the evaluation of the final result

Sample Description: SL-594-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7163550
LL Group # 1411980
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/15/2013 08:00 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/16/2013 08:50
Reported: 09/03/2013 10:14

SL594 SDG#: PH092-01

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13232SLB026	08/23/2013 11:53	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	13232SLB026	08/20/2013 16:00	David S Schrum	1
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132330010A	08/26/2013 18:41	Monica M Souders	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132330010A	08/21/2013 15:30	Sally L Appleyard	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132330018A	08/22/2013 22:25	Heather E Williams	1
12959	EFH soil ext. (microwave)	SW-846 3546	1	132330018A	08/21/2013 14:00	David S Schrum	1
11031	23a Dioxin/Furan by EPA 1613B	EPA 1613B	1	13234002	08/28/2013 15:18	Joseph D Anderson	1
11650	Dioxins/Furans in Solids- Conf	EPA 1613B	1	13234002	08/30/2013 16:00	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	13234002	08/22/2013 12:30	Deborah M Zimmerman	1
01643	Aluminum	SW-846 6010C	1	132330637001	08/25/2013 13:29	Katlin N Cataldi	1
06944	Antimony	SW-846 6010C	1	132330637001	08/25/2013 13:29	Katlin N Cataldi	1
06935	Arsenic	SW-846 6010C	1	132330637001	08/25/2013 13:29	Katlin N Cataldi	1
06946	Barium	SW-846 6010C	1	132330637001	08/25/2013 13:29	Katlin N Cataldi	1
06947	Beryllium	SW-846 6010C	1	132330637001	08/25/2013 13:29	Katlin N Cataldi	1
07914	Boron	SW-846 6010C	1	132330637001	08/25/2013 13:29	Katlin N Cataldi	1
06949	Cadmium	SW-846 6010C	1	132330637001	08/25/2013 13:29	Katlin N Cataldi	1
01650	Calcium	SW-846 6010C	1	132330637001	08/25/2013 13:29	Katlin N Cataldi	1
06951	Chromium	SW-846 6010C	1	132330637001	08/25/2013 13:29	Katlin N Cataldi	1
06952	Cobalt	SW-846 6010C	1	132330637001	08/25/2013 13:29	Katlin N Cataldi	1
06953	Copper	SW-846 6010C	1	132330637001	08/25/2013 13:29	Katlin N Cataldi	1
01654	Iron	SW-846 6010C	1	132330637001	08/25/2013 13:29	Katlin N Cataldi	1
06955	Lead	SW-846 6010C	1	132330637001	08/25/2013 13:29	Katlin N Cataldi	1
01656	Lithium	SW-846 6010C	1	132330637001	08/25/2013 13:29	Katlin N Cataldi	1
01657	Magnesium	SW-846 6010C	1	132330637001	08/25/2013 13:29	Katlin N Cataldi	1
06958	Manganese	SW-846 6010C	1	132330637001	08/25/2013 13:29	Katlin N Cataldi	1
06960	Molybdenum	SW-846 6010C	1	132330637001	08/25/2013 13:29	Katlin N Cataldi	1
06961	Nickel	SW-846 6010C	1	132330637001	08/25/2013 13:29	Katlin N Cataldi	1
10145	Phosphorus	SW-846 6010C	1	132330637001	08/25/2013 13:29	Katlin N Cataldi	1
01662	Potassium	SW-846 6010C	1	132330637001	08/25/2013 13:29	Katlin N Cataldi	1
01667	Sodium	SW-846 6010C	1	132330637001	08/25/2013 13:29	Katlin N Cataldi	1
06969	Tin	SW-846 6010C	1	132330637001	08/25/2013 13:29	Katlin N Cataldi	1
06970	Titanium	SW-846 6010C	1	132330637001	08/26/2013 10:26	Eric L Eby	5
06971	Vanadium	SW-846 6010C	1	132330637001	08/25/2013 13:29	Katlin N Cataldi	1
06972	Zinc	SW-846 6010C	1	132330637001	08/25/2013 13:29	Katlin N Cataldi	1
10146	Zirconium	SW-846 6010C	1	132330637001	08/25/2013 13:29	Katlin N Cataldi	1
06141	Selenium	SW-846 6020A	1	132330637001B	08/23/2013 00:14	David K Beck	2
06142	Silver	SW-846 6020A	1	132330637001A	08/23/2013 00:14	David K Beck	2

*=This limit was used in the evaluation of the final result

Sample Description: SL-594-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7163550
LL Group # 1411980
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/15/2013 08:00 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/16/2013 08:50

Reported: 09/03/2013 10:14

SL594 SDG#: PH092-01

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
06144	Strontium	SW-846 6020A	1	132330637001A	08/23/2013	00:14	David K Beck	2
06145	Thallium	SW-846 6020A	1	132330637001A	08/23/2013	00:14	David K Beck	2
00159	3a Mercury 7471A	SW-846 7471B	1	132320638002	08/22/2013	10:15	Damary Valentin	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132330637001	08/21/2013	22:52	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132320638002	08/21/2013	12:10	Denise K Conners	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13228039401A	08/16/2013	19:26	Clayton C Litchmore	1
11624	14a Moisture Content by 160.3	EPA 160.3 modified	1	13235162401A	08/24/2013	00:12	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-595-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7163551
LL Group # 1411980
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/15/2013 08:35 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/16/2013 08:50
Reported: 09/03/2013 10:14

SL595 SDG#: PH092-02

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	1.7 U	1.7	0.67	1
12969	Acenaphthylene	208-96-8	1.7 U	1.7	0.34	1
12969	Anthracene	120-12-7	1.7 U	1.7	0.34	1
12969	Benzo(a)anthracene	56-55-3	1.0 J	1.7	0.67	1
12969	Benzo(a)pyrene	50-32-8	1.4 J	1.7	0.67	1
12969	Benzo(b)fluoranthene	205-99-2	3.3	1.7	0.67	1
12969	Benzo(e)pyrene	192-97-2	17 U	17	3.3	1
12969	Benzo(g,h,i)perylene	191-24-2	0.82 J	1.7	0.67	1
12969	Benzo(k)fluoranthene	207-08-9	1.1 J	1.7	0.67	1
12969	Butylbenzylphthalate	85-68-7	18 U	18	6.0	1
12969	Di-n-butylphthalate	84-74-2	18 U	18	6.0	1
12969	Chrysene	218-01-9	2.6	1.7	0.34	1
12969	Dibenz(a,h)anthracene	53-70-3	1.7 U	1.7	0.67	1
12969	Diethylphthalate	84-66-2	18 U	18	6.0	1
12969	Dimethylphthalate	131-11-3	18 U	18	6.0	1
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	13 J	18	6.0	1
12969	Fluoranthene	206-44-0	3.5	1.7	0.67	1
12969	Fluorene	86-73-7	1.7 U	1.7	0.67	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	0.81 J	1.7	0.67	1
12969	1-Methylnaphthalene	90-12-0	1.4 J	1.7	0.67	1
12969	2-Methylnaphthalene	91-57-6	0.94 J	1.7	0.67	1
12969	Naphthalene	91-20-3	2.0	1.7	0.67	1
12969	N-Nitrosodimethylamine	62-75-9	1.7 U	1.7	0.67	1
12969	Di-n-octylphthalate	117-84-0	18 U	18	6.0	1
12969	Phenanthrene	85-01-8	1.5 J	1.7	0.67	1
12969	Pyrene	129-00-0	2.8	1.7	0.67	1
Pesticides/PCBs	SW-846 8082A		ug/kg	ug/kg	ug/kg	
10592	Aroclor 5432	63496-31-1	170 U	170	50	5
10592	Aroclor 5442	12642-23-8	170 U	170	50	5
10592	Aroclor 5460	11126-42-4	170 U	170	50	5
10592	PCB-1016	12674-11-2	85 U	85	17	5
10592	PCB-1221	11104-28-2	85 U	85	26	5
10592	PCB-1232	11141-16-5	85 U	85	21	5
10592	PCB-1242	53469-21-9	85 U	85	21	5
10592	PCB-1248	12672-29-6	85 U	85	17	5
10592	PCB-1254	11097-69-1	380	85	22	5
10592	PCB-1260	11096-82-5	85 U	85	20	5
10592	PCB-1262	37324-23-5	85 U	85	17	5
10592	PCB-1268	11100-14-4	85 U	85	17	5
GC Petroleum	SW-846 8015B modified		mg/kg	mg/kg	mg/kg	
Hydrocarbons						
12952	EFH (C12-C14)	n.a.	5.0 U	5.0	2.0	1
12952	EFH (C15-C20)	n.a.	5.0 U	5.0	2.0	1
12952	EFH (C21-C30)	n.a.	5.0 J	5.0	2.0	1
12952	EFH (C30-C40)	n.a.	15	10	4.0	1
12952	EFH (C8-C11)	n.a.	5.0 U	5.0	2.0	1
Metals	SW-846 6010C		mg/kg	mg/kg	mg/kg	

*=This limit was used in the evaluation of the final result

Sample Description: SL-595-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7163551
LL Group # 1411980
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/15/2013 08:35 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/16/2013 08:50
Reported: 09/03/2013 10:14

SL595 SDG#: PH092-02

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals						
		SW-846 6010C	mg/kg	mg/kg	mg/kg	
01643	Aluminum	7429-90-5	16,000	39.0	7.04	1
06944	Antimony	7440-36-0	3.90 U	3.90	0.722	1
06935	Arsenic	7440-38-2	4.67	3.90	0.683	1
06946	Barium	7440-39-3	94.1	0.976	0.0322	1
06947	Beryllium	7440-41-7	0.549 J	0.976	0.0654	1
07914	Boron	7440-42-8	5.66 J	9.76	0.820	1
06949	Cadmium	7440-43-9	0.321 J	0.976	0.0742	1
01650	Calcium	7440-70-2	3,230	19.5	3.26	1.5
06951	Chromium	7440-47-3	20.0	2.93	0.156	1
06952	Cobalt	7440-48-4	6.12	0.976	0.0966	1
06953	Copper	7440-50-8	10.3	1.95	0.283	1
01654	Iron	7439-89-6	22,100	39.0	3.53	1
06955	Lead	7439-92-1	11.6	2.93	0.488	1
01656	Lithium	7439-93-2	24.6	3.9	0.33	1
01657	Magnesium	7439-95-4	4,620	9.76	1.63	1
06958	Manganese	7439-96-5	328	0.976	0.0810	1
06960	Molybdenum	7439-98-7	0.355 J	1.95	0.166	1
06961	Nickel	7440-02-0	11.2	1.95	0.127	1
10145	Phosphorus	7723-14-0	370	9.76	2.82	1
01662	Potassium	7440-09-7	3,450	97.6	8.14	1
01667	Sodium	7440-23-5	76.2 J	97.6	16.3	1
06969	Tin	7440-31-5	3.17 J	9.76	0.215	1
06970	Titanium	7440-32-6	1,230	4.88	0.830	5
06971	Vanadium	7440-62-2	36.1	0.976	0.127	1
06972	Zinc	7440-66-6	65.6	3.90	0.195	1
10146	Zirconium	7440-67-7	3.90 J	4.88	0.820	1
SW-846 6020A						
			mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	0.126 J	0.390	0.0976	2
06142	Silver	7440-22-4	0.195 U	0.195	0.0254	2
06144	Strontium	7440-24-6	16.2	0.390	0.0664	2
06145	Thallium	7440-28-0	0.240	0.195	0.0293	2
SW-846 7471B						
			mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.0111 J	0.0161	0.0097	1
Wet Chemistry						
		SW-846 9045D modified	Std. Units	Std. Units	Std. Units	
00394	15a pH by 9045D The pH was measured in water at 21.8 C.	n.a.	6.81	0.0100	0.0100	1
Wet Chemistry						
		EPA 160.3 modified	%	%	%	
11624	14a Moisture Content by 160.3 Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.	n.a.	0.52	0.10	0.10	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-595-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7163551
LL Group # 1411980
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/15/2013 08:35 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/16/2013 08:50
Reported: 09/03/2013 10:14

SL595 SDG#: PH092-02

CAT No.	Analysis Name	CAS Number	Dry Result		Dry MRL*	Dry EDL	Dilution Factor
Dioxins/Furans			EPA 1613B		ng/kg	ng/kg	
11031	2378-TCDD	1746-01-6	0.990	U	0.990	0.0914	1
11031	12378-PeCDD	40321-76-4	0.202	JBQ	4.95	0.114	1
11031	123478-HxCDD	39227-28-6	0.352	JQ	4.95	0.0908	1
11031	123678-HxCDD	57653-85-7	0.972	J	4.95	0.103	1
11031	123789-HxCDD	19408-74-3	0.695	J	4.95	0.0972	1
11031	1234678-HpCDD	35822-46-9	20.9	B	4.95	0.103	1
11031	OCDD	3268-87-9	197	B	9.90	0.0583	1
11031	2378-TCDF	51207-31-9	5.17	C	0.990	0.279	1
11031	12378-PeCDF	57117-41-6	13.2		4.95	0.115	1
11031	23478-PeCDF	57117-31-4	7.74	B	4.95	0.112	1
11031	123478-HxCDF	70648-26-9	2.07	JBQ	4.95	0.0649	1
11031	123678-HxCDF	57117-44-9	0.772	JB	4.95	0.0575	1
11031	123789-HxCDF	72918-21-9	0.412	JQ	4.95	0.0803	1
11031	234678-HxCDF	60851-34-5	0.791	J	4.95	0.0604	1
11031	1234678-HpCDF	67562-39-4	4.38	JB	4.95	0.0402	1
11031	1234789-HpCDF	55673-89-7	0.626	JB	4.95	0.0648	1
11031	OCDF	39001-02-0	11.5	B	9.90	0.0711	1

Toxic Equivalents		EPA 1613B	ng/kg	ng/kg	ng/kg
11031	TEQ WHO 2005 - EDLx0.0	n.a.	3.88		1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	66	25 - 164
13C12-12378-PeCDD	79	25 - 181
13C12-123478-HxCDD	78	32 - 141
13C12-123678-HxCDD	79	28 - 130
13C12-123789-HxCDD	79	28 - 130
13C12-1234678-HpCDD	97	23 - 140
13C12-OCDD	105	17 - 157
13C12-2378-TCDF	69	24 - 169
13C12-12378-PeCDF	84	24 - 185
13C12-23478-PeCDF	77	21 - 178
13C12-123478-HxCDF	71	26 - 152
13C12-123678-HxCDF	83	26 - 123
13C12-234678-HxCDF	75	28 - 136
13C12-123789-HxCDF	76	29 - 147
13C12-1234678-HpCDF	106	28 - 143
13C12-1234789-HpCDF	80	26 - 138
13C12-OCDF	78	17 - 157

Dioxins/Furans Data Qualifiers:

- B Detected in Method Blank
- U Undetected
- J Estimated concentration between Estimated Detection Limit and Minimum Level
- E Exceeds calibration range
- C Confirmed quantitation on secondary GC column
- Q EMPC - Estimated Maximum Possible Concentration

*=This limit was used in the evaluation of the final result

Sample Description: SL-595-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7163551
LL Group # 1411980
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/15/2013 08:35 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/16/2013 08:50

Reported: 09/03/2013 10:14

SL595 SDG#: PH092-02

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
F	Interference is present					
S	Saturation of detection signal					

*=This limit was used in the evaluation of the final result

Sample Description: SL-595-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7163551
LL Group # 1411980
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/15/2013 08:35 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/16/2013 08:50
Reported: 09/03/2013 10:14

SL595 SDG#: PH092-02

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13232SLB026	08/23/2013 12:26	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	13232SLB026	08/20/2013 16:00	David S Schrum	1
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132330010A	08/23/2013 17:51	Jessica L Miller	5
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132330010A	08/21/2013 15:30	Sally L Appleyard	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132330018A	08/22/2013 23:06	Heather E Williams	1
12959	EFH soil ext. (microwave)	SW-846 3546	1	132330018A	08/21/2013 14:00	David S Schrum	1
11031	23a Dioxin/Furan by EPA 1613B	EPA 1613B	1	13234002	08/29/2013 13:18	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	13234002	08/22/2013 12:30	Deborah M Zimmerman	1
01643	Aluminum	SW-846 6010C	1	132330637001	08/25/2013 13:33	Katlin N Cataldi	1
06944	Antimony	SW-846 6010C	1	132330637001	08/25/2013 13:33	Katlin N Cataldi	1
06935	Arsenic	SW-846 6010C	1	132330637001	08/25/2013 13:33	Katlin N Cataldi	1
06946	Barium	SW-846 6010C	1	132330637001	08/25/2013 13:33	Katlin N Cataldi	1
06947	Beryllium	SW-846 6010C	1	132330637001	08/25/2013 13:33	Katlin N Cataldi	1
07914	Boron	SW-846 6010C	1	132330637001	08/25/2013 13:33	Katlin N Cataldi	1
06949	Cadmium	SW-846 6010C	1	132330637001	08/25/2013 13:33	Katlin N Cataldi	1
01650	Calcium	SW-846 6010C	1	132330637001	08/25/2013 13:33	Katlin N Cataldi	1
06951	Chromium	SW-846 6010C	1	132330637001	08/25/2013 13:33	Katlin N Cataldi	1
06952	Cobalt	SW-846 6010C	1	132330637001	08/25/2013 13:33	Katlin N Cataldi	1
06953	Copper	SW-846 6010C	1	132330637001	08/25/2013 13:33	Katlin N Cataldi	1
01654	Iron	SW-846 6010C	1	132330637001	08/25/2013 13:33	Katlin N Cataldi	1
06955	Lead	SW-846 6010C	1	132330637001	08/25/2013 13:33	Katlin N Cataldi	1
01656	Lithium	SW-846 6010C	1	132330637001	08/25/2013 13:33	Katlin N Cataldi	1
01657	Magnesium	SW-846 6010C	1	132330637001	08/25/2013 13:33	Katlin N Cataldi	1
06958	Manganese	SW-846 6010C	1	132330637001	08/25/2013 13:33	Katlin N Cataldi	1
06960	Molybdenum	SW-846 6010C	1	132330637001	08/25/2013 13:33	Katlin N Cataldi	1
06961	Nickel	SW-846 6010C	1	132330637001	08/25/2013 13:33	Katlin N Cataldi	1
10145	Phosphorus	SW-846 6010C	1	132330637001	08/25/2013 13:33	Katlin N Cataldi	1
01662	Potassium	SW-846 6010C	1	132330637001	08/25/2013 13:33	Katlin N Cataldi	1
01667	Sodium	SW-846 6010C	1	132330637001	08/25/2013 13:33	Katlin N Cataldi	1
06969	Tin	SW-846 6010C	1	132330637001	08/25/2013 13:33	Katlin N Cataldi	1
06970	Titanium	SW-846 6010C	1	132330637001	08/26/2013 10:30	Eric L Eby	5
06971	Vanadium	SW-846 6010C	1	132330637001	08/25/2013 13:33	Katlin N Cataldi	1
06972	Zinc	SW-846 6010C	1	132330637001	08/25/2013 13:33	Katlin N Cataldi	1
10146	Zirconium	SW-846 6010C	1	132330637001	08/25/2013 13:33	Katlin N Cataldi	1
06141	Selenium	SW-846 6020A	1	132330637001B	08/23/2013 00:17	David K Beck	2
06142	Silver	SW-846 6020A	1	132330637001A	08/23/2013 00:17	David K Beck	2
06144	Strontium	SW-846 6020A	1	132330637001A	08/23/2013 00:17	David K Beck	2
06145	Thallium	SW-846 6020A	1	132330637001A	08/23/2013 00:17	David K Beck	2

*=This limit was used in the evaluation of the final result

Sample Description: SL-595-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7163551
LL Group # 1411980
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/15/2013 08:35 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/16/2013 08:50

Reported: 09/03/2013 10:14

SL595 SDG#: PH092-02

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
00159	3a Mercury 7471A	SW-846 7471B	1	132320638002	08/22/2013	10:21	Damary Valentin	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132330637001	08/21/2013	22:52	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132320638002	08/21/2013	12:10	Denise K Connors	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13228039401A	08/16/2013	19:26	Clayton C Litchmore	1
11624	14a Moisture Content by 160.3	EPA 160.3 modified	1	13235162401A	08/24/2013	00:12	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-597-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7163552
LL Group # 1411980
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/15/2013 09:40 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/16/2013 08:50
Reported: 09/03/2013 10:14

SL597 SDG#: PH092-03*

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	1.7 U	1.7	0.67	1
12969	Acenaphthylene	208-96-8	1.7 U	1.7	0.33	1
12969	Anthracene	120-12-7	1.7 U	1.7	0.33	1
12969	Benzo(a)anthracene	56-55-3	1.7 U	1.7	0.67	1
12969	Benzo(a)pyrene	50-32-8	1.7 U	1.7	0.67	1
12969	Benzo(b)fluoranthene	205-99-2	0.87 J	1.7	0.67	1
12969	Benzo(e)pyrene	192-97-2	17 U	17	3.3	1
12969	Benzo(g,h,i)perylene	191-24-2	1.7 U	1.7	0.67	1
12969	Benzo(k)fluoranthene	207-08-9	1.7 U	1.7	0.67	1
12969	Butylbenzylphthalate	85-68-7	18 U	18	6.0	1
12969	Di-n-butylphthalate	84-74-2	18 U	18	6.0	1
12969	Chrysene	218-01-9	0.76 J	1.7	0.33	1
12969	Dibenz(a,h)anthracene	53-70-3	1.7 U	1.7	0.67	1
12969	Diethylphthalate	84-66-2	18 U	18	6.0	1
12969	Dimethylphthalate	131-11-3	18 U	18	6.0	1
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	18 U	18	6.0	1
12969	Fluoranthene	206-44-0	1.1 J	1.7	0.67	1
12969	Fluorene	86-73-7	1.7 U	1.7	0.67	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	1.7 U	1.7	0.67	1
12969	1-Methylnaphthalene	90-12-0	1.7 U	1.7	0.67	1
12969	2-Methylnaphthalene	91-57-6	1.7 U	1.7	0.67	1
12969	Naphthalene	91-20-3	0.84 J	1.7	0.67	1
12969	N-Nitrosodimethylamine	62-75-9	1.7 U	1.7	0.67	1
12969	Di-n-octylphthalate	117-84-0	18 U	18	6.0	1
12969	Phenanthrene	85-01-8	1.7 U	1.7	0.67	1
12969	Pyrene	129-00-0	0.82 J	1.7	0.67	1
Pesticides/PCBs	SW-846 8082A		ug/kg	ug/kg	ug/kg	
10592	Aroclor 5432	63496-31-1	33 U	33	10	1
10592	Aroclor 5442	12642-23-8	33 U	33	10	1
10592	Aroclor 5460	11126-42-4	33 U	33	10	1
10592	PCB-1016	12674-11-2	17 U	17	3.3	1
10592	PCB-1221	11104-28-2	17 U	17	5.1	1
10592	PCB-1232	11141-16-5	17 U	17	4.1	1
10592	PCB-1242	53469-21-9	17 U	17	4.1	1
10592	PCB-1248	12672-29-6	17 U	17	3.3	1
10592	PCB-1254	11097-69-1	17 U	17	4.4	1
10592	PCB-1260	11096-82-5	17 U	17	3.9	1
10592	PCB-1262	37324-23-5	17 U	17	3.3	1
10592	PCB-1268	11100-14-4	17 U	17	3.3	1
GC Petroleum	SW-846 8015B modified		mg/kg	mg/kg	mg/kg	
Hydrocarbons						
12952	EFH (C12-C14)	n.a.	5.0 U	5.0	2.0	1
12952	EFH (C15-C20)	n.a.	5.0 U	5.0	2.0	1
12952	EFH (C21-C30)	n.a.	9.6	5.0	2.0	1
12952	EFH (C30-C40)	n.a.	33	10	4.0	1
12952	EFH (C8-C11)	n.a.	5.0 U	5.0	2.0	1
Metals	SW-846 6010C		mg/kg	mg/kg	mg/kg	

*=This limit was used in the evaluation of the final result

Sample Description: SL-597-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7163552
LL Group # 1411980
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/15/2013 09:40 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/16/2013 08:50
Reported: 09/03/2013 10:14

SL597 SDG#: PH092-03*

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals						
		SW-846 6010C	mg/kg	mg/kg	mg/kg	
01643	Aluminum	7429-90-5	16,300	39.4	7.10	1
06944	Antimony	7440-36-0	3.94 U	3.94	0.729	1
06935	Arsenic	7440-38-2	4.55	3.94	0.689	1
06946	Barium	7440-39-3	107	0.985	0.0325	1
06947	Beryllium	7440-41-7	0.557 J	0.985	0.0660	1
07914	Boron	7440-42-8	5.50 J	9.85	0.827	1
06949	Cadmium	7440-43-9	0.405 J	0.985	0.0748	1
01650	Calcium	7440-70-2	2,980	19.7	3.29	1
06951	Chromium	7440-47-3	22.6	2.95	0.158	1
06952	Cobalt	7440-48-4	6.29	0.985	0.0975	1
06953	Copper	7440-50-8	10.6	1.97	0.286	1
01654	Iron	7439-89-6	24,400	39.4	3.57	1
06955	Lead	7439-92-1	9.25	2.95	0.492	1
01656	Lithium	7439-93-2	29.2	3.9	0.33	1
01657	Magnesium	7439-95-4	5,790	9.85	1.64	1
06958	Manganese	7439-96-5	352	0.985	0.0817	1
06960	Molybdenum	7439-98-7	0.444 J	1.97	0.167	1
06961	Nickel	7440-02-0	13.4	1.97	0.128	1
10145	Phosphorus	7723-14-0	578	9.85	2.85	1
01662	Potassium	7440-09-7	4,350	98.5	8.21	1
01667	Sodium	7440-23-5	67.7 J	98.5	16.4	1
06969	Tin	7440-31-5	3.21 J	9.85	0.217	1
06970	Titanium	7440-32-6	1,420	4.92	0.837	5
06971	Vanadium	7440-62-2	44.2	0.985	0.128	1
06972	Zinc	7440-66-6	60.8	3.94	0.197	1
10146	Zirconium	7440-67-7	4.28 J	4.92	0.827	1
		SW-846 6020A	mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	0.152 J	0.394	0.0985	2
06142	Silver	7440-22-4	0.0577 J	0.197	0.0256	2
06144	Strontium	7440-24-6	18.6	0.394	0.0670	2
06145	Thallium	7440-28-0	0.250	0.197	0.0295	2
		SW-846 7471B	mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.0161 U	0.0161	0.0097	1
Wet Chemistry						
		SW-846 9045D modified	Std. Units	Std. Units	Std. Units	
00394	15a pH by 9045D The pH was measured in water at 21.8 C.	n.a.	6.22	0.0100	0.0100	1
Wet Chemistry						
		EPA 160.3 modified	%	%	%	
11624	14a Moisture Content by 160.3 Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.	n.a.	0.45	0.10	0.10	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-597-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7163552
LL Group # 1411980
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/15/2013 09:40 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/16/2013 08:50
Reported: 09/03/2013 10:14

SL597 SDG#: PH092-03*

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
Dioxins/Furans			ng/kg	ng/kg	ng/kg	
EPA 1613B						
11031	2378-TCDD	1746-01-6	0.0900 JQ	0.971	0.0676	1
11031	12378-PeCDD	40321-76-4	0.103 JBQ	4.86	0.0699	1
11031	123478-HxCDD	39227-28-6	0.0966 JQ	4.86	0.0409	1
11031	123678-HxCDD	57653-85-7	0.185 J	4.86	0.0442	1
11031	123789-HxCDD	19408-74-3	0.195 JQ	4.86	0.0418	1
11031	1234678-HpCDD	35822-46-9	2.93 JB	4.86	0.0479	1
11031	OCDD	3268-87-9	27.7 B	9.71	0.0325	1
11031	2378-TCDF	51207-31-9	0.108 JQ	0.971	0.0789	1
11031	12378-PeCDF	57117-41-6	0.309 J	4.86	0.0403	1
11031	23478-PeCDF	57117-31-4	0.231 JB	4.86	0.0396	1
11031	123478-HxCDF	70648-26-9	0.156 JB	4.86	0.0288	1
11031	123678-HxCDF	57117-44-9	0.122 JB	4.86	0.0257	1
11031	123789-HxCDF	72918-21-9	0.102 JQ	4.86	0.0341	1
11031	234678-HxCDF	60851-34-5	0.111 J	4.86	0.0263	1
11031	1234678-HpCDF	67562-39-4	0.561 JBQ	4.86	0.0188	1
11031	1234789-HpCDF	55673-89-7	0.104 JBQ	4.86	0.0315	1
11031	OCDF	39001-02-0	1.23 JBQ	9.71	0.0519	1

Toxic Equivalents		EPA 1613B	ng/kg	ng/kg	ng/kg	
11031	TEQ WHO 2005 - EDLx0.0	n.a.	0.174			1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	65	25 - 164
13C12-12378-PeCDD	77	25 - 181
13C12-123478-HxCDD	76	32 - 141
13C12-123678-HxCDD	80	28 - 130
13C12-123789-HxCDD	80	28 - 130
13C12-1234678-HpCDD	97	23 - 140
13C12-OCDD	89	17 - 157
13C12-2378-TCDF	62	24 - 169
13C12-12378-PeCDF	83	24 - 185
13C12-23478-PeCDF	74	21 - 178
13C12-123478-HxCDF	67	26 - 152
13C12-123678-HxCDF	76	26 - 123
13C12-234678-HxCDF	74	28 - 136
13C12-123789-HxCDF	73	29 - 147
13C12-1234678-HpCDF	99	28 - 143
13C12-1234789-HpCDF	71	26 - 138
13C12-OCDF	66	17 - 157

Dioxins/Furans Data Qualifiers:

- B Detected in Method Blank
- U Undetected
- J Estimated concentration between Estimated Detection Limit and Minimum Level
- E Exceeds calibration range
- C Confirmed quantitation on secondary GC column
- Q EMPC - Estimated Maximum Possible Concentration

*=This limit was used in the evaluation of the final result

Sample Description: SL-597-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7163552
LL Group # 1411980
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/15/2013 09:40 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/16/2013 08:50

Reported: 09/03/2013 10:14

SL597 SDG#: PH092-03*

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
F	Interference is present					
S	Saturation of detection signal					

*=This limit was used in the evaluation of the final result

Sample Description: SL-597-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7163552
LL Group # 1411980
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/15/2013 09:40 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/16/2013 08:50
Reported: 09/03/2013 10:14

SL597 SDG#: PH092-03*

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13232SLB026	08/23/2013 13:00	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	13232SLB026	08/20/2013 16:00	David S Schrum	1
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132330010A	08/23/2013 18:09	Jessica L Miller	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132330010A	08/21/2013 15:30	Sally L Appleyard	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132330018A	08/22/2013 04:14	Heather E Williams	1
12959	EFH soil ext.(microwave)	SW-846 3546	1	132330018A	08/21/2013 14:00	David S Schrum	1
11031	23a Dioxin/Furan by EPA 1613B	EPA 1613B	1	13234002	08/29/2013 14:15	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	13234002	08/22/2013 12:30	Deborah M Zimmerman	1
01643	Aluminum	SW-846 6010C	1	132330637001	08/25/2013 13:37	Katlin N Cataldi	1
06944	Antimony	SW-846 6010C	1	132330637001	08/25/2013 13:37	Katlin N Cataldi	1
06935	Arsenic	SW-846 6010C	1	132330637001	08/25/2013 13:37	Katlin N Cataldi	1
06946	Barium	SW-846 6010C	1	132330637001	08/25/2013 13:37	Katlin N Cataldi	1
06947	Beryllium	SW-846 6010C	1	132330637001	08/25/2013 13:37	Katlin N Cataldi	1
07914	Boron	SW-846 6010C	1	132330637001	08/25/2013 13:37	Katlin N Cataldi	1
06949	Cadmium	SW-846 6010C	1	132330637001	08/25/2013 13:37	Katlin N Cataldi	1
01650	Calcium	SW-846 6010C	1	132330637001	08/25/2013 13:37	Katlin N Cataldi	1
06951	Chromium	SW-846 6010C	1	132330637001	08/25/2013 13:37	Katlin N Cataldi	1
06952	Cobalt	SW-846 6010C	1	132330637001	08/25/2013 13:37	Katlin N Cataldi	1
06953	Copper	SW-846 6010C	1	132330637001	08/25/2013 13:37	Katlin N Cataldi	1
01654	Iron	SW-846 6010C	1	132330637001	08/25/2013 13:37	Katlin N Cataldi	1
06955	Lead	SW-846 6010C	1	132330637001	08/25/2013 13:37	Katlin N Cataldi	1
01656	Lithium	SW-846 6010C	1	132330637001	08/25/2013 13:37	Katlin N Cataldi	1
01657	Magnesium	SW-846 6010C	1	132330637001	08/25/2013 13:37	Katlin N Cataldi	1
06958	Manganese	SW-846 6010C	1	132330637001	08/25/2013 13:37	Katlin N Cataldi	1
06960	Molybdenum	SW-846 6010C	1	132330637001	08/25/2013 13:37	Katlin N Cataldi	1
06961	Nickel	SW-846 6010C	1	132330637001	08/25/2013 13:37	Katlin N Cataldi	1
10145	Phosphorus	SW-846 6010C	1	132330637001	08/25/2013 13:37	Katlin N Cataldi	1
01662	Potassium	SW-846 6010C	1	132330637001	08/25/2013 13:37	Katlin N Cataldi	1
01667	Sodium	SW-846 6010C	1	132330637001	08/25/2013 13:37	Katlin N Cataldi	1
06969	Tin	SW-846 6010C	1	132330637001	08/25/2013 13:37	Katlin N Cataldi	1
06970	Titanium	SW-846 6010C	1	132330637001	08/26/2013 10:33	Eric L Eby	5
06971	Vanadium	SW-846 6010C	1	132330637001	08/25/2013 13:37	Katlin N Cataldi	1
06972	Zinc	SW-846 6010C	1	132330637001	08/25/2013 13:37	Katlin N Cataldi	1
10146	Zirconium	SW-846 6010C	1	132330637001	08/25/2013 13:37	Katlin N Cataldi	1
06141	Selenium	SW-846 6020A	1	132330637001B	08/23/2013 00:19	David K Beck	2
06142	Silver	SW-846 6020A	1	132330637001A	08/23/2013 00:19	David K Beck	2
06144	Strontium	SW-846 6020A	1	132330637001A	08/23/2013 00:19	David K Beck	2
06145	Thallium	SW-846 6020A	1	132330637001A	08/23/2013 00:19	David K Beck	2

*=This limit was used in the evaluation of the final result

Sample Description: SL-597-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7163552
LL Group # 1411980
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/15/2013 09:40 by SM

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/16/2013 08:50

Reported: 09/03/2013 10:14

SL597 SDG#: PH092-03*

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
00159	3a Mercury 7471A	SW-846 7471B	1	132320638002	08/22/2013	10:24	Damary Valentin	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132330637001	08/21/2013	22:52	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132320638002	08/21/2013	12:10	Denise K Connors	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13228039401A	08/16/2013	19:26	Clayton C Litchmore	1
11624	14a Moisture Content by 160.3	EPA 160.3 modified	1	13235162401A	08/24/2013	00:12	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 09/03/13 at 10:14 AM

Group Number: 1411980

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ**</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 13232SLB026 Sample number(s): 7163550-7163552									
Acenaphthene	1.7	U	1.7	0.67	ug/kg	100	77-116		
Acenaphthylene	1.7	U	1.7	0.33	ug/kg	107	78-120		
Anthracene	1.7	U	1.7	0.33	ug/kg	105	80-116		
Benzo(a)anthracene	1.7	U	1.7	0.67	ug/kg	98	83-119		
Benzo(a)pyrene	1.7	U	1.7	0.67	ug/kg	105	80-122		
Benzo(b)fluoranthene	1.7	U	1.7	0.67	ug/kg	107	82-135		
Benzo(e)pyrene	17	U	17.	3.3	ug/kg	93	81-110		
Benzo(g,h,i)perylene	1.7	U	1.7	0.67	ug/kg	102	79-121		
Benzo(k)fluoranthene	1.7	U	1.7	0.67	ug/kg	111	79-123		
Butylbenzylphthalate	18	U	18.	6.0	ug/kg	109	77-123		
Di-n-butylphthalate	18	U	18.	6.0	ug/kg	113	78-125		
Chrysene	1.7	U	1.7	0.33	ug/kg	100	84-113		
Dibenz(a,h)anthracene	1.7	U	1.7	0.67	ug/kg	103	78-124		
Diethylphthalate	18	U	18.	6.0	ug/kg	111	77-130		
Dimethylphthalate	18	U	18.	6.0	ug/kg	106	85-122		
Bis(2-Ethylhexyl)phthalate	18	U	18.	6.0	ug/kg	101	79-121		
Fluoranthene	1.7	U	1.7	0.67	ug/kg	102	85-116		
Fluorene	1.7	U	1.7	0.67	ug/kg	104	81-126		
Indeno(1,2,3-cd)pyrene	1.7	U	1.7	0.67	ug/kg	102	77-124		
1-Methylnaphthalene	1.7	U	1.7	0.67	ug/kg	104	78-119		
2-Methylnaphthalene	1.7	U	1.7	0.67	ug/kg	101	78-121		
Naphthalene	1.7	U	1.7	0.67	ug/kg	99	79-113		
N-Nitrosodimethylamine	1.7	U	1.7	0.67	ug/kg	119	71-124		
Di-n-octylphthalate	18	U	18.	6.0	ug/kg	110	76-131		
Phenanthrene	1.7	U	1.7	0.67	ug/kg	101	72-110		
Pyrene	1.7	U	1.7	0.67	ug/kg	100	79-112		
Batch number: 132330010A Sample number(s): 7163550-7163552									
Aroclor 5432	33	U	33.	10	ug/kg				
Aroclor 5442	33	U	33.	10	ug/kg	84	87	36-106	4 30
Aroclor 5460	33	U	33.	10	ug/kg				
PCB-1016	17	U	17.	3.3	ug/kg	100		80-120	
PCB-1221	17	U	17.	5.1	ug/kg				
PCB-1232	17	U	17.	4.1	ug/kg				
PCB-1242	17	U	17.	4.1	ug/kg				
PCB-1248	17	U	17.	3.3	ug/kg				
PCB-1254	17	U	17.	4.4	ug/kg				
PCB-1260	17	U	17.	3.9	ug/kg	107		72-120	
PCB-1262	17	U	17.	3.3	ug/kg				
PCB-1268	17	U	17.	3.3	ug/kg				
Batch number: 132330018A Sample number(s): 7163550-7163552									
EFH (C12-C14)	5.0	U	5.0	2.0	mg/kg	83		70-123	

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

- (1) The result for one or both determinations was less than five times the LOQ / MRL.
- (2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 09/03/13 at 10:14 AM

Group Number: 1411980

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ**</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCS %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
EFH (C15-C20)	5.0 U	5.0	2.0	mg/kg	84		75-128		
EFH (C21-C30)	5.0 U	5.0	2.0	mg/kg	85		64-134		
EFH (C30-C40)	10 U	10.	4.0	mg/kg	81		65-128		
EFH (C8-C11)	5.0 U	5.0	2.0	mg/kg	69		49-107		
Batch number: 132320638002 3a Mercury 7471A	Sample number(s): 7163550-7163552 0.0167 U	0.0167	0.0100	mg/kg	115		85-120		
Batch number: 132330637001	Sample number(s): 7163550-7163552								
Aluminum	40.0 U	40.0	7.21	mg/kg	104		80-120		
Antimony	4.00 U	4.00	0.740	mg/kg	107		80-120		
Arsenic	4.00 U	4.00	0.700	mg/kg	101		80-120		
Barium	1.00 U	1.00	0.0330	mg/kg	103		80-120		
Beryllium	1.00 U	1.00	0.0670	mg/kg	99		80-120		
Boron	10.0 U	10.0	0.840	mg/kg	99		80-120		
Cadmium	1.00 U	1.00	0.0760	mg/kg	100		80-120		
Calcium	8.85 J	20.0	3.34	mg/kg	102		80-120		
Chromium	3.00 U	3.00	0.160	mg/kg	102		80-120		
Cobalt	1.00 U	1.00	0.0990	mg/kg	103		80-120		
Copper	2.00 U	2.00	0.290	mg/kg	104		80-120		
Iron	40.0 U	40.0	3.62	mg/kg	99		80-120		
Lead	3.00 U	3.00	0.500	mg/kg	98		80-120		
Lithium	4.0 U	4.0	0.34	mg/kg	105		80-120		
Magnesium	10.0 U	10.0	1.67	mg/kg	100		80-120		
Manganese	1.00 U	1.00	0.0830	mg/kg	102		80-120		
Molybdenum	2.00 U	2.00	0.170	mg/kg	103		80-120		
Nickel	0.208 J	2.00	0.130	mg/kg	104		80-120		
Phosphorus	10.0 U	10.0	2.89	mg/kg	104		80-120		
Potassium	100 U	100.	8.34	mg/kg	100		80-120		
Sodium	100 U	100.	16.7	mg/kg	101		80-120		
Tin	1.66 J	10.0	0.220	mg/kg	102		80-120		
Titanium	1.00 U	1.00	0.170	mg/kg	104		80-120		
Vanadium	1.00 U	1.00	0.130	mg/kg	104		80-120		
Zinc	0.326 J	4.00	0.200	mg/kg	102		80-120		
Zirconium	5.00 U	5.00	0.840	mg/kg	103		80-120		
Batch number: 132330637001A	Sample number(s): 7163550-7163552								
Silver	0.200 U	0.200	0.0260	mg/kg	107		80-120		
Strontium	0.400 U	0.400	0.0680	mg/kg	111		80-120		
Thallium	0.200 U	0.200	0.0300	mg/kg	108		80-120		
Batch number: 132330637001B	Sample number(s): 7163550-7163552								
Selenium	0.400 U	0.400	0.100	mg/kg	109		80-120		
Batch number: 13228039401A	Sample number(s): 7163550-7163552								
15a pH by 9045D					99		95-105		
Batch number: 13235162401A	Sample number(s): 7163550-7163552								
14a Moisture Content by 160.3					100		80-120		

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MRL**</u>	<u>Blank EDL</u>	<u>Report Units</u>	<u>OPR %REC</u>	<u>OPRD %REC</u>	<u>OPR/OPRD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
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*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

- (1) The result for one or both determinations was less than five times the LOQ / MRL.
- (2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 09/03/13 at 10:14 AM

Group Number: 1411980

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MRL**</u>	<u>Blank EDL</u>	<u>Report Units</u>	<u>OPR %REC</u>	<u>OPRD %REC</u>	<u>OPR/OPRD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 13234002	Sample number(s): 7163550-7163552								
2378-TCDD	1.00 U	1.00	0.0920	ng/kg	101		67-158		
12378-PeCDD	0.0869 J	5.00	0.0732	ng/kg	102		70-142		
123478-HxCDD	5.00 U	5.00	0.0379	ng/kg	98		70-164		
123678-HxCDD	5.00 U	5.00	0.0401	ng/kg	97		76-134		
123789-HxCDD	5.00 U	5.00	0.0409	ng/kg	95		64-162		
1234678-HpCDD	0.0505 J	5.00	0.0484	ng/kg	93		70-140		
OCDD	0.294 J	10.0	0.0320	ng/kg	93		78-144		
2378-TCDF	1.00 U	1.00	0.0703	ng/kg	105		75-158		
2378-TCDF-Conf	1.00 U	1.00	0.0439	ng/kg	105		75-158		
12378-PeCDF	5.00 U	5.00	0.0446	ng/kg	96		80-134		
23478-PeCDF	0.0473 J	5.00	0.0412	ng/kg	98		68-160		
123478-HxCDF	0.0573 J	5.00	0.0262	ng/kg	91		72-134		
123678-HxCDF	0.0277 J	5.00	0.0242	ng/kg	92		84-130		
123789-HxCDF	5.00 U	5.00	0.0390	ng/kg	87		78-130		
234678-HxCDF	5.00 U	5.00	0.0242	ng/kg	90		70-156		
1234678-HpCDF	0.0404 J	5.00	0.0133	ng/kg	88		82-122		
1234789-HpCDF	0.0549 J	5.00	0.0234	ng/kg	91		78-138		
OCDF	0.126 J	10.0	0.0614	ng/kg	89		63-170		
TEQ WHO 2005 - EDLx0.0	U			ng/kg					

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

<u>Analysis Name</u>	<u>MS %REC</u>	<u>MSD %REC</u>	<u>MS/MSD Limits</u>	<u>RPD</u>	<u>RPD MAX</u>	<u>BKG Conc</u>	<u>DUP Conc</u>	<u>DUP RPD</u>	<u>Dup RPD Max</u>
Batch number: 13232SLB026	Sample number(s): 7163550-7163552 UNSPK: P160448								
Acenaphthene	96	98	48-127	2	30				
Acenaphthylene	101	103	49-121	2	30				
Anthracene	99	100	52-126	2	30				
Benzo(a)anthracene	94	98	44-143	4	30				
Benzo(a)pyrene	100	99	44-140	1	30				
Benzo(b)fluoranthene	114	101	26-142	12	30				
Benzo(e)pyrene	87	88	70-130	0	30				
Benzo(g,h,i)perylene	98	94	33-141	4	30				
Benzo(k)fluoranthene	91	103	54-142	13	30				
Butylbenzylphthalate	116	119	49-151	3	30				
Di-n-butylphthalate	114	119	52-147	5	30				
Chrysene	96	97	29-148	2	30				
Dibenz(a,h)anthracene	105	103	20-137	3	30				
Diethylphthalate	106	113	43-145	6	30				
Dimethylphthalate	102	103	58-129	1	30				
Bis(2-Ethylhexyl)phthalate	110	137	39-167	22	30				
Fluoranthene	98	100	40-148	2	30				
Fluorene	96	100	51-137	4	30				
Indeno(1,2,3-cd)pyrene	103	101	17-136	2	30				
1-Methylnaphthalene	102	102	50-131	1	30				

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

- (1) The result for one or both determinations was less than five times the LOQ / MRL.
- (2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 09/03/13 at 10:14 AM

Group Number: 1411980

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

<u>Analysis Name</u>	<u>MS</u> <u>%REC</u>	<u>MSD</u> <u>%REC</u>	<u>MS/MSD</u> <u>Limits</u>	<u>RPD</u> <u>RPD</u>	<u>RPD</u> <u>MAX</u>	<u>BKG</u> <u>Conc</u>	<u>DUP</u> <u>Conc</u>	<u>DUP</u> <u>RPD</u>	<u>Dup</u> <u>RPD</u> <u>Max</u>
2-Methylnaphthalene	98	101	35-152	3	30				
Naphthalene	95	97	31-148	2	30				
N-Nitrosodimethylamine	112	115*	48-113	2	30				
Di-n-octylphthalate	111	117	52-162	5	30				
Phenanthrene	95	97	29-142	2	30				
Pyrene	96	96	26-143	1	30				
Batch number: 132330010A Sample number(s): 7163550-7163552 UNSPK: P160448									
PCB-1016	90	92	16-146	2	50				
PCB-1260	107	109	40-134	2	50				
Batch number: 132330018A Sample number(s): 7163550-7163552 UNSPK: P160448									
EFH (C12-C14)	78	81	49-123	3	20				
EFH (C15-C20)	87	95	49-123	9	20				
EFH (C21-C30)	93	105	49-123	13	20				
EFH (C30-C40)	109	163*	49-123	40*	20				
EFH (C8-C11)	66	69	49-123	4	20				
Batch number: 132320638002 Sample number(s): 7163550-7163552 UNSPK: P160448 BKG: P160448									
3a Mercury 7471A	119	120	65-135	1	20	0.0157 U	0.0161 U	0 (1)	20
Batch number: 132330637001 Sample number(s): 7163550-7163552 UNSPK: P162025 BKG: P162025									
Aluminum	3772 (2)	4554 (2)	75-125	6	20	18,600	19,300	4	20
Antimony	50*	51*	75-125	1	20	0.785 J	4.00 U	200* (1)	20
Arsenic	102	101	75-125	1	20	5.77	6.05	5 (1)	20
Barium	110	112	75-125	1	20	83.8	86.2	3	20
Beryllium	99	102	75-125	3	20	0.618 J	0.647 J	5 (1)	20
Boron	99	102	75-125	2	20	16.6	16.3	2 (1)	20
Cadmium	92	93	75-125	1	20	0.675 J	0.660 J	2 (1)	20
Calcium	1148 (2)	-1573 (2)	75-125	15	20	72,900	65,800	10	20
Chromium	120	130*	75-125	4	20	26.5	27.0	2	20
Cobalt	93	96	75-125	3	20	8.62	8.49	2	20
Copper	109	115	75-125	3	20	19.5	20.2	4	20
Iron	1950 (2)	2375 (2)	75-125	2	20	24,700	25,800	5	20
Lead	91	99	75-125	4	20	16.2	17.2	6	20
Lithium	107	110	75-125	3	20	17.9	18.2	2 (1)	20
Magnesium	503 (2)	706 (2)	75-125	5	20	6,570	6,770	3	20
Manganese	100 (2)	112 (2)	75-125	1	20	423	425	1	20
Molybdenum	95	97	75-125	1	20	0.374 J	0.483 J	25* (1)	20
Nickel	95	98	75-125	3	20	16.6	17.1	3	20
Phosphorus	221 (2)	111 (2)	75-125	13	20	707	728	3	20
Potassium	191 (2)	234 (2)	75-125	5	20	5,980	6,190	3	20
Sodium	101	103	75-125	1	20	97.7 J	103	6 (1)	20
Tin	92	93	75-125	2	20	2.95 J	3.02 J	2 (1)	20
Titanium	504 (2)	577 (2)	75-125	5	20	887	933	5	20
Vanadium	122	130*	75-125	4	20	44.4	45.9	3	20
Zinc	102	106	75-125	2	20	71.2	73.2	3	20
Zirconium	80	82	75-125	2	20	4.20 J	4.38 J	4 (1)	20

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 09/03/13 at 10:14 AM

Group Number: 1411980

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 132330637001A	Sample number(s): 7163550-7163552 UNSPK: P162025 BKG: P162025								
Silver	100	100	75-125	1	20	0.0340 J	0.0496 J	37* (1)	20
Strontium	164 (2)	123 (2)	75-125	3	20	95.4	93.7	2	20
Thallium	96	98	75-125	2	20	0.232	0.280	19 (1)	20
Batch number: 132330637001B	Sample number(s): 7163550-7163552 UNSPK: P162025 BKG: P162025								
Selenium	100	95	75-125	5	20	0.291 J	0.282 J	3 (1)	20
Batch number: 13228039401A	Sample number(s): 7163550-7163552 BKG: 7163550								
15a pH by 9045D						7.09	6.93	2	3
Batch number: 13235162401A	Sample number(s): 7163550-7163552 BKG: P162028								
14a Moisture Content by 160.3						10.3	10.0	2	20
Batch number: 13234002	Sample number(s): 7163550-7163552 UNSPK: P160448								
2378-TCDD	99	104	40-135	7	20				
12378-PeCDD	115	117	40-135	3	20				
123478-HxCDD	117	116	40-135	1	20				
123678-HxCDD	115	111	40-135	2	20				
123789-HxCDD	113	111	40-135	0	20				
1234678-HpCDD	109	107	40-135	0	20				
OCDD	107	111	40-135	5	20				
2378-TCDF	123	130	40-135	7	20				
2378-TCDF-Conf	123	130	40-135	7	20				
12378-PeCDF	119	114	40-135	2	20				
23478-PeCDF	111	117	40-135	7	20				
123478-HxCDF	107	107	40-135	2	20				
123678-HxCDF	109	110	40-135	2	20				
123789-HxCDF	103	105	40-135	5	20				
234678-HxCDF	108	110	40-135	4	20				
1234678-HpCDF	103	102	40-135	1	20				
1234789-HpCDF	102	103	40-135	2	20				
OCDF	100	102	40-135	4	20				

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: 7a SVOC SIM EPA 8270D
Batch number: 13232SLB026

	Fluoranthene-d10	Benzo(a)pyrene-d12	1-Methylnaphthalene-d10
7163550	92	100	102
7163551	91	98	102
7163552	87	94	98
Blank	89	98	103
LCS	91	102	103

*- Outside of specification

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 09/03/13 at 10:14 AM

Group Number: 1411980

Surrogate Quality Control

MS	87	96	98
MSD	89	97	100
Limits:	54-129	59-125	61-125

Analysis Name: 19a PCBs and PCTs 8082A
Batch number: 132330010A
Tetrachloro-m-xylene Decachlorobiphenyl

7163550	113	107
7163551	102	113
7163552	113	114
Blank	112	120
LCS	101	106
LCSD	113	128*
MS	102	105
MSD	101	111

Limits: 45-120 45-120

Analysis Name: 10a TPH by EPA 8015B (DRO)
Batch number: 132330018A
Chlorobenzene Orthoterphenyl

7163550	79	80
7163551	79	81
7163552	77	83
Blank	82	83
LCS	81	84
MS	75	77
MSD	78	80

Limits: 37-125 66-123

Analysis Name: 23a Dioxin/Furan by EPA 1613B
Batch number: 13234002

	13C12-2378-TCDD	13C12-23478-PeCDF	13C12-123478-HxCDF	13C12-123678-HxCDF	13C12-234678-HxCDF	13C12-123789-HxCDF
7163550	69	70	64	78	72	73
7163551	66	77	71	83	75	76
7163552	65	74	67	76	74	73
Blank	68	82	68	80	74	66
MS	61	88	76	94	84	69
MSD	58	83	71	83	70	71
OPR	57	69	52	61	57	64

Limits: 25-164 21-178 26-152 26-123 28-136 29-147

	13C12-1234678-HpCDF	13C12-1234789-HpCDF	13C12-OCDF	13C12-12378-PeCDD	13C12-123478-HxCDD	13C12-123678-HxCDD
7163550	108	63	56	76	77	82
7163551	106	80	78	79	78	79
7163552	99	71	66	77	76	80
Blank	106	78	79	89	83	92
MS	123	74	76	76	76	83
MSD	121	72	73	77	69	73

*- Outside of specification

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 09/03/13 at 10:14 AM

Group Number: 1411980

Surrogate Quality Control

OPR	89	57	54	77	68	70
Limits:	28-143	26-138	17-157	25-181	32-141	28-130
	13C12-123789-HxCDD	13C12-1234678-HpCDD	13C12-OCDD	13C12-2378-TCDF	13C12-12378-PeCDF	13C12-2378-TCDF-Conf
7163550	81	96	84		82	74
7163551	79	97	105	69	84	
7163552	80	97	89	62	83	
Blank	89	105	114	63	83	80
MS	80	95	96	65	95	65
MSD	68	91	94	59	92	59
OPR	72	83	88	52	74	52
Limits:	28-130	23-140	17-157	24-169	24-185	24-169

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

- (1) The result for one or both determinations was less than five times the LOQ / MRL.
- (2) The unspiked result was more than four times the spike added.

acct # 13013 Cp # 1411980 sample # 7163550-52

SSFL Phase 3 Chain of Custody

CDM Smith
 Date Shipped: 8/15/2013
 Carrier Name: FedEx
 Airbill No: 796473161555

Contact Name: Pam Hartman
 Contact Phone: (818)466-8007

COC No: 20130815-01
 Cooler #: 1
 Lab: Lancaster
 Lab Phone: 717-556-7259
 Lab Address: 2425 New Holland Pike
 Lancaster, PA 17601

Sample	Date/Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Methyl Mercury 1630	Organotin	NDMA 1625	Formaldehyde 8315	Cyanide 9012	Energetics 8330	Nitrates 300.0/9056	Terphenyls 8015	Alcohols 8015	GNVols 8015	TPH-EFH 8015	TPH-GRO 8015	1,4 Dioxane 8260 SIM	VOCs 8260	Pesticides 8081	Herbicides 8151	Hex Cr 7196/7199	pH 9040 (Water)	pH 9045 (Soil)	Perchlorate Confirm 6850/6860	Perchlorate 314.0/331	PCBs/PCTs 8082	Dioxins 1613	1,4 Dioxane 8270 SIM	PAHs 8270 SIM	TIC 8270	SVOC 8270	Fluoride 300.0/9056	Mercury 7470 (Water)	Mercury 7471 (Soil)	Metals 6010 and 6020	Other Analysis/Notes										
SL-594-SA8-SB-0.0-0.5	8/15/13 08:00	SO	None	2 - SS-Sleeve	10 day	X	X									X																															
SL-594-SA8-SB-0.0-0.5	8/15/13 08:00	SO	None	1 - 4 oz glass	10 day																				X																						
SL-595-SA8-SB-0.0-0.5	8/15/13 08:35	SO	None	2 - SS-Sleeve	10 day	X	X									X																															
SL-595-SA8-SB-0.0-0.5	8/15/13 08:35	SO	None	1 - 4 oz glass	10 day																			X																							
SL-597-SA8-SB-0.0-0.5	8/15/13 09:40	SO	None	2 - SS-Sleeve	10 day	X	X									X																															
SL-597-SA8-SB-0.0-0.5	8/15/13 09:40	SO	None	1 - 4 oz glass	10 day																			X																							

Special Instructions:

Sampler:

John M...

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
<i>John M...</i>	8/15/2013	1600									
									<i>C. Eshler</i>	8/16/13	0850

Environmental Sample Administration
Receipt Documentation Log

Client/Project: CDM Smith
 Date of Receipt: 8/16/13
 Time of Receipt: 0850
 Source Code: 50-1

Shipping Container Sealed: YES NO

Custody Seal Present * : YES NO

* Custody seal was intact unless otherwise noted in the discrepancy section

Package: Chilled Not Chilled

Temperature of Shipping Containers							
Cooler #	Thermometer ID	Temperature (°C)	Temp Bottle (TB) or Surface Temp (ST)	Wet Ice (WI) or Dry Ice (DI) or Ice Packs (IP)	Ice Present? Y/N	Loose (L) Bagged Ice (B) or NA	Comments
1	DT121	0.9	TB	WI	Y	B	
2							
3							
4							
5							
6							

Number of Trip Blanks received NOT listed on chain of custody: 0

Paperwork Discrepancy/Unpacking Problems:

Unpacker Signature/Emp#: Cash 3647 Date/Time: 8/16/13 0920

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	BMQL	Below Minimum Quantitation Level
N.D.	none detected	MPN	Most Probable Number
TNTC	Too Numerous To Count	CP Units	cobalt-chloroplatinate units
IU	International Units	NTU	nephelometric turbidity units
umhos/cm	micromhos/cm	ng	nanogram(s)
C	degrees Celsius	F	degrees Fahrenheit
meq	milliequivalents	lb.	pound(s)
g	gram(s)	kg	kilogram(s)
µg	microgram(s)	mg	milligram(s)
mL	milliliter(s)	L	liter(s)
m³	cubic meter(s)	µL	microliter(s)
		pg/L	picogram/liter

< less than - The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Data Qualifiers:

C – result confirmed by reanalysis.

J - estimated value – The result is \geq the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ).

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers

- A** TIC is a possible aldol-condensation product
- B** Analyte was also detected in the blank
- C** Pesticide result confirmed by GC/MS
- D** Compound quantitated on a diluted sample
- E** Concentration exceeds the calibration range of the instrument
- N** Presumptive evidence of a compound (TICs only)
- P** Concentration difference between primary and confirmation columns $>25\%$
- U** Compound was not detected
- X,Y,Z** Defined in case narrative

Inorganic Qualifiers

- B** Value is $<$ CRDL, but \geq IDL
- E** Estimated due to interference
- M** Duplicate injection precision not met
- N** Spike sample not within control limits
- S** Method of standard additions (MSA) used for calculation
- U** Compound was not detected
- W** Post digestion spike out of control limits
- *** Duplicate analysis not within control limits
- +** Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

SAMPLE DELIVERY GROUP

PH094

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

September 11, 2013

Project: SSFL Phase 3 Sampling

Submittal Date: 08/28/2013
Group Number: 1414782
SDG: PH094
PO Number: 1204-002-001-AL
State of Sample Origin: CA

<u>Client Sample Description</u>	<u>Lancaster Labs (LL) #</u>
TB-082713 Water	7177747
SL-615-SA8-SB-0.0-0.5 Soil	7177748
SL-553-SA8-SB-0.0-0.5 Soil	7177749
SL-553-SA8-SB-4.0-5.0 Soil	7177750
SL-553-SA8-SB-4.0-5.0MS Soil	7177751
SL-553-SA8-SB-4.0-5.0MSD Soil	7177752
SL-553-SA8-SB-4.0-5.0DUP Soil	7177753
SL-853-SA8-SB-4.0-5.0 Soil	7177754

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC Eurofins Lancaster Labs Env
COPY TO

Attn: Nicole Maljovec

Respectfully Submitted,



Nicole L. Maljovec
Principal Specialist Group Leader

(717) 556-7259

Sample Description: TB-082713 Water
SSFL Phase 3 Subarea 8

LL Sample # WW 7177747
LL Group # 1414782
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/27/2013 08:00
Submitted: 08/28/2013 09:20
Reported: 09/11/2013 19:34

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

TB827 SDG#: PH094-01TB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Dilution Factor
GC Volatiles						
	TPH GRO SW-8015B		ug/l	ug/l	ug/l	
08229	TPH-GRO S.CA water C5-C12	n.a.	50 U	50	20	1

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08229	11b TPH by EPA 8015B GRO	TPH GRO SW-8015B	1	13241A20A	08/29/2013 14:07	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030B	1	13241A20A	08/29/2013 14:07	Marie D Beamenderfer	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-615-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7177748
LL Group # 1414782
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/27/2013 10:00 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/28/2013 09:20
Reported: 09/11/2013 19:34

615-0 SDG#: PH094-02

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	1.7 U	1.7	0.67	1
12969	Acenaphthylene	208-96-8	1.7 U	1.7	0.34	1
12969	Anthracene	120-12-7	1.7 U	1.7	0.34	1
12969	Benzo(a)anthracene	56-55-3	1.7 U	1.7	0.67	1
12969	Benzo(a)pyrene	50-32-8	0.76 J	1.7	0.67	1
12969	Benzo(b)fluoranthene	205-99-2	2.4	1.7	0.67	1
12969	Benzo(e)pyrene	192-97-2	17 U	17	3.4	1
12969	Benzo(g,h,i)perylene	191-24-2	1.7 U	1.7	0.67	1
12969	Benzo(k)fluoranthene	207-08-9	1.7 U	1.7	0.67	1
12969	Butylbenzylphthalate	85-68-7	18 U	18	6.1	1
12969	Di-n-butylphthalate	84-74-2	18 U	18	6.1	1
12969	Chrysene	218-01-9	2.3	1.7	0.34	1
12969	Dibenz(a,h)anthracene	53-70-3	1.7 U	1.7	0.67	1
12969	Diethylphthalate	84-66-2	18 U	18	6.1	1
12969	Dimethylphthalate	131-11-3	18 U	18	6.1	1
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	6.5 J	18	6.1	1
12969	Fluoranthene	206-44-0	2.4	1.7	0.67	1
12969	Fluorene	86-73-7	1.7 U	1.7	0.67	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	1.7 U	1.7	0.67	1
12969	1-Methylnaphthalene	90-12-0	1.7 U	1.7	0.67	1
12969	2-Methylnaphthalene	91-57-6	0.78 J	1.7	0.67	1
12969	Naphthalene	91-20-3	0.83 J	1.7	0.67	1
12969	N-Nitrosodimethylamine	62-75-9	1.7 U	1.7	0.67	1
12969	Di-n-octylphthalate	117-84-0	18 U	18	6.1	1
12969	Phenanthrene	85-01-8	1.3 J	1.7	0.67	1
12969	Pyrene	129-00-0	2.1	1.7	0.67	1
Pesticides/PCBs	SW-846 8082A		ug/kg	ug/kg	ug/kg	
10592	Aroclor 5432	63496-31-1	33 U	33	10	1
10592	Aroclor 5442	12642-23-8	33 U	33	10	1
10592	Aroclor 5460	11126-42-4	33 U	33	10	1
10592	PCB-1016	12674-11-2	17 U	17	3.3	1
10592	PCB-1221	11104-28-2	17 U	17	5.2	1
10592	PCB-1232	11141-16-5	17 U	17	4.2	1
10592	PCB-1242	53469-21-9	17 U	17	4.2	1
10592	PCB-1248	12672-29-6	17 U	17	3.3	1
10592	PCB-1254	11097-69-1	10 J	17	4.5	1
10592	PCB-1260	11096-82-5	17 U	17	4.0	1
10592	PCB-1262	37324-23-5	17 U	17	3.3	1
10592	PCB-1268	11100-14-4	17 U	17	3.3	1
GC Petroleum	SW-846 8015B modified		mg/kg	mg/kg	mg/kg	
Hydrocarbons						
12952	EFH (C12-C14)	n.a.	5.1 U	5.1	2.0	1
12952	EFH (C15-C20)	n.a.	5.1 U	5.1	2.0	1
12952	EFH (C21-C30)	n.a.	14	5.1	2.0	1
12952	EFH (C30-C40)	n.a.	21	10	4.1	1
12952	EFH (C8-C11)	n.a.	5.1 U	5.1	2.0	1
Metals	SW-846 6010C		mg/kg	mg/kg	mg/kg	

*=This limit was used in the evaluation of the final result

Sample Description: SL-615-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7177748
LL Group # 1414782
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/27/2013 10:00 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/28/2013 09:20
Reported: 09/11/2013 19:34

615-0 SDG#: PH094-02

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals						
		SW-846 6010C	mg/kg	mg/kg	mg/kg	
01643	Aluminum	7429-90-5	24,500	39.7	7.15	1
06944	Antimony	7440-36-0	3.97 U	3.97	0.734	1
06935	Arsenic	7440-38-2	6.46	3.97	0.694	1
06946	Barium	7440-39-3	131	0.992	0.0327	1
06947	Beryllium	7440-41-7	0.937 J	0.992	0.0664	1
07914	Boron	7440-42-8	5.02 J	9.92	0.833	1
06949	Cadmium	7440-43-9	0.225 J	0.992	0.0754	1
01650	Calcium	7440-70-2	6,610	19.8	3.31	1
06951	Chromium	7440-47-3	31.7	2.98	0.159	1
06952	Cobalt	7440-48-4	9.14	0.992	0.0982	1
06953	Copper	7440-50-8	19.4	1.98	0.288	1
01654	Iron	7439-89-6	31,200	198	17.9	5
06955	Lead	7439-92-1	13.3	2.98	0.496	1
01656	Lithium	7439-93-2	21.0	4.0	0.34	1
01657	Magnesium	7439-95-4	6,450	9.92	1.66	1
06958	Manganese	7439-96-5	470	0.992	0.0823	1
06960	Molybdenum	7439-98-7	0.258 J	1.98	0.169	1
06961	Nickel	7440-02-0	19.2	1.98	0.129	1
10145	Phosphorus	7723-14-0	306	9.92	2.87	1
01662	Potassium	7440-09-7	4,720	99.2	8.27	1
01667	Sodium	7440-23-5	91.0 J	99.2	16.6	1
06969	Tin	7440-31-5	3.11 J	9.92	0.218	1
06970	Titanium	7440-32-6	989	0.992	0.169	1
06971	Vanadium	7440-62-2	61.8	0.992	0.129	1
06972	Zinc	7440-66-6	84.7	3.97	0.198	1
10146	Zirconium	7440-67-7	6.55	4.96	0.833	1
SW-846 6020A						
			mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	0.231 J	0.397	0.0992	2
06142	Silver	7440-22-4	0.0567 J	0.198	0.0258	2
06144	Strontium	7440-24-6	39.2	0.397	0.0674	2
06145	Thallium	7440-28-0	0.377	0.198	0.0298	2
SW-846 7471B						
			mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.0168 J	0.0169	0.0101	1
Wet Chemistry						
		SW-846 9045D modified	Std. Units	Std. Units	Std. Units	
00394	15a pH by 9045D The pH was measured in water at 21.8 C.	n.a.	7.05	0.0100	0.0100	1
Wet Chemistry						
		EPA 160.3 modified	%	%	%	
11624	14a Moisture Content by 160.3 Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.	n.a.	2.1	0.10	0.10	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-615-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7177748
LL Group # 1414782
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/27/2013 10:00 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/28/2013 09:20
Reported: 09/11/2013 19:34

615-0 SDG#: PH094-02

CAT No.	Analysis Name	CAS Number	Dry Result		Dry MRL*	Dry EDL	Dilution Factor
Dioxins/Furans			EPA 1613B		ng/kg	ng/kg	ng/kg
11031	2378-TCDD	1746-01-6	0.988	U	0.988	0.0515	1
11031	12378-PeCDD	40321-76-4	0.444	JB	4.94	0.0547	1
11031	123478-HxCDD	39227-28-6	0.446	JB	4.94	0.0420	1
11031	123678-HxCDD	57653-85-7	2.47	JB	4.94	0.0447	1
11031	123789-HxCDD	19408-74-3	1.31	JB	4.94	0.0401	1
11031	1234678-HpCDD	35822-46-9	41.2	B	4.94	0.0675	1
11031	OCDD	3268-87-9	949	B	9.88	0.0569	1
11031	2378-TCDF	51207-31-9	0.265	J	0.988	0.0582	1
11031	12378-PeCDF	57117-41-6	0.574	JB	4.94	0.0321	1
11031	23478-PeCDF	57117-31-4	0.481	JB	4.94	0.0302	1
11031	123478-HxCDF	70648-26-9	0.851	JB	4.94	0.0245	1
11031	123678-HxCDF	57117-44-9	0.572	JB	4.94	0.0210	1
11031	123789-HxCDF	72918-21-9	1.08	JB	4.94	0.0251	1
11031	234678-HxCDF	60851-34-5	0.690	JB	4.94	0.0216	1
11031	1234678-HpCDF	67562-39-4	13.5	B	4.94	0.0248	1
11031	1234789-HpCDF	55673-89-7	0.900	JB	4.94	0.0376	1
11031	OCDF	39001-02-0	28.3	B	9.88	0.0368	1

Toxic Equivalents		EPA 1613B	ng/kg	ng/kg	ng/kg
11031	TEQ WHO 2005 - EDLx0.0	n.a.	2.22		1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	75	25 - 164
13C12-12378-PeCDD	76	25 - 181
13C12-123478-HxCDD	85	32 - 141
13C12-123678-HxCDD	83	28 - 130
13C12-123789-HxCDD	84	28 - 130
13C12-1234678-HpCDD	92	23 - 140
13C12-OCDD	91	17 - 157
13C12-2378-TCDF	77	24 - 169
13C12-12378-PeCDF	88	24 - 185
13C12-23478-PeCDF	84	21 - 178
13C12-123478-HxCDF	82	26 - 152
13C12-123678-HxCDF	91	26 - 123
13C12-234678-HxCDF	87	28 - 136
13C12-123789-HxCDF	84	29 - 147
13C12-1234678-HpCDF	114	28 - 143
13C12-1234789-HpCDF	81	26 - 138
13C12-OCDF	75	17 - 157

Dioxins/Furans Data Qualifiers:

- B Detected in Method Blank
- U Undetected
- J Estimated concentration between Estimated Detection Limit and Minimum Level
- E Exceeds calibration range
- C Confirmed quantitation on secondary GC column
- Q EMPC - Estimated Maximum Possible Concentration

*=This limit was used in the evaluation of the final result

Sample Description: SL-615-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7177748
LL Group # 1414782
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/27/2013 10:00 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/28/2013 09:20

Reported: 09/11/2013 19:34

615-0 SDG#: PH094-02

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
F	Interference is present					
S	Saturation of detection signal					

*=This limit was used in the evaluation of the final result

Sample Description: SL-615-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7177748
LL Group # 1414782
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/27/2013 10:00 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/28/2013 09:20
Reported: 09/11/2013 19:34

615-0 SDG#: PH094-02

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13243SLC026	09/05/2013 06:48	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	13243SLC026	09/03/2013 08:00	Joseph S Feister	1
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132430008A	09/03/2013 16:32	Monica M Souders	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132430008A	09/02/2013 08:50	Karen L Beyer	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132460005A	09/05/2013 00:03	Heather E Williams	1
12959	EFH soil ext. (microwave)	SW-846 3546	1	132460005A	09/03/2013 18:50	Sally L Appleyard	1
11031	23a Dioxin/Furan by EPA 1613B	EPA 1613B	1	13248003	09/06/2013 21:12	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	13248003	09/05/2013 10:45	Robert Brown	1
01643	Aluminum	SW-846 6010C	1	132400637001	09/02/2013 21:04	Tara L Snyder	1
06944	Antimony	SW-846 6010C	1	132400637001	09/02/2013 21:04	Tara L Snyder	1
06935	Arsenic	SW-846 6010C	1	132400637001	09/02/2013 21:04	Tara L Snyder	1
06946	Barium	SW-846 6010C	1	132400637001	09/02/2013 21:04	Tara L Snyder	1
06947	Beryllium	SW-846 6010C	1	132400637001	09/02/2013 21:04	Tara L Snyder	1
07914	Boron	SW-846 6010C	1	132400637001	09/02/2013 21:04	Tara L Snyder	1
06949	Cadmium	SW-846 6010C	1	132400637001	09/02/2013 21:04	Tara L Snyder	1
01650	Calcium	SW-846 6010C	1	132400637001	09/02/2013 21:04	Tara L Snyder	1
06951	Chromium	SW-846 6010C	1	132400637001	09/02/2013 21:04	Tara L Snyder	1
06952	Cobalt	SW-846 6010C	1	132400637001	09/02/2013 21:04	Tara L Snyder	1
06953	Copper	SW-846 6010C	1	132400637001	09/02/2013 21:04	Tara L Snyder	1
01654	Iron	SW-846 6010C	1	132400637001	09/03/2013 19:23	Katlin N Cataldi	5
06955	Lead	SW-846 6010C	1	132400637001	09/02/2013 21:04	Tara L Snyder	1
01656	Lithium	SW-846 6010C	1	132400637001	09/02/2013 21:04	Tara L Snyder	1
01657	Magnesium	SW-846 6010C	1	132400637001	09/02/2013 21:04	Tara L Snyder	1
06958	Manganese	SW-846 6010C	1	132400637001	09/02/2013 21:04	Tara L Snyder	1
06960	Molybdenum	SW-846 6010C	1	132400637001	09/02/2013 21:04	Tara L Snyder	1
06961	Nickel	SW-846 6010C	1	132400637001	09/02/2013 21:04	Tara L Snyder	1
10145	Phosphorus	SW-846 6010C	1	132400637001	09/02/2013 21:04	Tara L Snyder	1
01662	Potassium	SW-846 6010C	1	132400637001	09/02/2013 21:04	Tara L Snyder	1
01667	Sodium	SW-846 6010C	1	132400637001	09/02/2013 21:04	Tara L Snyder	1
06969	Tin	SW-846 6010C	1	132400637001	09/02/2013 21:04	Tara L Snyder	1
06970	Titanium	SW-846 6010C	1	132400637001	09/02/2013 21:04	Tara L Snyder	1
06971	Vanadium	SW-846 6010C	1	132400637001	09/02/2013 21:04	Tara L Snyder	1
06972	Zinc	SW-846 6010C	1	132400637001	09/02/2013 21:04	Tara L Snyder	1
10146	Zirconium	SW-846 6010C	1	132400637001	09/02/2013 21:04	Tara L Snyder	1
06141	Selenium	SW-846 6020A	1	132400637001B	08/29/2013 07:35	Choon Y Tian	2
06142	Silver	SW-846 6020A	1	132400637001A	08/29/2013 07:35	Choon Y Tian	2
06144	Strontium	SW-846 6020A	1	132400637001A	08/29/2013 07:35	Choon Y Tian	2
06145	Thallium	SW-846 6020A	1	132400637001A	08/29/2013 07:35	Choon Y Tian	2

*=This limit was used in the evaluation of the final result

Sample Description: SL-615-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7177748
LL Group # 1414782
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/27/2013 10:00 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/28/2013 09:20
Reported: 09/11/2013 19:34

615-0 SDG#: PH094-02

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
00159	3a Mercury 7471A	SW-846 7471B	1	132400638001	08/30/2013	07:48	Damary Valentin	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132400637001	08/28/2013	22:21	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132400638001	08/29/2013	01:00	Annamaria Stipkovits	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13240039401A	08/28/2013	22:21	Clayton C Litchmore	1
11624	14a Moisture Content by 160.3	EPA 160.3 modified	1	13242162401A	08/31/2013	00:12	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-553-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7177749
LL Group # 1414782
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/27/2013 12:35 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/28/2013 09:20
Reported: 09/11/2013 19:34

553-0 SDG#: PH094-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	1.8 U	1.8	0.74	1
12969	Acenaphthylene	208-96-8	1.8 U	1.8	0.37	1
12969	Anthracene	120-12-7	1.8 U	1.8	0.37	1
12969	Benzo(a)anthracene	56-55-3	1.8 U	1.8	0.74	1
12969	Benzo(a)pyrene	50-32-8	1.8 U	1.8	0.74	1
12969	Benzo(b)fluoranthene	205-99-2	1.2 J	1.8	0.74	1
12969	Benzo(e)pyrene	192-97-2	19 U	19	3.7	1
12969	Benzo(g,h,i)perylene	191-24-2	1.8 U	1.8	0.74	1
12969	Benzo(k)fluoranthene	207-08-9	1.8 U	1.8	0.74	1
12969	Butylbenzylphthalate	85-68-7	20 U	20	6.6	1
12969	Di-n-butylphthalate	84-74-2	20 U	20	6.6	1
12969	Chrysene	218-01-9	1.0 J	1.8	0.37	1
12969	Dibenz(a,h)anthracene	53-70-3	1.8 U	1.8	0.74	1
12969	Diethylphthalate	84-66-2	20 U	20	6.6	1
12969	Dimethylphthalate	131-11-3	20 U	20	6.6	1
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	7.1 J	20	6.6	1
12969	Fluoranthene	206-44-0	1.8 U	1.8	0.74	1
12969	Fluorene	86-73-7	1.8 U	1.8	0.74	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	1.8 U	1.8	0.74	1
12969	1-Methylnaphthalene	90-12-0	1.8 U	1.8	0.74	1
12969	2-Methylnaphthalene	91-57-6	1.8 U	1.8	0.74	1
12969	Naphthalene	91-20-3	1.8 U	1.8	0.74	1
12969	N-Nitrosodimethylamine	62-75-9	1.8 U	1.8	0.74	1
12969	Di-n-octylphthalate	117-84-0	20 U	20	6.6	1
12969	Phenanthrene	85-01-8	0.87 J	1.8	0.74	1
12969	Pyrene	129-00-0	1.8 U	1.8	0.74	1
Herbicides	SW-846 8151A		ug/kg	ug/kg	ug/kg	
10401	2,4-D	94-75-7	40 U	40	13	1
10401	Dalapon	75-99-0	99 U	99	49	1
10401	2,4-DB	94-82-6	19 U	19	6.9	1
10401	Dicamba	1918-00-9	13 U	13	4.4	1
10401	Dinoseb	88-85-7	27 U	27	9.9	1
The QC window for dinoseb is advisory due to the erratic performance of the analyte using this method.						
10401	2,4-DP (Dichlorprop)	120-36-5	19 U	19	9.9	1
10401	MCPA	94-74-6	2,800 U	2,800	840	1
10401	MCPP (Mecoprop)	93-65-2	2,800 U	2,800	830	1
10401	2,4,5-T	93-76-5	1.9 U	1.9	0.91	1
10401	2,4,5-TP	93-72-1	1.9 U	1.9	0.83	1
Pesticides/PCBs	SW-846 8081B		ug/kg	ug/kg	ug/kg	
10590	Aldrin	309-00-2	0.91 U	0.91	0.19	1
10590	Alpha BHC	319-84-6	0.91 U	0.91	0.19	1
10590	Beta BHC	319-85-7	3.6	2.1	1.1	1
10590	Gamma BHC - Lindane	58-89-9	0.91 U	0.91	0.19	1
10590	Chlordane	57-74-9	19 U	19	4.4	1
10590	p,p-DDD	72-54-8	1.9 U	1.9	0.36	1
10590	p,p-DDE	72-55-9	1.4 J	1.9	0.36	1
10590	p,p-DDT	50-29-3	0.43 J	1.9	0.39	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-553-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7177749
LL Group # 1414782
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/27/2013 12:35 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/28/2013 09:20
Reported: 09/11/2013 19:34

553-0 SDG#: PH094-03

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs SW-846 8081B							
			ug/kg		ug/kg	ug/kg	
10590	Delta BHC	319-86-8	0.91	U	0.91	0.50	1
10590	Dieldrin	60-57-1	1.9	U	1.9	0.36	1
10590	Endosulfan I	959-98-8	0.91	U	0.91	0.24	1
10590	Endosulfan II	33213-65-9	1.9	U	1.9	0.36	1
10590	Endosulfan Sulfate	1031-07-8	1.9	U	1.9	0.36	1
10590	Endrin	72-20-8	1.9	U	1.9	0.36	1
10590	Endrin Aldehyde	7421-93-4	1.9	U	1.9	0.36	1
10590	Endrin Ketone	53494-70-5	2.0	U	2.0	0.66	1
10590	Heptachlor	76-44-8	0.91	U	0.91	0.19	1
10590	Heptachlor Epoxide	1024-57-3	0.91	U	0.91	0.19	1
10590	Methoxychlor	72-43-5	7.4	U	7.4	1.9	1
10590	Mirex	2385-85-5	1.9	U	1.9	0.39	1
10590	Toxaphene	8001-35-2	36	U	36	15	1
Pesticides/PCBs SW-846 8082A							
			ug/kg		ug/kg	ug/kg	
10592	Aroclor 5432	63496-31-1	36	U	36	11	1
10592	Aroclor 5442	12642-23-8	36	U	36	11	1
10592	Aroclor 5460	11126-42-4	36	U	36	11	1
10592	PCB-1016	12674-11-2	19	U	19	3.6	1
10592	PCB-1221	11104-28-2	19	U	19	5.6	1
10592	PCB-1232	11141-16-5	19	U	19	4.5	1
10592	PCB-1242	53469-21-9	19	U	19	4.5	1
10592	PCB-1248	12672-29-6	19	U	19	3.6	1
10592	PCB-1254	11097-69-1	19	U	19	4.8	1
10592	PCB-1260	11096-82-5	19	U	19	4.3	1
10592	PCB-1262	37324-23-5	19	U	19	3.6	1
10592	PCB-1268	11100-14-4	19	U	19	3.6	1
GC Petroleum SW-846 8015B modified							
			mg/kg		mg/kg	mg/kg	
12952	EFH (C12-C14)	n.a.	5.5	U	5.5	2.2	1
12952	EFH (C15-C20)	n.a.	5.5	U	5.5	2.2	1
12952	EFH (C21-C30)	n.a.	4.9	J	5.5	2.2	1
12952	EFH (C30-C40)	n.a.	8.1	J	11	4.4	1
12952	EFH (C8-C11)	n.a.	5.5	U	5.5	2.2	1
Metals SW-846 6010C							
			mg/kg		mg/kg	mg/kg	
01643	Aluminum	7429-90-5	24,700		43.5	7.84	1
06944	Antimony	7440-36-0	4.35	U	4.35	0.804	1
06935	Arsenic	7440-38-2	6.87		4.35	0.761	1
06946	Barium	7440-39-3	125		1.09	0.0359	1
06947	Beryllium	7440-41-7	0.938	J	1.09	0.0728	1
07914	Boron	7440-42-8	7.27	J	10.9	0.913	1
06949	Cadmium	7440-43-9	0.214	J	1.09	0.0826	1
01650	Calcium	7440-70-2	12,200		21.7	3.63	1
06951	Chromium	7440-47-3	33.8		3.26	0.174	1
06952	Cobalt	7440-48-4	8.97		1.09	0.108	1
06953	Copper	7440-50-8	20.8		2.17	0.315	1
01654	Iron	7439-89-6	34,100		217	19.7	5
06955	Lead	7439-92-1	12.9		3.26	0.543	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-553-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7177749
LL Group # 1414782
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/27/2013 12:35 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/28/2013 09:20
Reported: 09/11/2013 19:34

553-0 SDG#: PH094-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals						
		SW-846 6010C	mg/kg	mg/kg	mg/kg	
01656	Lithium	7439-93-2	21.7	4.3	0.37	1
01657	Magnesium	7439-95-4	7,200	10.9	1.82	1
06958	Manganese	7439-96-5	432	1.09	0.0902	1
06960	Molybdenum	7439-98-7	0.271 J	2.17	0.185	1
06961	Nickel	7440-02-0	19.9	2.17	0.141	1
10145	Phosphorus	7723-14-0	407	10.9	3.14	1
01662	Potassium	7440-09-7	5,640	109	9.06	1
01667	Sodium	7440-23-5	96.5 J	109	18.2	1
06969	Tin	7440-31-5	3.19 J	10.9	0.239	1
06970	Titanium	7440-32-6	1,000	1.09	0.185	1
06971	Vanadium	7440-62-2	61.5	1.09	0.141	1
06972	Zinc	7440-66-6	77.3	4.35	0.217	1
10146	Zirconium	7440-67-7	6.41	5.43	0.913	1
		SW-846 6020A	mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	0.261 J	0.435	0.109	2
06142	Silver	7440-22-4	0.0559 J	0.217	0.0283	2
06144	Strontium	7440-24-6	48.2	0.435	0.0739	2
06145	Thallium	7440-28-0	0.363	0.217	0.0326	2
		SW-846 7471B	mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.0153 J	0.0180	0.0108	1
Wet Chemistry						
		SW-846 9045D modified	Std. Units	Std. Units	Std. Units	
00394	15a pH by 9045D The pH was measured in water at 21.5 C.	n.a.	7.80	0.0100	0.0100	1
Wet Chemistry						
		EPA 160.3 modified	%	%	%	
11624	14a Moisture Content by 160.3 Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.	n.a.	9.8	0.10	0.10	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-553-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7177749
LL Group # 1414782
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/27/2013 12:35 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/28/2013 09:20
Reported: 09/11/2013 19:34

553-0 SDG#: PH094-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
Dioxins/Furans			ng/kg	ng/kg	ng/kg	
EPA 1613B						
11031	2378-TCDD	1746-01-6	0.0678 J	1.21	0.0661	1
11031	12378-PeCDD	40321-76-4	0.0850 JBQ	6.06	0.0509	1
11031	123478-HxCDD	39227-28-6	0.107 JBQ	6.06	0.0471	1
11031	123678-HxCDD	57653-85-7	0.322 JBQ	6.06	0.0488	1
11031	123789-HxCDD	19408-74-3	0.347 JBQ	6.06	0.0460	1
11031	1234678-HpCDD	35822-46-9	6.29 B	6.06	0.0484	1
11031	OCDD	3268-87-9	65.5 B	12.1	0.0371	1
11031	2378-TCDF	51207-31-9	0.144 JQ	1.21	0.0650	1
11031	12378-PeCDF	57117-41-6	0.340 JB	6.06	0.0325	1
11031	23478-PeCDF	57117-31-4	0.181 JBQ	6.06	0.0309	1
11031	123478-HxCDF	70648-26-9	0.127 JB	6.06	0.0244	1
11031	123678-HxCDF	57117-44-9	0.142 JB	6.06	0.0202	1
11031	123789-HxCDF	72918-21-9	0.313 JB	6.06	0.0248	1
11031	234678-HxCDF	60851-34-5	0.225 JBQ	6.06	0.0220	1
11031	1234678-HpCDF	67562-39-4	4.06 JB	6.06	0.0295	1
11031	1234789-HpCDF	55673-89-7	0.157 JBQ	6.06	0.0460	1
11031	OCDF	39001-02-0	10.2 JB	12.1	0.0500	1

Toxic Equivalents		EPA 1613B	ng/kg	ng/kg	ng/kg	
11031	TEQ WHO 2005 - EDLx0.0	n.a.	0.263			1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	75	25 - 164
13C12-12378-PeCDD	75	25 - 181
13C12-123478-HxCDD	78	32 - 141
13C12-123678-HxCDD	78	28 - 130
13C12-123789-HxCDD	78	28 - 130
13C12-1234678-HpCDD	78	23 - 140
13C12-OCDD	79	17 - 157
13C12-2378-TCDF	76	24 - 169
13C12-12378-PeCDF	87	24 - 185
13C12-23478-PeCDF	81	21 - 178
13C12-123478-HxCDF	78	26 - 152
13C12-123678-HxCDF	89	26 - 123
13C12-234678-HxCDF	82	28 - 136
13C12-123789-HxCDF	77	29 - 147
13C12-1234678-HpCDF	101	28 - 143
13C12-1234789-HpCDF	72	26 - 138
13C12-OCDF	66	17 - 157

Dioxins/Furans Data Qualifiers:

- B Detected in Method Blank
- U Undetected
- J Estimated concentration between Estimated Detection Limit and Minimum Level
- E Exceeds calibration range
- C Confirmed quantitation on secondary GC column
- Q EMPC - Estimated Maximum Possible Concentration

*=This limit was used in the evaluation of the final result

Sample Description: SL-553-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7177749
LL Group # 1414782
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/27/2013 12:35 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/28/2013 09:20

Reported: 09/11/2013 19:34

553-0 SDG#: PH094-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
F	Interference is present					
S	Saturation of detection signal					

*=This limit was used in the evaluation of the final result

Sample Description: SL-553-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7177749
LL Group # 1414782
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/27/2013 12:35 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/28/2013 09:20
Reported: 09/11/2013 19:34

553-0 SDG#: PH094-03

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13243SLC026	09/05/2013 07:19	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	13243SLC026	09/03/2013 08:00	Joseph S Feister	1
10401	21a Herbicides by EPA 8151A	SW-846 8151A	1	132460019A	09/06/2013 17:48	Elizabeth J Marin	1
10590	20a Pesticides by EPA 8081B	SW-846 8081B	1	132420008A	09/05/2013 12:55	Jamie L Brillhart	1
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132430008A	09/03/2013 16:50	Monica M Souders	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132430008A	09/02/2013 08:50	Karen L Beyer	1
10496	PPL Pest. Microwave Extraction	SW-846 3546	1	132420008A	09/01/2013 09:30	Katheryne V Sponheimer	1
04181	Herbicide Soil Extraction	SW-846 3550B/SW-846 8151A	1	132460019A	09/04/2013 10:00	Kelli M Barto	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132460005A	09/04/2013 23:42	Heather E Williams	1
12959	EPH soil ext. (microwave)	SW-846 3546	1	132460005A	09/03/2013 18:50	Sally L Appleyard	1
11031	23a Dioxin/Furan by EPA 1613B	EPA 1613B	1	13248003	09/06/2013 22:09	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	13248003	09/05/2013 10:45	Robert Brown	1
01643	Aluminum	SW-846 6010C	1	132400637001	09/02/2013 21:08	Tara L Snyder	1
06944	Antimony	SW-846 6010C	1	132400637001	09/02/2013 21:08	Tara L Snyder	1
06935	Arsenic	SW-846 6010C	1	132400637001	09/02/2013 21:08	Tara L Snyder	1
06946	Barium	SW-846 6010C	1	132400637001	09/02/2013 21:08	Tara L Snyder	1
06947	Beryllium	SW-846 6010C	1	132400637001	09/02/2013 21:08	Tara L Snyder	1
07914	Boron	SW-846 6010C	1	132400637001	09/02/2013 21:08	Tara L Snyder	1
06949	Cadmium	SW-846 6010C	1	132400637001	09/02/2013 21:08	Tara L Snyder	1
01650	Calcium	SW-846 6010C	1	132400637001	09/02/2013 21:08	Tara L Snyder	1
06951	Chromium	SW-846 6010C	1	132400637001	09/02/2013 21:08	Tara L Snyder	1
06952	Cobalt	SW-846 6010C	1	132400637001	09/02/2013 21:08	Tara L Snyder	1
06953	Copper	SW-846 6010C	1	132400637001	09/02/2013 21:08	Tara L Snyder	1
01654	Iron	SW-846 6010C	1	132400637001	09/03/2013 19:27	Katlin N Cataldi	5
06955	Lead	SW-846 6010C	1	132400637001	09/02/2013 21:08	Tara L Snyder	1
01656	Lithium	SW-846 6010C	1	132400637001	09/02/2013 21:08	Tara L Snyder	1
01657	Magnesium	SW-846 6010C	1	132400637001	09/02/2013 21:08	Tara L Snyder	1
06958	Manganese	SW-846 6010C	1	132400637001	09/02/2013 21:08	Tara L Snyder	1
06960	Molybdenum	SW-846 6010C	1	132400637001	09/02/2013 21:08	Tara L Snyder	1
06961	Nickel	SW-846 6010C	1	132400637001	09/02/2013 21:08	Tara L Snyder	1
10145	Phosphorus	SW-846 6010C	1	132400637001	09/02/2013 21:08	Tara L Snyder	1
01662	Potassium	SW-846 6010C	1	132400637001	09/02/2013 21:08	Tara L Snyder	1
01667	Sodium	SW-846 6010C	1	132400637001	09/02/2013 21:08	Tara L Snyder	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-553-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7177749
LL Group # 1414782
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/27/2013 12:35 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/28/2013 09:20

Reported: 09/11/2013 19:34

553-0 SDG#: PH094-03

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
06969	Tin	SW-846 6010C	1	132400637001	09/02/2013	21:08	Tara L Snyder	1
06970	Titanium	SW-846 6010C	1	132400637001	09/02/2013	21:08	Tara L Snyder	1
06971	Vanadium	SW-846 6010C	1	132400637001	09/02/2013	21:08	Tara L Snyder	1
06972	Zinc	SW-846 6010C	1	132400637001	09/02/2013	21:08	Tara L Snyder	1
10146	Zirconium	SW-846 6010C	1	132400637001	09/02/2013	21:08	Tara L Snyder	1
06141	Selenium	SW-846 6020A	1	132400637001B	08/29/2013	07:37	Choon Y Tian	2
06142	Silver	SW-846 6020A	1	132400637001A	08/29/2013	07:37	Choon Y Tian	2
06144	Strontium	SW-846 6020A	1	132400637001A	08/29/2013	07:37	Choon Y Tian	2
06145	Thallium	SW-846 6020A	1	132400637001A	08/29/2013	07:37	Choon Y Tian	2
00159	3a Mercury 7471A	SW-846 7471B	1	132400638001	08/30/2013	07:50	Damary Valentin	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132400637001	08/28/2013	22:21	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132400638001	08/29/2013	01:00	Annamaria Stipkovits	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13240039401A	08/28/2013	22:21	Clayton C Litchmore	1
11624	14a Moisture Content by 160.3	EPA 160.3 modified	1	13242162401A	08/31/2013	00:12	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-553-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7177750
LL Group # 1414782
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/27/2013 12:50 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/28/2013 09:20
Reported: 09/11/2013 19:34

553-4 SDG#: PH094-04BKG

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	1.9 U	1.9	0.75	1
12969	Acenaphthylene	208-96-8	1.9 U	1.9	0.38	1
12969	Anthracene	120-12-7	1.9 U	1.9	0.38	1
12969	Benzo(a)anthracene	56-55-3	1.9 U	1.9	0.75	1
12969	Benzo(a)pyrene	50-32-8	1.9 U	1.9	0.75	1
12969	Benzo(b)fluoranthene	205-99-2	1.9 U	1.9	0.75	1
12969	Benzo(e)pyrene	192-97-2	19 U	19	3.8	1
12969	Benzo(g,h,i)perylene	191-24-2	1.9 U	1.9	0.75	1
12969	Benzo(k)fluoranthene	207-08-9	1.9 U	1.9	0.75	1
12969	Butylbenzylphthalate	85-68-7	20 U	20	6.8	1
12969	Di-n-butylphthalate	84-74-2	20 U	20	6.8	1
12969	Chrysene	218-01-9	0.84 J	1.9	0.38	1
12969	Dibenz(a,h)anthracene	53-70-3	1.9 U	1.9	0.75	1
12969	Diethylphthalate	84-66-2	20 U	20	6.8	1
12969	Dimethylphthalate	131-11-3	20 U	20	6.8	1
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	20 U	20	6.8	1
12969	Fluoranthene	206-44-0	1.9 U	1.9	0.75	1
12969	Fluorene	86-73-7	1.9 U	1.9	0.75	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	1.9 U	1.9	0.75	1
12969	1-Methylnaphthalene	90-12-0	1.2 J	1.9	0.75	1
12969	2-Methylnaphthalene	91-57-6	1.9 U	1.9	0.75	1
12969	Naphthalene	91-20-3	1.9 U	1.9	0.75	1
12969	N-Nitrosodimethylamine	62-75-9	1.9 U	1.9	0.75	1
12969	Di-n-octylphthalate	117-84-0	20 U	20	6.8	1
12969	Phenanthrene	85-01-8	1.9 U	1.9	0.75	1
12969	Pyrene	129-00-0	1.9 U	1.9	0.75	1
GC Volatiles	TPH GRO SW-846 8015B mod	mg/kg	mg/kg	mg/kg		
05551	11a TPH by EPA 8015B GRO	n.a.	1.0 U	1.0	0.2	22.81
Herbicides	SW-846 8151A	ug/kg	ug/kg	ug/kg		
10401	2,4-D	94-75-7	41 U	41	14	1
10401	Dalapon	75-99-0	100 U	100	50	1
10401	2,4-DB	94-82-6	19 U	19	7.0	1
10401	Dicamba	1918-00-9	14 U	14	4.5	1
10401	Dinoseb	88-85-7	27 U	27	10	1
The QC window for dinoseb is advisory due to the erratic performance of the analyte using this method.						
10401	2,4-DP (Dichlorprop)	120-36-5	19 U	19	10	1
10401	MCPA	94-74-6	2,800 U	2,800	860	1
10401	MCPP (Mecoprop)	93-65-2	2,800 U	2,800	850	1
10401	2,4,5-T	93-76-5	1.9 U	1.9	0.92	1
10401	2,4,5-TP	93-72-1	1.9 U	1.9	0.85	1
Pesticides/PCBs	SW-846 8081B	ug/kg	ug/kg	ug/kg		
10590	Aldrin	309-00-2	0.92 U	0.92	0.19	1
10590	Alpha BHC	319-84-6	0.92 U	0.92	0.19	1
10590	Beta BHC	319-85-7	3.8 U	2.1	1.1	1
10590	Gamma BHC - Lindane	58-89-9	0.92 U	0.92	0.19	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-553-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7177750
LL Group # 1414782
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/27/2013 12:50 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/28/2013 09:20
Reported: 09/11/2013 19:34

553-4 SDG#: PH094-04BKG

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs SW-846 8081B							
10590	Chlordane	57-74-9	19	U	19	4.4	1
10590	p,p-DDD	72-54-8	1.9	U	1.9	0.37	1
10590	p,p-DDE	72-55-9	1.9	U	1.9	0.37	1
10590	p,p-DDT	50-29-3	1.9	U	1.9	0.39	1
10590	Delta BHC	319-86-8	0.92	U	0.92	0.50	1
10590	Dieldrin	60-57-1	1.9	U	1.9	0.37	1
10590	Endosulfan I	959-98-8	0.92	U	0.92	0.24	1
10590	Endosulfan II	33213-65-9	1.9	U	1.9	0.37	1
10590	Endosulfan Sulfate	1031-07-8	1.9	U	1.9	0.37	1
10590	Endrin	72-20-8	1.9	U	1.9	0.37	1
10590	Endrin Aldehyde	7421-93-4	1.9	U	1.9	0.37	1
10590	Endrin Ketone	53494-70-5	2.0	U	2.0	0.67	1
10590	Heptachlor	76-44-8	0.92	U	0.92	0.19	1
10590	Heptachlor Epoxide	1024-57-3	0.92	U	0.92	0.19	1
10590	Methoxychlor	72-43-5	7.4	U	7.4	1.9	1
10590	Mirex	2385-85-5	1.9	U	1.9	0.39	1
10590	Toxaphene	8001-35-2	37	U	37	16	1
Pesticides/PCBs SW-846 8082A							
10592	Aroclor 5432	63496-31-1	37	U	37	11	1
10592	Aroclor 5442	12642-23-8	37	U	37	11	1
10592	Aroclor 5460	11126-42-4	37	U	37	11	1
10592	PCB-1016	12674-11-2	19	U	19	3.7	1
10592	PCB-1221	11104-28-2	19	U	19	5.7	1
10592	PCB-1232	11141-16-5	19	U	19	4.5	1
10592	PCB-1242	53469-21-9	19	U	19	4.5	1
10592	PCB-1248	12672-29-6	19	U	19	3.7	1
10592	PCB-1254	11097-69-1	19	U	19	4.9	1
10592	PCB-1260	11096-82-5	19	U	19	4.3	1
10592	PCB-1262	37324-23-5	19	U	19	3.7	1
10592	PCB-1268	11100-14-4	19	U	19	3.7	1
GC Petroleum SW-846 8015B modified							
Hydrocarbons							
12952	EFH (C12-C14)	n.a.	5.6	U	5.6	2.3	1
12952	EFH (C15-C20)	n.a.	5.6	U	5.6	2.3	1
12952	EFH (C21-C30)	n.a.	5.6	U	5.6	2.3	1
12952	EFH (C30-C40)	n.a.	11	U	11	4.5	1
12952	EFH (C8-C11)	n.a.	5.6	U	5.6	2.3	1
Metals SW-846 6010C							
01643	Aluminum	7429-90-5	24,300		44.6	8.05	1
06944	Antimony	7440-36-0	4.46	U	4.46	0.826	1
06935	Arsenic	7440-38-2	6.33		4.46	0.781	1
06946	Barium	7440-39-3	137		1.12	0.0368	1
06947	Beryllium	7440-41-7	0.979	J	1.12	0.0748	1
07914	Boron	7440-42-8	7.73	J	11.2	0.938	1
06949	Cadmium	7440-43-9	0.221	J	1.12	0.0848	1
01650	Calcium	7440-70-2	7,840		22.3	3.73	1
06951	Chromium	7440-47-3	32.2		3.35	0.179	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-553-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7177750
LL Group # 1414782
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/27/2013 12:50 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/28/2013 09:20
Reported: 09/11/2013 19:34

553-4 SDG#: PH094-04BKG

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals						
		SW-846 6010C	mg/kg	mg/kg	mg/kg	
06952	Cobalt	7440-48-4	9.33	1.12	0.111	1
06953	Copper	7440-50-8	20.4	2.23	0.324	1
01654	Iron	7439-89-6	33,400	223	20.2	5
06955	Lead	7439-92-1	10.2	3.35	0.558	1
01656	Lithium	7439-93-2	20.7	4.5	0.38	1
01657	Magnesium	7439-95-4	6,660	11.2	1.86	1
06958	Manganese	7439-96-5	488	1.12	0.0926	1
06960	Molybdenum	7439-98-7	0.374 J	2.23	0.190	1
06961	Nickel	7440-02-0	19.5	2.23	0.145	1
10145	Phosphorus	7723-14-0	307	11.2	3.23	1
01662	Potassium	7440-09-7	4,800	112	9.31	1
01667	Sodium	7440-23-5	90.6 J	112	18.6	1
06969	Tin	7440-31-5	3.17 J	11.2	0.246	1
06970	Titanium	7440-32-6	822	1.12	0.190	1
06971	Vanadium	7440-62-2	60.9	1.12	0.145	1
06972	Zinc	7440-66-6	71.2	4.46	0.223	1
10146	Zirconium	7440-67-7	6.08	5.58	0.938	1
		SW-846 6020A	mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	0.265 J	0.446	0.112	2
06142	Silver	7440-22-4	0.0515 J	0.223	0.0290	2
06144	Strontium	7440-24-6	44.7	0.446	0.0759	2
06145	Thallium	7440-28-0	0.421	0.223	0.0335	2
		SW-846 7471B	mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.0184 U	0.0184	0.0110	1
Wet Chemistry						
		SW-846 9045D modified	Std. Units	Std. Units	Std. Units	
00394	15a pH by 9045D The pH was measured in water at 21.5 C.	n.a.	7.79	0.0100	0.0100	1
Wet Chemistry						
		EPA 160.3 modified	%	%	%	
11624	14a Moisture Content by 160.3 Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.	n.a.	11.3	0.10	0.10	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-553-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7177750
LL Group # 1414782
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/27/2013 12:50 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/28/2013 09:20
Reported: 09/11/2013 19:34

553-4 SDG#: PH094-04BKG

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
Dioxins/Furans			EPA 1613B		ng/kg	
11031	2378-TCDD	1746-01-6	0.0496 J	1.10	0.0454	1
11031	12378-PeCDD	40321-76-4	0.0976 JB	5.48	0.0437	1
11031	123478-HxCDD	39227-28-6	0.0546 JBQ	5.48	0.0335	1
11031	123678-HxCDD	57653-85-7	0.247 JBQ	5.48	0.0346	1
11031	123789-HxCDD	19408-74-3	0.376 JBQ	5.48	0.0344	1
11031	1234678-HpCDD	35822-46-9	0.424 JBQ	5.48	0.0371	1
11031	OCDD	3268-87-9	2.73 JB	11.0	0.0335	1
11031	2378-TCDF	51207-31-9	1.10 U	1.10	0.0443	1
11031	12378-PeCDF	57117-41-6	0.255 JBQ	5.48	0.0215	1
11031	23478-PeCDF	57117-31-4	0.126 JBQ	5.48	0.0218	1
11031	123478-HxCDF	70648-26-9	0.0751 JBQ	5.48	0.0186	1
11031	123678-HxCDF	57117-44-9	5.48 U	5.48	0.0162	1
11031	123789-HxCDF	72918-21-9	0.705 JB	5.48	0.0194	1
11031	234678-HxCDF	60851-34-5	0.0637 JBQ	5.48	0.0169	1
11031	1234678-HpCDF	67562-39-4	0.309 JBQ	5.48	0.0191	1
11031	1234789-HpCDF	55673-89-7	0.0647 JB	5.48	0.0322	1
11031	OCDF	39001-02-0	0.737 JB	11.0	0.0441	1

Toxic Equivalents		EPA 1613B	ng/kg	ng/kg	ng/kg	
11031	TEQ WHO 2005 - EDLx0.0	n.a.	0.219			1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	75	25 - 164
13C12-12378-PeCDD	67	25 - 181
13C12-123478-HxCDD	75	32 - 141
13C12-123678-HxCDD	74	28 - 130
13C12-123789-HxCDD	73	28 - 130
13C12-1234678-HpCDD	67	23 - 140
13C12-OCDD	67	17 - 157
13C12-2378-TCDF	75	24 - 169
13C12-12378-PeCDF	80	24 - 185
13C12-23478-PeCDF	72	21 - 178
13C12-123478-HxCDF	76	26 - 152
13C12-123678-HxCDF	85	26 - 123
13C12-234678-HxCDF	78	28 - 136
13C12-123789-HxCDF	73	29 - 147
13C12-1234678-HpCDF	91	28 - 143
13C12-1234789-HpCDF	61	26 - 138
13C12-OCDF	56	17 - 157

Dioxins/Furans Data Qualifiers:

- B Detected in Method Blank
- U Undetected
- J Estimated concentration between Estimated Detection Limit and Minimum Level
- E Exceeds calibration range
- C Confirmed quantitation on secondary GC column
- Q EMPC - Estimated Maximum Possible Concentration

*=This limit was used in the evaluation of the final result

Sample Description: SL-553-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7177750
LL Group # 1414782
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/27/2013 12:50 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/28/2013 09:20

Reported: 09/11/2013 19:34

553-4 SDG#: PH094-04BKG

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
F	Interference is present					
S	Saturation of detection signal					

*=This limit was used in the evaluation of the final result

Sample Description: SL-553-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7177750
LL Group # 1414782
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/27/2013 12:50 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/28/2013 09:20
Reported: 09/11/2013 19:34

553-4 SDG#: PH094-04BKG

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13243SLC026	09/05/2013 04:40	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	13243SLC026	09/03/2013 08:00	Joseph S Feister	1
05551	11a TPH by EPA 8015B GRO	TPH GRO SW-846 8015B mod	1	13242A16A	08/31/2013 03:46	Laura M Krieger	22.81
06130	GC - 5 g HL Encore Prep	SW-846 5035A	1	201324032195	08/28/2013 14:39	Lisa J Cooke	n.a.
06130	GC - 5 g HL Encore Prep	SW-846 5035A	2	201324032195	08/28/2013 14:39	Lisa J Cooke	n.a.
10401	21a Herbicides by EPA 8151A	SW-846 8151A	1	132460019A	09/06/2013 18:14	Elizabeth J Marin	1
10590	20a Pesticides by EPA 8081B	SW-846 8081B	1	132420008A	09/05/2013 13:10	Jamie L Brillhart	1
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132430008A	09/03/2013 17:09	Monica M Souders	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132430008A	09/02/2013 08:50	Karen L Beyer	1
10496	PPL Pest. Microwave Extraction	SW-846 3546	1	132420008A	09/01/2013 09:30	Katheryne V Sponheimer	1
04181	Herbicide Soil Extraction	SW-846 3550B/SW-846 8151A	1	132460019A	09/04/2013 10:00	Kelli M Barto	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132460005A	09/04/2013 20:30	Heather E Williams	1
12959	EFH soil ext. (microwave)	SW-846 3546	1	132460005A	09/03/2013 18:50	Sally L Appleyard	1
11031	23a Dioxin/Furan by EPA 1613B	EPA 1613B	1	13248003	09/06/2013 23:06	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	13248003	09/05/2013 10:45	Robert Brown	1
01643	Aluminum	SW-846 6010C	1	132400637001	09/02/2013 20:40	Tara L Snyder	1
06944	Antimony	SW-846 6010C	1	132400637001	09/02/2013 20:40	Tara L Snyder	1
06935	Arsenic	SW-846 6010C	1	132400637001	09/02/2013 20:40	Tara L Snyder	1
06946	Barium	SW-846 6010C	1	132400637001	09/02/2013 20:40	Tara L Snyder	1
06947	Beryllium	SW-846 6010C	1	132400637001	09/02/2013 20:40	Tara L Snyder	1
07914	Boron	SW-846 6010C	1	132400637001	09/02/2013 20:40	Tara L Snyder	1
06949	Cadmium	SW-846 6010C	1	132400637001	09/02/2013 20:40	Tara L Snyder	1
01650	Calcium	SW-846 6010C	1	132400637001	09/02/2013 20:40	Tara L Snyder	1
06951	Chromium	SW-846 6010C	1	132400637001	09/02/2013 20:40	Tara L Snyder	1
06952	Cobalt	SW-846 6010C	1	132400637001	09/02/2013 20:40	Tara L Snyder	1
06953	Copper	SW-846 6010C	1	132400637001	09/02/2013 20:40	Tara L Snyder	1
01654	Iron	SW-846 6010C	1	132400637001	09/03/2013 19:01	Katlin N Cataldi	5
06955	Lead	SW-846 6010C	1	132400637001	09/02/2013 20:40	Tara L Snyder	1
01656	Lithium	SW-846 6010C	1	132400637001	09/02/2013 20:40	Tara L Snyder	1
01657	Magnesium	SW-846 6010C	1	132400637001	09/02/2013 20:40	Tara L Snyder	1
06958	Manganese	SW-846 6010C	1	132400637001	09/02/2013 20:40	Tara L Snyder	1
06960	Molybdenum	SW-846 6010C	1	132400637001	09/02/2013 20:40	Tara L Snyder	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-553-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7177750
LL Group # 1414782
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/27/2013 12:50 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/28/2013 09:20
Reported: 09/11/2013 19:34

553-4 SDG#: PH094-04BKG

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
06961	Nickel	SW-846 6010C	1	132400637001	09/02/2013	20:40	Tara L Snyder	1
10145	Phosphorus	SW-846 6010C	1	132400637001	09/02/2013	20:40	Tara L Snyder	1
01662	Potassium	SW-846 6010C	1	132400637001	09/02/2013	20:40	Tara L Snyder	1
01667	Sodium	SW-846 6010C	1	132400637001	09/02/2013	20:40	Tara L Snyder	1
06969	Tin	SW-846 6010C	1	132400637001	09/02/2013	20:40	Tara L Snyder	1
06970	Titanium	SW-846 6010C	1	132400637001	09/02/2013	20:40	Tara L Snyder	1
06971	Vanadium	SW-846 6010C	1	132400637001	09/02/2013	20:40	Tara L Snyder	1
06972	Zinc	SW-846 6010C	1	132400637001	09/02/2013	20:40	Tara L Snyder	1
10146	Zirconium	SW-846 6010C	1	132400637001	09/02/2013	20:40	Tara L Snyder	1
06141	Selenium	SW-846 6020A	1	132400637001B	08/29/2013	07:16	Choon Y Tian	2
06142	Silver	SW-846 6020A	1	132400637001A	08/29/2013	07:16	Choon Y Tian	2
06144	Strontium	SW-846 6020A	1	132400637001A	08/29/2013	07:16	Choon Y Tian	2
06145	Thallium	SW-846 6020A	1	132400637001A	08/29/2013	07:16	Choon Y Tian	2
00159	3a Mercury 7471A	SW-846 7471B	1	132400638001	08/30/2013	07:52	Damary Valentin	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132400637001	08/28/2013	22:21	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132400638001	08/29/2013	01:00	Annamaria Stipkovits	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13240039401A	08/28/2013	22:21	Clayton C Litchmore	1
11624	14a Moisture Content by 160.3	EPA 160.3 modified	1	13242162401A	08/31/2013	00:12	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-553-SA8-SB-4.0-5.0MS Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7177751
LL Group # 1414782
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/27/2013 12:50 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/28/2013 09:20
Reported: 09/11/2013 19:34

553-4 SDG#: PH094-04MS

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	35	1.9	0.75	1
12969	Acenaphthylene	208-96-8	35	1.9	0.37	1
12969	Anthracene	120-12-7	36	1.9	0.37	1
12969	Benzo(a)anthracene	56-55-3	38	1.9	0.75	1
12969	Benzo(a)pyrene	50-32-8	39	1.9	0.75	1
12969	Benzo(b)fluoranthene	205-99-2	47	1.9	0.75	1
12969	Benzo(e)pyrene	192-97-2	36	19	3.7	1
12969	Benzo(g,h,i)perylene	191-24-2	26	1.9	0.75	1
12969	Benzo(k)fluoranthene	207-08-9	38	1.9	0.75	1
12969	Butylbenzylphthalate	85-68-7	46	20	6.7	1
12969	Di-n-butylphthalate	84-74-2	39	20	6.7	1
12969	Chrysene	218-01-9	38	1.9	0.37	1
12969	Dibenz(a,h)anthracene	53-70-3	31	1.9	0.75	1
12969	Diethylphthalate	84-66-2	35	20	6.7	1
12969	Dimethylphthalate	131-11-3	35	20	6.7	1
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	45	20	6.7	1
12969	Fluoranthene	206-44-0	35	1.9	0.75	1
12969	Fluorene	86-73-7	36	1.9	0.75	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	30	1.9	0.75	1
12969	1-Methylnaphthalene	90-12-0	37	1.9	0.75	1
12969	2-Methylnaphthalene	91-57-6	36	1.9	0.75	1
12969	Naphthalene	91-20-3	35	1.9	0.75	1
12969	N-Nitrosodimethylamine	62-75-9	29	1.9	0.75	1
12969	Di-n-octylphthalate	117-84-0	49	20	6.7	1
12969	Phenanthrene	85-01-8	35	1.9	0.75	1
12969	Pyrene	129-00-0	36	1.9	0.75	1
GC Volatiles	TPH GRO SW-846 8015B mod	mg/kg	mg/kg	mg/kg		
05551	11a TPH by EPA 8015B GRO	n.a.	9.0	1.1	0.2	24.04
Herbicides	SW-846 8151A	ug/kg	ug/kg	ug/kg		
10401	2,4-D	94-75-7	98	40	13	1
10401	Dalapon	75-99-0	88	100	49	1
10401	2,4-DB	94-82-6	150	19	6.9	1
10401	Dicamba	1918-00-9	11	13	4.5	1
10401	Dinoseb	88-85-7	57	27	10	1
The QC window for dinoseb is advisory due to the erratic performance of the analyte using this method.						
10401	2,4-DP (Dichlorprop)	120-36-5	110	19	10	1
10401	MCPA	94-74-6	8,200	2,800	850	1
10401	MCPP (Mecoprop)	93-65-2	7,800	2,800	840	1
10401	2,4,5-T	93-76-5	12	1.9	0.92	1
10401	2,4,5-TP	93-72-1	10	1.9	0.84	1
Pesticides/PCBs	SW-846 8081B	ug/kg	ug/kg	ug/kg		
10590	Aldrin	309-00-2	2.9	0.92	0.19	1
10590	Alpha BHC	319-84-6	3.5	0.92	0.19	1
10590	Beta BHC	319-85-7	1.5	2.1	1.1	1
10590	Gamma BHC - Lindane	58-89-9	3.4	0.92	0.19	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-553-SA8-SB-4.0-5.0MS Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7177751
LL Group # 1414782
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/27/2013 12:50 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/28/2013 09:20
Reported: 09/11/2013 19:34

553-4 SDG#: PH094-04MS

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs SW-846 8081B							
10590	Chlordane	57-74-9	19	U	19	4.5	1
10590	p,p-DDD	72-54-8	8.4		1.9	0.37	1
10590	p,p-DDE	72-55-9	6.5		1.9	0.37	1
10590	p,p-DDT	50-29-3	8.0		1.9	0.39	1
10590	Delta BHC	319-86-8	3.0		0.92	0.50	1
10590	Dieldrin	60-57-1	8.1		1.9	0.37	1
10590	Endosulfan I	959-98-8	3.9		0.92	0.24	1
10590	Endosulfan II	33213-65-9	6.7		1.9	0.37	1
10590	Endosulfan Sulfate	1031-07-8	6.5		1.9	0.37	1
10590	Endrin	72-20-8	7.8		1.9	0.37	1
10590	Endrin Aldehyde	7421-93-4	6.3		1.9	0.37	1
10590	Endrin Ketone	53494-70-5	6.5		2.0	0.67	1
10590	Heptachlor	76-44-8	3.6		0.92	0.19	1
10590	Heptachlor Epoxide	1024-57-3	3.2		0.92	0.19	1
10590	Methoxychlor	72-43-5	37		7.5	1.9	1
10590	Mirex	2385-85-5	1.9	U	1.9	0.39	1
10590	Toxaphene	8001-35-2	37	U	37	16	1
Pesticides/PCBs SW-846 8082A							
10592	Aroclor 5432	63496-31-1	37	U	37	11	1
10592	Aroclor 5442	12642-23-8	37	U	37	11	1
10592	Aroclor 5460	11126-42-4	37	U	37	11	1
10592	PCB-1016	12674-11-2	180		19	3.7	1
10592	PCB-1221	11104-28-2	19	U	19	5.7	1
10592	PCB-1232	11141-16-5	19	U	19	4.6	1
10592	PCB-1242	53469-21-9	19	U	19	4.6	1
10592	PCB-1248	12672-29-6	19	U	19	3.7	1
10592	PCB-1254	11097-69-1	19	U	19	4.9	1
10592	PCB-1260	11096-82-5	210		19	4.4	1
10592	PCB-1262	37324-23-5	19	U	19	3.7	1
10592	PCB-1268	11100-14-4	19	U	19	3.7	1
GC Petroleum SW-846 8015B modified							
Hydrocarbons							
12952	EFH (C12-C14)	n.a.	5.6	U	5.6	2.3	1
12952	EFH (C15-C20)	n.a.	2.7	J	5.6	2.3	1
12952	EFH (C21-C30)	n.a.	5.1	J	5.6	2.3	1
12952	EFH (C30-C40)	n.a.	5.9	J	11	4.5	1
12952	EFH (C8-C11)	n.a.	5.6	U	5.6	2.3	1
Metals SW-846 6010C							
01643	Aluminum	7429-90-5	31,900		44.6	8.05	1
06944	Antimony	7440-36-0	32.6		4.46	0.826	1
06935	Arsenic	7440-38-2	22.4		4.46	0.781	1
06946	Barium	7440-39-3	344		1.12	0.0368	1
06947	Beryllium	7440-41-7	6.41		1.12	0.0748	1
07914	Boron	7440-42-8	203		11.2	0.938	1
06949	Cadmium	7440-43-9	5.18		1.12	0.0848	1
01650	Calcium	7440-70-2	7,810		22.3	3.73	1
06951	Chromium	7440-47-3	57.9		3.35	0.179	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-553-SA8-SB-4.0-5.0MS Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7177751
LL Group # 1414782
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/27/2013 12:50 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/28/2013 09:20
Reported: 09/11/2013 19:34

553-4 SDG#: PH094-04MS

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals						
		SW-846 6010C	mg/kg	mg/kg	mg/kg	
06952	Cobalt	7440-48-4	59.4	1.12	0.111	1
06953	Copper	7440-50-8	47.8	2.23	0.324	1
01654	Iron	7439-89-6	35,300	223	20.2	5
06955	Lead	7439-92-1	25.3	3.35	0.558	1
01656	Lithium	7439-93-2	133	4.5	0.38	1
01657	Magnesium	7439-95-4	7,520	11.2	1.86	1
06958	Manganese	7439-96-5	555	1.12	0.0926	1
06960	Molybdenum	7439-98-7	193	2.23	0.190	1
06961	Nickel	7440-02-0	71.7	2.23	0.145	1
10145	Phosphorus	7723-14-0	406	11.2	3.23	1
01662	Potassium	7440-09-7	6,390	112	9.31	1
01667	Sodium	7440-23-5	1,160	112	18.6	1
06969	Tin	7440-31-5	383	11.2	0.246	1
06970	Titanium	7440-32-6	1,190	1.12	0.190	1
06971	Vanadium	7440-62-2	121	1.12	0.145	1
06972	Zinc	7440-66-6	127	4.46	0.223	1
10146	Zirconium	7440-67-7	107	5.58	0.938	1
		SW-846 6020A	mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	2.72	0.446	0.112	2
06142	Silver	7440-22-4	14.6	0.223	0.0290	2
06144	Strontium	7440-24-6	63.1	0.446	0.0759	2
06145	Thallium	7440-28-0	1.03	0.223	0.0335	2
		SW-846 7471B	mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.208	0.0184	0.0111	1
Wet Chemistry						
		EPA 160.3 modified	%	%	%	
11625	14a Moisture Content by 160.3	n.a.	11.3	0.10	0.10	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-553-SA8-SB-4.0-5.0MS Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7177751
LL Group # 1414782
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/27/2013 12:50 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/28/2013 09:20
Reported: 09/11/2013 19:34

553-4 SDG#: PH094-04MS

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
Dioxins/Furans			EPA 1613B		ng/kg	
11031	2378-TCDD	1746-01-6	22.6	1.12	0.0602	1
11031	12378-PeCDD	40321-76-4	113 B	5.60	0.0547	1
11031	123478-HxCDD	39227-28-6	114 B	5.60	0.0464	1
11031	123678-HxCDD	57653-85-7	114 B	5.60	0.0480	1
11031	123789-HxCDD	19408-74-3	115 B	5.60	0.0451	1
11031	1234678-HpCDD	35822-46-9	112 B	5.60	0.0555	1
11031	OCDD	3268-87-9	213 B	11.2	0.0353	1
11031	2378-TCDF	51207-31-9	22.6	1.12	0.0570	1
11031	12378-PeCDF	57117-41-6	114 B	5.60	0.0295	1
11031	23478-PeCDF	57117-31-4	115 B	5.60	0.0295	1
11031	123478-HxCDF	70648-26-9	110 B	5.60	0.0281	1
11031	123678-HxCDF	57117-44-9	110 B	5.60	0.0238	1
11031	123789-HxCDF	72918-21-9	111 B	5.60	0.0320	1
11031	234678-HxCDF	60851-34-5	111 B	5.60	0.0258	1
11031	1234678-HpCDF	67562-39-4	108 B	5.60	0.0245	1
11031	1234789-HpCDF	55673-89-7	110 B	5.60	0.0430	1
11031	OCDF	39001-02-0	212 B	11.2	0.0459	1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	73	25 - 164
13C12-12378-PeCDD	77	25 - 181
13C12-123478-HxCDD	84	32 - 141
13C12-123678-HxCDD	84	28 - 130
13C12-123789-HxCDD	82	28 - 130
13C12-1234678-HpCDD	81	23 - 140
13C12-OCDD	86	17 - 157
13C12-2378-TCDF	75	24 - 169
13C12-12378-PeCDF	90	24 - 185
13C12-23478-PeCDF	83	21 - 178
13C12-123478-HxCDF	83	26 - 152
13C12-123678-HxCDF	95	26 - 123
13C12-234678-HxCDF	87	28 - 136
13C12-123789-HxCDF	80	29 - 147
13C12-1234678-HpCDF	114	28 - 143
13C12-1234789-HpCDF	71	26 - 138
13C12-OCDF	69	17 - 157

Dioxins/Furans Data Qualifiers:

- B Detected in Method Blank
- U Undetected
- J Estimated concentration between Estimated Detection Limit and Minimum Level
- E Exceeds calibration range
- C Confirmed quantitation on secondary GC column
- Q EMPC - Estimated Maximum Possible Concentration
- F Interference is present
- S Saturation of detection signal

*=This limit was used in the evaluation of the final result

Sample Description: SL-553-SA8-SB-4.0-5.0MS Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7177751
LL Group # 1414782
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/27/2013 12:50 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/28/2013 09:20
Reported: 09/11/2013 19:34

553-4 SDG#: PH094-04MS

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13243SLC026	09/05/2013 05:12	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	13243SLC026	09/03/2013 08:00	Joseph S Feister	1
05551	11a TPH by EPA 8015B GRO	TPH GRO SW-846 8015B mod	1	13242A16A	08/31/2013 04:24	Laura M Krieger	24.04
06130	GC - 5 g HL Encore Prep	SW-846 5035A	1	201324032195	08/28/2013 14:38	Lisa J Cooke	n.a.
06130	GC - 5 g HL Encore Prep	SW-846 5035A	2	201324032195	08/28/2013 14:38	Lisa J Cooke	n.a.
10401	21a Herbicides by EPA 8151A	SW-846 8151A	1	132460019A	09/06/2013 18:41	Elizabeth J Marin	1
10590	20a Pesticides by EPA 8081B	SW-846 8081B	1	132420008A	09/05/2013 13:25	Jamie L Brillhart	1
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132430008A	09/03/2013 17:27	Monica M Souders	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132430008A	09/02/2013 08:50	Karen L Beyer	1
10496	PPL Pest. Microwave Extraction	SW-846 3546	1	132420008A	09/01/2013 09:30	Katheryne V Sponheimer	1
04181	Herbicide Soil Extraction	SW-846 3550B/SW-846 8151A	1	132460019A	09/04/2013 10:00	Kelli M Barto	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132460005A	09/04/2013 20:52	Heather E Williams	1
12959	EFH soil ext. (microwave)	SW-846 3546	1	132460005A	09/03/2013 18:50	Sally L Appleyard	1
11031	23a Dioxin/Furan by EPA 1613B	EPA 1613B	1	13248003	09/07/2013 00:02	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	13248003	09/05/2013 10:45	Robert Brown	1
01643	Aluminum	SW-846 6010C	1	132400637001	09/02/2013 20:52	Tara L Snyder	1
06944	Antimony	SW-846 6010C	1	132400637001	09/02/2013 20:52	Tara L Snyder	1
06935	Arsenic	SW-846 6010C	1	132400637001	09/02/2013 20:52	Tara L Snyder	1
06946	Barium	SW-846 6010C	1	132400637001	09/02/2013 20:52	Tara L Snyder	1
06947	Beryllium	SW-846 6010C	1	132400637001	09/02/2013 20:52	Tara L Snyder	1
07914	Boron	SW-846 6010C	1	132400637001	09/02/2013 20:52	Tara L Snyder	1
06949	Cadmium	SW-846 6010C	1	132400637001	09/02/2013 20:52	Tara L Snyder	1
01650	Calcium	SW-846 6010C	1	132400637001	09/02/2013 20:52	Tara L Snyder	1
06951	Chromium	SW-846 6010C	1	132400637001	09/02/2013 20:52	Tara L Snyder	1
06952	Cobalt	SW-846 6010C	1	132400637001	09/02/2013 20:52	Tara L Snyder	1
06953	Copper	SW-846 6010C	1	132400637001	09/02/2013 20:52	Tara L Snyder	1
01654	Iron	SW-846 6010C	1	132400637001	09/03/2013 19:12	Katlin N Cataldi	5
06955	Lead	SW-846 6010C	1	132400637001	09/02/2013 20:52	Tara L Snyder	1
01656	Lithium	SW-846 6010C	1	132400637001	09/02/2013 20:52	Tara L Snyder	1
01657	Magnesium	SW-846 6010C	1	132400637001	09/02/2013 20:52	Tara L Snyder	1
06958	Manganese	SW-846 6010C	1	132400637001	09/02/2013 20:52	Tara L Snyder	1
06960	Molybdenum	SW-846 6010C	1	132400637001	09/02/2013 20:52	Tara L Snyder	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-553-SA8-SB-4.0-5.0MS Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7177751
LL Group # 1414782
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/27/2013 12:50 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/28/2013 09:20

Reported: 09/11/2013 19:34

553-4 SDG#: PH094-04MS

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
06961	Nickel	SW-846 6010C	1	132400637001	09/02/2013	20:52	Tara L Snyder	1
10145	Phosphorus	SW-846 6010C	1	132400637001	09/02/2013	20:52	Tara L Snyder	1
01662	Potassium	SW-846 6010C	1	132400637001	09/02/2013	20:52	Tara L Snyder	1
01667	Sodium	SW-846 6010C	1	132400637001	09/02/2013	20:52	Tara L Snyder	1
06969	Tin	SW-846 6010C	1	132400637001	09/02/2013	20:52	Tara L Snyder	1
06970	Titanium	SW-846 6010C	1	132400637001	09/02/2013	20:52	Tara L Snyder	1
06971	Vanadium	SW-846 6010C	1	132400637001	09/02/2013	20:52	Tara L Snyder	1
06972	Zinc	SW-846 6010C	1	132400637001	09/02/2013	20:52	Tara L Snyder	1
10146	Zirconium	SW-846 6010C	1	132400637001	09/02/2013	20:52	Tara L Snyder	1
06141	Selenium	SW-846 6020A	1	132400637001B	08/29/2013	07:23	Choon Y Tian	2
06142	Silver	SW-846 6020A	1	132400637001A	08/29/2013	07:23	Choon Y Tian	2
06144	Strontium	SW-846 6020A	1	132400637001A	08/29/2013	07:23	Choon Y Tian	2
06145	Thallium	SW-846 6020A	1	132400637001A	08/29/2013	07:23	Choon Y Tian	2
00159	3a Mercury 7471A	SW-846 7471B	1	132400638001	08/30/2013	07:58	Damary Valentin	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132400637001	08/28/2013	22:21	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132400638001	08/29/2013	01:00	Annamaria Stipkovits	1
11625	14a Moisture Content by 160.3	EPA 160.3 modified	1	13242162401A	08/31/2013	00:12	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-553-SA8-SB-4.0-5.0MSD Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7177752
LL Group # 1414782
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/27/2013 12:50 by VC

CDM Federal Programs Corp.

Submitted: 08/28/2013 09:20

3201 Jermantown Road

Reported: 09/11/2013 19:34

Suite 400

Fairfax VA 22030

553-4 SDG#: PH094-04MSD

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	30	1.9	0.75	1
12969	Acenaphthylene	208-96-8	31	1.9	0.37	1
12969	Anthracene	120-12-7	30	1.9	0.37	1
12969	Benzo(a)anthracene	56-55-3	32	1.9	0.75	1
12969	Benzo(a)pyrene	50-32-8	33	1.9	0.75	1
12969	Benzo(b)fluoranthene	205-99-2	40	1.9	0.75	1
12969	Benzo(e)pyrene	192-97-2	31	19	3.7	1
12969	Benzo(g,h,i)perylene	191-24-2	22	1.9	0.75	1
12969	Benzo(k)fluoranthene	207-08-9	32	1.9	0.75	1
12969	Butylbenzylphthalate	85-68-7	40	20	6.7	1
12969	Di-n-butylphthalate	84-74-2	33	20	6.7	1
12969	Chrysene	218-01-9	33	1.9	0.37	1
12969	Dibenz(a,h)anthracene	53-70-3	26	1.9	0.75	1
12969	Diethylphthalate	84-66-2	31	20	6.7	1
12969	Dimethylphthalate	131-11-3	30	20	6.7	1
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	36	20	6.7	1
12969	Fluoranthene	206-44-0	30	1.9	0.75	1
12969	Fluorene	86-73-7	31	1.9	0.75	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	25	1.9	0.75	1
12969	1-Methylnaphthalene	90-12-0	33	1.9	0.75	1
12969	2-Methylnaphthalene	91-57-6	32	1.9	0.75	1
12969	Naphthalene	91-20-3	31	1.9	0.75	1
12969	N-Nitrosodimethylamine	62-75-9	26	1.9	0.75	1
12969	Di-n-octylphthalate	117-84-0	42	20	6.7	1
12969	Phenanthrene	85-01-8	30	1.9	0.75	1
12969	Pyrene	129-00-0	31	1.9	0.75	1
GC Volatiles	TPH GRO SW-846 8015B mod		mg/kg	mg/kg	mg/kg	
05551	11a TPH by EPA 8015B GRO	n.a.	8.4	1.0	0.2	22.2
Herbicides	SW-846 8151A		ug/kg	ug/kg	ug/kg	
10401	2,4-D	94-75-7	100	40	13	1
10401	Dalapon	75-99-0	82	100	49	1
10401	2,4-DB	94-82-6	150	19	6.9	1
10401	Dicamba	1918-00-9	11	13	4.5	1
10401	Dinoseb	88-85-7	64	27	10	1
The QC window for dinoseb is advisory due to the erratic performance of the analyte using this method.						
10401	2,4-DP (Dichlorprop)	120-36-5	110	19	10	1
10401	MCPA	94-74-6	8,500	2,800	850	1
10401	MCPP (Mecoprop)	93-65-2	7,800	2,800	840	1
10401	2,4,5-T	93-76-5	13	1.9	0.92	1
10401	2,4,5-TP	93-72-1	11	1.9	0.84	1
Pesticides/PCBs	SW-846 8081B		ug/kg	ug/kg	ug/kg	
10590	Aldrin	309-00-2	3.0	0.92	0.19	1
10590	Alpha BHC	319-84-6	3.7	0.92	0.19	1
10590	Beta BHC	319-85-7	1.5	2.1	1.1	1
10590	Gamma BHC - Lindane	58-89-9	3.6	0.92	0.19	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-553-SA8-SB-4.0-5.0MSD Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7177752
LL Group # 1414782
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/27/2013 12:50 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/28/2013 09:20
Reported: 09/11/2013 19:34

553-4 SDG#: PH094-04MSD

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs							
		SW-846 8081B	ug/kg		ug/kg	ug/kg	
10590	Chlordane	57-74-9	19	U	19	4.5	1
10590	p,p-DDD	72-54-8	8.5		1.9	0.37	1
10590	p,p-DDE	72-55-9	6.7		1.9	0.37	1
10590	p,p-DDT	50-29-3	8.2		1.9	0.39	1
10590	Delta BHC	319-86-8	3.3		0.92	0.50	1
10590	Dieldrin	60-57-1	8.2		1.9	0.37	1
10590	Endosulfan I	959-98-8	4.0		0.92	0.24	1
10590	Endosulfan II	33213-65-9	6.7		1.9	0.37	1
10590	Endosulfan Sulfate	1031-07-8	6.6		1.9	0.37	1
10590	Endrin	72-20-8	7.9		1.9	0.37	1
10590	Endrin Aldehyde	7421-93-4	6.3		1.9	0.37	1
10590	Endrin Ketone	53494-70-5	6.7		2.0	0.67	1
10590	Heptachlor	76-44-8	3.7		0.92	0.19	1
10590	Heptachlor Epoxide	1024-57-3	3.2		0.92	0.19	1
10590	Methoxychlor	72-43-5	39		7.5	1.9	1
10590	Mirex	2385-85-5	1.9	U	1.9	0.39	1
10590	Toxaphene	8001-35-2	37	U	37	16	1
Pesticides/PCBs							
		SW-846 8082A	ug/kg		ug/kg	ug/kg	
10592	Aroclor 5432	63496-31-1	37	U	37	11	1
10592	Aroclor 5442	12642-23-8	37	U	37	11	1
10592	Aroclor 5460	11126-42-4	37	U	37	11	1
10592	PCB-1016	12674-11-2	180		19	3.7	1
10592	PCB-1221	11104-28-2	19	U	19	5.7	1
10592	PCB-1232	11141-16-5	19	U	19	4.6	1
10592	PCB-1242	53469-21-9	19	U	19	4.6	1
10592	PCB-1248	12672-29-6	19	U	19	3.7	1
10592	PCB-1254	11097-69-1	19	U	19	5.0	1
10592	PCB-1260	11096-82-5	210		19	4.4	1
10592	PCB-1262	37324-23-5	19	U	19	3.7	1
10592	PCB-1268	11100-14-4	19	U	19	3.7	1
GC Petroleum							
		SW-846 8015B modified	mg/kg		mg/kg	mg/kg	
Hydrocarbons							
12952	EFH (C12-C14)	n.a.	5.6	U	5.6	2.3	1
12952	EFH (C15-C20)	n.a.	2.7	J	5.6	2.3	1
12952	EFH (C21-C30)	n.a.	5.3	J	5.6	2.3	1
12952	EFH (C30-C40)	n.a.	6.3	J	11	4.5	1
12952	EFH (C8-C11)	n.a.	5.6	U	5.6	2.3	1
Metals							
		SW-846 6010C	mg/kg		mg/kg	mg/kg	
01643	Aluminum	7429-90-5	32,800		44.6	8.05	1
06944	Antimony	7440-36-0	33.4		4.46	0.826	1
06935	Arsenic	7440-38-2	22.6		4.46	0.781	1
06946	Barium	7440-39-3	355		1.12	0.0368	1
06947	Beryllium	7440-41-7	6.51		1.12	0.0748	1
07914	Boron	7440-42-8	209		11.2	0.938	1
06949	Cadmium	7440-43-9	5.26		1.12	0.0848	1
01650	Calcium	7440-70-2	11,200		22.3	3.73	1
06951	Chromium	7440-47-3	59.3		3.35	0.179	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-553-SA8-SB-4.0-5.0MSD Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7177752
LL Group # 1414782
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/27/2013 12:50 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/28/2013 09:20
Reported: 09/11/2013 19:34

553-4 SDG#: PH094-04MSD

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals						
		SW-846 6010C	mg/kg	mg/kg	mg/kg	
06952	Cobalt	7440-48-4	60.1	1.12	0.111	1
06953	Copper	7440-50-8	48.6	2.23	0.324	1
01654	Iron	7439-89-6	36,100	223	20.2	5
06955	Lead	7439-92-1	25.9	3.35	0.558	1
01656	Lithium	7439-93-2	134	4.5	0.38	1
01657	Magnesium	7439-95-4	7,830	11.2	1.86	1
06958	Manganese	7439-96-5	517	1.12	0.0926	1
06960	Molybdenum	7439-98-7	198	2.23	0.190	1
06961	Nickel	7440-02-0	72.5	2.23	0.145	1
10145	Phosphorus	7723-14-0	430	11.2	3.23	1
01662	Potassium	7440-09-7	6,170	112	9.31	1
01667	Sodium	7440-23-5	1,170	112	18.6	1
06969	Tin	7440-31-5	388	11.2	0.246	1
06970	Titanium	7440-32-6	1,260	1.12	0.190	1
06971	Vanadium	7440-62-2	124	1.12	0.145	1
06972	Zinc	7440-66-6	130	4.46	0.223	1
10146	Zirconium	7440-67-7	107	5.58	0.938	1
		SW-846 6020A	mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	2.29	0.446	0.112	2
06142	Silver	7440-22-4	11.7	0.223	0.0290	2
06144	Strontium	7440-24-6	49.7	0.446	0.0759	2
06145	Thallium	7440-28-0	0.851	0.223	0.0335	2
		SW-846 7471B	mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.208	0.0183	0.0110	1
Wet Chemistry						
		EPA 160.3 modified	%	%	%	
11625	14a Moisture Content by 160.3	n.a.	11.3	0.10	0.10	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-553-SA8-SB-4.0-5.0MSD Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7177752
LL Group # 1414782
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/27/2013 12:50 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/28/2013 09:20
Reported: 09/11/2013 19:34

553-4 SDG#: PH094-04MSD

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
Dioxins/Furans			EPA 1613B		ng/kg	
11031	2378-TCDD	1746-01-6	22.3		0.0613	1
11031	12378-PeCDD	40321-76-4	112	B	0.0559	1
11031	123478-HxCDD	39227-28-6	114	B	0.0406	1
11031	123678-HxCDD	57653-85-7	113	B	0.0418	1
11031	123789-HxCDD	19408-74-3	114	B	0.0413	1
11031	1234678-HpCDD	35822-46-9	111	B	0.0476	1
11031	OCDD	3268-87-9	213	B	0.0428	1
11031	2378-TCDF	51207-31-9	22.5		0.0629	1
11031	12378-PeCDF	57117-41-6	113	B	0.0310	1
11031	23478-PeCDF	57117-31-4	113	B	0.0304	1
11031	123478-HxCDF	70648-26-9	113	B	0.0302	1
11031	123678-HxCDF	57117-44-9	112	B	0.0262	1
11031	123789-HxCDF	72918-21-9	111	B	0.0317	1
11031	234678-HxCDF	60851-34-5	111	B	0.0281	1
11031	1234678-HpCDF	67562-39-4	107	B	0.0260	1
11031	1234789-HpCDF	55673-89-7	110	B	0.0413	1
11031	OCDF	39001-02-0	212	B	0.0434	1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	70	25 - 164
13C12-12378-PeCDD	71	25 - 181
13C12-123478-HxCDD	79	32 - 141
13C12-123678-HxCDD	80	28 - 130
13C12-123789-HxCDD	78	28 - 130
13C12-1234678-HpCDD	81	23 - 140
13C12-OCDD	84	17 - 157
13C12-2378-TCDF	74	24 - 169
13C12-12378-PeCDF	84	24 - 185
13C12-23478-PeCDF	77	21 - 178
13C12-123478-HxCDF	83	26 - 152
13C12-123678-HxCDF	92	26 - 123
13C12-234678-HxCDF	85	28 - 136
13C12-123789-HxCDF	78	29 - 147
13C12-1234678-HpCDF	106	28 - 143
13C12-1234789-HpCDF	75	26 - 138
13C12-OCDF	71	17 - 157

Dioxins/Furans Data Qualifiers:

- B Detected in Method Blank
- U Undetected
- J Estimated concentration between Estimated Detection Limit and Minimum Level
- E Exceeds calibration range
- C Confirmed quantitation on secondary GC column
- Q EMPC - Estimated Maximum Possible Concentration
- F Interference is present
- S Saturation of detection signal

*=This limit was used in the evaluation of the final result

Sample Description: SL-553-SA8-SB-4.0-5.0MSD Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7177752
LL Group # 1414782
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/27/2013 12:50 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/28/2013 09:20

Reported: 09/11/2013 19:34

553-4 SDG#: PH094-04MSD

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13243SLC026	09/05/2013 05:44	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	13243SLC026	09/03/2013 08:00	Joseph S Feister	1
05551	11a TPH by EPA 8015B GRO	TPH GRO SW-846 8015B mod	1	13242A16A	08/31/2013 05:02	Laura M Krieger	22.2
06130	GC - 5 g HL Encore Prep	SW-846 5035A	1	201324032195	08/28/2013 14:38	Lisa J Cooke	n.a.
06130	GC - 5 g HL Encore Prep	SW-846 5035A	2	201324032195	08/28/2013 14:39	Lisa J Cooke	n.a.
10401	21a Herbicides by EPA 8151A	SW-846 8151A	1	132460019A	09/06/2013 19:08	Elizabeth J Marin	1
10590	20a Pesticides by EPA 8081B	SW-846 8081B	1	132420008A	09/05/2013 13:40	Jamie L Brillhart	1
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132430008A	09/03/2013 17:46	Monica M Souders	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132430008A	09/02/2013 08:50	Karen L Beyer	1
10496	PPL Pest. Microwave Extraction	SW-846 3546	1	132420008A	09/01/2013 09:30	Katheryne V Sponheimer	1
04181	Herbicide Soil Extraction	SW-846 3550B/SW-846 8151A	1	132460019A	09/04/2013 10:00	Kelli M Barto	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132460005A	09/04/2013 21:13	Heather E Williams	1
12959	EFH soil ext. (microwave)	SW-846 3546	1	132460005A	09/03/2013 18:50	Sally L Appleyard	1
11031	23a Dioxin/Furan by EPA 1613B	EPA 1613B	1	13248003	09/07/2013 00:59	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	13248003	09/05/2013 10:45	Robert Brown	1
01643	Aluminum	SW-846 6010C	1	132400637001	09/02/2013 20:56	Tara L Snyder	1
06944	Antimony	SW-846 6010C	1	132400637001	09/02/2013 20:56	Tara L Snyder	1
06935	Arsenic	SW-846 6010C	1	132400637001	09/02/2013 20:56	Tara L Snyder	1
06946	Barium	SW-846 6010C	1	132400637001	09/02/2013 20:56	Tara L Snyder	1
06947	Beryllium	SW-846 6010C	1	132400637001	09/02/2013 20:56	Tara L Snyder	1
07914	Boron	SW-846 6010C	1	132400637001	09/02/2013 20:56	Tara L Snyder	1
06949	Cadmium	SW-846 6010C	1	132400637001	09/02/2013 20:56	Tara L Snyder	1
01650	Calcium	SW-846 6010C	1	132400637001	09/02/2013 20:56	Tara L Snyder	1
06951	Chromium	SW-846 6010C	1	132400637001	09/02/2013 20:56	Tara L Snyder	1
06952	Cobalt	SW-846 6010C	1	132400637001	09/02/2013 20:56	Tara L Snyder	1
06953	Copper	SW-846 6010C	1	132400637001	09/02/2013 20:56	Tara L Snyder	1
01654	Iron	SW-846 6010C	1	132400637001	09/03/2013 19:16	Katlin N Cataldi	5
06955	Lead	SW-846 6010C	1	132400637001	09/02/2013 20:56	Tara L Snyder	1
01656	Lithium	SW-846 6010C	1	132400637001	09/02/2013 20:56	Tara L Snyder	1
01657	Magnesium	SW-846 6010C	1	132400637001	09/02/2013 20:56	Tara L Snyder	1
06958	Manganese	SW-846 6010C	1	132400637001	09/02/2013 20:56	Tara L Snyder	1
06960	Molybdenum	SW-846 6010C	1	132400637001	09/02/2013 20:56	Tara L Snyder	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-553-SA8-SB-4.0-5.0MSD Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7177752
LL Group # 1414782
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/27/2013 12:50 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/28/2013 09:20
Reported: 09/11/2013 19:34

553-4 SDG#: PH094-04MSD

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
06961	Nickel	SW-846 6010C	1	132400637001	09/02/2013	20:56	Tara L Snyder	1
10145	Phosphorus	SW-846 6010C	1	132400637001	09/02/2013	20:56	Tara L Snyder	1
01662	Potassium	SW-846 6010C	1	132400637001	09/02/2013	20:56	Tara L Snyder	1
01667	Sodium	SW-846 6010C	1	132400637001	09/02/2013	20:56	Tara L Snyder	1
06969	Tin	SW-846 6010C	1	132400637001	09/02/2013	20:56	Tara L Snyder	1
06970	Titanium	SW-846 6010C	1	132400637001	09/02/2013	20:56	Tara L Snyder	1
06971	Vanadium	SW-846 6010C	1	132400637001	09/02/2013	20:56	Tara L Snyder	1
06972	Zinc	SW-846 6010C	1	132400637001	09/02/2013	20:56	Tara L Snyder	1
10146	Zirconium	SW-846 6010C	1	132400637001	09/02/2013	20:56	Tara L Snyder	1
06141	Selenium	SW-846 6020A	1	132400637001B	08/29/2013	07:26	Choon Y Tian	2
06142	Silver	SW-846 6020A	1	132400637001A	08/29/2013	07:26	Choon Y Tian	2
06144	Strontium	SW-846 6020A	1	132400637001A	08/29/2013	07:26	Choon Y Tian	2
06145	Thallium	SW-846 6020A	1	132400637001A	08/29/2013	07:26	Choon Y Tian	2
00159	3a Mercury 7471A	SW-846 7471B	1	132400638001	08/30/2013	08:00	Damary Valentin	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132400637001	08/28/2013	22:21	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132400638001	08/29/2013	01:00	Annamaria Stipkovits	1
11625	14a Moisture Content by 160.3	EPA 160.3 modified	1	13242162401A	08/31/2013	00:12	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-553-SA8-SB-4.0-5.0DUP Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7177753
LL Group # 1414782
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/27/2013 12:50 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/28/2013 09:20
Reported: 09/11/2013 19:34

553-4 SDG#: PH094-04DUP

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals						
		SW-846 6010C	mg/kg	mg/kg	mg/kg	
01643	Aluminum	7429-90-5	23,900	44.6	8.05	1
06944	Antimony	7440-36-0	4.46 U	4.46	0.826	1
06935	Arsenic	7440-38-2	6.47	4.46	0.781	1
06946	Barium	7440-39-3	134	1.12	0.0368	1
06947	Beryllium	7440-41-7	0.963 J	1.12	0.0748	1
07914	Boron	7440-42-8	5.40 J	11.2	0.938	1
06949	Cadmium	7440-43-9	0.202 J	1.12	0.0848	1
01650	Calcium	7440-70-2	7,230	22.3	3.73	1
06951	Chromium	7440-47-3	31.4	3.35	0.179	1
06952	Cobalt	7440-48-4	9.34	1.12	0.111	1
06953	Copper	7440-50-8	19.7	2.23	0.324	1
01654	Iron	7439-89-6	32,500	223	20.2	5
06955	Lead	7439-92-1	9.82	3.35	0.558	1
01656	Lithium	7439-93-2	20.9	4.5	0.38	1
01657	Magnesium	7439-95-4	6,620	11.2	1.86	1
06958	Manganese	7439-96-5	461	1.12	0.0926	1
06960	Molybdenum	7439-98-7	0.244 J	2.23	0.190	1
06961	Nickel	7440-02-0	19.6	2.23	0.145	1
10145	Phosphorus	7723-14-0	283	11.2	3.23	1
01662	Potassium	7440-09-7	4,680	112	9.31	1
01667	Sodium	7440-23-5	91.8 J	112	18.6	1
06969	Tin	7440-31-5	2.97 J	11.2	0.246	1
06970	Titanium	7440-32-6	785	1.12	0.190	1
06971	Vanadium	7440-62-2	59.5	1.12	0.145	1
06972	Zinc	7440-66-6	70.3	4.46	0.223	1
10146	Zirconium	7440-67-7	6.28	5.58	0.938	1
SW-846 6020A						
			mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	0.290 J	0.446	0.112	2
06142	Silver	7440-22-4	0.0615 J	0.223	0.0290	2
06144	Strontium	7440-24-6	55.9	0.446	0.0759	2
06145	Thallium	7440-28-0	0.513	0.223	0.0335	2
SW-846 7471B						
			mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.0179 U	0.0179	0.0108	1
Wet Chemistry						
		SW-846 9045D modified	Std. Units	Std. Units	Std. Units	
00394	15a pH by 9045D The pH was measured in water at 21.6 C.	n.a.	7.84	0.0100	0.0100	1
Wet Chemistry						
		EPA 160.3 modified	%	%	%	
11625	14a Moisture Content by 160.3	n.a.	11.3	0.10	0.10	1
11626	14a Moisture Content by 160.3	n.a.	11.1	0.10	0.10	1
The duplicate moisture value is provided to assess the precision of the moisture test. For comparability purposes, the initial moisture determination is the value used to perform dry weight calculations.						

*=This limit was used in the evaluation of the final result

Sample Description: SL-553-SA8-SB-4.0-5.0DUP Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7177753
LL Group # 1414782
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/27/2013 12:50 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/28/2013 09:20
Reported: 09/11/2013 19:34

553-4 SDG#: PH094-04DUP

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
01643	Aluminum	SW-846 6010C	1	132400637001	09/02/2013	20:48	Tara L Snyder	1
06944	Antimony	SW-846 6010C	1	132400637001	09/02/2013	20:48	Tara L Snyder	1
06935	Arsenic	SW-846 6010C	1	132400637001	09/02/2013	20:48	Tara L Snyder	1
06946	Barium	SW-846 6010C	1	132400637001	09/02/2013	20:48	Tara L Snyder	1
06947	Beryllium	SW-846 6010C	1	132400637001	09/02/2013	20:48	Tara L Snyder	1
07914	Boron	SW-846 6010C	1	132400637001	09/02/2013	20:48	Tara L Snyder	1
06949	Cadmium	SW-846 6010C	1	132400637001	09/02/2013	20:48	Tara L Snyder	1
01650	Calcium	SW-846 6010C	1	132400637001	09/02/2013	20:48	Tara L Snyder	1
06951	Chromium	SW-846 6010C	1	132400637001	09/02/2013	20:48	Tara L Snyder	1
06952	Cobalt	SW-846 6010C	1	132400637001	09/02/2013	20:48	Tara L Snyder	1
06953	Copper	SW-846 6010C	1	132400637001	09/02/2013	20:48	Tara L Snyder	1
01654	Iron	SW-846 6010C	1	132400637001	09/03/2013	19:08	Katlin N Cataldi	5
06955	Lead	SW-846 6010C	1	132400637001	09/02/2013	20:48	Tara L Snyder	1
01656	Lithium	SW-846 6010C	1	132400637001	09/02/2013	20:48	Tara L Snyder	1
01657	Magnesium	SW-846 6010C	1	132400637001	09/02/2013	20:48	Tara L Snyder	1
06958	Manganese	SW-846 6010C	1	132400637001	09/02/2013	20:48	Tara L Snyder	1
06960	Molybdenum	SW-846 6010C	1	132400637001	09/02/2013	20:48	Tara L Snyder	1
06961	Nickel	SW-846 6010C	1	132400637001	09/02/2013	20:48	Tara L Snyder	1
10145	Phosphorus	SW-846 6010C	1	132400637001	09/02/2013	20:48	Tara L Snyder	1
01662	Potassium	SW-846 6010C	1	132400637001	09/02/2013	20:48	Tara L Snyder	1
01667	Sodium	SW-846 6010C	1	132400637001	09/02/2013	20:48	Tara L Snyder	1
06969	Tin	SW-846 6010C	1	132400637001	09/02/2013	20:48	Tara L Snyder	1
06970	Titanium	SW-846 6010C	1	132400637001	09/02/2013	20:48	Tara L Snyder	1
06971	Vanadium	SW-846 6010C	1	132400637001	09/02/2013	20:48	Tara L Snyder	1
06972	Zinc	SW-846 6010C	1	132400637001	09/02/2013	20:48	Tara L Snyder	1
10146	Zirconium	SW-846 6010C	1	132400637001	09/02/2013	20:48	Tara L Snyder	1
06141	Selenium	SW-846 6020A	1	132400637001B	08/29/2013	07:21	Choon Y Tian	2
06142	Silver	SW-846 6020A	1	132400637001A	08/29/2013	07:21	Choon Y Tian	2
06144	Strontium	SW-846 6020A	1	132400637001A	08/29/2013	07:21	Choon Y Tian	2
06145	Thallium	SW-846 6020A	1	132400637001A	08/29/2013	07:21	Choon Y Tian	2
00159	3a Mercury 7471A	SW-846 7471B	1	132400638001	08/30/2013	07:56	Damary Valentin	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132400637001	08/28/2013	22:21	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132400638001	08/29/2013	01:00	Annamaria Stipkovits	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13240039401A	08/28/2013	22:21	Clayton C Litchmore	1
11625	14a Moisture Content by 160.3	EPA 160.3 modified	1	13242162401A	08/31/2013	00:12	Scott W Freisher	1
11626	14a Moisture Content by 160.3	EPA 160.3 modified	1	13242162401A	08/31/2013	00:12	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-853-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7177754
LL Group # 1414782
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/27/2013 13:00 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/28/2013 09:20

Reported: 09/11/2013 19:34

853-4 SDG#: PH094-05*

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	1.9 U	1.9	0.75	1
12969	Acenaphthylene	208-96-8	1.9 U	1.9	0.37	1
12969	Anthracene	120-12-7	1.9 U	1.9	0.37	1
12969	Benzo(a)anthracene	56-55-3	1.9 U	1.9	0.75	1
12969	Benzo(a)pyrene	50-32-8	1.9 U	1.9	0.75	1
12969	Benzo(b)fluoranthene	205-99-2	0.93 J	1.9	0.75	1
12969	Benzo(e)pyrene	192-97-2	19 U	19	3.7	1
12969	Benzo(g,h,i)perylene	191-24-2	1.9 U	1.9	0.75	1
12969	Benzo(k)fluoranthene	207-08-9	1.9 U	1.9	0.75	1
12969	Butylbenzylphthalate	85-68-7	20 U	20	6.7	1
12969	Di-n-butylphthalate	84-74-2	20 U	20	6.7	1
12969	Chrysene	218-01-9	1.2 J	1.9	0.37	1
12969	Dibenz(a,h)anthracene	53-70-3	1.9 U	1.9	0.75	1
12969	Diethylphthalate	84-66-2	20 U	20	6.7	1
12969	Dimethylphthalate	131-11-3	20 U	20	6.7	1
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	20 U	20	6.7	1
12969	Fluoranthene	206-44-0	1.9 U	1.9	0.75	1
12969	Fluorene	86-73-7	1.9 U	1.9	0.75	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	1.9 U	1.9	0.75	1
12969	1-Methylnaphthalene	90-12-0	1.9 U	1.9	0.75	1
12969	2-Methylnaphthalene	91-57-6	1.9 U	1.9	0.75	1
12969	Naphthalene	91-20-3	1.9 U	1.9	0.75	1
12969	N-Nitrosodimethylamine	62-75-9	1.9 U	1.9	0.75	1
12969	Di-n-octylphthalate	117-84-0	20 U	20	6.7	1
12969	Phenanthrene	85-01-8	1.9 U	1.9	0.75	1
12969	Pyrene	129-00-0	1.9 U	1.9	0.75	1
GC Volatiles	TPH GRO SW-846 8015B mod	mg/kg	mg/kg	mg/kg		
05551	11a TPH by EPA 8015B GRO	n.a.	1.0 U	1.0	0.2	22.69
Herbicides	SW-846 8151A	ug/kg	ug/kg	ug/kg		
10401	2,4-D	94-75-7	41 U	41	14	1
10401	Dalapon	75-99-0	100 U	100	50	1
10401	2,4-DB	94-82-6	19 U	19	7.0	1
10401	Dicamba	1918-00-9	14 U	14	4.5	1
10401	Dinoseb	88-85-7	27 U	27	10	1
The QC window for dinoseb is advisory due to the erratic performance of the analyte using this method.						
10401	2,4-DP (Dichlorprop)	120-36-5	19 U	19	10	1
10401	MCPA	94-74-6	1,300 J	2,800	860	1
10401	MCPP (Mecoprop)	93-65-2	2,800 U	2,800	850	1
10401	2,4,5-T	93-76-5	1.9 U	1.9	0.92	1
10401	2,4,5-TP	93-72-1	1.9 U	1.9	0.85	1
Pesticides/PCBs	SW-846 8081B	ug/kg	ug/kg	ug/kg		
10590	Aldrin	309-00-2	0.93 U	0.93	0.19	1
10590	Alpha BHC	319-84-6	0.93 U	0.93	0.19	1
10590	Beta BHC	319-85-7	5.0	2.1	1.1	1
10590	Gamma BHC - Lindane	58-89-9	0.93 U	0.93	0.19	1

*=This limit was used in the evaluation of the final result

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Sample Description: SL-853-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7177754
LL Group # 1414782
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/27/2013 13:00 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/28/2013 09:20
Reported: 09/11/2013 19:34

853-4 SDG#: PH094-05*

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs SW-846 8081B							
10590	Chlordane	57-74-9	19	U	19	4.5	1
10590	p,p-DDD	72-54-8	1.9	U	1.9	0.37	1
10590	p,p-DDE	72-55-9	1.9	U	1.9	0.37	1
10590	p,p-DDT	50-29-3	1.9	U	1.9	0.39	1
10590	Delta BHC	319-86-8	0.93	U	0.93	0.51	1
10590	Dieldrin	60-57-1	1.9	U	1.9	0.37	1
10590	Endosulfan I	959-98-8	0.93	U	0.93	0.25	1
10590	Endosulfan II	33213-65-9	1.9	U	1.9	0.37	1
10590	Endosulfan Sulfate	1031-07-8	1.9	U	1.9	0.37	1
10590	Endrin	72-20-8	1.9	U	1.9	0.37	1
10590	Endrin Aldehyde	7421-93-4	1.9	U	1.9	0.37	1
10590	Endrin Ketone	53494-70-5	2.0	U	2.0	0.67	1
10590	Heptachlor	76-44-8	0.93	U	0.93	0.19	1
10590	Heptachlor Epoxide	1024-57-3	0.93	U	0.93	0.19	1
10590	Methoxychlor	72-43-5	7.5	U	7.5	1.9	1
10590	Mirex	2385-85-5	1.9	U	1.9	0.39	1
10590	Toxaphene	8001-35-2	37	U	37	16	1
Pesticides/PCBs SW-846 8082A							
10592	Aroclor 5432	63496-31-1	37	U	37	11	1
10592	Aroclor 5442	12642-23-8	37	U	37	11	1
10592	Aroclor 5460	11126-42-4	37	U	37	11	1
10592	PCB-1016	12674-11-2	19	U	19	3.7	1
10592	PCB-1221	11104-28-2	19	U	19	5.7	1
10592	PCB-1232	11141-16-5	19	U	19	4.6	1
10592	PCB-1242	53469-21-9	19	U	19	4.6	1
10592	PCB-1248	12672-29-6	19	U	19	3.7	1
10592	PCB-1254	11097-69-1	19	U	19	5.0	1
10592	PCB-1260	11096-82-5	19	U	19	4.4	1
10592	PCB-1262	37324-23-5	19	U	19	3.7	1
10592	PCB-1268	11100-14-4	19	U	19	3.7	1
GC Petroleum SW-846 8015B modified							
Hydrocarbons							
12952	EFH (C12-C14)	n.a.	5.6	U	5.6	2.3	1
12952	EFH (C15-C20)	n.a.	5.6	U	5.6	2.3	1
12952	EFH (C21-C30)	n.a.	5.6	U	5.6	2.3	1
12952	EFH (C30-C40)	n.a.	11	U	11	4.5	1
12952	EFH (C8-C11)	n.a.	5.6	U	5.6	2.3	1
Metals SW-846 6010C							
01643	Aluminum	7429-90-5	25,700		44.6	8.05	1
06944	Antimony	7440-36-0	4.46	U	4.46	0.826	1
06935	Arsenic	7440-38-2	6.43		4.46	0.781	1
06946	Barium	7440-39-3	134		1.12	0.0368	1
06947	Beryllium	7440-41-7	0.977	J	1.12	0.0748	1
07914	Boron	7440-42-8	5.70	J	11.2	0.938	1
06949	Cadmium	7440-43-9	0.184	J	1.12	0.0848	1
01650	Calcium	7440-70-2	7,530		22.3	3.73	1
06951	Chromium	7440-47-3	32.8		3.35	0.179	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-853-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7177754
LL Group # 1414782
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/27/2013 13:00 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/28/2013 09:20
Reported: 09/11/2013 19:34

853-4 SDG#: PH094-05*

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals						
		SW-846 6010C	mg/kg	mg/kg	mg/kg	
06952	Cobalt	7440-48-4	9.27	1.12	0.111	1
06953	Copper	7440-50-8	19.9	2.23	0.324	1
01654	Iron	7439-89-6	33,000	223	20.2	5
06955	Lead	7439-92-1	10.2	3.35	0.558	1
01656	Lithium	7439-93-2	22.3	4.5	0.38	1
01657	Magnesium	7439-95-4	6,890	11.2	1.86	1
06958	Manganese	7439-96-5	428	1.12	0.0926	1
06960	Molybdenum	7439-98-7	0.258 J	2.23	0.190	1
06961	Nickel	7440-02-0	19.4	2.23	0.145	1
10145	Phosphorus	7723-14-0	288	11.2	3.23	1
01662	Potassium	7440-09-7	4,680	112	9.31	1
01667	Sodium	7440-23-5	96.3 J	112	18.6	1
06969	Tin	7440-31-5	3.18 J	11.2	0.246	1
06970	Titanium	7440-32-6	859	1.12	0.190	1
06971	Vanadium	7440-62-2	62.1	1.12	0.145	1
06972	Zinc	7440-66-6	70.8	4.46	0.223	1
10146	Zirconium	7440-67-7	6.20	5.58	0.938	1
SW-846 6020A						
			mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	0.300 J	0.446	0.112	2
06142	Silver	7440-22-4	0.0663 J	0.223	0.0290	2
06144	Strontium	7440-24-6	51.7	0.446	0.0759	2
06145	Thallium	7440-28-0	0.453	0.223	0.0335	2
SW-846 7471B						
			mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.0181 U	0.0181	0.0109	1
Wet Chemistry						
		SW-846 9045D modified	Std. Units	Std. Units	Std. Units	
00394	15a pH by 9045D The pH was measured in water at 21.5 C.	n.a.	7.68	0.0100	0.0100	1
Wet Chemistry						
		EPA 160.3 modified	%	%	%	
11624	14a Moisture Content by 160.3 Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.	n.a.	11.3	0.10	0.10	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-853-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7177754
LL Group # 1414782
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/27/2013 13:00 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/28/2013 09:20
Reported: 09/11/2013 19:34

853-4 SDG#: PH094-05*

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
Dioxins/Furans			EPA 1613B			
			ng/kg	ng/kg	ng/kg	
11031	2378-TCDD	1746-01-6	1.12 U	1.12	0.0485	1
11031	12378-PeCDD	40321-76-4	0.193 JBQ	5.59	0.0435	1
11031	123478-HxCDD	39227-28-6	0.175 JBQ	5.59	0.0366	1
11031	123678-HxCDD	57653-85-7	0.311 JBQ	5.59	0.0379	1
11031	123789-HxCDD	19408-74-3	0.446 JBQ	5.59	0.0362	1
11031	1234678-HpCDD	35822-46-9	0.415 JB	5.59	0.0353	1
11031	OCDD	3268-87-9	2.12 JB	11.2	0.0335	1
11031	2378-TCDF	51207-31-9	0.0616 JQ	1.12	0.0457	1
11031	12378-PeCDF	57117-41-6	0.294 JB	5.59	0.0225	1
11031	23478-PeCDF	57117-31-4	0.150 JB	5.59	0.0224	1
11031	123478-HxCDF	70648-26-9	0.163 JBQ	5.59	0.0175	1
11031	123678-HxCDF	57117-44-9	0.156 JB	5.59	0.0150	1
11031	123789-HxCDF	72918-21-9	0.736 JBQ	5.59	0.0193	1
11031	234678-HxCDF	60851-34-5	0.140 JBQ	5.59	0.0158	1
11031	1234678-HpCDF	67562-39-4	0.187 JB	5.59	0.0125	1
11031	1234789-HpCDF	55673-89-7	0.189 JB	5.59	0.0203	1
11031	OCDF	39001-02-0	0.506 JB	11.2	0.0408	1

Toxic Equivalents		EPA 1613B	ng/kg	ng/kg	ng/kg	
11031	TEQ WHO 2005 - EDLx0.0	n.a.	0.0781			1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	74	25 - 164
13C12-12378-PeCDD	69	25 - 181
13C12-123478-HxCDD	76	32 - 141
13C12-123678-HxCDD	77	28 - 130
13C12-123789-HxCDD	78	28 - 130
13C12-1234678-HpCDD	76	23 - 140
13C12-OCDD	72	17 - 157
13C12-2378-TCDF	75	24 - 169
13C12-12378-PeCDF	80	24 - 185
13C12-23478-PeCDF	73	21 - 178
13C12-123478-HxCDF	77	26 - 152
13C12-123678-HxCDF	87	26 - 123
13C12-234678-HxCDF	80	28 - 136
13C12-123789-HxCDF	74	29 - 147
13C12-1234678-HpCDF	97	28 - 143
13C12-1234789-HpCDF	67	26 - 138
13C12-OCDF	62	17 - 157

Dioxins/Furans Data Qualifiers:

- B Detected in Method Blank
- U Undetected
- J Estimated concentration between Estimated Detection Limit and Minimum Level
- E Exceeds calibration range
- C Confirmed quantitation on secondary GC column
- Q EMPC - Estimated Maximum Possible Concentration

*=This limit was used in the evaluation of the final result

Sample Description: SL-853-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7177754
LL Group # 1414782
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/27/2013 13:00 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/28/2013 09:20
Reported: 09/11/2013 19:34

853-4 SDG#: PH094-05*

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
F	Interference is present					
S	Saturation of detection signal					

*=This limit was used in the evaluation of the final result

Sample Description: SL-853-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7177754
LL Group # 1414782
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/27/2013 13:00 by VC

CDM Federal Programs Corp.

3201 Jermantown Road

Submitted: 08/28/2013 09:20

Suite 400

Reported: 09/11/2013 19:34

Fairfax VA 22030

853-4 SDG#: PH094-05*

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13243SLC026	09/05/2013 07:51	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	13243SLC026	09/03/2013 08:00	Joseph S Feister	1
05551	11a TPH by EPA 8015B GRO	TPH GRO SW-846 8015B mod	1	13242A16A	08/30/2013 20:47	Laura M Krieger	22.69
06130	GC - 5 g HL Encore Prep	SW-846 5035A	1	201324032195	08/28/2013 14:40	Lisa J Cooke	n.a.
06130	GC - 5 g HL Encore Prep	SW-846 5035A	2	201324032195	08/28/2013 14:41	Lisa J Cooke	n.a.
10401	21a Herbicides by EPA 8151A	SW-846 8151A	1	132460019A	09/06/2013 19:35	Elizabeth J Marin	1
10590	20a Pesticides by EPA 8081B	SW-846 8081B	1	132420008A	09/05/2013 13:56	Jamie L Brillhart	1
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132430008A	09/03/2013 18:04	Monica M Souders	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132430008A	09/02/2013 08:50	Karen L Beyer	1
10496	PPL Pest. Microwave Extraction	SW-846 3546	1	132420008A	09/01/2013 09:30	Katheryne V Sponheimer	1
04181	Herbicide Soil Extraction	SW-846 3550B/SW-846 8151A	1	132460019A	09/04/2013 10:00	Kelli M Barto	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132460005A	09/04/2013 21:34	Heather E Williams	1
12959	EFH soil ext. (microwave)	SW-846 3546	1	132460005A	09/03/2013 18:50	Sally L Appleyard	1
11031	23a Dioxin/Furan by EPA 1613B	EPA 1613B	1	13248003	09/07/2013 01:55	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	13248003	09/05/2013 10:45	Robert Brown	1
01643	Aluminum	SW-846 6010C	1	132400637001	09/02/2013 21:20	Tara L Snyder	1
06944	Antimony	SW-846 6010C	1	132400637001	09/02/2013 21:20	Tara L Snyder	1
06935	Arsenic	SW-846 6010C	1	132400637001	09/02/2013 21:20	Tara L Snyder	1
06946	Barium	SW-846 6010C	1	132400637001	09/02/2013 21:20	Tara L Snyder	1
06947	Beryllium	SW-846 6010C	1	132400637001	09/02/2013 21:20	Tara L Snyder	1
07914	Boron	SW-846 6010C	1	132400637001	09/02/2013 21:20	Tara L Snyder	1
06949	Cadmium	SW-846 6010C	1	132400637001	09/02/2013 21:20	Tara L Snyder	1
01650	Calcium	SW-846 6010C	1	132400637001	09/02/2013 21:20	Tara L Snyder	1
06951	Chromium	SW-846 6010C	1	132400637001	09/02/2013 21:20	Tara L Snyder	1
06952	Cobalt	SW-846 6010C	1	132400637001	09/02/2013 21:20	Tara L Snyder	1
06953	Copper	SW-846 6010C	1	132400637001	09/02/2013 21:20	Tara L Snyder	1
01654	Iron	SW-846 6010C	1	132400637001	09/03/2013 19:38	Katlin N Cataldi	5
06955	Lead	SW-846 6010C	1	132400637001	09/02/2013 21:20	Tara L Snyder	1
01656	Lithium	SW-846 6010C	1	132400637001	09/02/2013 21:20	Tara L Snyder	1
01657	Magnesium	SW-846 6010C	1	132400637001	09/02/2013 21:20	Tara L Snyder	1
06958	Manganese	SW-846 6010C	1	132400637001	09/02/2013 21:20	Tara L Snyder	1
06960	Molybdenum	SW-846 6010C	1	132400637001	09/02/2013 21:20	Tara L Snyder	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-853-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7177754
LL Group # 1414782
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/27/2013 13:00 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/28/2013 09:20
Reported: 09/11/2013 19:34

853-4 SDG#: PH094-05*

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
06961	Nickel	SW-846 6010C	1	132400637001	09/02/2013	21:20	Tara L Snyder	1
10145	Phosphorus	SW-846 6010C	1	132400637001	09/02/2013	21:20	Tara L Snyder	1
01662	Potassium	SW-846 6010C	1	132400637001	09/02/2013	21:20	Tara L Snyder	1
01667	Sodium	SW-846 6010C	1	132400637001	09/02/2013	21:20	Tara L Snyder	1
06969	Tin	SW-846 6010C	1	132400637001	09/02/2013	21:20	Tara L Snyder	1
06970	Titanium	SW-846 6010C	1	132400637001	09/02/2013	21:20	Tara L Snyder	1
06971	Vanadium	SW-846 6010C	1	132400637001	09/02/2013	21:20	Tara L Snyder	1
06972	Zinc	SW-846 6010C	1	132400637001	09/02/2013	21:20	Tara L Snyder	1
10146	Zirconium	SW-846 6010C	1	132400637001	09/02/2013	21:20	Tara L Snyder	1
06141	Selenium	SW-846 6020A	1	132400637001B	08/29/2013	07:40	Choon Y Tian	2
06142	Silver	SW-846 6020A	1	132400637001A	08/29/2013	07:40	Choon Y Tian	2
06144	Strontium	SW-846 6020A	1	132400637001A	08/29/2013	07:40	Choon Y Tian	2
06145	Thallium	SW-846 6020A	1	132400637001A	08/29/2013	07:40	Choon Y Tian	2
00159	3a Mercury 7471A	SW-846 7471B	1	132400638001	08/30/2013	08:03	Damary Valentin	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132400637001	08/28/2013	22:21	Annamaria Stipkovits	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132400638001	08/29/2013	01:00	Annamaria Stipkovits	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13240039401A	08/28/2013	22:21	Clayton C Litchmore	1
11624	14a Moisture Content by 160.3	EPA 160.3 modified	1	13242162401B	08/31/2013	00:12	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 09/11/13 at 07:34 PM

Group Number: 1414782

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ**</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 13243SLC026	Sample number(s): 7177748-7177752, 7177754								
Acenaphthene	1.7 U	1.7	0.67	ug/kg	93		77-116		
Acenaphthylene	1.7 U	1.7	0.33	ug/kg	92		78-120		
Anthracene	1.7 U	1.7	0.33	ug/kg	96		80-116		
Benzo(a)anthracene	1.7 U	1.7	0.67	ug/kg	103		83-119		
Benzo(a)pyrene	1.7 U	1.7	0.67	ug/kg	104		80-122		
Benzo(b)fluoranthene	1.7 U	1.7	0.67	ug/kg	123		82-135		
Benzo(e)pyrene	17 U	17.	3.3	ug/kg	97		81-110		
Benzo(g,h,i)perylene	1.7 U	1.7	0.67	ug/kg	102		79-121		
Benzo(k)fluoranthene	1.7 U	1.7	0.67	ug/kg	100		79-123		
Butylbenzylphthalate	18 U	18.	6.0	ug/kg	119		77-123		
Di-n-butylphthalate	18 U	18.	6.0	ug/kg	104		78-125		
Chrysene	1.7 U	1.7	0.33	ug/kg	100		84-113		
Dibenz(a,h)anthracene	1.7 U	1.7	0.67	ug/kg	99		78-124		
Diethylphthalate	18 U	18.	6.0	ug/kg	98		77-130		
Dimethylphthalate	18 U	18.	6.0	ug/kg	93		85-122		
Bis(2-Ethylhexyl)phthalate	18 U	18.	6.0	ug/kg	108		79-121		
Fluoranthene	1.7 U	1.7	0.67	ug/kg	96		85-116		
Fluorene	1.7 U	1.7	0.67	ug/kg	96		81-126		
Indeno(1,2,3-cd)pyrene	1.7 U	1.7	0.67	ug/kg	101		77-124		
1-Methylnaphthalene	1.7 U	1.7	0.67	ug/kg	99		78-119		
2-Methylnaphthalene	1.7 U	1.7	0.67	ug/kg	95		78-121		
Naphthalene	1.7 U	1.7	0.67	ug/kg	92		79-113		
N-Nitrosodimethylamine	1.7 U	1.7	0.67	ug/kg	82		71-124		
Di-n-octylphthalate	18 U	18.	6.0	ug/kg	116		76-131		
Phenanthrene	1.7 U	1.7	0.67	ug/kg	92		72-110		
Pyrene	1.7 U	1.7	0.67	ug/kg	98		79-112		
Batch number: 13241A20A	Sample number(s): 7177747								
TPH-GRO S.CA water C5-C12	50 U	50.	20	ug/l	97	98	75-135	1	30
Batch number: 13242A16A	Sample number(s): 7177750-7177752, 7177754								
11a TPH by EPA 8015B GRO	1.0 U	1.0	0.2	mg/kg	76		67-119		
Batch number: 132460019A	Sample number(s): 7177749-7177752, 7177754								
2,4-D	36 U	36.	12	ug/kg	104		59-122		
Dalapon	90 U	90.	44	ug/kg	49		25-100		
2,4-DB	17 U	17.	6.2	ug/kg	137*		54-131		
Dicamba	12 U	12.	4.0	ug/kg	94		60-123		
Dinoseb	24 U	24.	9.0	ug/kg	19		10-36		
2,4-DP (Dichlorprop)	17 U	17.	9.0	ug/kg	114		65-158		
MCPA	2,500 U	2,500.	760	ug/kg	88		60-127		
MCPP (Mecoprop)	2,500 U	2,500.	750	ug/kg	87		54-134		

*- Outside of specification

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 09/11/13 at 07:34 PM

Group Number: 1414782

Analysis Name	Blank Result	Blank LOQ**	Blank MDL	Report Units	LCS %REC	LCS D %REC	LCS/LCS D Limits	RPD	RPD Max
2,4,5-T	1.7 U	1.7	0.82	ug/kg	114		58-135		
2,4,5-TP	1.7 U	1.7	0.75	ug/kg	113		63-130		
Batch number: 132420008A Sample number(s): 7177749-7177752,7177754									
Aldrin	0.83 U	0.83	0.17	ug/kg	81		73-119		
Alpha BHC	0.83 U	0.83	0.17	ug/kg	100		72-126		
Beta BHC	1.9 U	1.9	0.96	ug/kg	92		76-123		
Gamma BHC - Lindane	0.83 U	0.83	0.17	ug/kg	97		72-128		
Chlordane	17 U	17.	4.0	ug/kg					
p,p-DDD	1.7 U	1.7	0.33	ug/kg	109		76-138		
p,p-DDE	1.7 U	1.7	0.33	ug/kg	92		76-126		
p,p-DDT	1.7 U	1.7	0.35	ug/kg	104		72-131		
Delta BHC	0.83 U	0.83	0.45	ug/kg	89		73-128		
Dieldrin	1.7 U	1.7	0.33	ug/kg	111		78-135		
Endosulfan I	0.83 U	0.83	0.22	ug/kg	106		62-125		
Endosulfan II	1.7 U	1.7	0.33	ug/kg	95		68-128		
Endosulfan Sulfate	1.7 U	1.7	0.33	ug/kg	92		72-138		
Endrin	1.7 U	1.7	0.33	ug/kg	99		75-130		
Endrin Aldehyde	1.7 U	1.7	0.33	ug/kg	88		55-132		
Endrin Ketone	1.8 U	1.8	0.60	ug/kg	92		74-127		
Heptachlor	0.83 U	0.83	0.17	ug/kg	98		69-125		
Heptachlor Epoxide	0.83 U	0.83	0.17	ug/kg	90		78-125		
Methoxychlor	6.7 U	6.7	1.7	ug/kg	97		59-125		
Mirex	1.7 U	1.7	0.35	ug/kg					
Toxaphene	33 U	33.	14	ug/kg					
Batch number: 132430008A Sample number(s): 7177748-7177752,7177754									
Aroclor 5432	33 U	33.	10	ug/kg					
Aroclor 5442	33 U	33.	10	ug/kg	83	78	36-106	7	30
Aroclor 5460	33 U	33.	10	ug/kg					
PCB-1016	17 U	17.	3.3	ug/kg	103		80-120		
PCB-1221	17 U	17.	5.1	ug/kg					
PCB-1232	17 U	17.	4.1	ug/kg					
PCB-1242	17 U	17.	4.1	ug/kg					
PCB-1248	17 U	17.	3.3	ug/kg					
PCB-1254	17 U	17.	4.4	ug/kg					
PCB-1260	17 U	17.	3.9	ug/kg	115		72-120		
PCB-1262	17 U	17.	3.3	ug/kg					
PCB-1268	17 U	17.	3.3	ug/kg					
Batch number: 132460005A Sample number(s): 7177748-7177752,7177754									
EFH (C12-C14)	5.0 U	5.0	2.0	mg/kg	105		70-123		
EFH (C15-C20)	5.0 U	5.0	2.0	mg/kg	108		75-128		
EFH (C21-C30)	5.0 U	5.0	2.0	mg/kg	111		64-134		
EFH (C30-C40)	10 U	10.	4.0	mg/kg	104		65-128		
EFH (C8-C11)	5.0 U	5.0	2.0	mg/kg	89		49-107		
Batch number: 132400637001 Sample number(s): 7177748-7177754									
Aluminum	40.0 U	40.0	7.21	mg/kg	101		80-120		
Antimony	4.00 U	4.00	0.740	mg/kg	102		80-120		
Arsenic	4.00 U	4.00	0.700	mg/kg	99		80-120		
Barium	1.00 U	1.00	0.0330	mg/kg	102		80-120		
Beryllium	1.00 U	1.00	0.0670	mg/kg	98		80-120		
Boron	10.0 U	10.0	0.840	mg/kg	97		80-120		
Cadmium	1.00 U	1.00	0.0760	mg/kg	101		80-120		

*- Outside of specification

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 09/11/13 at 07:34 PM

Group Number: 1414782

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ**</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Calcium	20.0 U	20.0	3.34	mg/kg	102		80-120		
Chromium	3.00 U	3.00	0.160	mg/kg	101		80-120		
Cobalt	1.00 U	1.00	0.0990	mg/kg	103		80-120		
Copper	2.00 U	2.00	0.290	mg/kg	107		80-120		
Iron	40.0 U	40.0	3.62	mg/kg	102		80-120		
Lead	3.00 U	3.00	0.500	mg/kg	104		80-120		
Lithium	4.0 U	4.0	0.34	mg/kg	102		80-120		
Magnesium	10.0 U	10.0	1.67	mg/kg	101		80-120		
Manganese	1.00 U	1.00	0.0830	mg/kg	102		80-120		
Molybdenum	2.00 U	2.00	0.170	mg/kg	100		80-120		
Nickel	2.00 U	2.00	0.130	mg/kg	105		80-120		
Phosphorus	10.0 U	10.0	2.89	mg/kg	104		80-120		
Potassium	100 U	100.	8.34	mg/kg	101		80-120		
Sodium	100 U	100.	16.7	mg/kg	101		80-120		
Tin	1.74 J	10.0	0.220	mg/kg	99		80-120		
Titanium	1.00 U	1.00	0.170	mg/kg	105		80-120		
Vanadium	1.00 U	1.00	0.130	mg/kg	100		80-120		
Zinc	0.311 J	4.00	0.200	mg/kg	102		80-120		
Zirconium	5.00 U	5.00	0.840	mg/kg	102		80-120		
Batch number: 132400637001A	Sample number(s): 7177748-7177754								
Silver	0.200 U	0.200	0.0260	mg/kg	105		80-120		
Strontium	0.400 U	0.400	0.0680	mg/kg	107		80-120		
Thallium	0.200 U	0.200	0.0300	mg/kg	109		80-120		
Batch number: 132400637001B	Sample number(s): 7177748-7177754								
Selenium	0.400 U	0.400	0.100	mg/kg	106		80-120		
Batch number: 132400638001	Sample number(s): 7177748-7177754								
3a Mercury 7471A	0.0167 U	0.0167	0.0100	mg/kg	109		85-120		
Batch number: 13240039401A	Sample number(s): 7177748-7177750, 7177753-7177754								
15a pH by 9045D					99		95-105		
Batch number: 13242162401A	Sample number(s): 7177748-7177753								
14a Moisture Content by 160.3					100		80-120		
14a Moisture Content by 160.3					100		80-120		
14a Moisture Content by 160.3					100		80-120		
Batch number: 13242162401B	Sample number(s): 7177754								
14a Moisture Content by 160.3					100		80-120		

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MRL**</u>	<u>Blank EDL</u>	<u>Report Units</u>	<u>OPR %REC</u>	<u>OPRD %REC</u>	<u>OPR/OPRD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 13248003	Sample number(s): 7177748-7177752, 7177754								
2378-TCDD	1.00 U	1.00	0.0486	ng/kg	99		67-158		
12378-PeCDD	0.0657 J	5.00	0.0361	ng/kg	99		70-142		
123478-HxCDD	0.0423 J	5.00	0.0239	ng/kg	100		70-164		
123678-HxCDD	0.0502 J	5.00	0.0246	ng/kg	98		76-134		
123789-HxCDD	0.0844 J	5.00	0.0236	ng/kg	99		64-162		
1234678-HpCDD	0.122 J	5.00	0.0287	ng/kg	98		70-140		
OCDD	0.464 J	10.0	0.0292	ng/kg	94		78-144		

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 09/11/13 at 07:34 PM

Group Number: 1414782

Analysis Name	Blank Result	Blank MRL**	Blank EDL	Report Units	OPR %REC	OPRD %REC	OPR/OPRD Limits	RPD	RPD Max
2378-TCDF	1.00 U	1.00	0.0435	ng/kg	101		75-158		
12378-PeCDF	0.0612 J	5.00	0.0217	ng/kg	98		80-134		
23478-PeCDF	0.0677 J	5.00	0.0205	ng/kg	99		68-160		
123478-HxCDF	0.0557 J	5.00	0.0146	ng/kg	99		72-134		
123678-HxCDF	0.0251 J	5.00	0.0128	ng/kg	98		84-130		
123789-HxCDF	0.0604 J	5.00	0.0161	ng/kg	97		78-130		
234678-HxCDF	0.0455 J	5.00	0.0138	ng/kg	98		70-156		
1234678-HpCDF	0.0567 J	5.00	0.0111	ng/kg	94		82-122		
1234789-HpCDF	0.0816 J	5.00	0.0182	ng/kg	96		78-138		
OCDF	0.216 J	10.0	0.0364	ng/kg	96		63-170		
TEQ WHO 2005 - EDLx0.0	0.0715			ng/kg					

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 13243SLC026	Sample number(s): 7177748-7177752,7177754 UNSPK: 7177750								
Acenaphthene	92	81	48-127	13	30				
Acenaphthylene	92	82	49-121	12	30				
Anthracene	96	81	52-126	17	30				
Benzo(a)anthracene	102	87	44-143	16	30				
Benzo(a)pyrene	104	87	44-140	18	30				
Benzo(b)fluoranthene	125	107	26-142	16	30				
Benzo(e)pyrene	96	82	70-130	16	30				
Benzo(g,h,i)perylene	70	58	33-141	19	30				
Benzo(k)fluoranthene	101	85	54-142	18	30				
Butylbenzylphthalate	124	106	49-151	16	30				
Di-n-butylphthalate	104	89	52-147	16	30				
Chrysene	100	86	29-148	15	30				
Dibenz(a,h)anthracene	82	69	20-137	17	30				
Diethylphthalate	93	84	43-145	11	30				
Dimethylphthalate	93	81	58-129	14	30				
Bis(2-Ethylhexyl)phthalate	120	97	39-167	22	30				
Fluoranthene	94	81	40-148	15	30				
Fluorene	95	84	51-137	13	30				
Indeno(1,2,3-cd)pyrene	80	67	17-136	18	30				
1-Methylnaphthalene	96	84	50-131	13	30				
2-Methylnaphthalene	97	86	35-152	12	30				
Naphthalene	93	83	31-148	12	30				
N-Nitrosodimethylamine	76	69	48-113	11	30				
Di-n-octylphthalate	130	112	52-162	15	30				
Phenanthrene	95	81	29-142	16	30				
Pyrene	96	83	26-143	15	30				
Batch number: 13242A16A	Sample number(s): 7177750-7177752,7177754 UNSPK: 7177750								
11a TPH by EPA 8015B GRO	76	76	69-123	7	30				

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 09/11/13 at 07:34 PM

Group Number: 1414782

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

<u>Analysis Name</u>	<u>MS</u> <u>%REC</u>	<u>MSD</u> <u>%REC</u>	<u>MS/MSD</u> <u>Limits</u>	<u>RPD</u> <u>RPD</u>	<u>BKG</u> <u>Conc</u>	<u>DUP</u> <u>Conc</u>	<u>DUP</u> <u>RPD</u>	<u>Dup RPD</u> <u>Max</u>
Batch number: 132460019A	Sample number(s): 7177749-7177752,7177754 UNSPK: 7177750							
2,4-D	105	111	42-143	5	35			
Dalapon	38	35	19-109	7	50			
2,4-DB	161	164	10-179	2	50			
Dicamba	115	119	45-147	4	50			
Dinoseb	36	40	10-52	12	35			
2,4-DP (Dichlorprop)	113	116	32-171	2	50			
MCPA	88	91	23-169	4	50			
MCPP (Mecoprop)	83	83	24-164	0	50			
2,4,5-T	133	139	12-172	4	35			
2,4,5-TP	109	113	10-142	4	35			
Batch number: 132420008A	Sample number(s): 7177749-7177752,7177754 UNSPK: 7177750							
Aldrin	78	81	16-126	4	50			
Alpha BHC	93	98	14-140	5	50			
Beta BHC	-58*	-59*	10-173	4	50			
Gamma BHC - Lindane	90	94	30-137	4	50			
p,p-DDD	105	105	43-149	1	50			
p,p-DDE	88	90	18-161	2	50			
p,p-DDT	100	103	12-193	3	50			
Delta BHC	78	86	13-153	10	50			
Dieldrin	103	104	19-154	1	50			
Endosulfan I	101	101	16-137	0	50			
Endosulfan II	89	89	10-156	0	50			
Endosulfan Sulfate	87	89	10-181	2	50			
Endrin	96	97	30-152	1	50			
Endrin Aldehyde	81	81	10-152	0	35			
Endrin Ketone	87	89	10-160	2	50			
Heptachlor	94	96	16-152	2	50			
Heptachlor Epoxide	84	85	17-167	1	50			
Methoxychlor	94	98	34-168	5	50			
Batch number: 132430008A	Sample number(s): 7177748-7177752,7177754 UNSPK: 7177750							
PCB-1016	98	97	16-146	0	50			
PCB-1260	110	111	40-134	2	50			
Batch number: 132460005A	Sample number(s): 7177748-7177752,7177754 UNSPK: 7177750							
EFH (C12-C14)	87	84	49-123	3	20			
EFH (C15-C20)	97	96	49-123	1	20			
EFH (C21-C30)	108	113	49-123	4	20			
EFH (C30-C40)	105	112	49-123	7	20			
EFH (C8-C11)	82	80	49-123	3	20			
Batch number: 132400637001	Sample number(s): 7177748-7177754 UNSPK: 7177750 BKG: 7177750							
Aluminum	3393 (2)	3808 (2)	75-125	3	20	21,500	21,200	1 20
Antimony	58*	60*	75-125	3	20	3.96 U	3.96 U	0 (1) 20
Arsenic	96	97	75-125	1	20	5.61	5.74	2 (1) 20
Barium	93	98	75-125	3	20	121	119	2 20
Beryllium	97	99	75-125	2	20	0.868 J	0.854 J	2 (1) 20
Boron	87	90	75-125	3	20	6.86 J	4.79 J	35* (1) 20

*- Outside of specification

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- (1) The result for one or both determinations was less than five times the LOQ / MRL.
- (2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 09/11/13 at 07:34 PM

Group Number: 1414782

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

<u>Analysis Name</u>	<u>MS</u> <u>%REC</u>	<u>MSD</u> <u>%REC</u>	<u>MS/MSD</u> <u>Limits</u>	<u>RPD</u> <u>RPD</u>	<u>RPD</u> <u>MAX</u>	<u>BKG</u> <u>Conc</u>	<u>DUP</u> <u>Conc</u>	<u>DUP</u> <u>RPD</u>	<u>Dup</u> <u>RPD</u>	<u>RPD</u> <u>Max</u>
Cadmium	89	90	75-125	2	20	0.196 J	0.179 J	9 (1)		20
Calcium	-7 (2)	760 (2)	75-125	36*	20	6,960	6,410	8		20
Chromium	115	121	75-125	2	20	28.6	27.9	3		20
Cobalt	90	91	75-125	1	20	8.28	8.28	0		20
Copper	98	101	75-125	2	20	18.1	17.5	3		20
Iron	1661 (2)	2347 (2)	75-125	2	20	29,700	28,800	3		20
Lead	90	93	75-125	2	20	9.05	8.71	4 (1)		20
Lithium	101	102	75-125	1	20	18.4	18.5	1 (1)		20
Magnesium	386 (2)	525 (2)	75-125	4	20	5,910	5,870	1		20
Manganese	120 (2)	52 (2)	75-125	7	20	433	409	6		20
Molybdenum	86	88	75-125	2	20	0.332 J	0.217 J	42* (1)		20
Nickel	93	95	75-125	1	20	17.3	17.4	0		20
Phosphorus	89	110	75-125	6	20	273	251	8		20
Potassium	142 (2)	123 (2)	75-125	4	20	4,260	4,150	2		20
Sodium	96	96	75-125	1	20	80.3 J	81.4 J	1 (1)		20
Tin	85	86	75-125	1	20	2.81 J	2.63 J	7 (1)		20
Titanium	332 (2)	391 (2)	75-125	5	20	730	696	5		20
Vanadium	108	114	75-125	2	20	54.1	52.8	2		20
Zinc	100	105	75-125	2	20	63.2	62.3	1		20
Zirconium	90	90	75-125	0	20	5.39	5.57	3 (1)		20
Batch number: 132400637001A Sample number(s): 7177748-7177754 UNSPK: 7177750 BKG: 7177750										
Silver	130*	104	75-125	22*	20	0.0457 J	0.0545 J	18 (1)		20
Strontium	206 (2)	56 (2)	75-125	24*	20	39.7	49.5	22*		20
Thallium	136*	96	75-125	19	20	0.374	0.455	20 (1)		20
Batch number: 132400637001B Sample number(s): 7177748-7177754 UNSPK: 7177750 BKG: 7177750										
Selenium	110	91	75-125	17	20	0.235 J	0.258 J	9 (1)		20
Batch number: 132400638001 Sample number(s): 7177748-7177754 UNSPK: 7177750 BKG: 7177750										
3a Mercury 7471A	113	114	65-135	0	20	0.0163 U	0.0159 U	0 (1)		20
Batch number: 13240039401A Sample number(s): 7177748-7177750,7177753-7177754 BKG: 7177750										
15a pH by 9045D						7.79	7.84	1		3
Batch number: 13242162401A Sample number(s): 7177748-7177753 BKG: 7177750										
14a Moisture Content by 160.3						11.3	11.1	2		20
14a Moisture Content by 160.3						11.3	11.1	2		20
14a Moisture Content by 160.3						11.3	11.1	2		20
Batch number: 13242162401B Sample number(s): 7177754 BKG: 7177754										
14a Moisture Content by 160.3						11.3	10.8	5		20
Batch number: 13248003 Sample number(s): 7177748-7177752,7177754 UNSPK: 7177750										
2378-TCDD	101	100	40-135	2	20					
12378-PeCDD	101	101	40-135	1	20					
123478-HxCDD	102	102	40-135	0	20					
123678-HxCDD	102	101	40-135	1	20					
123789-HxCDD	102	102	40-135	0	20					
1234678-HpCDD	100	99	40-135	1	20					
OCDD	94	94	40-135	0	20					

*- Outside of specification

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(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 09/11/13 at 07:34 PM

Group Number: 1414782

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

<u>Analysis Name</u>	<u>MS</u> <u>%REC</u>	<u>MSD</u> <u>%REC</u>	<u>MS/MSD</u> <u>Limits</u>	<u>RPD</u> <u>RPD</u>	<u>RPD</u> <u>MAX</u>	<u>BKG</u> <u>Conc</u>	<u>DUP</u> <u>Conc</u>	<u>DUP</u> <u>RPD</u>	<u>Dup RPD</u> <u>Max</u>
2378-TCDF	101	101	40-135	0	20				
12378-PeCDF	102	101	40-135	1	20				
23478-PeCDF	103	102	40-135	1	20				
123478-HxCDF	98	102	40-135	3	20				
123678-HxCDF	99	101	40-135	2	20				
123789-HxCDF	98	99	40-135	1	20				
234678-HxCDF	99	100	40-135	0	20				
1234678-HpCDF	96	96	40-135	1	20				
1234789-HpCDF	98	99	40-135	0	20				
OCDF	94	95	40-135	0	20				

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: 7a SVOC SIM EPA 8270D

Batch number: 13243SLC026

Fluoranthene-d10 Benzo(a)pyrene-d12 1-Methylnaphthalene-d10

7177748	85	97	102
7177749	81	96	101
7177750	83	92	96
7177751	86	100	99
7177752	74	84	89
7177754	83	94	97
Blank	83	97	99
LCS	83	94	96
MS	86	100	99
MSD	74	84	89

Limits: 54-129 59-125 61-125

Analysis Name: 11b TPH by EPA 8015B GRO

Batch number: 13241A20A

Trifluorotoluene-F

7177747	87
Blank	87
LCS	121
LCSD	121

Limits: 63-135

Analysis Name: 11a TPH by EPA 8015B GRO

Batch number: 13242A16A

Trifluorotoluene-F

*- Outside of specification

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 09/11/13 at 07:34 PM

Group Number: 1414782

Surrogate Quality Control

7177750	70
7177751	72
7177752	70
7177754	70
Blank	76
LCS	76
MS	72
MSD	70

Limits: 50-142

Analysis Name: 20a Pesticides by EPA 8081B

Batch number: 132420008A

	Tetrachloro-m-xylene	Decachlorobiphenyl
7177749	75	79
7177750	79	80
7177751	79	87
7177752	83	91
7177754	85	90
Blank	78	87
LCS	85	92
MS	79	87
MSD	83	91

Limits: 50-130 20-120

Analysis Name: 19a PCBs and PCTs 8082A

Batch number: 132430008A

	Tetrachloro-m-xylene	Decachlorobiphenyl
7177748	106	104
7177749	111	112
7177750	105	107
7177751	108	109
7177752	101	108
7177754	111	110
Blank	116	112
LCS	112	116
LCSD	123*	120
MS	108	109
MSD	101	108

Limits: 45-120 45-120

Analysis Name: 21a Herbicides by EPA 8151A

Batch number: 132460019A

	2,4-Dichlorophenylacetic acid
7177749	59
7177750	57
7177751	71
7177752	72
7177754	61

*- Outside of specification

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- (2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 09/11/13 at 07:34 PM

Group Number: 1414782

Surrogate Quality Control

Blank 56
LCS 73
MS 71
MSD 72

Limits: 50-150

Analysis Name: 10a TPH by EPA 8015B (DRO)
Batch number: 132460005A

	Chlorobenzene	Orthoterphenyl
7177748	96	101
7177749	85	87
7177750	83	76
7177751	90	86
7177752	84	79
7177754	89	85
Blank	94	99
LCS	98	103
MS	90	86
MSD	84	79

Limits: 37-125 66-123

Analysis Name: 23a Dioxin/Furan by EPA 1613B
Batch number: 13248003

	13C12-2378-TCDD	13C12-23478-PeCDF	13C12-123478-HxCDF	13C12-123678-HxCDF	13C12-234678-HxCDF	13C12-123789-HxCDF
7177748	75	84	82	91	87	84
7177749	75	81	78	89	82	77
7177750	75	72	76	85	78	73
7177751	73	83	83	95	87	80
7177752	70	77	83	92	85	78
7177754	74	73	77	87	80	74
Blank	67	74	75	83	76	71
MS	73	83	83	95	87	80
MSD	70	77	83	92	85	78
OPR	76	85	84	96	87	79

Limits: 25-164 21-178 26-152 26-123 28-136 29-147

	13C12-1234678-HpCDF	13C12-1234789-HpCDF	13C12-OCDF	13C12-12378-PeCDD	13C12-123478-HxCDD	13C12-123678-HxCDD
7177748	114	81	75	76	85	83
7177749	101	72	66	75	78	78
7177750	91	61	56	67	75	74
7177751	114	71	69	77	84	84
7177752	106	75	71	71	79	80
7177754	97	67	62	69	76	77
Blank	99	68	63	73	76	78
MS	114	71	69	77	84	84
MSD	106	75	71	71	79	80
OPR	120	77	70	86	89	89

Limits: 28-143 26-138 17-157 25-181 32-141 28-130

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

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- (2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 09/11/13 at 07:34 PM

Group Number: 1414782

Surrogate Quality Control

	13C12-123789-HxCDD	13C12-1234678-HpCDD	13C12-OCDD	13C12-2378-TCDF	13C12-12378-PeCDF
7177748	84	92	91	77	88
7177749	78	78	79	76	87
7177750	73	67	67	75	80
7177751	82	81	86	75	90
7177752	78	81	84	74	84
7177754	78	76	72	75	80
Blank	75	78	77	67	78
MS	82	81	86	75	90
MSD	78	81	84	74	84
OPR	90	92	93	76	93
Limits:	28-130	23-140	17-157	24-169	24-185

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

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- (2) The unspiked result was more than four times the spike added.

Acc# 13013 Cup# 1414782 sample# 7177747-54

SSFL Phase 3 Chain of Custody

CDM Smith
 Date Shipped: 8/27/2013
 Carrier Name: FedEx
 Airbill No: 796559389195

Contact Name: Pam Hartman
 Contact Phone: (818)466-8007

COC No: 20130827-01
 Cooler #: 1
 Lab: Lancaster
 Lab Phone: 717-556-7259
 Lab Address: 2425 New Holland Pike
 Lancaster, PA 17601

Sample	Date/Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Fluoride 300.0/9056	Mercury 7470 (Water)	Mercury 7471 (Soil)	Metals 6010 and 6020	TIC 8270	SVOC 8270	1,4 Dioxane 8270 SIM	PAHs 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate Confirm 6850/6860	Perchlorate 314.0/331	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Oranotin	Methyl Mercury 1630	Other Analysis/Notes					
TB-082713	8/27/13 08:00	WQ	HCl	3 - 40 mL Vial	10 day																			X																		
SL-615-SA8-SB-0.0-0.5	8/27/13 10:00	SO	None	2 - 55-Sleeve	10 day	X	X					X	X	X											X																	
SL-615-SA8-SB-0.0-0.5	8/27/13 10:00	SO	None	1 - 4 oz glass	10 day													X																								
SL-553-SA8-SB-0.0-0.5	8/27/13 12:35	SO	None	2 - 55-Sleeve	10 day	X	X					X	X	X							X				X																	
SL-553-SA8-SB-0.0-0.5	8/27/13 12:35	SO	None	1 - 4 oz glass	10 day													X																								
SL-553-SA8-SB-4.0-5.0MS	8/27/13 12:50	SO	None	6 - 16 oz glass	10 day	X	X					X	X	X						X	X			X																		MS/MSD
SL-553-SA8-SB-4.0-5.0MS	8/27/13 12:50	SO	None	6 - Encore	10 day																				X																	MS/MSD
SL-853-SA8-SB-4.0-5.0	8/27/13 13:00	SO	None	2 - 16 oz glass	10 day	X	X					X	X	X						X	X			X																		
SL-853-SA8-SB-4.0-5.0	8/27/13 13:00	SO	None	2 - Encore	10 day																			X																		

Sampler: *V. Gorkov*

Special Instructions:

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
<i>Steph Myer</i>	8/27/2013	1600									
									<i>Branch</i>	8-28-13	920
									<i>Bung</i>		

Environmental Sample Administration
Receipt Documentation Log

Client/Project: CDM

Shipping Container Sealed: YES NO

Date of Receipt: 8-28-13

Custody Seal Present * : YES NO

Time of Receipt: 920

* Custody seal was intact unless otherwise noted in the discrepancy section

Source Code: 50-1

Package: Chilled Not Chilled

Temperature of Shipping Containers

Cooler #	Thermometer ID	Temperature (°C)	Temp Bottle (TB) or Surface Temp (ST)	Wet Ice (WI) or Dry Ice (DI) or Ice Packs (IP)	Ice Present? Y/N	Loose (L) Bagged Ice (B) or NA	Comments
1	DH146	2.7	TB	WI	Y		
2							
3							
4							
5							
6							

Number of Trip Blanks received NOT listed on chain of custody: 0

Paperwork Discrepancy/Unpacking Problems:

Unpacker Signature/Emp#: Branely Benz 2299 Date/Time: 8-28-13 941

Issued by Dept. 6042 Management

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	BMQL	Below Minimum Quantitation Level
N.D.	none detected	MPN	Most Probable Number
TNTC	Too Numerous To Count	CP Units	cobalt-chloroplatinate units
IU	International Units	NTU	nephelometric turbidity units
umhos/cm	micromhos/cm	ng	nanogram(s)
C	degrees Celsius	F	degrees Fahrenheit
meq	milliequivalents	lb.	pound(s)
g	gram(s)	kg	kilogram(s)
µg	microgram(s)	mg	milligram(s)
mL	milliliter(s)	L	liter(s)
m³	cubic meter(s)	µL	microliter(s)
		pg/L	picogram/liter

< less than - The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Data Qualifiers:

C – result confirmed by reanalysis.

J - estimated value – The result is \geq the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ).

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers

- A** TIC is a possible aldol-condensation product
- B** Analyte was also detected in the blank
- C** Pesticide result confirmed by GC/MS
- D** Compound quantitated on a diluted sample
- E** Concentration exceeds the calibration range of the instrument
- N** Presumptive evidence of a compound (TICs only)
- P** Concentration difference between primary and confirmation columns $>25\%$
- U** Compound was not detected
- X,Y,Z** Defined in case narrative

Inorganic Qualifiers

- B** Value is $<$ CRDL, but \geq IDL
- E** Estimated due to interference
- M** Duplicate injection precision not met
- N** Spike sample not within control limits
- S** Method of standard additions (MSA) used for calculation
- U** Compound was not detected
- W** Post digestion spike out of control limits
- *** Duplicate analysis not within control limits
- +** Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

SAMPLE DELIVERY GROUP

PH096

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

September 17, 2013

Project: SSFL Phase 3 Sampling

Submittal Date: 08/29/2013
Group Number: 1415082
SDG: PH096
PO Number: 1204-002-001-AL
State of Sample Origin: CA

<u>Client Sample Description</u>	<u>Lancaster Labs (LL) #</u>
EB3-082813 Water	7179334
EB4-082813 Water	7179335
TB1-082813 Water	7179336
SL-553-SA8-SB-9.0-10.0 Soil	7179337
SL-553-SA8-SB-14.0-15.0 Soil	7179338
SL-553-SA8-SB-18.0-19.0 Soil	7179339

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC Eurofins Lancaster Labs Env
COPY TO

Attn: Nicole Maljovec

Respectfully Submitted,



Nicole L. Maljovec
Principal Specialist Group Leader

(717) 556-7259

Sample Description: **EB3-082813 Water**
SSFL Phase 3 Subarea 8

LL Sample # **WW 7179334**
LL Group # **1415082**
Account # **13013**

Project Name: **SSFL Phase 3 Sampling**

Collected: 08/28/2013 15:00 by PH

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/29/2013 09:15
Reported: 09/17/2013 09:38

EB328 SDG#: PH096-01EB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/l	ug/l	ug/l	
12971	Acenaphthene	83-32-9	0.053 U	0.053	0.011	1
12971	Acenaphthylene	208-96-8	0.053 U	0.053	0.011	1
12971	Anthracene	120-12-7	0.053 U	0.053	0.011	1
12971	Benzo(a)anthracene	56-55-3	0.053 U	0.053	0.011	1
12971	Benzo(a)pyrene	50-32-8	0.053 U	0.053	0.011	1
12971	Benzo(b)fluoranthene	205-99-2	0.053 U	0.053	0.011	1
12971	Benzo(e)pyrene	192-97-2	0.053 U	0.053	0.011	1
12971	Benzo(g,h,i)perylene	191-24-2	0.053 U	0.053	0.011	1
12971	Benzo(k)fluoranthene	207-08-9	0.053 U	0.053	0.011	1
12971	Butylbenzylphthalate	85-68-7	1.1 U	1.1	0.053	1
12971	Di-n-butylphthalate	84-74-2	0.22 J	1.1	0.053	1
12971	Chrysene	218-01-9	0.053 U	0.053	0.011	1
12971	Dibenz(a,h)anthracene	53-70-3	0.053 U	0.053	0.011	1
12971	Diethylphthalate	84-66-2	0.36 J	1.1	0.053	1
12971	Dimethylphthalate	131-11-3	1.1 U	1.1	0.053	1
12971	Bis(2-Ethylhexyl)phthalate	117-81-7	0.12 J	1.1	0.053	1
12971	Fluoranthene	206-44-0	0.053 U	0.053	0.011	1
12971	Fluorene	86-73-7	0.053 U	0.053	0.011	1
12971	Indeno(1,2,3-cd)pyrene	193-39-5	0.053 U	0.053	0.011	1
12971	1-Methylnaphthalene	90-12-0	0.053 U	0.053	0.011	1
12971	2-Methylnaphthalene	91-57-6	0.053 U	0.053	0.011	1
12971	Naphthalene	91-20-3	0.053 U	0.053	0.032	1
12971	N-Nitrosodimethylamine	62-75-9	0.053 U	0.053	0.011	1
12971	Di-n-octylphthalate	117-84-0	1.1 U	1.1	0.053	1
12971	Phenanthrene	85-01-8	0.053 U	0.053	0.032	1
12971	Pyrene	129-00-0	0.053 U	0.053	0.011	1

Target analytes were detected in the method blank associated with the samples as noted on the QC Summary. Since the result is within the acceptance range allowed by the method, the data is reported.

GC Volatiles	TPH GRO SW-8015B	ug/l	ug/l	ug/l
08229	TPH-GRO S.CA water C5-C12	n.a.	50 U	50
				20

Herbicides	SW-846 8151A	ug/l	ug/l	ug/l
10407	2,4-D	94-75-7	0.49 U	0.49
10407	Dalapon	75-99-0	1.2 U	1.2
10407	2,4-DB	94-82-6	0.98 U	0.98
10407	Dicamba	1918-00-9	0.29 U	0.29
10407	Dinoseb	88-85-7	0.49 U	0.49

The QC window for dinoseb is advisory due to the erratic performance of the analyte using this method.

10407	2,4-DP (Dichlorprop)	120-36-5	0.49 U	0.49	0.16	1
10407	MCPA	94-74-6	200 U	200	49	1
10407	MCPP	93-65-2	200 U	200	49	1
10407	2,4,5-T	93-76-5	0.049 U	0.049	0.015	1
10407	2,4,5-TP	93-72-1	0.049 U	0.049	0.0098	1

Pesticides/PCBs	SW-846 8081B	ug/l	ug/l	ug/l
10589	Aldrin	309-00-2	0.0082 U	0.0082
				0.0016

*=This limit was used in the evaluation of the final result

Sample Description: EB3-082813 Water
SSFL Phase 3 Subarea 8

LL Sample # WW 7179334
LL Group # 1415082
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/28/2013 15:00 by PH

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/29/2013 09:15
Reported: 09/17/2013 09:38

EB328 SDG#: PH096-01EB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Dilution Factor
Pesticides/PCBs SW-846 8081B						
10589	Alpha BHC	319-84-6	0.0082 U	0.0082	0.0025	1
10589	Beta BHC	319-85-7	0.0082 U	0.0082	0.0028	1
10589	Gamma BHC - Lindane	58-89-9	0.0082 U	0.0082	0.0016	1
10589	Chlordane	57-74-9	0.41 U	0.41	0.13	1
10589	p,p-DDD	72-54-8	0.016 U	0.016	0.0041	1
10589	p,p-DDE	72-55-9	0.016 U	0.016	0.0041	1
10589	p,p-DDT	50-29-3	0.016 U	0.016	0.0043	1
10589	Delta BHC	319-86-8	0.0082 U	0.0082	0.0028	1
10589	Dieldrin	60-57-1	0.016 U	0.016	0.0043	1
10589	Endosulfan I	959-98-8	0.0082 U	0.0082	0.0035	1
10589	Endosulfan II	33213-65-9	0.016 U	0.016	0.012	1
10589	Endosulfan Sulfate	1031-07-8	0.016 U	0.016	0.0048	1
10589	Endrin	72-20-8	0.016 U	0.016	0.0066	1
10589	Endrin Aldehyde	7421-93-4	0.082 U	0.082	0.016	1
10589	Endrin Ketone	53494-70-5	0.016 U	0.016	0.0041	1
10589	Heptachlor	76-44-8	0.0082 U	0.0082	0.0016	1
10589	Heptachlor Epoxide	1024-57-3	0.0082 U	0.0082	0.0019	1
10589	Methoxychlor	72-43-5	0.082 U	0.082	0.025	1
10589	Mirex	2385-85-5	0.20 U	0.20	0.069	1
10589	Toxaphene	8001-35-2	2.5 U	2.5	0.82	1

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken:

The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

Pesticides/PCBs SW-846 8082A						
			ug/l	U	ug/l	ug/l
13092	Aroclor 5432	63496-31-1	0.41	U	0.41	0.082
13092	Aroclor 5442	12642-23-8	0.41	U	0.41	0.082
13092	Aroclor 5460	11126-42-4	0.41	U	0.41	0.090
13092	PCB-1016	12674-11-2	0.41	U	0.41	0.082
13092	PCB-1221	11104-28-2	0.41	U	0.41	0.082
13092	PCB-1232	11141-16-5	0.41	U	0.41	0.16
13092	PCB-1242	53469-21-9	0.41	U	0.41	0.082
13092	PCB-1248	12672-29-6	0.41	U	0.41	0.082
13092	PCB-1254	11097-69-1	0.41	U	0.41	0.082
13092	PCB-1260	11096-82-5	0.41	U	0.41	0.12
13092	PCB-1262	37324-23-5	0.41	U	0.41	0.16
13092	PCB-1268	11100-14-4	0.41	U	0.41	0.13

GC Petroleum SW-846 8015B modified						
			mg/l	U	mg/l	mg/l
10365	EFH (C12-C14)	n.a.	0.097	U	0.097	0.048
10365	EFH (C15-C20)	n.a.	0.097	U	0.097	0.048
10365	EFH (C21-C30)	n.a.	0.097	U	0.097	0.048
10365	EFH (C30 - C40)	n.a.	0.48	U	0.48	0.097
10365	EFH (C8-C11)	n.a.	0.097	U	0.097	0.048

The stated QC limits are advisory only until sufficient data points can be obtained to calculate statistical limits.

*=This limit was used in the evaluation of the final result

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Sample Description: EB3-082813 Water
SSFL Phase 3 Subarea 8

LL Sample # WW 7179334
LL Group # 1415082
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/28/2013 15:00 by PH

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/29/2013 09:15
Reported: 09/17/2013 09:38

EB328 SDG#: PH096-01EB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Dilution Factor
For all QC parameters which are outside project defined limits, but within the laboratory statistical limits, no corrective action is taken.						
Metals						
		SW-846 6010C	mg/l	mg/l	mg/l	
01743	Aluminum	7429-90-5	0.400 U	0.400	0.0828	1
07044	Antimony	7440-36-0	0.0400 U	0.0400	0.0053	1
07035	Arsenic	7440-38-2	0.0400 U	0.0400	0.0068	1
07046	Barium	7440-39-3	0.0100 U	0.0100	0.00033	1
07047	Beryllium	7440-41-7	0.0100 U	0.0100	0.00067	1
08014	Boron	7440-42-8	0.100 U	0.100	0.0084	1
07049	Cadmium	7440-43-9	0.0100 U	0.0100	0.00076	1
01750	Calcium	7440-70-2	0.400 U	0.400	0.0334	1
07051	Chromium	7440-47-3	0.0300 U	0.0300	0.0016	1
07052	Cobalt	7440-48-4	0.0100 U	0.0100	0.0013	1
07053	Copper	7440-50-8	0.0200 U	0.0200	0.0027	1
01754	Iron	7439-89-6	0.400 U	0.400	0.0430	1
07055	Lead	7439-92-1	0.0300 U	0.0300	0.0047	1
01756	Lithium	7439-93-2	0.0400 U	0.0400	0.0047	1
01757	Magnesium	7439-95-4	0.200 U	0.200	0.0167	1
07058	Manganese	7439-96-5	0.0100 U	0.0100	0.00083	1
07060	Molybdenum	7439-98-7	0.0200 U	0.0200	0.0017	1
07061	Nickel	7440-02-0	0.0200 U	0.0200	0.0015	1
10143	Phosphorus	7723-14-0	0.200 U	0.200	0.0418	1
01762	Potassium	7440-09-7	1.00 U	1.00	0.0980	1
01767	Sodium	7440-23-5	2.00 U	2.00	0.167	1
07069	Tin	7440-31-5	0.0400 U	0.0400	0.0029	1
07070	Titanium	7440-32-6	0.0200 U	0.0200	0.0017	1
07071	Vanadium	7440-62-2	0.0100 U	0.0100	0.0020	1
07072	Zinc	7440-66-6	0.0400 U	0.0400	0.0020	1
10144	Zirconium	7440-67-7	0.100 U	0.100	0.0084	1
		SW-846 6020A	mg/l	mg/l	mg/l	
06041	Selenium	7782-49-2	0.0040 U	0.0040	0.00050	1
06042	Silver	7440-22-4	0.0010 U	0.0010	0.00011	1
06044	Strontium	7440-24-6	0.0020 U	0.0020	0.00034	1
06045	Thallium	7440-28-0	0.0010 U	0.0010	0.00015	1
		SW-846 7470A	mg/l	mg/l	mg/l	
00259	3b Mercury 7470A	7439-97-6	0.00020 U	0.00020	0.000060	1
		SW-846 9040C	Std. Units	Std. Units	Std. Units	
12152	28b pH (9040B and 9040C)	n.a.	5.5	0.010	0.010	1

*=This limit was used in the evaluation of the final result

Sample Description: EB3-082813 Water
SSFL Phase 3 Subarea 8

LL Sample # WW 7179334
LL Group # 1415082
Account # 13013

Project Name: SSFL Phase 3 Sampling

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Submitted: 08/29/2013 09:15
Reported: 09/17/2013 09:38

EB328 SDG#: PH096-01EB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received MRL*	As Received EDL	Dilution Factor
Dioxins/Furans		EPA 1613B	pg/l	pg/l	pg/l	
10915	2378-TCDD	1746-01-6	1.92 U	1.92	0.492	1
10915	12378-PeCDD	40321-76-4	9.62 U	9.62	0.492	1
10915	123478-HxCDD	39227-28-6	9.62 U	9.62	0.300	1
10915	123678-HxCDD	57653-85-7	0.382 JBQ	9.62	0.316	1
10915	123789-HxCDD	19408-74-3	0.353 JBQ	9.62	0.295	1
10915	1234678-HpCDD	35822-46-9	0.585 JBQ	9.62	0.436	1
10915	OCDD	3268-87-9	0.727 JBQ	19.2	0.421	1
10915	2378-TCDF	51207-31-9	1.92 U	1.92	0.358	1
10915	12378-PeCDF	57117-41-6	0.492 JBQ	9.62	0.282	1
10915	23478-PeCDF	57117-31-4	9.62 U	9.62	0.248	1
10915	123478-HxCDF	70648-26-9	0.274 JBQ	9.62	0.158	1
10915	123678-HxCDF	57117-44-9	9.62 U	9.62	0.151	1
10915	123789-HxCDF	72918-21-9	9.62 U	9.62	0.174	1
10915	234678-HxCDF	60851-34-5	0.442 JBQ	9.62	0.157	1
10915	1234678-HpCDF	67562-39-4	0.330 JBQ	9.62	0.157	1
10915	1234789-HpCDF	55673-89-7	0.288 JBQ	9.62	0.185	1
10915	OCDF	39001-02-0	0.808 JBQ	19.2	0.554	1

Toxic Equivalents		EPA 1613B	pg/l	pg/l	pg/l	
10915	TEQ WHO 2005 - EDLx0.0	n.a.	U			1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	71	25 - 164
13C12-12378-PeCDD	85	25 - 181
13C12-123478-HxCDD	76	32 - 141
13C12-123678-HxCDD	78	28 - 130
13C12-123789-HxCDD	76	28 - 130
13C12-1234678-HpCDD	71	23 - 140
13C12-OCDD	56	17 - 157
13C12-2378-TCDF	79	24 - 169
13C12-12378-PeCDF	89	24 - 185
13C12-23478-PeCDF	90	21 - 178
13C12-123478-HxCDF	69	26 - 152
13C12-123678-HxCDF	71	26 - 123
13C12-234678-HxCDF	69	28 - 136
13C12-123789-HxCDF	71	29 - 147
13C12-1234678-HpCDF	66	28 - 143
13C12-1234789-HpCDF	62	26 - 138
13C12-OCDF	45	17 - 157

Dioxins/Furans Data Qualifiers:

- B Detected in Method Blank
- U Undetected
- J Estimated concentration between Estimated Detection Limit and Minimum Level
- E Exceeds calibration range
- C Confirmed quantitation on secondary GC column
- Q EMPC - Estimated Maximum Possible Concentration

*=This limit was used in the evaluation of the final result

Sample Description: EB3-082813 Water
SSFL Phase 3 Subarea 8

LL Sample # WW 7179334
LL Group # 1415082
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/28/2013 15:00 by PH

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Submitted: 08/29/2013 09:15
Reported: 09/17/2013 09:38

EB328 SDG#: PH096-01EB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received MRL*	As Received EDL	Dilution Factor
F	Interference is present					
S	Saturation of detection signal					

*=This limit was used in the evaluation of the final result

Sample Description: EB3-082813 Water
SSFL Phase 3 Subarea 8

LL Sample # WW 7179334
LL Group # 1415082
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/28/2013 15:00 by PH

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EB328 SDG#: PH096-01EB

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12971	7b SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13243WAJ026	09/04/2013 02:42	Brian K Graham	1
10466	BNA Water Extraction SIM	SW-846 3510C	1	13243WAJ026	09/03/2013 09:10	Anna E Stager	1
08229	11b TPH by EPA 8015B GRO	TPH GRO SW-8015B	1	13242A20A	08/30/2013 14:01	Catherine J Schwarz	1
01146	GC VOA Water Prep	SW-846 5030B	1	13242A20A	08/30/2013 14:01	Catherine J Schwarz	1
10407	24b Herbicides by EPA 8151A	SW-846 8151A	1	132470014A	09/07/2013 00:02	Elizabeth J Marin	1
10589	22b Pesticides by EPA 8081B	SW-846 8081B	1	132470020A	09/05/2013 20:14	Jamie L Brillhart	1
13092	21b PCBs and PCTs 8082A	SW-846 8082A	1	132470019A	09/06/2013 00:07	Monica M Souders	1
13093	PCB/PCT Waters Update IV	SW-846 3510C	1	132470019A	09/04/2013 23:30	Karen L Beyer	1
11120	Pesticide Waters Update IV Ext	SW-846 3510C	1	132470020A	09/04/2013 23:30	Karen L Beyer	1
00816	Water Sample Herbicide Extract	SW-846 8151A	1	132470014A	09/04/2013 20:00	Elaine F Stoltzfus	1
10365	10b TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132470006A	09/05/2013 03:36	Heather E Williams	1
11203	EFH Waters Extraction	SW-846 3510C	1	132470006A	09/04/2013 15:45	Seth A Farrier	1
10915	17b Dioxin/Furan by EPA 1613B	EPA 1613B	1	13248004	09/10/2013 00:01	Nelson H Risser	1
10914	Dioxins/Furans in Water - SepF	EPA 1613B	1	13248004	09/06/2013 14:00	Deborah M Zimmerman	1
01743	Aluminum	SW-846 6010C	1	132410635001	09/02/2013 10:24	Katlin N Cataldi	1
07044	Antimony	SW-846 6010C	1	132410635001	09/02/2013 10:24	Katlin N Cataldi	1
07035	Arsenic	SW-846 6010C	1	132410635001	09/02/2013 10:24	Katlin N Cataldi	1
07046	Barium	SW-846 6010C	1	132410635001	09/02/2013 10:24	Katlin N Cataldi	1
07047	Beryllium	SW-846 6010C	1	132410635001	09/02/2013 10:24	Katlin N Cataldi	1
08014	Boron	SW-846 6010C	1	132410635001	09/02/2013 10:24	Katlin N Cataldi	1
07049	Cadmium	SW-846 6010C	1	132410635001	09/02/2013 10:24	Katlin N Cataldi	1
01750	Calcium	SW-846 6010C	1	132410635001	09/02/2013 10:24	Katlin N Cataldi	1
07051	Chromium	SW-846 6010C	1	132410635001	09/02/2013 10:24	Katlin N Cataldi	1
07052	Cobalt	SW-846 6010C	1	132410635001	09/02/2013 10:24	Katlin N Cataldi	1
07053	Copper	SW-846 6010C	1	132410635001	09/02/2013 10:24	Katlin N Cataldi	1
01754	Iron	SW-846 6010C	1	132410635001	09/02/2013 10:24	Katlin N Cataldi	1
07055	Lead	SW-846 6010C	1	132410635001	09/02/2013 10:24	Katlin N Cataldi	1
01756	Lithium	SW-846 6010C	1	132410635001	09/02/2013 10:24	Katlin N Cataldi	1
01757	Magnesium	SW-846 6010C	1	132410635001	09/02/2013 10:24	Katlin N Cataldi	1
07058	Manganese	SW-846 6010C	1	132410635001	09/02/2013 10:24	Katlin N Cataldi	1
07060	Molybdenum	SW-846 6010C	1	132410635001	09/02/2013 10:24	Katlin N Cataldi	1
07061	Nickel	SW-846 6010C	1	132410635001	09/02/2013 10:24	Katlin N Cataldi	1

*=This limit was used in the evaluation of the final result

Sample Description: EB3-082813 Water
SSFL Phase 3 Subarea 8

LL Sample # WW 7179334
LL Group # 1415082
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/28/2013 15:00 by PH

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Submitted: 08/29/2013 09:15
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EB328 SDG#: PH096-01EB

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
10143	Phosphorus	SW-846 6010C	1	132410635001	09/02/2013	10:24	Katlin N Cataldi	1
01762	Potassium	SW-846 6010C	1	132410635001	09/02/2013	10:24	Katlin N Cataldi	1
01767	Sodium	SW-846 6010C	1	132410635001	09/02/2013	10:24	Katlin N Cataldi	1
07069	Tin	SW-846 6010C	1	132410635001	09/02/2013	10:24	Katlin N Cataldi	1
07070	Titanium	SW-846 6010C	1	132410635001	09/02/2013	10:24	Katlin N Cataldi	1
07071	Vanadium	SW-846 6010C	1	132410635001	09/02/2013	10:24	Katlin N Cataldi	1
07072	Zinc	SW-846 6010C	1	132410635001	09/02/2013	10:24	Katlin N Cataldi	1
10144	Zirconium	SW-846 6010C	1	132410635001	09/02/2013	10:24	Katlin N Cataldi	1
06041	Selenium	SW-846 6020A	1	132410639001B	08/30/2013	22:08	David K Beck	1
06042	Silver	SW-846 6020A	1	132410639001A	08/30/2013	22:08	David K Beck	1
06044	Strontium	SW-846 6020A	1	132410639001A	08/30/2013	22:08	David K Beck	1
06045	Thallium	SW-846 6020A	1	132410639001A	08/30/2013	22:08	David K Beck	1
00259	3b Mercury 7470A	SW-846 7470A	1	132425713008	09/01/2013	10:07	Damary Valentin	1
10635	WW SW846(IV) ICP Dig (tot rec)	SW-846 3005A	1	132410635001	08/29/2013	23:30	Annamaria Stipkovits	1
10639	ICP/MS SW846 (IV) Water Digest	SW-846 3010A modified	1	132410639001	08/29/2013	23:30	Annamaria Stipkovits	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132425713008	08/31/2013	09:50	Nelli S Markaryan	1
12152	28b pH (9040B and 9040C)	SW-846 9040C	1	13241006101A	08/29/2013	19:29	Clayton C Litchmore	1

*=This limit was used in the evaluation of the final result

Sample Description: **EB4-082813 Water**
SSFL Phase 3 Subarea 8

LL Sample # **WW 7179335**
LL Group # **1415082**
Account # **13013**

Project Name: **SSFL Phase 3 Sampling**

Collected: 08/28/2013 15:30 by PH

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/29/2013 09:15
Reported: 09/17/2013 09:38

EB428 SDG#: PH096-02EB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/l	ug/l	ug/l	
12971	Acenaphthene	83-32-9	0.051 U	0.051	0.010	1
12971	Acenaphthylene	208-96-8	0.051 U	0.051	0.010	1
12971	Anthracene	120-12-7	0.051 U	0.051	0.010	1
12971	Benzo(a)anthracene	56-55-3	0.051 U	0.051	0.010	1
12971	Benzo(a)pyrene	50-32-8	0.051 U	0.051	0.010	1
12971	Benzo(b)fluoranthene	205-99-2	0.051 U	0.051	0.010	1
12971	Benzo(e)pyrene	192-97-2	0.051 U	0.051	0.010	1
12971	Benzo(g,h,i)perylene	191-24-2	0.051 U	0.051	0.010	1
12971	Benzo(k)fluoranthene	207-08-9	0.051 U	0.051	0.010	1
12971	Butylbenzylphthalate	85-68-7	1.0 U	1.0	0.051	1
12971	Di-n-butylphthalate	84-74-2	0.25 J	1.0	0.051	1
12971	Chrysene	218-01-9	0.051 U	0.051	0.010	1
12971	Dibenz(a,h)anthracene	53-70-3	0.051 U	0.051	0.010	1
12971	Diethylphthalate	84-66-2	0.40 J	1.0	0.051	1
12971	Dimethylphthalate	131-11-3	1.0 U	1.0	0.051	1
12971	Bis(2-Ethylhexyl)phthalate	117-81-7	0.32 J	1.0	0.051	1
12971	Fluoranthene	206-44-0	0.051 U	0.051	0.010	1
12971	Fluorene	86-73-7	0.013 J	0.051	0.010	1
12971	Indeno(1,2,3-cd)pyrene	193-39-5	0.051 U	0.051	0.010	1
12971	1-Methylnaphthalene	90-12-0	0.051 U	0.051	0.010	1
12971	2-Methylnaphthalene	91-57-6	0.011 J	0.051	0.010	1
12971	Naphthalene	91-20-3	0.051 U	0.051	0.031	1
12971	N-Nitrosodimethylamine	62-75-9	0.051 U	0.051	0.010	1
12971	Di-n-octylphthalate	117-84-0	1.0 U	1.0	0.051	1
12971	Phenanthrene	85-01-8	0.051 U	0.051	0.031	1
12971	Pyrene	129-00-0	0.015 J	0.051	0.010	1

Target analytes were detected in the method blank associated with the samples as noted on the QC Summary. Since the result is within the acceptance range allowed by the method, the data is reported.

	Pesticides/PCBs	SW-846 8082A	ug/l	ug/l	ug/l	
13092	Aroclor 5432	63496-31-1	0.41 U	0.41	0.083	1
13092	Aroclor 5442	12642-23-8	0.41 U	0.41	0.083	1
13092	Aroclor 5460	11126-42-4	0.41 U	0.41	0.091	1
13092	PCB-1016	12674-11-2	0.41 U	0.41	0.083	1
13092	PCB-1221	11104-28-2	0.41 U	0.41	0.083	1
13092	PCB-1232	11141-16-5	0.41 U	0.41	0.17	1
13092	PCB-1242	53469-21-9	0.41 U	0.41	0.083	1
13092	PCB-1248	12672-29-6	0.41 U	0.41	0.083	1
13092	PCB-1254	11097-69-1	0.41 U	0.41	0.083	1
13092	PCB-1260	11096-82-5	0.41 U	0.41	0.12	1
13092	PCB-1262	37324-23-5	0.41 U	0.41	0.17	1
13092	PCB-1268	11100-14-4	0.41 U	0.41	0.13	1

	GC Petroleum	SW-846 8015B modified	mg/l	mg/l	mg/l	
	Hydrocarbons					
10365	EFH (C12-C14)	n.a.	0.094 U	0.094	0.047	1
10365	EFH (C15-C20)	n.a.	0.094 U	0.094	0.047	1
10365	EFH (C21-C30)	n.a.	0.094 U	0.094	0.047	1

*=This limit was used in the evaluation of the final result

Sample Description: **EB4-082813 Water**
SSFL Phase 3 Subarea 8

LL Sample # **WW 7179335**
LL Group # **1415082**
Account # **13013**

Project Name: **SSFL Phase 3 Sampling**

Collected: 08/28/2013 15:30 by PH

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/29/2013 09:15
Reported: 09/17/2013 09:38

EB428 SDG#: PH096-02EB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Dilution Factor
GC Petroleum						
Hydrocarbons						
		SW-846 8015B modified	mg/l	mg/l	mg/l	
10365	EFH (C30 - C40)	n.a.	0.47 U	0.47	0.094	1
10365	EFH (C8-C11)	n.a.	0.094 U	0.094	0.047	1
The stated QC limits are advisory only until sufficient data points can be obtained to calculate statistical limits. For all QC parameters which are outside project defined limits, but within the laboratory statistical limits, no corrective action is taken.						
Metals						
		SW-846 6010C	mg/l	mg/l	mg/l	
01743	Aluminum	7429-90-5	0.400 U	0.400	0.0828	1
07044	Antimony	7440-36-0	0.0400 U	0.0400	0.0053	1
07035	Arsenic	7440-38-2	0.0400 U	0.0400	0.0068	1
07046	Barium	7440-39-3	0.0100 U	0.0100	0.00033	1
07047	Beryllium	7440-41-7	0.0100 U	0.0100	0.00067	1
08014	Boron	7440-42-8	0.100 U	0.100	0.0084	1
07049	Cadmium	7440-43-9	0.0100 U	0.0100	0.00076	1
01750	Calcium	7440-70-2	0.400 U	0.400	0.0334	1
07051	Chromium	7440-47-3	0.0300 U	0.0300	0.0016	1
07052	Cobalt	7440-48-4	0.0100 U	0.0100	0.0013	1
07053	Copper	7440-50-8	0.0200 U	0.0200	0.0027	1
01754	Iron	7439-89-6	0.400 U	0.400	0.0430	1
07055	Lead	7439-92-1	0.0300 U	0.0300	0.0047	1
01756	Lithium	7439-93-2	0.0400 U	0.0400	0.0047	1
01757	Magnesium	7439-95-4	0.200 U	0.200	0.0167	1
07058	Manganese	7439-96-5	0.0100 U	0.0100	0.00083	1
07060	Molybdenum	7439-98-7	0.0200 U	0.0200	0.0017	1
07061	Nickel	7440-02-0	0.0200 U	0.0200	0.0015	1
10143	Phosphorus	7723-14-0	0.200 U	0.200	0.0418	1
01762	Potassium	7440-09-7	1.00 U	1.00	0.0980	1
01767	Sodium	7440-23-5	2.00 U	2.00	0.167	1
07069	Tin	7440-31-5	0.0400 U	0.0400	0.0029	1
07070	Titanium	7440-32-6	0.0200 U	0.0200	0.0017	1
07071	Vanadium	7440-62-2	0.0100 U	0.0100	0.0020	1
07072	Zinc	7440-66-6	0.0400 U	0.0400	0.0020	1
10144	Zirconium	7440-67-7	0.100 U	0.100	0.0084	1
		SW-846 6020A	mg/l	mg/l	mg/l	
06041	Selenium	7782-49-2	0.0040 U	0.0040	0.00050	1
06042	Silver	7440-22-4	0.0010 U	0.0010	0.00011	1
06044	Strontium	7440-24-6	0.0020 U	0.0020	0.00034	1
06045	Thallium	7440-28-0	0.0010 U	0.0010	0.00015	1
		SW-846 7470A	mg/l	mg/l	mg/l	
00259	3b Mercury 7470A	7439-97-6	0.00020 U	0.00020	0.000060	1
Wet Chemistry						
		EPA 300.0	mg/l	mg/l	mg/l	
01504	1b Anions by 300.0-Fluoride	16984-48-8	0.10 U	0.10	0.080	1
00368	1b Anions by 300.0-Nitrate	14797-55-8	0.10 U	0.10	0.050	1
01506	1b Anions by 300.0-Nitrite	14797-65-0	0.10 U	0.10	0.080	1

*=This limit was used in the evaluation of the final result

Sample Description: **EB4-082813 Water**
SSFL Phase 3 Subarea 8

LL Sample # **WW 7179335**
LL Group # **1415082**
Account # **13013**

Project Name: **SSFL Phase 3 Sampling**

Collected: 08/28/2013 15:30 by PH

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/29/2013 09:15
Reported: 09/17/2013 09:38

EB428 SDG#: PH096-02EB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Dilution Factor
Wet Chemistry						
		EPA 300.0	mg/l	mg/l	mg/l	
00228	1b Anions by 300.0-Sulfate	14808-79-8	1.0 U	1.0	0.30	1
		EPA 377.1	mg/l	mg/l	mg/l	
00229	29b Sulfite in Water EPA377.1	14265-45-3	5.0 U	5.0	1.5	1
	The 40 CFR Part 136 requires that this analysis be performed immediately (within 15 minutes) upon sample collection. Because this was not possible, the result may not be used for reporting purposes.					
		SW-846 9040C	Std. Units	Std. Units	Std. Units	
12152	28b pH (9040B and 9040C)	n.a.	5.7	0.010	0.010	1

*=This limit was used in the evaluation of the final result

Sample Description: **EB4-082813 Water**
SSFL Phase 3 Subarea 8

LL Sample # **WW 7179335**
LL Group # **1415082**
Account # **13013**

Project Name: **SSFL Phase 3 Sampling**

Collected: 08/28/2013 15:30 by PH

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/29/2013 09:15
Reported: 09/17/2013 09:38

EB428 SDG#: PH096-02EB

CAT No.	Analysis Name	CAS Number	As Received Result		As Received MRL*	As Received EDL	Dilution Factor
Dioxins/Furans			pg/l		pg/l	pg/l	
10915	2378-TCDD	1746-01-6	1.92	U	1.92	0.328	1
10915	12378-PeCDD	40321-76-4	9.62	U	9.62	0.357	1
10915	123478-HxCDD	39227-28-6	9.62	U	9.62	0.244	1
10915	123678-HxCDD	57653-85-7	0.297	JBQ	9.62	0.263	1
10915	123789-HxCDD	19408-74-3	0.466	JBQ	9.62	0.246	1
10915	1234678-HpCDD	35822-46-9	9.62	U	9.62	0.300	1
10915	OCDD	3268-87-9	1.13	JB	19.2	0.315	1
10915	2378-TCDF	51207-31-9	1.92	U	1.92	0.264	1
10915	12378-PeCDF	57117-41-6	0.519	JBQ	9.62	0.228	1
10915	23478-PeCDF	57117-31-4	0.378	JBQ	9.62	0.188	1
10915	123478-HxCDF	70648-26-9	0.318	JBQ	9.62	0.120	1
10915	123678-HxCDF	57117-44-9	0.140	JBQ	9.62	0.119	1
10915	123789-HxCDF	72918-21-9	0.199	JBQ	9.62	0.129	1
10915	234678-HxCDF	60851-34-5	0.270	JBQ	9.62	0.115	1
10915	1234678-HpCDF	67562-39-4	0.413	JBQ	9.62	0.118	1
10915	1234789-HpCDF	55673-89-7	0.197	JBQ	9.62	0.130	1
10915	OCDF	39001-02-0	0.972	JB	19.2	0.313	1

Toxic Equivalents		EPA 1613B	pg/l	pg/l	pg/l	
10915	TEQ WHO 2005 - EDLx0.0	n.a.	0.000600			1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	71	25 - 164
13C12-12378-PeCDD	80	25 - 181
13C12-123478-HxCDD	76	32 - 141
13C12-123678-HxCDD	76	28 - 130
13C12-123789-HxCDD	75	28 - 130
13C12-1234678-HpCDD	68	23 - 140
13C12-OCDD	58	17 - 157
13C12-2378-TCDF	75	24 - 169
13C12-12378-PeCDF	78	24 - 185
13C12-23478-PeCDF	83	21 - 178
13C12-123478-HxCDF	66	26 - 152
13C12-123678-HxCDF	64	26 - 123
13C12-234678-HxCDF	67	28 - 136
13C12-123789-HxCDF	67	29 - 147
13C12-1234678-HpCDF	57	28 - 143
13C12-1234789-HpCDF	57	26 - 138
13C12-OCDF	53	17 - 157

Dioxins/Furans Data Qualifiers:

- B* Detected in Method Blank
- U* Undetected
- J* Estimated concentration between Estimated Detection Limit and Minimum Level
- E* Exceeds calibration range
- C* Confirmed quantitation on secondary GC column
- Q* EMPC - Estimated Maximum Possible Concentration

*=This limit was used in the evaluation of the final result

Sample Description: **EB4-082813 Water**
SSFL Phase 3 Subarea 8

LL Sample # **WW 7179335**
 LL Group # **1415082**
 Account # **13013**

Project Name: **SSFL Phase 3 Sampling**

Collected: 08/28/2013 15:30 by PH

CDM Federal Programs Corp.
 3201 Jermantown Road
 Suite 400
 Fairfax VA 22030

Submitted: 08/29/2013 09:15
 Reported: 09/17/2013 09:38

EB428 SDG#: PH096-02EB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received MRL*	As Received EDL	Dilution Factor
F	<i>Interference is present</i>					
S	<i>Saturation of detection signal</i>					

*=This limit was used in the evaluation of the final result

Sample Description: EB4-082813 Water
SSFL Phase 3 Subarea 8

LL Sample # WW 7179335
LL Group # 1415082
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/28/2013 15:30 by PH

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/29/2013 09:15
Reported: 09/17/2013 09:38

EB428 SDG#: PH096-02EB

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12971	7b SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13243WAJ026	09/04/2013 03:09	Brian K Graham	1
10466	BNA Water Extraction SIM	SW-846 3510C	1	13243WAJ026	09/03/2013 09:10	Anna E Stager	1
13092	21b PCBs and PCTs 8082A	SW-846 8082A	1	132470019A	09/06/2013 00:25	Monica M Souders	1
13093	PCB/PCT Waters Update IV	SW-846 3510C	1	132470019A	09/04/2013 23:30	Karen L Beyer	1
10365	10b TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132470006A	09/05/2013 03:57	Heather E Williams	1
11203	EFH Waters Extraction	SW-846 3510C	1	132470006A	09/04/2013 15:45	Seth A Farrier	1
10915	17b Dioxin/Furan by EPA 1613B	EPA 1613B	1	13248004	09/10/2013 00:57	Nelson H Risser	1
10914	Dioxins/Furans in Water - SepF	EPA 1613B	1	13248004	09/06/2013 14:00	Deborah M Zimmerman	1
01743	Aluminum	SW-846 6010C	1	132410635001	09/02/2013 10:28	Katlin N Cataldi	1
07044	Antimony	SW-846 6010C	1	132410635001	09/02/2013 10:28	Katlin N Cataldi	1
07035	Arsenic	SW-846 6010C	1	132410635001	09/02/2013 10:28	Katlin N Cataldi	1
07046	Barium	SW-846 6010C	1	132410635001	09/02/2013 10:28	Katlin N Cataldi	1
07047	Beryllium	SW-846 6010C	1	132410635001	09/02/2013 10:28	Katlin N Cataldi	1
08014	Boron	SW-846 6010C	1	132410635001	09/02/2013 10:28	Katlin N Cataldi	1
07049	Cadmium	SW-846 6010C	1	132410635001	09/02/2013 10:28	Katlin N Cataldi	1
01750	Calcium	SW-846 6010C	1	132410635001	09/02/2013 10:28	Katlin N Cataldi	1
07051	Chromium	SW-846 6010C	1	132410635001	09/02/2013 10:28	Katlin N Cataldi	1
07052	Cobalt	SW-846 6010C	1	132410635001	09/02/2013 10:28	Katlin N Cataldi	1
07053	Copper	SW-846 6010C	1	132410635001	09/02/2013 10:28	Katlin N Cataldi	1
01754	Iron	SW-846 6010C	1	132410635001	09/02/2013 10:28	Katlin N Cataldi	1
07055	Lead	SW-846 6010C	1	132410635001	09/02/2013 10:28	Katlin N Cataldi	1
01756	Lithium	SW-846 6010C	1	132410635001	09/02/2013 10:28	Katlin N Cataldi	1
01757	Magnesium	SW-846 6010C	1	132410635001	09/02/2013 10:28	Katlin N Cataldi	1
07058	Manganese	SW-846 6010C	1	132410635001	09/02/2013 10:28	Katlin N Cataldi	1
07060	Molybdenum	SW-846 6010C	1	132410635001	09/02/2013 10:28	Katlin N Cataldi	1
07061	Nickel	SW-846 6010C	1	132410635001	09/02/2013 10:28	Katlin N Cataldi	1
10143	Phosphorus	SW-846 6010C	1	132410635001	09/02/2013 10:28	Katlin N Cataldi	1
01762	Potassium	SW-846 6010C	1	132410635001	09/02/2013 10:28	Katlin N Cataldi	1
01767	Sodium	SW-846 6010C	1	132410635001	09/02/2013 10:28	Katlin N Cataldi	1
07069	Tin	SW-846 6010C	1	132410635001	09/02/2013 10:28	Katlin N Cataldi	1
07070	Titanium	SW-846 6010C	1	132410635001	09/02/2013 10:28	Katlin N Cataldi	1
07071	Vanadium	SW-846 6010C	1	132410635001	09/02/2013 10:28	Katlin N Cataldi	1
07072	Zinc	SW-846 6010C	1	132410635001	09/02/2013 10:28	Katlin N Cataldi	1
10144	Zirconium	SW-846 6010C	1	132410635001	09/02/2013 10:28	Katlin N Cataldi	1
06041	Selenium	SW-846 6020A	1	132410639001B	08/30/2013 22:11	David K Beck	1
06042	Silver	SW-846 6020A	1	132410639001A	08/30/2013 22:11	David K Beck	1
06044	Strontium	SW-846 6020A	1	132410639001A	08/30/2013 22:11	David K Beck	1
06045	Thallium	SW-846 6020A	1	132410639001A	08/30/2013 22:11	David K Beck	1

*=This limit was used in the evaluation of the final result

Sample Description: **EB4-082813 Water**
SSFL Phase 3 Subarea 8

LL Sample # **WW 7179335**
LL Group # **1415082**
Account # **13013**

Project Name: **SSFL Phase 3 Sampling**

Collected: 08/28/2013 15:30 by PH

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/29/2013 09:15
Reported: 09/17/2013 09:38

EB428 SDG#: PH096-02EB

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
00259	3b Mercury 7470A	SW-846 7470A	1	132425713008	09/01/2013	10:09	Damary Valentin	1
10635	WW SW846(IV) ICP Dig (tot rec)	SW-846 3005A	1	132410635001	08/29/2013	23:30	Annamaria Stipkovits	1
10639	ICP/MS SW846 (IV) Water Digest	SW-846 3010A modified	1	132410639001	08/29/2013	23:30	Annamaria Stipkovits	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132425713008	08/31/2013	09:50	Nelli S Markaryan	1
01504	1b Anions by 300.0-Fluoride	EPA 300.0	1	13241655121A	08/29/2013	22:17	Christopher D Meeks	1
00368	1b Anions by 300.0-Nitrate	EPA 300.0	1	13241655121A	08/29/2013	22:17	Christopher D Meeks	1
01506	1b Anions by 300.0-Nitrite	EPA 300.0	1	13241655121A	08/29/2013	22:17	Christopher D Meeks	1
00228	1b Anions by 300.0-Sulfate	EPA 300.0	1	13241655123A	08/29/2013	22:17	Christopher D Meeks	1
00229	29b Sulfite in Water EPA377.1	EPA 377.1	1	13242022901A	08/30/2013	18:00	Michelle L Lalli	1
12152	28b pH (9040B and 9040C)	SW-846 9040C	1	13241006101A	08/29/2013	19:15	Clayton C Litchmore	1

*=This limit was used in the evaluation of the final result

Sample Description: TB1-082813 Water
SSFL Phase 3 Subarea 8

LL Sample # WW 7179336
LL Group # 1415082
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/28/2013 08:00

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/29/2013 09:15

Reported: 09/17/2013 09:38

TB128 SDG#: PH096-03TB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Dilution Factor
GC Volatiles						
	TPH GRO SW-8015B		ug/l	ug/l	ug/l	
08229	TPH-GRO S.CA water C5-C12	n.a.	50 U	50	20	1

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08229	11b TPH by EPA 8015B GRO	TPH GRO SW-8015B	1	13242A20A	08/30/2013 14:22	Catherine J Schwarz	1
01146	GC VOA Water Prep	SW-846 5030B	1	13242A20A	08/30/2013 14:22	Catherine J Schwarz	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-553-SA8-SB-9.0-10.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7179337
LL Group # 1415082
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/28/2013 07:30 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/29/2013 09:15
Reported: 09/17/2013 09:38

55309 SDG#: PH096-04

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	1.9 U	1.9	0.78	1
12969	Acenaphthylene	208-96-8	1.9 U	1.9	0.39	1
12969	Anthracene	120-12-7	1.9 U	1.9	0.39	1
12969	Benzo(a)anthracene	56-55-3	1.9 U	1.9	0.78	1
12969	Benzo(a)pyrene	50-32-8	1.9 U	1.9	0.78	1
12969	Benzo(b)fluoranthene	205-99-2	1.9 U	1.9	0.78	1
12969	Benzo(e)pyrene	192-97-2	20 U	20	3.9	1
12969	Benzo(g,h,i)perylene	191-24-2	1.9 U	1.9	0.78	1
12969	Benzo(k)fluoranthene	207-08-9	1.9 U	1.9	0.78	1
12969	Butylbenzylphthalate	85-68-7	21 U	21	7.0	1
12969	Di-n-butylphthalate	84-74-2	21 U	21	7.0	1
12969	Chrysene	218-01-9	1.9 U	1.9	0.39	1
12969	Dibenz(a,h)anthracene	53-70-3	1.9 U	1.9	0.78	1
12969	Diethylphthalate	84-66-2	21 U	21	7.0	1
12969	Dimethylphthalate	131-11-3	21 U	21	7.0	1
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	7.7 J	21	7.0	1
12969	Fluoranthene	206-44-0	1.9 U	1.9	0.78	1
12969	Fluorene	86-73-7	1.9 U	1.9	0.78	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	1.9 U	1.9	0.78	1
12969	1-Methylnaphthalene	90-12-0	1.9 U	1.9	0.78	1
12969	2-Methylnaphthalene	91-57-6	0.96 J	1.9	0.78	1
12969	Naphthalene	91-20-3	1.9 U	1.9	0.78	1
12969	N-Nitrosodimethylamine	62-75-9	1.9 U	1.9	0.78	1
12969	Di-n-octylphthalate	117-84-0	21 U	21	7.0	1
12969	Phenanthrene	85-01-8	1.9 U	1.9	0.78	1
12969	Pyrene	129-00-0	1.9 U	1.9	0.78	1
GC Volatiles	TPH GRO SW-846 8015B mod	mg/kg	mg/kg	mg/kg		
05551	11a TPH by EPA 8015B GRO	n.a.	1.1 U	1.1	0.2	23.19
Herbicides	SW-846 8151A	ug/kg	ug/kg	ug/kg		
10401	2,4-D	94-75-7	42 U	42	14	1
10401	Dalapon	75-99-0	110 U	110	51	1
10401	2,4-DB	94-82-6	20 U	20	7.3	1
10401	Dicamba	1918-00-9	14 U	14	4.7	1
10401	Dinoseb	88-85-7	28 U	28	11	1
The QC window for dinoseb is advisory due to the erratic performance of the analyte using this method.						
10401	2,4-DP (Dichlorprop)	120-36-5	20 U	20	11	1
10401	MCPA	94-74-6	2,900 U	2,900	890	1
10401	MCPP (Mecoprop)	93-65-2	2,900 U	2,900	880	1
10401	2,4,5-T	93-76-5	2.0 U	2.0	0.96	1
10401	2,4,5-TP	93-72-1	2.0 U	2.0	0.88	1
Pesticides/PCBs	SW-846 8081B	ug/kg	ug/kg	ug/kg		
10590	Aldrin	309-00-2	0.96 U	0.96	0.20	1
10590	Alpha BHC	319-84-6	0.96 U	0.96	0.20	1
10590	Beta BHC	319-85-7	2.2 U	2.2	1.1	1
10590	Gamma BHC - Lindane	58-89-9	0.96 U	0.96	0.20	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-553-SA8-SB-9.0-10.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7179337
LL Group # 1415082
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/28/2013 07:30 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/29/2013 09:15
Reported: 09/17/2013 09:38

55309 SDG#: PH096-04

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs SW-846 8081B							
10590	Chlordane	57-74-9	20	U	20	4.6	1
10590	p,p-DDD	72-54-8	2.0	U	2.0	0.38	1
10590	p,p-DDE	72-55-9	2.0	U	2.0	0.38	1
10590	p,p-DDT	50-29-3	2.0	U	2.0	0.41	1
10590	Delta BHC	319-86-8	0.96	U	0.96	0.52	1
10590	Dieldrin	60-57-1	2.0	U	2.0	0.38	1
10590	Endosulfan I	959-98-8	0.96	U	0.96	0.25	1
10590	Endosulfan II	33213-65-9	2.0	U	2.0	0.38	1
10590	Endosulfan Sulfate	1031-07-8	2.0	U	2.0	0.38	1
10590	Endrin	72-20-8	2.0	U	2.0	0.38	1
10590	Endrin Aldehyde	7421-93-4	2.0	U	2.0	0.38	1
10590	Endrin Ketone	53494-70-5	2.1	U	2.1	0.69	1
10590	Heptachlor	76-44-8	0.96	U	0.96	0.20	1
10590	Heptachlor Epoxide	1024-57-3	0.96	U	0.96	0.20	1
10590	Methoxychlor	72-43-5	7.8	U	7.8	2.0	1
10590	Mirex	2385-85-5	2.0	U	2.0	0.41	1
10590	Toxaphene	8001-35-2	38	U	38	16	1
Pesticides/PCBs SW-846 8082A							
10592	Aroclor 5432	63496-31-1	38	U	38	12	1
10592	Aroclor 5442	12642-23-8	38	U	38	12	1
10592	Aroclor 5460	11126-42-4	38	U	38	12	1
10592	PCB-1016	12674-11-2	20	U	20	3.8	1
10592	PCB-1221	11104-28-2	20	U	20	5.9	1
10592	PCB-1232	11141-16-5	20	U	20	4.8	1
10592	PCB-1242	53469-21-9	20	U	20	4.8	1
10592	PCB-1248	12672-29-6	20	U	20	3.8	1
10592	PCB-1254	11097-69-1	20	U	20	5.1	1
10592	PCB-1260	11096-82-5	20	U	20	4.5	1
10592	PCB-1262	37324-23-5	20	U	20	3.8	1
10592	PCB-1268	11100-14-4	20	U	20	3.8	1
GC Petroleum SW-846 8015B modified							
Hydrocarbons							
12952	EFH (C12-C14)	n.a.	5.8	U	5.8	2.3	1
12952	EFH (C15-C20)	n.a.	5.8	U	5.8	2.3	1
12952	EFH (C21-C30)	n.a.	5.8	U	5.8	2.3	1
12952	EFH (C30-C40)	n.a.	12	U	12	4.7	1
12952	EFH (C8-C11)	n.a.	5.8	U	5.8	2.3	1
Metals SW-846 6010C							
01643	Aluminum	7429-90-5	27,500		46.8	8.43	1
06944	Antimony	7440-36-0	1.74	J	4.68	0.865	1
06935	Arsenic	7440-38-2	6.40		4.68	0.819	1
06946	Barium	7440-39-3	142		1.17	0.0386	1
06947	Beryllium	7440-41-7	0.968	J	1.17	0.0784	1
07914	Boron	7440-42-8	11.2	J	11.7	0.982	1
06949	Cadmium	7440-43-9	0.494	J	1.17	0.0889	1
01650	Calcium	7440-70-2	10,300		23.4	3.91	1
06951	Chromium	7440-47-3	36.6		3.51	0.187	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-553-SA8-SB-9.0-10.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7179337
LL Group # 1415082
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/28/2013 07:30 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/29/2013 09:15
Reported: 09/17/2013 09:38

55309 SDG#: PH096-04

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals						
		SW-846 6010C	mg/kg	mg/kg	mg/kg	
06952	Cobalt	7440-48-4	10.6	1.17	0.116	1
06953	Copper	7440-50-8	16.5	2.34	0.339	1
01654	Iron	7439-89-6	34,400	234	21.2	5
06955	Lead	7439-92-1	10.7	3.51	0.585	1
01656	Lithium	7439-93-2	27.7	4.7	0.40	1
01657	Magnesium	7439-95-4	7,600	11.7	1.95	1
06958	Manganese	7439-96-5	455	1.17	0.0971	1
06960	Molybdenum	7439-98-7	2.34 U	2.34	0.199	1
06961	Nickel	7440-02-0	22.7	2.34	0.152	1
10145	Phosphorus	7723-14-0	235	11.7	3.38	1
01662	Potassium	7440-09-7	3,160	117	9.75	1
01667	Sodium	7440-23-5	227	117	19.5	1
06969	Tin	7440-31-5	3.75 J	11.7	0.257	1
06970	Titanium	7440-32-6	884	1.17	0.199	1
06971	Vanadium	7440-62-2	65.2	1.17	0.152	1
06972	Zinc	7440-66-6	69.0	4.68	0.234	1
10146	Zirconium	7440-67-7	3.61 J	5.85	0.982	1
		SW-846 6020A	mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	0.468 U	0.468	0.117	2
06142	Silver	7440-22-4	0.0526 J	0.234	0.0304	2
06144	Strontium	7440-24-6	55.4	0.468	0.0795	2
06145	Thallium	7440-28-0	0.356	0.234	0.0351	2
		SW-846 7471B	mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.0147 J	0.0184	0.0111	1
Wet Chemistry						
		SW-846 9045D modified	Std. Units	Std. Units	Std. Units	
00394	15a pH by 9045D The pH was measured in water at 21.8 C.	n.a.	7.93	0.0100	0.0100	1
Wet Chemistry						
		EPA 160.3 modified	%	%	%	
11624	14a Moisture Content by 160.3 Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.	n.a.	14.5	0.10	0.10	1

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

*=This limit was used in the evaluation of the final result

Sample Description: SL-553-SA8-SB-9.0-10.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7179337
LL Group # 1415082
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/28/2013 07:30 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/29/2013 09:15
Reported: 09/17/2013 09:38

55309 SDG#: PH096-04

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13243SLC026	09/05/2013 11:04	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	13243SLC026	09/03/2013 08:00	Joseph S Feister	1
05551	11a TPH by EPA 8015B GRO	TPH GRO SW-846 8015B mod	1	13242A16A	08/30/2013 23:19	Laura M Krieger	23.19
06130	GC - 5 g HL Encore Prep	SW-846 5035A	1	201324132216	08/29/2013 15:28	Mitchell R Washel	n.a.
06130	GC - 5 g HL Encore Prep	SW-846 5035A	2	201324132216	08/29/2013 15:28	Mitchell R Washel	n.a.
10401	21a Herbicides by EPA 8151A	SW-846 8151A	1	132460019A	09/06/2013 20:01	Elizabeth J Marin	1
10590	20a Pesticides by EPA 8081B	SW-846 8081B	1	132420008A	09/05/2013 14:11	Jamie L Brillhart	1
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132430008A	09/03/2013 20:14	Monica M Souders	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132430008A	09/02/2013 08:50	Karen L Beyer	1
10496	PPL Pest. Microwave Extraction	SW-846 3546	1	132420008A	09/01/2013 09:30	Katheryne V Sponheimer	1
04181	Herbicide Soil Extraction	SW-846 3550B/SW-846 8151A	1	132460019A	09/04/2013 10:00	Kelli M Barto	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132470022A	09/07/2013 00:25	Heather E Williams	1
12959	EPH soil ext. (microwave)	SW-846 3546	1	132470022A	09/05/2013 02:30	Sherry L Morrow	1
01643	Aluminum	SW-846 6010C	1	132420637001	09/04/2013 05:33	Tara L Snyder	1
06944	Antimony	SW-846 6010C	1	132420637001	09/04/2013 05:33	Tara L Snyder	1
06935	Arsenic	SW-846 6010C	1	132420637001	09/04/2013 05:33	Tara L Snyder	1
06946	Barium	SW-846 6010C	1	132420637001	09/04/2013 05:33	Tara L Snyder	1
06947	Beryllium	SW-846 6010C	1	132420637001	09/04/2013 05:33	Tara L Snyder	1
07914	Boron	SW-846 6010C	1	132420637001	09/04/2013 05:33	Tara L Snyder	1
06949	Cadmium	SW-846 6010C	1	132420637001	09/04/2013 05:33	Tara L Snyder	1
01650	Calcium	SW-846 6010C	1	132420637001	09/04/2013 05:33	Tara L Snyder	1
06951	Chromium	SW-846 6010C	1	132420637001	09/04/2013 05:33	Tara L Snyder	1
06952	Cobalt	SW-846 6010C	1	132420637001	09/04/2013 05:33	Tara L Snyder	1
06953	Copper	SW-846 6010C	1	132420637001	09/04/2013 05:33	Tara L Snyder	1
01654	Iron	SW-846 6010C	1	132420637001	09/04/2013 19:12	John P Hook	5
06955	Lead	SW-846 6010C	1	132420637001	09/04/2013 05:33	Tara L Snyder	1
01656	Lithium	SW-846 6010C	1	132420637001	09/04/2013 05:33	Tara L Snyder	1
01657	Magnesium	SW-846 6010C	1	132420637001	09/04/2013 05:33	Tara L Snyder	1
06958	Manganese	SW-846 6010C	1	132420637001	09/04/2013 05:33	Tara L Snyder	1
06960	Molybdenum	SW-846 6010C	1	132420637001	09/04/2013 05:33	Tara L Snyder	1
06961	Nickel	SW-846 6010C	1	132420637001	09/04/2013 05:33	Tara L Snyder	1
10145	Phosphorus	SW-846 6010C	1	132420637001	09/04/2013 05:33	Tara L Snyder	1
01662	Potassium	SW-846 6010C	1	132420637001	09/04/2013 05:33	Tara L Snyder	1
01667	Sodium	SW-846 6010C	1	132420637001	09/04/2013 05:33	Tara L Snyder	1
06969	Tin	SW-846 6010C	1	132420637001	09/04/2013 05:33	Tara L Snyder	1
06970	Titanium	SW-846 6010C	1	132420637001	09/04/2013 05:33	Tara L Snyder	1
06971	Vanadium	SW-846 6010C	1	132420637001	09/04/2013 05:33	Tara L Snyder	1
06972	Zinc	SW-846 6010C	1	132420637001	09/04/2013 05:33	Tara L Snyder	1
10146	Zirconium	SW-846 6010C	1	132420637001	09/04/2013 05:33	Tara L Snyder	1
06141	Selenium	SW-846 6020A	1	132420637001B	09/05/2013 00:51	David K Beck	2
06142	Silver	SW-846 6020A	1	132420637001A	09/05/2013 00:51	David K Beck	2
06144	Strontium	SW-846 6020A	1	132420637001A	09/05/2013 00:51	David K Beck	2

*=This limit was used in the evaluation of the final result

Sample Description: SL-553-SA8-SB-9.0-10.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7179337
LL Group # 1415082
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/28/2013 07:30 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/29/2013 09:15

Reported: 09/17/2013 09:38

55309 SDG#: PH096-04

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
06145	Thallium	SW-846 6020A	1	132420637001A	09/05/2013	00:51	David K Beck	2
00159	3a Mercury 7471A	SW-846 7471B	1	132420638001	09/04/2013	09:54	Damary Valentin	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132420637001	09/03/2013	10:15	Denise K Conners	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132420638001	09/03/2013	13:20	Denise K Conners	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13241039401A	08/29/2013	20:54	Clayton C Litchmore	1
11624	14a Moisture Content by 160.3	EPA 160.3 modified	1	13242162401B	08/31/2013	00:12	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-553-SA8-SB-14.0-15.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7179338
LL Group # 1415082
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/28/2013 07:40 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/29/2013 09:15
Reported: 09/17/2013 09:38

55314 SDG#: PH096-05

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	1.9 U	1.9	0.77	1
12969	Acenaphthylene	208-96-8	1.9 U	1.9	0.39	1
12969	Anthracene	120-12-7	1.9 U	1.9	0.39	1
12969	Benzo(a)anthracene	56-55-3	1.9 U	1.9	0.77	1
12969	Benzo(a)pyrene	50-32-8	1.9 U	1.9	0.77	1
12969	Benzo(b)fluoranthene	205-99-2	1.9 U	1.9	0.77	1
12969	Benzo(e)pyrene	192-97-2	20 U	20	3.9	1
12969	Benzo(g,h,i)perylene	191-24-2	1.9 U	1.9	0.77	1
12969	Benzo(k)fluoranthene	207-08-9	1.9 U	1.9	0.77	1
12969	Butylbenzylphthalate	85-68-7	21 U	21	6.9	1
12969	Di-n-butylphthalate	84-74-2	21 U	21	6.9	1
12969	Chrysene	218-01-9	1.9 U	1.9	0.39	1
12969	Dibenz(a,h)anthracene	53-70-3	1.9 U	1.9	0.77	1
12969	Diethylphthalate	84-66-2	21 U	21	6.9	1
12969	Dimethylphthalate	131-11-3	21 U	21	6.9	1
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	21 U	21	6.9	1
12969	Fluoranthene	206-44-0	1.9 U	1.9	0.77	1
12969	Fluorene	86-73-7	1.9 U	1.9	0.77	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	1.9 U	1.9	0.77	1
12969	1-Methylnaphthalene	90-12-0	1.9 U	1.9	0.77	1
12969	2-Methylnaphthalene	91-57-6	1.9 U	1.9	0.77	1
12969	Naphthalene	91-20-3	1.9 U	1.9	0.77	1
12969	N-Nitrosodimethylamine	62-75-9	1.9 U	1.9	0.77	1
12969	Di-n-octylphthalate	117-84-0	21 U	21	6.9	1
12969	Phenanthrene	85-01-8	1.9 U	1.9	0.77	1
12969	Pyrene	129-00-0	1.9 U	1.9	0.77	1
GC Volatiles	TPH GRO SW-846 8015B mod	mg/kg	mg/kg	mg/kg		
05551	11a TPH by EPA 8015B GRO	n.a.	1.1 U	1.1	0.2	24.41
Herbicides	SW-846 8151A	ug/kg	ug/kg	ug/kg		
10401	2,4-D	94-75-7	42 U	42	14	1
10401	Dalapon	75-99-0	100 U	100	51	1
10401	2,4-DB	94-82-6	20 U	20	7.2	1
10401	Dicamba	1918-00-9	14 U	14	4.6	1
10401	Dinoseb	88-85-7	28 U	28	10	1
The QC window for dinoseb is advisory due to the erratic performance of the analyte using this method.						
10401	2,4-DP (Dichlorprop)	120-36-5	20 U	20	10	1
10401	MCPA	94-74-6	2,900 U	2,900	880	1
10401	MCPP (Mecoprop)	93-65-2	2,900 U	2,900	870	1
10401	2,4,5-T	93-76-5	2.0 U	2.0	0.95	1
10401	2,4,5-TP	93-72-1	2.0 U	2.0	0.87	1
Pesticides/PCBs	SW-846 8081B	ug/kg	ug/kg	ug/kg		
10590	Aldrin	309-00-2	0.97 U	0.97	0.20	1
10590	Alpha BHC	319-84-6	0.97 U	0.97	0.20	1
10590	Beta BHC	319-85-7	2.2 U	2.2	1.1	1
10590	Gamma BHC - Lindane	58-89-9	0.97 U	0.97	0.20	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-553-SA8-SB-14.0-15.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7179338
LL Group # 1415082
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/28/2013 07:40 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/29/2013 09:15
Reported: 09/17/2013 09:38

55314 SDG#: PH096-05

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs SW-846 8081B							
10590	Chlordane	57-74-9	20	U	20	4.7	1
10590	p,p-DDD	72-54-8	2.0	U	2.0	0.38	1
10590	p,p-DDE	72-55-9	2.0	U	2.0	0.38	1
10590	p,p-DDT	50-29-3	2.0	U	2.0	0.41	1
10590	Delta BHC	319-86-8	0.97	U	0.97	0.52	1
10590	Dieldrin	60-57-1	2.0	U	2.0	0.38	1
10590	Endosulfan I	959-98-8	0.97	U	0.97	0.26	1
10590	Endosulfan II	33213-65-9	2.0	U	2.0	0.38	1
10590	Endosulfan Sulfate	1031-07-8	2.0	U	2.0	0.38	1
10590	Endrin	72-20-8	2.0	U	2.0	0.38	1
10590	Endrin Aldehyde	7421-93-4	2.0	U	2.0	0.38	1
10590	Endrin Ketone	53494-70-5	2.1	U	2.1	0.70	1
10590	Heptachlor	76-44-8	0.97	U	0.97	0.20	1
10590	Heptachlor Epoxide	1024-57-3	0.97	U	0.97	0.20	1
10590	Methoxychlor	72-43-5	7.8	U	7.8	2.0	1
10590	Mirex	2385-85-5	2.0	U	2.0	0.41	1
10590	Toxaphene	8001-35-2	38	U	38	16	1
Pesticides/PCBs SW-846 8082A							
10592	Aroclor 5432	63496-31-1	38	U	38	12	1
10592	Aroclor 5442	12642-23-8	38	U	38	12	1
10592	Aroclor 5460	11126-42-4	38	U	38	12	1
10592	PCB-1016	12674-11-2	20	U	20	3.8	1
10592	PCB-1221	11104-28-2	20	U	20	5.9	1
10592	PCB-1232	11141-16-5	20	U	20	4.7	1
10592	PCB-1242	53469-21-9	20	U	20	4.7	1
10592	PCB-1248	12672-29-6	20	U	20	3.8	1
10592	PCB-1254	11097-69-1	20	U	20	5.1	1
10592	PCB-1260	11096-82-5	20	U	20	4.5	1
10592	PCB-1262	37324-23-5	20	U	20	3.8	1
10592	PCB-1268	11100-14-4	20	U	20	3.8	1
GC Petroleum SW-846 8015B modified							
Hydrocarbons							
12952	EFH (C12-C14)	n.a.	5.8	U	5.8	2.3	1
12952	EFH (C15-C20)	n.a.	5.8	U	5.8	2.3	1
12952	EFH (C21-C30)	n.a.	5.8	U	5.8	2.3	1
12952	EFH (C30-C40)	n.a.	12	U	12	4.7	1
12952	EFH (C8-C11)	n.a.	5.8	U	5.8	2.3	1
Metals SW-846 6010C							
01643	Aluminum	7429-90-5	13,600		45.3	8.16	1
06944	Antimony	7440-36-0	0.859	J	4.53	0.837	1
06935	Arsenic	7440-38-2	2.92	J	4.53	0.792	1
06946	Barium	7440-39-3	105		1.13	0.0373	1
06947	Beryllium	7440-41-7	0.388	J	1.13	0.0758	1
07914	Boron	7440-42-8	6.86	J	11.3	0.951	1
06949	Cadmium	7440-43-9	0.618	J	1.13	0.0860	1
01650	Calcium	7440-70-2	233,000		113	18.9	5
06951	Chromium	7440-47-3	16.6		3.39	0.181	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-553-SA8-SB-14.0-15.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7179338
LL Group # 1415082
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/28/2013 07:40 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/29/2013 09:15
Reported: 09/17/2013 09:38

55314 SDG#: PH096-05

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals						
		SW-846 6010C	mg/kg	mg/kg	mg/kg	
06952	Cobalt	7440-48-4	2.13	1.13	0.112	1
06953	Copper	7440-50-8	5.19	2.26	0.328	1
01654	Iron	7439-89-6	13,000	45.3	4.10	1
06955	Lead	7439-92-1	4.71	3.39	0.566	1
01656	Lithium	7439-93-2	14.5	4.5	0.38	1
01657	Magnesium	7439-95-4	4,710	11.3	1.89	1
06958	Manganese	7439-96-5	90.2	1.13	0.0939	1
06960	Molybdenum	7439-98-7	2.26 U	2.26	0.192	1
06961	Nickel	7440-02-0	7.05	2.26	0.147	1
10145	Phosphorus	7723-14-0	291	11.3	3.27	1
01662	Potassium	7440-09-7	1,210	113	9.44	1
01667	Sodium	7440-23-5	239	113	18.9	1
06969	Tin	7440-31-5	2.83 J	11.3	0.249	1
06970	Titanium	7440-32-6	643	1.13	0.192	1
06971	Vanadium	7440-62-2	28.2	1.13	0.147	1
06972	Zinc	7440-66-6	29.2	4.53	0.226	1
10146	Zirconium	7440-67-7	3.22 J	5.66	0.951	1
SW-846 6020A						
			mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	0.453 U	0.453	0.113	2
06142	Silver	7440-22-4	0.0489 J	0.226	0.0294	2
06144	Strontium	7440-24-6	395	2.26	0.385	10
06145	Thallium	7440-28-0	0.129 J	0.226	0.0339	2
SW-846 7471B						
			mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.0182 U	0.0182	0.0109	1
Wet Chemistry						
		SW-846 9045D modified	Std. Units	Std. Units	Std. Units	
00394	15a pH by 9045D The pH was measured in water at 21.7 C.	n.a.	8.47	0.0100	0.0100	1
Wet Chemistry						
		EPA 160.3 modified	%	%	%	
11624	14a Moisture Content by 160.3 Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.	n.a.	14.2	0.10	0.10	1

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

*=This limit was used in the evaluation of the final result

Sample Description: SL-553-SA8-SB-14.0-15.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7179338
LL Group # 1415082
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/28/2013 07:40 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/29/2013 09:15
Reported: 09/17/2013 09:38

55314 SDG#: PH096-05

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13243SLC026	09/05/2013 11:36	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	13243SLC026	09/03/2013 08:00	Joseph S Feister	1
05551	11a TPH by EPA 8015B GRO	TPH GRO SW-846 8015B mod	1	13242A16A	08/30/2013 23:57	Laura M Krieger	24.41
06130	GC - 5 g HL Encore Prep	SW-846 5035A	1	201324132216	08/29/2013 15:30	Mitchell R Washel	n.a.
06130	GC - 5 g HL Encore Prep	SW-846 5035A	2	201324132216	08/29/2013 15:30	Mitchell R Washel	n.a.
10401	21a Herbicides by EPA 8151A	SW-846 8151A	1	132460019A	09/06/2013 20:28	Elizabeth J Marin	1
10590	20a Pesticides by EPA 8081B	SW-846 8081B	1	132420008A	09/05/2013 14:26	Jamie L Brillhart	1
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132430008A	09/03/2013 20:32	Monica M Souders	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132430008A	09/02/2013 08:50	Karen L Beyer	1
10496	PPL Pest. Microwave Extraction	SW-846 3546	1	132420008A	09/01/2013 09:30	Katheryne V Sponheimer	1
04181	Herbicide Soil Extraction	SW-846 3550B/SW-846 8151A	1	132460019A	09/04/2013 10:00	Kelli M Barto	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132470022A	09/07/2013 00:46	Heather E Williams	1
12959	EPH soil ext. (microwave)	SW-846 3546	1	132470022A	09/05/2013 02:30	Sherry L Morrow	1
01643	Aluminum	SW-846 6010C	1	132420637001	09/04/2013 05:37	Tara L Snyder	1
06944	Antimony	SW-846 6010C	1	132420637001	09/04/2013 05:37	Tara L Snyder	1
06935	Arsenic	SW-846 6010C	1	132420637001	09/04/2013 05:37	Tara L Snyder	1
06946	Barium	SW-846 6010C	1	132420637001	09/04/2013 05:37	Tara L Snyder	1
06947	Beryllium	SW-846 6010C	1	132420637001	09/04/2013 05:37	Tara L Snyder	1
07914	Boron	SW-846 6010C	1	132420637001	09/04/2013 05:37	Tara L Snyder	1
06949	Cadmium	SW-846 6010C	1	132420637001	09/04/2013 05:37	Tara L Snyder	1
01650	Calcium	SW-846 6010C	1	132420637001	09/04/2013 19:16	John P Hook	5
06951	Chromium	SW-846 6010C	1	132420637001	09/04/2013 05:37	Tara L Snyder	1
06952	Cobalt	SW-846 6010C	1	132420637001	09/04/2013 05:37	Tara L Snyder	1
06953	Copper	SW-846 6010C	1	132420637001	09/04/2013 05:37	Tara L Snyder	1
01654	Iron	SW-846 6010C	1	132420637001	09/04/2013 05:37	Tara L Snyder	1
06955	Lead	SW-846 6010C	1	132420637001	09/04/2013 05:37	Tara L Snyder	1
01656	Lithium	SW-846 6010C	1	132420637001	09/04/2013 05:37	Tara L Snyder	1
01657	Magnesium	SW-846 6010C	1	132420637001	09/04/2013 05:37	Tara L Snyder	1
06958	Manganese	SW-846 6010C	1	132420637001	09/04/2013 05:37	Tara L Snyder	1
06960	Molybdenum	SW-846 6010C	1	132420637001	09/04/2013 05:37	Tara L Snyder	1
06961	Nickel	SW-846 6010C	1	132420637001	09/04/2013 05:37	Tara L Snyder	1
10145	Phosphorus	SW-846 6010C	1	132420637001	09/04/2013 05:37	Tara L Snyder	1
01662	Potassium	SW-846 6010C	1	132420637001	09/04/2013 05:37	Tara L Snyder	1
01667	Sodium	SW-846 6010C	1	132420637001	09/04/2013 05:37	Tara L Snyder	1
06969	Tin	SW-846 6010C	1	132420637001	09/04/2013 05:37	Tara L Snyder	1
06970	Titanium	SW-846 6010C	1	132420637001	09/04/2013 05:37	Tara L Snyder	1
06971	Vanadium	SW-846 6010C	1	132420637001	09/04/2013 05:37	Tara L Snyder	1
06972	Zinc	SW-846 6010C	1	132420637001	09/04/2013 05:37	Tara L Snyder	1
10146	Zirconium	SW-846 6010C	1	132420637001	09/04/2013 05:37	Tara L Snyder	1
06141	Selenium	SW-846 6020A	1	132420637001B	09/05/2013 00:53	David K Beck	2
06142	Silver	SW-846 6020A	1	132420637001A	09/05/2013 00:53	David K Beck	2
06144	Strontium	SW-846 6020A	1	132420637001A	09/10/2013 21:22	David K Beck	10

*=This limit was used in the evaluation of the final result

Sample Description: SL-553-SA8-SB-14.0-15.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7179338
LL Group # 1415082
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/28/2013 07:40 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/29/2013 09:15

Reported: 09/17/2013 09:38

55314 SDG#: PH096-05

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
06145	Thallium	SW-846 6020A	1	132420637001A	09/05/2013	00:53	David K Beck	2
00159	3a Mercury 7471A	SW-846 7471B	1	132420638001	09/04/2013	09:56	Damary Valentin	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132420637001	09/03/2013	10:15	Denise K Conners	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132420638001	09/03/2013	13:20	Denise K Conners	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13241039401A	08/29/2013	20:54	Clayton C Litchmore	1
11624	14a Moisture Content by 160.3	EPA 160.3 modified	1	13242162401B	08/31/2013	00:12	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-553-SA8-SB-18.0-19.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7179339
LL Group # 1415082
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/28/2013 07:50 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/29/2013 09:15
Reported: 09/17/2013 09:38

55318 SDG#: PH096-06*

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	1.8 U	1.8	0.72	1
12969	Acenaphthylene	208-96-8	1.8 U	1.8	0.36	1
12969	Anthracene	120-12-7	1.8 U	1.8	0.36	1
12969	Benzo(a)anthracene	56-55-3	1.8 U	1.8	0.72	1
12969	Benzo(a)pyrene	50-32-8	1.8 U	1.8	0.72	1
12969	Benzo(b)fluoranthene	205-99-2	1.8 U	1.8	0.72	1
12969	Benzo(e)pyrene	192-97-2	18 U	18	3.6	1
12969	Benzo(g,h,i)perylene	191-24-2	1.8 U	1.8	0.72	1
12969	Benzo(k)fluoranthene	207-08-9	1.8 U	1.8	0.72	1
12969	Butylbenzylphthalate	85-68-7	20 U	20	6.5	1
12969	Di-n-butylphthalate	84-74-2	20 U	20	6.5	1
12969	Chrysene	218-01-9	1.8 U	1.8	0.36	1
12969	Dibenz(a,h)anthracene	53-70-3	1.8 U	1.8	0.72	1
12969	Diethylphthalate	84-66-2	20 U	20	6.5	1
12969	Dimethylphthalate	131-11-3	20 U	20	6.5	1
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	20 U	20	6.5	1
12969	Fluoranthene	206-44-0	1.8 U	1.8	0.72	1
12969	Fluorene	86-73-7	1.8 U	1.8	0.72	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	1.8 U	1.8	0.72	1
12969	1-Methylnaphthalene	90-12-0	1.8 U	1.8	0.72	1
12969	2-Methylnaphthalene	91-57-6	1.8 U	1.8	0.72	1
12969	Naphthalene	91-20-3	1.8 U	1.8	0.72	1
12969	N-Nitrosodimethylamine	62-75-9	1.8 U	1.8	0.72	1
12969	Di-n-octylphthalate	117-84-0	20 U	20	6.5	1
12969	Phenanthrene	85-01-8	1.8 U	1.8	0.72	1
12969	Pyrene	129-00-0	1.8 U	1.8	0.72	1
GC Volatiles	TPH GRO SW-846 8015B mod	mg/kg	mg/kg	mg/kg		
05551	11a TPH by EPA 8015B GRO	n.a.	1.1 U	1.1	0.2	24.7
Herbicides	SW-846 8151A	ug/kg	ug/kg	ug/kg		
10401	2,4-D	94-75-7	39 U	39	13	1
10401	Dalapon	75-99-0	97 U	97	48	1
10401	2,4-DB	94-82-6	18 U	18	6.7	1
10401	Dicamba	1918-00-9	13 U	13	4.3	1
10401	Dinoseb	88-85-7	26 U	26	9.7	1
The QC window for dinoseb is advisory due to the erratic performance of the analyte using this method.						
10401	2,4-DP (Dichlorprop)	120-36-5	18 U	18	9.7	1
10401	MCPA	94-74-6	2,700 U	2,700	820	1
10401	MCPP (Mecoprop)	93-65-2	2,700 U	2,700	810	1
10401	2,4,5-T	93-76-5	1.8 U	1.8	0.89	1
10401	2,4,5-TP	93-72-1	1.8 U	1.8	0.81	1
Pesticides/PCBs	SW-846 8081B	ug/kg	ug/kg	ug/kg		
10590	Aldrin	309-00-2	0.89 U	0.89	0.18	1
10590	Alpha BHC	319-84-6	0.89 U	0.89	0.18	1
10590	Beta BHC	319-85-7	2.0 U	2.0	1.0	1
10590	Gamma BHC - Lindane	58-89-9	0.89 U	0.89	0.18	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-553-SA8-SB-18.0-19.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7179339
LL Group # 1415082
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/28/2013 07:50 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/29/2013 09:15
Reported: 09/17/2013 09:38

55318 SDG#: PH096-06*

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs SW-846 8081B							
10590	Chlordane	57-74-9	18	U	18	4.3	1
10590	p,p-DDD	72-54-8	1.8	U	1.8	0.36	1
10590	p,p-DDE	72-55-9	1.8	U	1.8	0.36	1
10590	p,p-DDT	50-29-3	1.8	U	1.8	0.38	1
10590	Delta BHC	319-86-8	0.89	U	0.89	0.48	1
10590	Dieldrin	60-57-1	1.8	U	1.8	0.36	1
10590	Endosulfan I	959-98-8	0.89	U	0.89	0.24	1
10590	Endosulfan II	33213-65-9	1.8	U	1.8	0.36	1
10590	Endosulfan Sulfate	1031-07-8	1.8	U	1.8	0.36	1
10590	Endrin	72-20-8	1.8	U	1.8	0.36	1
10590	Endrin Aldehyde	7421-93-4	1.8	U	1.8	0.36	1
10590	Endrin Ketone	53494-70-5	1.9	U	1.9	0.65	1
10590	Heptachlor	76-44-8	0.89	U	0.89	0.18	1
10590	Heptachlor Epoxide	1024-57-3	0.89	U	0.89	0.18	1
10590	Methoxychlor	72-43-5	7.2	U	7.2	1.8	1
10590	Mirex	2385-85-5	1.8	U	1.8	0.38	1
10590	Toxaphene	8001-35-2	36	U	36	15	1
Pesticides/PCBs SW-846 8082A							
10592	Aroclor 5432	63496-31-1	35	U	35	11	1
10592	Aroclor 5442	12642-23-8	35	U	35	11	1
10592	Aroclor 5460	11126-42-4	35	U	35	11	1
10592	PCB-1016	12674-11-2	18	U	18	3.5	1
10592	PCB-1221	11104-28-2	18	U	18	5.5	1
10592	PCB-1232	11141-16-5	18	U	18	4.4	1
10592	PCB-1242	53469-21-9	18	U	18	4.4	1
10592	PCB-1248	12672-29-6	18	U	18	3.5	1
10592	PCB-1254	11097-69-1	18	U	18	4.7	1
10592	PCB-1260	11096-82-5	18	U	18	4.2	1
10592	PCB-1262	37324-23-5	18	U	18	3.5	1
10592	PCB-1268	11100-14-4	18	U	18	3.5	1
GC Petroleum SW-846 8015B modified							
Hydrocarbons							
12952	EFH (C12-C14)	n.a.	5.4	U	5.4	2.2	1
12952	EFH (C15-C20)	n.a.	5.4	U	5.4	2.2	1
12952	EFH (C21-C30)	n.a.	5.4	U	5.4	2.2	1
12952	EFH (C30-C40)	n.a.	11	U	11	4.3	1
12952	EFH (C8-C11)	n.a.	5.4	U	5.4	2.2	1
Metals SW-846 6010C							
01643	Aluminum	7429-90-5	13,400		42.5	7.66	1
06944	Antimony	7440-36-0	1.03	J	4.25	0.786	1
06935	Arsenic	7440-38-2	5.22		4.25	0.744	1
06946	Barium	7440-39-3	90.3		1.06	0.0351	1
06947	Beryllium	7440-41-7	0.444	J	1.06	0.0712	1
07914	Boron	7440-42-8	5.89	J	10.6	0.892	1
06949	Cadmium	7440-43-9	0.498	J	1.06	0.0807	1
01650	Calcium	7440-70-2	40,200		21.2	3.55	1
06951	Chromium	7440-47-3	20.5		3.19	0.170	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-553-SA8-SB-18.0-19.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7179339
LL Group # 1415082
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/28/2013 07:50 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/29/2013 09:15
Reported: 09/17/2013 09:38

55318 SDG#: PH096-06*

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals						
		SW-846 6010C	mg/kg	mg/kg	mg/kg	
06952	Cobalt	7440-48-4	5.44	1.06	0.105	1
06953	Copper	7440-50-8	9.86	2.12	0.308	1
01654	Iron	7439-89-6	22,400	42.5	3.85	1
06955	Lead	7439-92-1	4.61	3.19	0.531	1
01656	Lithium	7439-93-2	27.3	4.2	0.36	1
01657	Magnesium	7439-95-4	5,630	10.6	1.77	1
06958	Manganese	7439-96-5	290	1.06	0.0882	1
06960	Molybdenum	7439-98-7	2.12 U	2.12	0.181	1
06961	Nickel	7440-02-0	12.3	2.12	0.138	1
10145	Phosphorus	7723-14-0	636	10.6	3.07	1
01662	Potassium	7440-09-7	3,140	106	8.86	1
01667	Sodium	7440-23-5	331	106	17.7	1
06969	Tin	7440-31-5	3.36 J	10.6	0.234	1
06970	Titanium	7440-32-6	1,440	1.06	0.181	1
06971	Vanadium	7440-62-2	42.3	1.06	0.138	1
06972	Zinc	7440-66-6	59.8	4.25	0.212	1
10146	Zirconium	7440-67-7	3.01 J	5.31	0.892	1
		SW-846 6020A	mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	0.425 U	0.425	0.106	2
06142	Silver	7440-22-4	0.212 U	0.212	0.0276	2
06144	Strontium	7440-24-6	90.3	0.425	0.0722	2
06145	Thallium	7440-28-0	0.230	0.212	0.0319	2
		SW-846 7471B	mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.0168 U	0.0168	0.0101	1
Wet Chemistry						
		SW-846 9045D modified	Std. Units	Std. Units	Std. Units	
00394	15a pH by 9045D The pH was measured in water at 21.9 C.	n.a.	8.71	0.0100	0.0100	1
Wet Chemistry						
		EPA 160.3 modified	%	%	%	
11624	14a Moisture Content by 160.3 Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.	n.a.	7.7	0.10	0.10	1

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

*=This limit was used in the evaluation of the final result

Sample Description: SL-553-SA8-SB-18.0-19.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7179339
LL Group # 1415082
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/28/2013 07:50 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/29/2013 09:15
Reported: 09/17/2013 09:38

55318 SDG#: PH096-06*

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13243SLC026	09/05/2013 12:09	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	13243SLC026	09/03/2013 08:00	Joseph S Feister	1
05551	11a TPH by EPA 8015B GRO	TPH GRO SW-846 8015B mod	1	13242A16A	08/31/2013 03:08	Laura M Krieger	24.7
06130	GC - 5 g HL Encore Prep	SW-846 5035A	1	201324132216	08/29/2013 15:31	Mitchell R Washel	n.a.
06130	GC - 5 g HL Encore Prep	SW-846 5035A	2	201324132216	08/29/2013 15:31	Mitchell R Washel	n.a.
10401	21a Herbicides by EPA 8151A	SW-846 8151A	1	132460019A	09/06/2013 20:55	Elizabeth J Marin	1
10590	20a Pesticides by EPA 8081B	SW-846 8081B	1	132420008A	09/05/2013 14:41	Jamie L Brillhart	1
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132430008A	09/03/2013 20:51	Monica M Souders	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132430008A	09/02/2013 08:50	Karen L Beyer	1
10496	PPL Pest. Microwave Extraction	SW-846 3546	1	132420008A	09/01/2013 09:30	Katheryne V Sponheimer	1
04181	Herbicide Soil Extraction	SW-846 3550B/SW-846 8151A	1	132460019A	09/04/2013 10:00	Kelli M Barto	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132470022A	09/07/2013 01:08	Heather E Williams	1
12959	EPH soil ext. (microwave)	SW-846 3546	1	132470022A	09/05/2013 02:30	Sherry L Morrow	1
01643	Aluminum	SW-846 6010C	1	132420637001	09/04/2013 05:41	Tara L Snyder	1
06944	Antimony	SW-846 6010C	1	132420637001	09/04/2013 05:41	Tara L Snyder	1
06935	Arsenic	SW-846 6010C	1	132420637001	09/04/2013 05:41	Tara L Snyder	1
06946	Barium	SW-846 6010C	1	132420637001	09/04/2013 05:41	Tara L Snyder	1
06947	Beryllium	SW-846 6010C	1	132420637001	09/04/2013 05:41	Tara L Snyder	1
07914	Boron	SW-846 6010C	1	132420637001	09/04/2013 05:41	Tara L Snyder	1
06949	Cadmium	SW-846 6010C	1	132420637001	09/04/2013 05:41	Tara L Snyder	1
01650	Calcium	SW-846 6010C	1	132420637001	09/04/2013 05:41	Tara L Snyder	1
06951	Chromium	SW-846 6010C	1	132420637001	09/04/2013 05:41	Tara L Snyder	1
06952	Cobalt	SW-846 6010C	1	132420637001	09/04/2013 05:41	Tara L Snyder	1
06953	Copper	SW-846 6010C	1	132420637001	09/04/2013 05:41	Tara L Snyder	1
01654	Iron	SW-846 6010C	1	132420637001	09/04/2013 05:41	Tara L Snyder	1
06955	Lead	SW-846 6010C	1	132420637001	09/04/2013 05:41	Tara L Snyder	1
01656	Lithium	SW-846 6010C	1	132420637001	09/04/2013 05:41	Tara L Snyder	1
01657	Magnesium	SW-846 6010C	1	132420637001	09/04/2013 05:41	Tara L Snyder	1
06958	Manganese	SW-846 6010C	1	132420637001	09/04/2013 05:41	Tara L Snyder	1
06960	Molybdenum	SW-846 6010C	1	132420637001	09/04/2013 05:41	Tara L Snyder	1
06961	Nickel	SW-846 6010C	1	132420637001	09/04/2013 05:41	Tara L Snyder	1
10145	Phosphorus	SW-846 6010C	1	132420637001	09/04/2013 05:41	Tara L Snyder	1
01662	Potassium	SW-846 6010C	1	132420637001	09/04/2013 05:41	Tara L Snyder	1
01667	Sodium	SW-846 6010C	1	132420637001	09/04/2013 05:41	Tara L Snyder	1
06969	Tin	SW-846 6010C	1	132420637001	09/04/2013 05:41	Tara L Snyder	1
06970	Titanium	SW-846 6010C	1	132420637001	09/04/2013 05:41	Tara L Snyder	1
06971	Vanadium	SW-846 6010C	1	132420637001	09/04/2013 05:41	Tara L Snyder	1
06972	Zinc	SW-846 6010C	1	132420637001	09/04/2013 05:41	Tara L Snyder	1
10146	Zirconium	SW-846 6010C	1	132420637001	09/04/2013 05:41	Tara L Snyder	1
06141	Selenium	SW-846 6020A	1	132420637001B	09/05/2013 00:55	David K Beck	2
06142	Silver	SW-846 6020A	1	132420637001A	09/05/2013 00:55	David K Beck	2
06144	Strontium	SW-846 6020A	1	132420637001A	09/05/2013 00:55	David K Beck	2

*=This limit was used in the evaluation of the final result

Sample Description: SL-553-SA8-SB-18.0-19.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7179339
LL Group # 1415082
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/28/2013 07:50 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/29/2013 09:15

Reported: 09/17/2013 09:38

55318 SDG#: PH096-06*

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
06145	Thallium	SW-846 6020A	1	132420637001A	09/05/2013	00:55	David K Beck	2
00159	3a Mercury 7471A	SW-846 7471B	1	132420638001	09/04/2013	10:02	Damary Valentin	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132420637001	09/03/2013	10:15	Denise K Conners	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132420638001	09/03/2013	13:20	Denise K Conners	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13241039401A	08/29/2013	20:54	Clayton C Litchmore	1
11624	14a Moisture Content by 160.3	EPA 160.3 modified	1	13242162401B	08/31/2013	00:12	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 09/17/13 at 09:38 AM

Group Number: 1415082

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ**</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 13243SLC026 Sample number(s): 7179337-7179339									
Acenaphthene	1.7	U	1.7	0.67 ug/kg	93		77-116		
Acenaphthylene	1.7	U	1.7	0.33 ug/kg	92		78-120		
Anthracene	1.7	U	1.7	0.33 ug/kg	96		80-116		
Benzo(a)anthracene	1.7	U	1.7	0.67 ug/kg	103		83-119		
Benzo(a)pyrene	1.7	U	1.7	0.67 ug/kg	104		80-122		
Benzo(b)fluoranthene	1.7	U	1.7	0.67 ug/kg	123		82-135		
Benzo(e)pyrene	17	U	17.	3.3 ug/kg	97		81-110		
Benzo(g,h,i)perylene	1.7	U	1.7	0.67 ug/kg	102		79-121		
Benzo(k)fluoranthene	1.7	U	1.7	0.67 ug/kg	100		79-123		
Butylbenzylphthalate	18	U	18.	6.0 ug/kg	119		77-123		
Di-n-butylphthalate	18	U	18.	6.0 ug/kg	104		78-125		
Chrysene	1.7	U	1.7	0.33 ug/kg	100		84-113		
Dibenz(a,h)anthracene	1.7	U	1.7	0.67 ug/kg	99		78-124		
Diethylphthalate	18	U	18.	6.0 ug/kg	98		77-130		
Dimethylphthalate	18	U	18.	6.0 ug/kg	93		85-122		
Bis(2-Ethylhexyl)phthalate	18	U	18.	6.0 ug/kg	108		79-121		
Fluoranthene	1.7	U	1.7	0.67 ug/kg	96		85-116		
Fluorene	1.7	U	1.7	0.67 ug/kg	96		81-126		
Indeno(1,2,3-cd)pyrene	1.7	U	1.7	0.67 ug/kg	101		77-124		
1-Methylnaphthalene	1.7	U	1.7	0.67 ug/kg	99		78-119		
2-Methylnaphthalene	1.7	U	1.7	0.67 ug/kg	95		78-121		
Naphthalene	1.7	U	1.7	0.67 ug/kg	92		79-113		
N-Nitrosodimethylamine	1.7	U	1.7	0.67 ug/kg	82		71-124		
Di-n-octylphthalate	18	U	18.	6.0 ug/kg	116		76-131		
Phenanthrene	1.7	U	1.7	0.67 ug/kg	92		72-110		
Pyrene	1.7	U	1.7	0.67 ug/kg	98		79-112		
Batch number: 13243WAJ026 Sample number(s): 7179334-7179335									
Acenaphthene	0.050	U	0.050	0.010 ug/l	90	91	77-118	1	30
Acenaphthylene	0.050	U	0.050	0.010 ug/l	96	98	80-123	2	30
Anthracene	0.050	U	0.050	0.010 ug/l	89	95	78-123	6	30
Benzo(a)anthracene	0.050	U	0.050	0.010 ug/l	86	89	73-127	3	30
Benzo(a)pyrene	0.050	U	0.050	0.010 ug/l	82	96	72-120	17	30
Benzo(b)fluoranthene	0.050	U	0.050	0.010 ug/l	93	98	79-136	5	30
Benzo(e)pyrene	0.050	U	0.050	0.010 ug/l	75	77	70-130	3	30
Benzo(g,h,i)perylene	0.050	U	0.050	0.010 ug/l	86	96	64-130	11	30
Benzo(k)fluoranthene	0.050	U	0.050	0.010 ug/l	87	89	73-131	3	30
Butylbenzylphthalate	1.0	U	1.0	0.050 ug/l	74	71	40-138	5	30
Di-n-butylphthalate	0.11	J	1.0	0.050 ug/l	105	95	64-141	10	30
Chrysene	0.050	U	0.050	0.010 ug/l	95	95	76-125	1	30
Dibenz(a,h)anthracene	0.050	U	0.050	0.010 ug/l	88	91	58-131	3	30
Diethylphthalate	1.0	U	1.0	0.050 ug/l	92	90	64-128	3	30
Dimethylphthalate	1.0	U	1.0	0.050 ug/l	87	82	23-139	6	30

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

- (1) The result for one or both determinations was less than five times the LOQ / MRL.
- (2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 09/17/13 at 09:38 AM

Group Number: 1415082

Analysis Name	Blank Result	Blank LOQ**	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Bis (2-Ethylhexyl) phthalate	0.061 J	1.0	0.050	ug/l	76	74	70-143	3	30
Fluoranthene	0.050 U	0.050	0.010	ug/l	92	95	79-124	4	30
Fluorene	0.050 U	0.050	0.010	ug/l	94	96	74-115	2	30
Indeno (1,2,3-cd) pyrene	0.050 U	0.050	0.010	ug/l	87	89	62-130	3	30
1-Methylnaphthalene	0.050 U	0.050	0.010	ug/l	104	105	80-126	2	30
2-Methylnaphthalene	0.050 U	0.050	0.010	ug/l	105	107	81-124	2	30
Naphthalene	0.050 U	0.050	0.030	ug/l	106	93	75-120	13	30
N-Nitrosodimethylamine	0.050 U	0.050	0.010	ug/l	65	64	36-120	1	30
Di-n-octylphthalate	1.0 U	1.0	0.050	ug/l	63	61	57-145	3	30
Phenanthrene	0.050 U	0.050	0.030	ug/l	87	90	75-120	4	30
Pyrene	0.050 U	0.050	0.010	ug/l	92	92	71-130	0	30
Batch number: 13242A16A Sample number(s): 7179337-7179339									
11a TPH by EPA 8015B GRO	1.0 U	1.0	0.2	mg/kg	76		67-119		
Batch number: 13242A20A Sample number(s): 7179334,7179336									
TPH-GRO S.CA water C5-C12	50 U	50.	20	ug/l	99	97	75-135	2	30
Batch number: 132460019A Sample number(s): 7179337-7179339									
2,4-D	36 U	36.	12	ug/kg	104		59-122		
Dalapon	90 U	90.	44	ug/kg	49		25-100		
2,4-DB	17 U	17.	6.2	ug/kg	137*		54-131		
Dicamba	12 U	12.	4.0	ug/kg	94		60-123		
Dinoseb	24 U	24.	9.0	ug/kg	19		10-36		
2,4-DP (Dichlorprop)	17 U	17.	9.0	ug/kg	114		65-158		
MCPA	2,500 U	2,500.	760	ug/kg	88		60-127		
MCPP (Mecoprop)	2,500 U	2,500.	750	ug/kg	87		54-134		
2,4,5-T	1.7 U	1.7	0.82	ug/kg	114		58-135		
2,4,5-TP	1.7 U	1.7	0.75	ug/kg	113		63-130		
Batch number: 132470014A Sample number(s): 7179334									
2,4-D	0.50 U	0.50	0.16	ug/l	114	112	68-155	2	30
Dalapon	1.3 U	1.3	0.25	ug/l	62	69	39-115	10	30
2,4-DB	1.0 U	1.0	0.30	ug/l	128	142	50-163	10	30
Dicamba	0.30 U	0.30	0.080	ug/l	92	105	55-163	13	30
Dinoseb	0.50 U	0.50	0.12	ug/l	133	137	16-163	3	30
2,4-DP (Dichlorprop)	0.50 U	0.50	0.16	ug/l	122	128	89-162	5	30
MCPA	200 U	200.	50	ug/l	92	98	68-154	6	30
MCPP	200 U	200.	50	ug/l	89	98	46-173	10	30
2,4,5-T	0.050 U	0.050	0.015	ug/l	108	114	55-169	5	30
2,4,5-TP	0.050 U	0.050	0.010	ug/l	106	111	58-155	5	30
Batch number: 132420008A Sample number(s): 7179337-7179339									
Aldrin	0.83 U	0.83	0.17	ug/kg	81		73-119		
Alpha BHC	0.83 U	0.83	0.17	ug/kg	100		72-126		
Beta BHC	1.9 U	1.9	0.96	ug/kg	92		76-123		
Gamma BHC - Lindane	0.83 U	0.83	0.17	ug/kg	97		72-128		
Chlordane	17 U	17.	4.0	ug/kg					
p,p-DDD	1.7 U	1.7	0.33	ug/kg	109		76-138		
p,p-DDE	1.7 U	1.7	0.33	ug/kg	92		76-126		
p,p-DDT	1.7 U	1.7	0.35	ug/kg	104		72-131		
Delta BHC	0.83 U	0.83	0.45	ug/kg	89		73-128		

*- Outside of specification

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- (1) The result for one or both determinations was less than five times the LOQ / MRL.
- (2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 09/17/13 at 09:38 AM

Group Number: 1415082

Analysis Name	Blank Result	Blank LOQ**	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Dieldrin	1.7 U	1.7	0.33	ug/kg	111		78-135		
Endosulfan I	0.83 U	0.83	0.22	ug/kg	106		62-125		
Endosulfan II	1.7 U	1.7	0.33	ug/kg	95		68-128		
Endosulfan Sulfate	1.7 U	1.7	0.33	ug/kg	92		72-138		
Endrin	1.7 U	1.7	0.33	ug/kg	99		75-130		
Endrin Aldehyde	1.7 U	1.7	0.33	ug/kg	88		55-132		
Endrin Ketone	1.8 U	1.8	0.60	ug/kg	92		74-127		
Heptachlor	0.83 U	0.83	0.17	ug/kg	98		69-125		
Heptachlor Epoxide	0.83 U	0.83	0.17	ug/kg	90		78-125		
Methoxychlor	6.7 U	6.7	1.7	ug/kg	97		59-125		
Mirex	1.7 U	1.7	0.35	ug/kg					
Toxaphene	33 U	33.	14	ug/kg					

Batch number: 132430008A

Sample number(s): 7179337-7179339

Aroclor 5432	33 U	33.	10	ug/kg					
Aroclor 5442	33 U	33.	10	ug/kg	83	78	36-106	7	30
Aroclor 5460	33 U	33.	10	ug/kg					
PCB-1016	17 U	17.	3.3	ug/kg	103		80-120		
PCB-1221	17 U	17.	5.1	ug/kg					
PCB-1232	17 U	17.	4.1	ug/kg					
PCB-1242	17 U	17.	4.1	ug/kg					
PCB-1248	17 U	17.	3.3	ug/kg					
PCB-1254	17 U	17.	4.4	ug/kg					
PCB-1260	17 U	17.	3.9	ug/kg	115		72-120		
PCB-1262	17 U	17.	3.3	ug/kg					
PCB-1268	17 U	17.	3.3	ug/kg					

Batch number: 132470019A

Sample number(s): 7179334-7179335

Aroclor 5432	0.40 U	0.40	0.080	ug/l					
Aroclor 5442	0.40 U	0.40	0.080	ug/l	80	98*	35-84	20	30
Aroclor 5460	0.40 U	0.40	0.088	ug/l					
PCB-1016	0.40 U	0.40	0.080	ug/l	105	111	69-120	5	30
PCB-1221	0.40 U	0.40	0.080	ug/l					
PCB-1232	0.40 U	0.40	0.16	ug/l					
PCB-1242	0.40 U	0.40	0.080	ug/l					
PCB-1248	0.40 U	0.40	0.080	ug/l					
PCB-1254	0.40 U	0.40	0.080	ug/l					
PCB-1260	0.40 U	0.40	0.12	ug/l	126	134*	69-128	6	30
PCB-1262	0.40 U	0.40	0.16	ug/l					
PCB-1268	0.40 U	0.40	0.13	ug/l					

Batch number: 132470020A

Sample number(s): 7179334

Aldrin	0.0080 U	0.0080	0.0016	ug/l	52*	59	55-126	14	30
Alpha BHC	0.0080 U	0.0080	0.0024	ug/l	61*	70	63-132	14	30
Beta BHC	0.0080 U	0.0080	0.0027	ug/l	55*	62*	63-132	12	30
Gamma BHC - Lindane	0.0080 U	0.0080	0.0016	ug/l	59*	68	68-128	14	30
Chlordane	0.40 U	0.40	0.13	ug/l					
p,p-DDD	0.016 U	0.016	0.0040	ug/l	64	74	62-143	15	30
p,p-DDE	0.016 U	0.016	0.0040	ug/l	54*	62	56-137	13	30
p,p-DDT	0.016 U	0.016	0.0042	ug/l	58	69	45-134	17	30
Delta BHC	0.0080 U	0.0080	0.0027	ug/l	53*	60*	63-131	12	30
Dieldrin	0.016 U	0.016	0.0042	ug/l	65	75	65-135	14	30
Endosulfan I	0.0080 U	0.0080	0.0034	ug/l	64	72	48-124	12	30
Endosulfan II	0.016 U	0.016	0.012	ug/l	55	64	53-123	14	30
Endosulfan Sulfate	0.016 U	0.016	0.0046	ug/l	55*	63	60-129	15	30
Endrin	0.016 U	0.016	0.0065	ug/l	45	62	43-139	31*	30

*- Outside of specification

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- (2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 09/17/13 at 09:38 AM

Group Number: 1415082

Analysis Name	Blank Result	Blank LOQ**	Blank MDL	Report Units	LCS %REC	LCS D %REC	LCS/LCS D Limits	RPD	RPD Max
Endrin Aldehyde	0.080 U	0.080	0.016	ug/l	54*	61	55-123	13	20
Endrin Ketone	0.016 U	0.016	0.0040	ug/l	62	67	51-138	8	30
Heptachlor	0.0080 U	0.0080	0.0016	ug/l	58	67	57-126	14	30
Heptachlor Epoxide	0.0080 U	0.0080	0.0018	ug/l	53*	61*	65-128	13	30
Methoxychlor	0.080 U	0.080	0.024	ug/l	55	67	46-134	19	30
Mirex	0.20 U	0.20	0.068	ug/l					
Toxaphene	2.4 U	2.4	0.80	ug/l					

Batch number: 132470006A	Sample number(s): 7179334-7179335
EFH (C12-C14)	0.10 U 0.10 0.050 mg/l 83 87 70-130 5 30
EFH (C15-C20)	0.10 U 0.10 0.050 mg/l 90 93 70-130 4 30
EFH (C21-C30)	0.10 U 0.10 0.050 mg/l 90 93 70-130 4 30
EFH (C30 - C40)	0.50 U 0.50 0.10 mg/l 127 114 70-130 11 30
EFH (C8-C11)	0.10 U 0.10 0.050 mg/l 67* 74 70-130 10 30

Batch number: 132470022A	Sample number(s): 7179337-7179339
EFH (C12-C14)	5.0 U 5.0 2.0 mg/kg 98 70-123
EFH (C15-C20)	5.0 U 5.0 2.0 mg/kg 97 75-128
EFH (C21-C30)	5.0 U 5.0 2.0 mg/kg 99 64-134
EFH (C30-C40)	10 U 10. 4.0 mg/kg 97 65-128
EFH (C8-C11)	5.0 U 5.0 2.0 mg/kg 81 49-107

Batch number: 132410635001	Sample number(s): 7179334-7179335
Aluminum	0.400 U 0.400 0.0828 mg/l 106 104 80-120 2 20
Antimony	0.0400 U 0.0400 0.0053 mg/l 106 105 80-120 0 20
Arsenic	0.0400 U 0.0400 0.0068 mg/l 102 103 80-120 1 20
Barium	0.0100 U 0.0100 0.00033 mg/l 102 100 80-120 2 20
Beryllium	0.0100 U 0.0100 0.00067 mg/l 100 99 80-120 2 20
Boron	0.100 U 0.100 0.0084 mg/l 97 97 80-120 1 20
Cadmium	0.0100 U 0.0100 0.00076 mg/l 103 103 80-120 0 20
Calcium	0.0748 J 0.400 0.0334 mg/l 102 101 80-120 1 20
Chromium	0.0300 U 0.0300 0.0016 mg/l 103 102 80-120 1 20
Cobalt	0.0100 U 0.0100 0.0013 mg/l 103 103 80-120 0 20
Copper	0.0200 U 0.0200 0.0027 mg/l 102 102 80-120 1 20
Iron	0.400 U 0.400 0.0430 mg/l 101 101 80-120 0 20
Lead	0.0300 U 0.0300 0.0047 mg/l 104 104 80-120 0 20
Lithium	0.0400 U 0.0400 0.0047 mg/l 104 102 80-120 1 20
Magnesium	0.200 U 0.200 0.0167 mg/l 102 102 80-120 1 20
Manganese	0.0100 U 0.0100 0.00083 mg/l 103 102 80-120 1 20
Molybdenum	0.0200 U 0.0200 0.0017 mg/l 104 104 80-120 1 20
Nickel	0.0200 U 0.0200 0.0015 mg/l 105 105 80-120 1 20
Phosphorus	0.200 U 0.200 0.0418 mg/l 103 102 80-120 0 20
Potassium	1.00 U 1.00 0.0980 mg/l 102 101 80-120 1 20
Sodium	2.00 U 2.00 0.167 mg/l 101 100 80-120 1 20
Tin	0.0400 U 0.0400 0.0029 mg/l 102 102 80-120 1 20
Titanium	0.0200 U 0.0200 0.0017 mg/l 106 105 80-120 1 20
Vanadium	0.0100 U 0.0100 0.0020 mg/l 100 98 80-120 2 20
Zinc	0.0400 U 0.0400 0.0020 mg/l 102 102 80-120 0 20
Zirconium	0.100 U 0.100 0.0084 mg/l 105 105 80-120 0 20

Batch number: 132410639001A	Sample number(s): 7179334-7179335
Silver	0.0010 U 0.0010 0.00011 mg/l 110 103 90-115 6 20
Strontium	0.0020 U 0.0020 0.00034 mg/l 108 95 80-120 12 20
Thallium	0.0010 U 0.0010 0.00015 mg/l 104 101 80-120 3 20

Batch number: 132410639001B Sample number(s): 7179334-7179335

- *- Outside of specification
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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 09/17/13 at 09:38 AM

Group Number: 1415082

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ**</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Selenium	0.0040 U	0.0040	0.00050	mg/l	107	106	80-120	0	20
Batch number: 132420637001 Sample number(s): 7179337-7179339									
Aluminum	40.0 U	40.0	7.21	mg/kg	106		80-120		
Antimony	4.00 U	4.00	0.740	mg/kg	107		80-120		
Arsenic	4.00 U	4.00	0.700	mg/kg	104		80-120		
Barium	1.00 U	1.00	0.0330	mg/kg	102		80-120		
Beryllium	1.00 U	1.00	0.0670	mg/kg	102		80-120		
Boron	10.0 U	10.0	0.840	mg/kg	100		80-120		
Cadmium	1.00 U	1.00	0.0760	mg/kg	104		80-120		
Calcium	9.35 J	20.0	3.34	mg/kg	103		80-120		
Chromium	3.00 U	3.00	0.160	mg/kg	105		80-120		
Cobalt	1.00 U	1.00	0.0990	mg/kg	104		80-120		
Copper	2.00 U	2.00	0.290	mg/kg	104		80-120		
Iron	40.0 U	40.0	3.62	mg/kg	102		80-120		
Lead	3.00 U	3.00	0.500	mg/kg	106		80-120		
Lithium	4.0 U	4.0	0.34	mg/kg	104		80-120		
Magnesium	10.0 U	10.0	1.67	mg/kg	102		80-120		
Manganese	1.00 U	1.00	0.0830	mg/kg	103		80-120		
Molybdenum	2.00 U	2.00	0.170	mg/kg	105		80-120		
Nickel	2.00 U	2.00	0.130	mg/kg	106		80-120		
Phosphorus	10.0 U	10.0	2.89	mg/kg	106		80-120		
Potassium	100 U	100.	8.34	mg/kg	102		80-120		
Sodium	100 U	100.	16.7	mg/kg	101		80-120		
Tin	1.64 J	10.0	0.220	mg/kg	105		80-120		
Titanium	1.00 U	1.00	0.170	mg/kg	106		80-120		
Vanadium	1.00 U	1.00	0.130	mg/kg	101		80-120		
Zinc	0.416 J	4.00	0.200	mg/kg	104		80-120		
Zirconium	5.00 U	5.00	0.840	mg/kg	105		80-120		
Batch number: 132420637001A Sample number(s): 7179337-7179339									
Silver	0.200 U	0.200	0.0260	mg/kg	107		80-120		
Strontium	0.400 U	0.400	0.0680	mg/kg	104		80-120		
Thallium	0.200 U	0.200	0.0300	mg/kg	110		80-120		
Batch number: 132420637001B Sample number(s): 7179337-7179339									
Selenium	0.400 U	0.400	0.100	mg/kg	108		80-120		
Batch number: 132420638001 Sample number(s): 7179337-7179339									
3a Mercury 7471A	0.0167 U	0.0167	0.0100	mg/kg	110		85-120		
Batch number: 132425713008 Sample number(s): 7179334-7179335									
3b Mercury 7470A	0.00020 U	0.00020	0.00006	mg/l	101	99	90-115	2	20
Batch number: 13241655121A Sample number(s): 7179335									
1b Anions by 300.0-Fluoride	0.10 U	0.10	0.080	mg/l	99	95	90-110	4	20
1b Anions by 300.0-Nitrate	0.10 U	0.10	0.050	mg/l	96	101	90-110	5	20
1b Anions by 300.0-Nitrite	0.10 U	0.10	0.080	mg/l	96	100	90-110	5	20
Batch number: 13241655123A Sample number(s): 7179335									
1b Anions by 300.0-Sulfate	1.0 U	1.0	0.30	mg/l	96	102	90-110	6	20
Batch number: 13241006101A Sample number(s): 7179334-7179335									

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 09/17/13 at 09:38 AM

Group Number: 1415082

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ**</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
28b pH (9040B and 9040C)					99		99-103		
Batch number: 13241039401A 15a pH by 9045D	Sample number(s): 7179337-7179339				99		95-105		
Batch number: 13242022901A 29b Sulfite in Water EPA377.1	5.0	U	5.0	1.5 mg/l	96		65-110		
Batch number: 13242162401B 14a Moisture Content by 160.3	Sample number(s): 7179337-7179339				100		80-120		

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MRL**</u>	<u>Blank EDL</u>	<u>Report Units</u>	<u>OPR %REC</u>	<u>OPRD %REC</u>	<u>OPR/OPRD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 13248004	Sample number(s): 7179334-7179335								
2378-TCDD	2.00	U	2.00	0.325 pg/l	101		60-150		
12378-PeCDD	0.622	J	10.0	0.411 pg/l	104		60-150		
123478-HxCDD	0.461	J	10.0	0.244 pg/l	102		60-150		
123678-HxCDD	0.533	J	10.0	0.265 pg/l	102		60-150		
123789-HxCDD	0.529	J	10.0	0.248 pg/l	101		60-150		
1234678-HpCDD	0.888	J	10.0	0.394 pg/l	101		60-150		
OCDD	1.12	J	20.0	0.330 pg/l	96		60-150		
2378-TCDF	2.00	U	2.00	0.298 pg/l	108		60-150		
12378-PeCDF	0.765	J	10.0	0.195 pg/l	106		60-150		
23478-PeCDF	0.542	J	10.0	0.183 pg/l	107		60-150		
123478-HxCDF	0.471	J	10.0	0.133 pg/l	101		60-150		
123678-HxCDF	0.575	J	10.0	0.134 pg/l	101		60-150		
123789-HxCDF	0.668	J	10.0	0.149 pg/l	103		60-150		
234678-HxCDF	0.483	J	10.0	0.128 pg/l	102		60-150		
1234678-HpCDF	0.503	J	10.0	0.108 pg/l	100		60-150		
1234789-HpCDF	0.549	J	10.0	0.132 pg/l	97		60-150		
OCDF	2.39	J	20.0	0.452 pg/l	95		60-150		
TEQ WHO 2005 - EDLx0.0	0.857			pg/l					

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

<u>Analysis Name</u>	<u>MS %REC</u>	<u>MSD %REC</u>	<u>MS/MSD Limits</u>	<u>RPD</u>	<u>RPD MAX</u>	<u>BKG Conc</u>	<u>DUP Conc</u>	<u>DUP RPD</u>	<u>Dup RPD Max</u>
Batch number: 13243SLC026	Sample number(s): 7179337-7179339				UNSPK: P177750				
Acenaphthene	92	81	48-127	13	30				
Acenaphthylene	92	82	49-121	12	30				
Anthracene	96	81	52-126	17	30				
Benzo(a)anthracene	102	87	44-143	16	30				
Benzo(a)pyrene	104	87	44-140	18	30				
Benzo(b)fluoranthene	125	107	26-142	16	30				

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 09/17/13 at 09:38 AM

Group Number: 1415082

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

<u>Analysis Name</u>	<u>MS</u> <u>%REC</u>	<u>MSD</u> <u>%REC</u>	<u>MS/MSD</u> <u>Limits</u>	<u>RPD</u> <u>RPD</u>	<u>BKG</u> <u>Conc</u>	<u>DUP</u> <u>Conc</u>	<u>DUP</u> <u>RPD</u>	<u>Dup RPD</u> <u>Max</u>
Benzo(e)pyrene	96	82	70-130	16	30			
Benzo(g,h,i)perylene	70	58	33-141	19	30			
Benzo(k)fluoranthene	101	85	54-142	18	30			
Butylbenzylphthalate	124	106	49-151	16	30			
Di-n-butylphthalate	104	89	52-147	16	30			
Chrysene	100	86	29-148	15	30			
Dibenz(a,h)anthracene	82	69	20-137	17	30			
Diethylphthalate	93	84	43-145	11	30			
Dimethylphthalate	93	81	58-129	14	30			
Bis(2-Ethylhexyl)phthalate	120	97	39-167	22	30			
Fluoranthene	94	81	40-148	15	30			
Fluorene	95	84	51-137	13	30			
Indeno(1,2,3-cd)pyrene	80	67	17-136	18	30			
1-Methylnaphthalene	96	84	50-131	13	30			
2-Methylnaphthalene	97	86	35-152	12	30			
Naphthalene	93	83	31-148	12	30			
N-Nitrosodimethylamine	76	69	48-113	11	30			
Di-n-octylphthalate	130	112	52-162	15	30			
Phenanthrene	95	81	29-142	16	30			
Pyrene	96	83	26-143	15	30			
Batch number: 13242A16A Sample number(s): 7179337-7179339 UNSPK: P177750								
11a TPH by EPA 8015B GRO	76	76	69-123	7	30			
Batch number: 132460019A Sample number(s): 7179337-7179339 UNSPK: P177750								
2,4-D	105	111	42-143	5	35			
Dalapon	38	35	19-109	7	50			
2,4-DB	161	164	10-179	2	50			
Dicamba	115	119	45-147	4	50			
Dinoseb	36	40	10-52	12	35			
2,4-DP (Dichlorprop)	113	116	32-171	2	50			
MCPA	88	91	23-169	4	50			
MCPP (Mecoprop)	83	83	24-164	0	50			
2,4,5-T	133	139	12-172	4	35			
2,4,5-TP	109	113	10-142	4	35			
Batch number: 132420008A Sample number(s): 7179337-7179339 UNSPK: P177750								
Aldrin	78	81	16-126	4	50			
Alpha BHC	93	98	14-140	5	50			
Beta BHC	-58*	-59*	10-173	4	50			
Gamma BHC - Lindane	90	94	30-137	4	50			
p,p-DDD	105	105	43-149	1	50			
p,p-DDE	88	90	18-161	2	50			
p,p-DDT	100	103	12-193	3	50			
Delta BHC	78	86	13-153	10	50			
Dieldrin	103	104	19-154	1	50			
Endosulfan I	101	101	16-137	0	50			
Endosulfan II	89	89	10-156	0	50			
Endosulfan Sulfate	87	89	10-181	2	50			
Endrin	96	97	30-152	1	50			
Endrin Aldehyde	81	81	10-152	0	35			
Endrin Ketone	87	89	10-160	2	50			

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 09/17/13 at 09:38 AM

Group Number: 1415082

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

<u>Analysis Name</u>	<u>MS</u> <u>%REC</u>	<u>MSD</u> <u>%REC</u>	<u>MS/MSD</u> <u>Limits</u>	<u>RPD</u> <u>RPD</u>	<u>RPD</u> <u>MAX</u>	<u>BKG</u> <u>Conc</u>	<u>DUP</u> <u>Conc</u>	<u>DUP</u> <u>RPD</u>	<u>Dup RPD</u> <u>Max</u>
Heptachlor	94	96	16-152	2	50				
Heptachlor Epoxide	84	85	17-167	1	50				
Methoxychlor	94	98	34-168	5	50				
Batch number: 132430008A Sample number(s): 7179337-7179339 UNSPK: P177750									
PCB-1016	98	97	16-146	0	50				
PCB-1260	110	111	40-134	2	50				
Batch number: 132470022A Sample number(s): 7179337-7179339 UNSPK: P180879									
EFH (C12-C14)	96	95	49-123	1	20				
EFH (C15-C20)	117	114	49-123	3	20				
EFH (C21-C30)	123	121	49-123	2	20				
EFH (C30-C40)	116	119	49-123	2	20				
EFH (C8-C11)	86	84	49-123	2	20				
Batch number: 132420637001 Sample number(s): 7179337-7179339 UNSPK: P180868 BKG: P180868									
Aluminum	772 (2)	769 (2)	75-125	0	20	1,970	2,600	28*	20
Antimony	111	108	75-125	1	20	3.96 U	3.96 U	0 (1)	20
Arsenic	114	118	75-125	5	20	1.96 J	1.44 J	31* (1)	20
Barium	96	95	75-125	0	20	59.1	59.0	0	20
Beryllium	95	94	75-125	1	20	0.990 U	0.990 U	0 (1)	20
Boron	103	102	75-125	1	20	4.62 J	5.07 J	9 (1)	20
Cadmium	95	94	75-125	0	20	0.109 J	0.139 J	24* (1)	20
Calcium	263 (2)	7244 (2)	75-125	7	20	356,000	344,000	4	20
Chromium	100	99	75-125	0	20	2.87 J	3.79	28* (1)	20
Cobalt	94	94	75-125	0	20	0.580 J	0.906 J	44* (1)	20
Copper	110	108	75-125	0	20	2.09 J	2.82 J	29* (1)	20
Iron	737 (2)	804 (2)	75-125	3	20	1,740	2,500	36*	20
Lead	98	100	75-125	2	20	3.45 J	2.77 J	22* (1)	20
Lithium	113	112	75-125	0	20	3.7 J	3.3 J	12 (1)	20
Magnesium	51 (2)	21 (2)	75-125	3	20	1,920	1,960	2	20
Manganese	114	114	75-125	1	20	31.7	40.7	25*	20
Molybdenum	101	100	75-125	0	20	0.339 J	0.169 J	67* (1)	20
Nickel	95	94	75-125	0	20	2.13	2.80	27* (1)	20
Phosphorus	113	86	75-125	10	20	146	141	3 (1)	20
Potassium	155*	146*	75-125	4	20	324	418	25* (1)	20
Sodium	113	111	75-125	0	20	151	145	4 (1)	20
Tin	96	96	75-125	0	20	1.83 J	1.70 J	7 (1)	20
Titanium	164*	156*	75-125	3	20	72.6	100	32*	20
Vanadium	100	100	75-125	1	20	5.24	7.00	29*	20
Zinc	114	111	75-125	1	20	6.40 J	8.49 J	28* (1)	20
Zirconium	101	102	75-125	2	20	1.26 J	1.51 J	18 (1)	20
Batch number: 132420637001A Sample number(s): 7179337-7179339 UNSPK: P180868 BKG: P180868									
Silver	94	93	75-125	0	20	0.198 U	0.0297 J	200* (1)	20
Strontium	-469 (2)	-813 (2)	75-125	20	20	188	179	5	20
Thallium	111	102	75-125	8	20	0.198 U	0.198 U	0 (1)	20
Batch number: 132420637001B Sample number(s): 7179337-7179339 UNSPK: P180868 BKG: P180868									
Selenium	109	106	75-125	1	20	0.396 U	0.100 J	200* (1)	20

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ / MRL.

(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 09/17/13 at 09:38 AM

Group Number: 1415082

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

<u>Analysis Name</u>	<u>MS</u> <u>%REC</u>	<u>MSD</u> <u>%REC</u>	<u>MS/MSD</u> <u>Limits</u>	<u>RPD</u> <u>RPD</u>	<u>RPD</u> <u>MAX</u>	<u>BKG</u> <u>Conc</u>	<u>DUP</u> <u>Conc</u>	<u>DUP</u> <u>RPD</u>	<u>Dup RPD</u> <u>Max</u>
Batch number: 132420638001 3a Mercury 7471A	Sample number(s): 7179337-7179339 120	116	65-135	3	20	UNSPK: P180868 0.0164 U	BKG: P180868 0.0164 U	0 (1)	20
Batch number: 13241006101A 28b pH (9040B and 9040C)	Sample number(s): 7179334-7179335					BKG: P179136 7.6	7.6	1	3
Batch number: 13241039401A 15a pH by 9045D	Sample number(s): 7179337-7179339					BKG: P179322 7.32	7.32	0	3
Batch number: 13242022901A 29b Sulfite in Water EPA377.1	Sample number(s): 7179335	75*	81-105	8*	5	UNSPK: P179156 BKG: P179156 11.5	10.5	9 (1)	20
Batch number: 13242162401B 14a Moisture Content by 160.3	Sample number(s): 7179337-7179339					BKG: P177754 11.3	10.8	5	20

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: 7a SVOC SIM EPA 8270D
Batch number: 13243SLC026

	Fluoranthene-d10	Benzo(a)pyrene-d12	1-Methylnaphthalene-d10
7179337	85	98	99
7179338	87	101	101
7179339	89	102	102
Blank	83	97	99
LCS	83	94	96
MS	86	100	99
MSD	74	84	89
Limits:	54-129	59-125	61-125

Analysis Name: 7b SVOC SIM EPA 8270D
Batch number: 13243WAJ026

	Fluoranthene-d10	Benzo(a)pyrene-d12	1-Methylnaphthalene-d10
7179334	95	103	107
7179335	100	101	109
Blank	81	86	95
LCS	88	85	103
LCSD	89	99	103
Limits:	44-137	62-141	51-136

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

- (1) The result for one or both determinations was less than five times the LOQ / MRL.
- (2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 09/17/13 at 09:38 AM

Group Number: 1415082

Surrogate Quality Control

Analysis Name: 11a TPH by EPA 8015B GRO
Batch number: 13242A16A
Trifluorotoluene-F

7179337	68
7179338	73
7179339	60
Blank	76
LCS	76
MS	72
MSD	70

Limits: 50-142

Analysis Name: 11b TPH by EPA 8015B GRO
Batch number: 13242A20A
Trifluorotoluene-F

7179334	88
7179336	86
Blank	89
LCS	121
LCSD	121

Limits: 63-135

Analysis Name: 20a Pesticides by EPA 8081B
Batch number: 132420008A
Tetrachloro-m-xylene Decachlorobiphenyl

7179337	82	86
7179338	84	90
7179339	80	86
Blank	78	87
LCS	85	92
MS	79	87
MSD	83	91

Limits: 50-130 20-120

Analysis Name: 19a PCBs and PCTs 8082A
Batch number: 132430008A
Tetrachloro-m-xylene Decachlorobiphenyl

7179337	110	113
7179338	116	114
7179339	114	111
Blank	116	112
LCS	112	116
LCSD	123*	120
MS	108	109
MSD	101	108

Limits: 45-120 45-120

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

- (1) The result for one or both determinations was less than five times the LOQ / MRL.
- (2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 09/17/13 at 09:38 AM

Group Number: 1415082

Surrogate Quality Control

Analysis Name: 21a Herbicides by EPA 8151A
Batch number: 132460019A
2,4-Dichlorophenylacetic acid

7179337	57
7179338	58
7179339	59
Blank	56
LCS	73
MS	71
MSD	72

Limits: 50-150

Analysis Name: 24b Herbicides by EPA 8151A
Batch number: 132470014A
2,4-Dichlorophenylacetic acid

7179334	62
Blank	54
LCS	73
LCSD	77

Limits: 50-150

Analysis Name: 21b PCBs and PCTs 8082A
Batch number: 132470019A
Tetrachloro-m-xylene Decachlorobiphenyl

7179334	98	75
7179335	118	110
Blank	101	103
LCS	113	113
LCSD	124*	119

Limits: 45-120 45-120

Analysis Name: 22b Pesticides by EPA 8081B
Batch number: 132470020A
Tetrachloro-m-xylene Decachlorobiphenyl

7179334	103	81
Blank	106	111
LCS	56*	53
LCSD	61	64

Limits: 60-140 20-120

Analysis Name: 10b TPH by EPA 8015B (DRO)
Batch number: 132470006A
Chlorobenzene Orthoterphenyl

7179334	85	90
---------	----	----

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

- (1) The result for one or both determinations was less than five times the LOQ / MRL.
- (2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 09/17/13 at 09:38 AM

Group Number: 1415082

Surrogate Quality Control

7179335	88	97
Blank	93	94
LCS	86	91
LCSD	91	93

Limits: 45-126 69-119

Analysis Name: 10a TPH by EPA 8015B (DRO)
Batch number: 132470022A

	Chlorobenzene	Orthoterphenyl
7179337	89	84
7179338	92	92
7179339	91	94
Blank	86	91
LCS	95	100
MS	94	95
MSD	95	99

Limits: 37-125 66-123

Analysis Name: 17b Dioxin/Furan by EPA 1613B
Batch number: 13248004

	13C12-2378-TCDD	13C12-23478-PeCDF	13C12-123478-HxCDF	13C12-123678-HxCDF	13C12-234678-HxCDF	13C12-123789-HxCDF
7179334	71	90	69	71	69	71
7179335	71	83	66	64	67	67
Blank	74	98	88	87	88	88
OPR	67	90	81	81	80	80

Limits: 25-164 21-178 26-152 26-123 28-136 29-147

	13C12-1234678-HpCDF	13C12-1234789-HpCDF	13C12-OCDF	13C12-12378-PeCDD	13C12-123478-HxCDD	13C12-123678-HxCDD
7179334	66	62	45	85	76	78
7179335	57	57	53	80	76	76
Blank	85	81	75	85	78	78
OPR	79	76	70	81	73	73

Limits: 28-143 26-138 17-157 25-181 32-141 28-130

	13C12-123789-HxCDD	13C12-1234678-HpCDD	13C12-OCDD	13C12-2378-TCDF	13C12-12378-PeCDF
7179334	76	71	56	79	89
7179335	75	68	58	75	78
Blank	78	76	71	85	99
OPR	73	71	68	78	90

Limits: 28-130 23-140 17-157 24-169 24-185

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

- (1) The result for one or both determinations was less than five times the LOQ / MRL.
- (2) The unspiked result was more than four times the spike added.

13013 1415082 7179334-39

SSFL Phase 3 Chain of Custody

CDM Smith
 Date Shipped: 8/28/2013
 Carrier Name: FedEx
 Airbill No: 796569341835

Contact Name: Pam Hartman
 Contact Phone: (818)466-8007

COC No: 20130828-03
 Cooler #: 2
 Lab: Lancaster
 Lab Phone: 717-556-7259
 Lab Address: 2425 New Holland Pike
 Lancaster, PA 17601

Sample	Date/Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Methyl Mercury 1630	Organotin	NDMA 1625	Formaldehyde 8315	Cyanide 9012	Energetics 8330	Nitrates 300.0/9056	Terphenyls 8015	Alcohols 8015	Glycols 8015	TPH-EFH 8015	TPH-GRO 8015	1,4 Dioxane 8260 SIM	VOCs 8260	Pesticides 8081	Herbicides 8151	Hex Cr 7196/7199	pH 9040 (Water)	pH 9045 (Soil)	Perchlorate Confirm 6850/6860	Perchlorate 314.0/331	PCBs/PCTs 8082	Dioxins 1613	1,4 Dioxane 8270 SIM	PAHs 8270 SIM	TIC 8270	SVOC 8270	Fluoride 300.0/9056	Mercury 7470 (Water)	Mercury 7471 (Soil)	Metals 6010 and 6020	Other Analysis/Notes			
EB3-082813	8/28/13 15:00	WQ	HCl	2 - 1 L Amber	10 day																																			Subarea 8
EB3-082813	8/28/13 15:00	WQ	None	4 - 1 L Amber	10 day																				X														Subarea 8	

Special Instructions: Sampler: *Pam Hartman*

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
<i>Steve Meyer</i>	8/28/2013	1600									
/											
									<i>RLH</i>	8-29-13	0910

SSFL Phase 3 Chain of Custody

13013 1415082 7179334-39

CDM Smith
 DateShipped: 8/28/2013
 CarrierName: FedEx
 AirbillNo: 796569341835

Contact Name: Pam Hartman
 Contact Phone: (818)466-8007

COC No: 20130828-04
 Cooler #: 3
 Lab: Lancaster
 Lab Phone: 717-556-7259
 Lab Address: 2425 New Holland Pike
 Lancaster, PA 17601

Sample	Date/Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes		
EB4-082813	8/28/13 15:30	WQ	HCl	2 - 1 L Amber	10 day																																Subarea 8
EB4-082813	8/28/13 15:30	WQ	None	2 - 1 L Amber	10 day									X																							Subarea 8
EB3-082813	8/28/13 15:00	WQ	HNO3 pH<2	1 - 250 mL Poly	10 day	X	X																														Subarea 8
EB3-082813	8/28/13 15:00	WQ	None	3 - 250 mL Amber	10 day							X	X								X																Subarea 8
EB3-082813	8/28/13 15:00	WQ	None	1 - 250 mL Poly	10 day													X																			Subarea 8
EB3-082813	8/28/13 15:00	WQ	HCl	3 - 40 mL Vial	10 day																		X														Subarea 8
EB4-082813	8/28/13 15:30	WQ	HNO3 pH<2	1 - 250 mL Poly	10 day	X	X																														Subarea 8
EB4-082813	8/28/13 15:30	WQ	None	2 - 250 mL Amber	10 day							X	X																								Subarea 8
EB4-082813	8/28/13 15:30	WQ	None	1 - 250 mL Poly	10 day												X																				Subarea 8
EB4-082813	8/28/13 15:30	WQ	None	2 - 250 mL Poly	10 day				X																												Inorganics method EPA 300.0 for Nitrite
EB4-082813	8/28/13 15:30	WQ	None	2 - 40 mL Vial	10 day					X																											as NO3, fluoride, sulfate, sulfite.(Subarea 8

Special Instructions: Sampler: *Pastor*

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
<i>Stephany...</i>	08/28/2013	1400									
									<i>Al M</i>	8-29-13	0915

13013 1415082 7179334-39

SSFL Phase 3 Chain of Custody

CDM Smith
 Date Shipped: 8/28/2013
 Carrier Name: FedEx
 Airbill No: 796569341835

Contact Name: Pam Hartman
 Contact Phone: (818)466-8007

COC No: 20130828-06
 Cooler #: 4
 Lab: Lancaster
 Lab Phone: 717-556-7259
 Lab Address: 2425 New Holland Pike
 Lancaster, PA 17601

Sample	Date/Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	1,4 Dioxane 8270 SIM	PAHs 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate Confirm 6850/6860	Perchlorate 314.0/331	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EH 8015	Glycols 8015	Alcohol 8015	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes			
TB1-082813	8/28/13 08:00	WQ	HCl	3 - 40 mL Vial	10 day																			X																Subarea 8
SL-553-SA8-SB-9.0-10.0	8/28/13 07:30	SO	None	2 - 16 oz glass	10 day	X	X					X				X								X																Subarea 8
SL-553-SA8-SB-9.0-10.0	8/28/13 07:30	SO	None	2 - Encore	10 day																			X																Subarea 8
SL-553-SA8-SB-14.0-15.0	8/28/13 07:40	SO	None	2 - 16 oz glass	10 day	X	X					X				X								X															Subarea 8	
SL-553-SA8-SB-14.0-15.0	8/28/13 07:40	SO	None	2 - Encore	10 day																			X															Subarea 8	
SL-553-SA8-SB-18.0-19.0	8/28/13 07:50	SO	None	2 - 16 oz glass	10 day	X	X					X				X								X															Subarea 8	
SL-553-SA8-SB-18.0-19.0	8/28/13 07:50	SO	None	2 - Encore	10 day																			X															Subarea 8	

Special Instructions: Sampler: *V. Carter*

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
<i>Steph Myer</i>	8/28/2013	6:00									
									<i>U 21</i>	8-29-13	09:15

Environmental Sample Administration
Receipt Documentation Log

1415082

Client/Project: CDM Smith
 Date of Receipt: 8-29-13
 Time of Receipt: 0915
 Source Code: 50

Shipping Container Sealed: YES NO
 Custody Seal Present * : YES NO
 * Custody seal was intact unless otherwise noted in the discrepancy section
 Package: Chilled Not Chilled

Temperature of Shipping Containers							
Cooler #	Thermometer ID	Temperature (°C)	Temp Bottle (TB) or Surface Temp (ST)	Wet Ice (WI) or Dry Ice (DI) or Ice Packs (IP)	Ice Present? Y/N	Loose (L) Bagged Ice (B) or NA	Comments
1	DT14G	1.3	TB	WI	Y	B	
2	↓	1.9	↓	↓	↓	↓	
3	↓	0.7	↓	↓	↓	↓	
4	↓	1.4	↓	↓	↓	↓	
5	↓	1.5	↓	↓	↓	↓	
6	_____						

Number of Trip Blanks received NOT listed on chain of custody: 0

Paperwork Discrepancy/Unpacking Problems:

Unpacker Signature/Emp#: [Signature] 5200 Date/Time: 8-29-13 1200

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	BMQL	Below Minimum Quantitation Level
N.D.	none detected	MPN	Most Probable Number
TNTC	Too Numerous To Count	CP Units	cobalt-chloroplatinate units
IU	International Units	NTU	nephelometric turbidity units
umhos/cm	micromhos/cm	ng	nanogram(s)
C	degrees Celsius	F	degrees Fahrenheit
meq	milliequivalents	lb.	pound(s)
g	gram(s)	kg	kilogram(s)
µg	microgram(s)	mg	milligram(s)
mL	milliliter(s)	L	liter(s)
m3	cubic meter(s)	µL	microliter(s)
		pg/L	picogram/liter

< less than - The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Data Qualifiers:

C – result confirmed by reanalysis.

J - estimated value – The result is \geq the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ).

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers

Inorganic Qualifiers

A	TIC is a possible aldol-condensation product	B	Value is $<$ CRDL, but \geq IDL
B	Analyte was also detected in the blank	E	Estimated due to interference
C	Pesticide result confirmed by GC/MS	M	Duplicate injection precision not met
D	Compound quantitated on a diluted sample	N	Spike sample not within control limits
E	Concentration exceeds the calibration range of the instrument	S	Method of standard additions (MSA) used for calculation
N	Presumptive evidence of a compound (TICs only)	U	Compound was not detected
P	Concentration difference between primary and confirmation columns $>$ 25%	W	Post digestion spike out of control limits
U	Compound was not detected	*	Duplicate analysis not within control limits
X,Y,Z	Defined in case narrative	+	Correlation coefficient for MSA $<$ 0.995

Analytical test results meet all requirements of NELAC unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

SAMPLE DELIVERY GROUP

PH097

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

September 12, 2013

Project: SSFL Phase 3 Sampling

Submittal Date: 08/30/2013
Group Number: 1415397
SDG: PH097
PO Number: 1204-002-001-AL
State of Sample Origin: CA

<u>Client Sample Description</u>	<u>Lancaster Labs (LL) #</u>
SL-604-SA8-SB-0.0-0.5 Soil	7180868
SL-604-SA8-SB-0.0-0.5MS Soil	7180869
SL-604-SA8-SB-0.0-0.5MSD Soil	7180870
SL-604-SA8-SB-0.0-0.5DUP Soil	7180871
SL-904-SA8-SB-0.0-0.5 Soil	7180872
SL-605-SA8-SB-0.0-0.5 Soil	7180873

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC Eurofins Lancaster Labs Env
COPY TO

Attn: Nicole Maljovec

Respectfully Submitted,



Nicole L. Maljovec
Principal Specialist Group Leader

(717) 556-7259

Sample Description: SL-604-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7180868
LL Group # 1415397
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/29/2013 07:40 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/30/2013 09:15
Reported: 09/12/2013 16:29

60400 SDG#: PH097-01BKG

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals						
SW-846 6010C			mg/kg	mg/kg	mg/kg	
01643	Aluminum	7429-90-5	1.980	39.8	7.18	1
06944	Antimony	7440-36-0	3.98 U	3.98	0.737	1
06935	Arsenic	7440-38-2	1.97 J	3.98	0.697	1
06946	Barium	7440-39-3	59.4	0.996	0.0329	1
06947	Beryllium	7440-41-7	0.996 U	0.996	0.0667	1
07914	Boron	7440-42-8	4.65 J	9.96	0.837	1
06949	Cadmium	7440-43-9	0.110 J	0.996	0.0757	1
01650	Calcium	7440-70-2	358,000	199	33.3	10
06951	Chromium	7440-47-3	2.89 J	2.99	0.159	1
06952	Cobalt	7440-48-4	0.584 J	0.996	0.0986	1
06953	Copper	7440-50-8	2.11 J	9.96	1.44	5
01654	Iron	7439-89-6	1,750	39.8	3.61	1
06955	Lead	7439-92-1	3.47 J	14.9	2.49	5
01656	Lithium	7439-93-2	3.8 J	19.9	1.7	5
Reporting limits for ICP metals were raised due to interference from the sample matrix.						
01657	Magnesium	7439-95-4	1,930	9.96	1.66	1
06958	Manganese	7439-96-5	31.9	0.996	0.0827	1
06960	Molybdenum	7439-98-7	0.341 J	1.99	0.169	1
06961	Nickel	7440-02-0	2.14	1.99	0.129	1
10145	Phosphorus	7723-14-0	146	49.8	14.4	5
01662	Potassium	7440-09-7	325	99.6	8.31	1
01667	Sodium	7440-23-5	152	99.6	16.6	1
06969	Tin	7440-31-5	1.84 J	9.96	0.219	1
06970	Titanium	7440-32-6	73.0	0.996	0.169	1
06971	Vanadium	7440-62-2	5.27	0.996	0.129	1
06972	Zinc	7440-66-6	6.43 J	19.9	0.996	5
10146	Zirconium	7440-67-7	1.26 J	4.98	0.837	1
SW-846 6020A			mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	0.398 U	0.398	0.0996	2
06142	Silver	7440-22-4	0.199 U	0.199	0.0259	2
06144	Strontium	7440-24-6	189	1.99	0.339	10
06145	Thallium	7440-28-0	0.199 U	0.199	0.0299	2
SW-846 7471B			mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.0165 U	0.0165	0.0099	1
Wet Chemistry			mg/kg	mg/kg	mg/kg	
EPA 300.0			mg/kg	mg/kg	mg/kg	
07332	1a Anions by 300.0-Fluoride	16984-48-8	0.87 J	1.0	0.40	1
07334	1a Anions by 300.0-Nitrite	14797-65-0	1.0 U	1.0	0.80	1
07338	1a Anions by 300.0-Sulfate	14808-79-8	10.7	5.0	5.0	1
EPA 377.1			mg/kg	mg/kg	mg/kg	
00229	32a Sulfite in Soil EPA 377.1	14265-45-3	101 U	101	30.2	1
SW-846 9045D modified			Std. Units	Std. Units	Std. Units	
00394	15a pH by 9045D	n.a.	7.88	0.0100	0.0100	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-604-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7180868
LL Group # 1415397
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/29/2013 07:40 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/30/2013 09:15
Reported: 09/12/2013 16:29

60400 SDG#: PH097-01BKG

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Wet Chemistry						
	SW-846 9045D modified		Std. Units	Std. Units	Std. Units	
The pH was measured in water at 21.8 C.						
Wet Chemistry						
	EPA 160.3 modified		%	%	%	
11624	14a Moisture Content by 160.3	n.a.	0.60	0.10	0.10	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01643	Aluminum	SW-846 6010C	1	132420637001	09/04/2013 04:35	Tara L Snyder	1
06944	Antimony	SW-846 6010C	1	132420637001	09/04/2013 04:35	Tara L Snyder	1
06935	Arsenic	SW-846 6010C	1	132420637001	09/04/2013 04:35	Tara L Snyder	1
06946	Barium	SW-846 6010C	1	132420637001	09/04/2013 04:35	Tara L Snyder	1
06947	Beryllium	SW-846 6010C	1	132420637001	09/04/2013 04:35	Tara L Snyder	1
07914	Boron	SW-846 6010C	1	132420637001	09/04/2013 04:35	Tara L Snyder	1
06949	Cadmium	SW-846 6010C	1	132420637001	09/04/2013 04:35	Tara L Snyder	1
01650	Calcium	SW-846 6010C	1	132420637001	09/04/2013 18:36	John P Hook	10
06951	Chromium	SW-846 6010C	1	132420637001	09/04/2013 04:35	Tara L Snyder	1
06952	Cobalt	SW-846 6010C	1	132420637001	09/04/2013 04:35	Tara L Snyder	1
06953	Copper	SW-846 6010C	1	132420637001	09/04/2013 18:11	John P Hook	5
01654	Iron	SW-846 6010C	1	132420637001	09/04/2013 04:35	Tara L Snyder	1
06955	Lead	SW-846 6010C	1	132420637001	09/04/2013 18:11	John P Hook	5
01656	Lithium	SW-846 6010C	1	132420637001	09/04/2013 18:11	John P Hook	5
01657	Magnesium	SW-846 6010C	1	132420637001	09/04/2013 04:35	Tara L Snyder	1
06958	Manganese	SW-846 6010C	1	132420637001	09/04/2013 04:35	Tara L Snyder	1
06960	Molybdenum	SW-846 6010C	1	132420637001	09/04/2013 04:35	Tara L Snyder	1
06961	Nickel	SW-846 6010C	1	132420637001	09/04/2013 04:35	Tara L Snyder	1
10145	Phosphorus	SW-846 6010C	1	132420637001	09/04/2013 18:11	John P Hook	5
01662	Potassium	SW-846 6010C	1	132420637001	09/04/2013 04:35	Tara L Snyder	1
01667	Sodium	SW-846 6010C	1	132420637001	09/04/2013 04:35	Tara L Snyder	1
06969	Tin	SW-846 6010C	1	132420637001	09/04/2013 04:35	Tara L Snyder	1
06970	Titanium	SW-846 6010C	1	132420637001	09/04/2013 04:35	Tara L Snyder	1
06971	Vanadium	SW-846 6010C	1	132420637001	09/04/2013 04:35	Tara L Snyder	1
06972	Zinc	SW-846 6010C	1	132420637001	09/04/2013 18:11	John P Hook	5
10146	Zirconium	SW-846 6010C	1	132420637001	09/04/2013 04:35	Tara L Snyder	1
06141	Selenium	SW-846 6020A	1	132420637001B	09/05/2013 00:18	David K Beck	2
06142	Silver	SW-846 6020A	1	132420637001A	09/05/2013 00:18	David K Beck	2
06144	Strontium	SW-846 6020A	1	132420637001A	09/10/2013 21:12	David K Beck	10

*=This limit was used in the evaluation of the final result

Sample Description: SL-604-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7180868
LL Group # 1415397
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/29/2013 07:40 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/30/2013 09:15
Reported: 09/12/2013 16:29

60400 SDG#: PH097-01BKG

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
06145	Thallium	SW-846 6020A	1	132420637001A	09/05/2013	00:18	David K Beck	2
00159	3a Mercury 7471A	SW-846 7471B	1	132420638001	09/04/2013	10:04	Damary Valentin	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132420637001	09/03/2013	10:15	Denise K Conners	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132420638001	09/03/2013	13:20	Denise K Conners	1
07332	1a Anions by 300.0-Fluoride	EPA 300.0	1	13254254201A	09/11/2013	23:34	Sandra J Miller	1
07334	1a Anions by 300.0-Nitrite	EPA 300.0	1	13254254201A	09/11/2013	23:34	Sandra J Miller	1
07338	1a Anions by 300.0-Sulfate	EPA 300.0	1	13254254201A	09/11/2013	23:34	Sandra J Miller	1
01352	1b Anions by 300.0 - Extract.	EPA 300.0	2	13254254201A	09/11/2013	06:40	Nancy J Shoop	1
00229	32a Sulfite in Soil EPA 377.1	EPA 377.1	1	13242022902A	08/30/2013	19:30	Michelle L Lalli	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13242039402A	08/30/2013	20:40	Luz M Groff	1
11624	14a Moisture Content by 160.3	EPA 160.3 modified	1	13248162401A	09/06/2013	21:50	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-604-SA8-SB-0.0-0.5MS Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7180869
LL Group # 1415397
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/29/2013 07:40 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/30/2013 09:15
Reported: 09/12/2013 16:29

60400 SDG#: PH097-01MS

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals						
		SW-846 6010C	mg/kg	mg/kg	mg/kg	
01643	Aluminum	7429-90-5	3,500	39.5	7.11	1
06944	Antimony	7440-36-0	54.5	3.95	0.730	1
06935	Arsenic	7440-38-2	18.8	3.95	0.690	1
06946	Barium	7440-39-3	249	0.986	0.0325	1
06947	Beryllium	7440-41-7	4.66	0.986	0.0661	1
07914	Boron	7440-42-8	207	9.86	0.829	1
06949	Cadmium	7440-43-9	4.79	0.986	0.0750	1
01650	Calcium	7440-70-2	359,000	197	32.9	10
06951	Chromium	7440-47-3	22.7	2.96	0.158	1
06952	Cobalt	7440-48-4	47.1	0.986	0.0976	1
06953	Copper	7440-50-8	29.1	9.86	1.43	5
01654	Iron	7439-89-6	2,480	39.5	3.57	1
06955	Lead	7439-92-1	18.0	14.8	2.47	5
01656	Lithium	7439-93-2	115	19.7	1.7	5
01657	Magnesium	7439-95-4	2,030	9.86	1.65	1
06958	Manganese	7439-96-5	88.0	0.986	0.0819	1
06960	Molybdenum	7439-98-7	200	1.97	0.168	1
06961	Nickel	7440-02-0	49.1	1.97	0.128	1
10145	Phosphorus	7723-14-0	258	49.3	14.3	5
01662	Potassium	7440-09-7	1,860	98.6	8.23	1
01667	Sodium	7440-23-5	1,260	98.6	16.5	1
06969	Tin	7440-31-5	381	9.86	0.217	1
06970	Titanium	7440-32-6	235	0.986	0.168	1
06971	Vanadium	7440-62-2	54.5	0.986	0.128	1
06972	Zinc	7440-66-6	62.4	19.7	0.986	5
10146	Zirconium	7440-67-7	101	4.93	0.829	1
		SW-846 6020A	mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	2.15	0.395	0.0986	2
06142	Silver	7440-22-4	9.29	0.197	0.0256	2
06144	Strontium	7440-24-6	152	1.97	0.335	10
06145	Thallium	7440-28-0	0.439	0.197	0.0296	2
		SW-846 7471B	mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.191	0.0160	0.0096	1
Wet Chemistry						
		EPA 300.0	mg/kg	mg/kg	mg/kg	
07332	1a Anions by 300.0-Fluoride	16984-48-8	3.5	1.0	0.40	1
07334	1a Anions by 300.0-Nitrite	14797-65-0	5.5	1.0	0.80	1
07338	1a Anions by 300.0-Sulfate	14808-79-8	38.2	5.0	5.0	1
		EPA 377.1	mg/kg	mg/kg	mg/kg	
00229	32a Sulfite in Soil EPA 377.1	14265-45-3	785	101	30.2	1
Wet Chemistry						
		EPA 160.3 modified	%	%	%	
11625	14a Moisture Content by 160.3	n.a.	0.60	0.10	0.10	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-604-SA8-SB-0.0-0.5MS Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7180869
LL Group # 1415397
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/29/2013 07:40 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/30/2013 09:15
Reported: 09/12/2013 16:29

60400 SDG#: PH097-01MS

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01643	Aluminum	SW-846 6010C	1	132420637001	09/04/2013 04:47	Tara L Snyder	1
06944	Antimony	SW-846 6010C	1	132420637001	09/04/2013 04:47	Tara L Snyder	1
06935	Arsenic	SW-846 6010C	1	132420637001	09/04/2013 04:47	Tara L Snyder	1
06946	Barium	SW-846 6010C	1	132420637001	09/04/2013 04:47	Tara L Snyder	1
06947	Beryllium	SW-846 6010C	1	132420637001	09/04/2013 04:47	Tara L Snyder	1
07914	Boron	SW-846 6010C	1	132420637001	09/04/2013 04:47	Tara L Snyder	1
06949	Cadmium	SW-846 6010C	1	132420637001	09/04/2013 04:47	Tara L Snyder	1
01650	Calcium	SW-846 6010C	1	132420637001	09/04/2013 18:56	John P Hook	10
06951	Chromium	SW-846 6010C	1	132420637001	09/04/2013 04:47	Tara L Snyder	1
06952	Cobalt	SW-846 6010C	1	132420637001	09/04/2013 04:47	Tara L Snyder	1
06953	Copper	SW-846 6010C	1	132420637001	09/04/2013 18:23	John P Hook	5
01654	Iron	SW-846 6010C	1	132420637001	09/04/2013 04:47	Tara L Snyder	1
06955	Lead	SW-846 6010C	1	132420637001	09/04/2013 18:23	John P Hook	5
01656	Lithium	SW-846 6010C	1	132420637001	09/04/2013 18:23	John P Hook	5
01657	Magnesium	SW-846 6010C	1	132420637001	09/04/2013 04:47	Tara L Snyder	1
06958	Manganese	SW-846 6010C	1	132420637001	09/04/2013 04:47	Tara L Snyder	1
06960	Molybdenum	SW-846 6010C	1	132420637001	09/04/2013 04:47	Tara L Snyder	1
06961	Nickel	SW-846 6010C	1	132420637001	09/04/2013 04:47	Tara L Snyder	1
10145	Phosphorus	SW-846 6010C	1	132420637001	09/04/2013 18:23	John P Hook	5
01662	Potassium	SW-846 6010C	1	132420637001	09/04/2013 04:47	Tara L Snyder	1
01667	Sodium	SW-846 6010C	1	132420637001	09/04/2013 04:47	Tara L Snyder	1
06969	Tin	SW-846 6010C	1	132420637001	09/04/2013 04:47	Tara L Snyder	1
06970	Titanium	SW-846 6010C	1	132420637001	09/04/2013 04:47	Tara L Snyder	1
06971	Vanadium	SW-846 6010C	1	132420637001	09/04/2013 04:47	Tara L Snyder	1
06972	Zinc	SW-846 6010C	1	132420637001	09/04/2013 18:23	John P Hook	5
10146	Zirconium	SW-846 6010C	1	132420637001	09/04/2013 04:47	Tara L Snyder	1
06141	Selenium	SW-846 6020A	1	132420637001B	09/05/2013 00:25	David K Beck	2
06142	Silver	SW-846 6020A	1	132420637001A	09/05/2013 00:25	David K Beck	2
06144	Strontium	SW-846 6020A	1	132420637001A	09/10/2013 21:17	David K Beck	10
06145	Thallium	SW-846 6020A	1	132420637001A	09/05/2013 00:25	David K Beck	2
00159	3a Mercury 7471A	SW-846 7471B	1	132420638001	09/04/2013 10:10	Damary Valentin	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132420637001	09/03/2013 10:15	Denise K Conners	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132420638001	09/03/2013 13:20	Denise K Conners	1
07332	1a Anions by 300.0-Fluoride	EPA 300.0	1	13254254201A	09/12/2013 00:06	Sandra J Miller	1
07334	1a Anions by 300.0-Nitrite	EPA 300.0	1	13254254201A	09/12/2013 00:06	Sandra J Miller	1
07338	1a Anions by 300.0-Sulfate	EPA 300.0	1	13254254201A	09/12/2013 00:06	Sandra J Miller	1
01352	1b Anions by 300.0 - Extract.	EPA 300.0	2	13254254201A	09/11/2013 06:40	Nancy J Shoop	1
00229	32a Sulfite in Soil EPA 377.1	EPA 377.1	1	13242022902A	08/30/2013 19:30	Michelle L Lalli	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-604-SA8-SB-0.0-0.5MS Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7180869
LL Group # 1415397
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/29/2013 07:40 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/30/2013 09:15

Reported: 09/12/2013 16:29

60400 SDG#: PH097-01MS

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11625	14a Moisture Content by 160.3	EPA 160.3 modified	1	13248162401A	09/06/2013 21:50	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-604-SA8-SB-0.0-0.5MSD Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7180870
LL Group # 1415397
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/29/2013 07:40 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/30/2013 09:15
Reported: 09/12/2013 16:29

60400 SDG#: PH097-01MSD

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals						
		SW-846 6010C	mg/kg	mg/kg	mg/kg	
01643	Aluminum	7429-90-5	3,510	39.8	7.18	1
06944	Antimony	7440-36-0	53.7	3.98	0.737	1
06935	Arsenic	7440-38-2	19.7	3.98	0.697	1
06946	Barium	7440-39-3	250	0.996	0.0329	1
06947	Beryllium	7440-41-7	4.70	0.996	0.0667	1
07914	Boron	7440-42-8	208	9.96	0.837	1
06949	Cadmium	7440-43-9	4.80	0.996	0.0757	1
01650	Calcium	7440-70-2	387,000	199	33.3	10
06951	Chromium	7440-47-3	22.7	2.99	0.159	1
06952	Cobalt	7440-48-4	47.3	0.996	0.0986	1
06953	Copper	7440-50-8	29.1	9.96	1.44	5
01654	Iron	7439-89-6	2,550	39.8	3.61	1
06955	Lead	7439-92-1	18.4	14.9	2.49	5
01656	Lithium	7439-93-2	115	19.9	1.7	5
01657	Magnesium	7439-95-4	1,970	9.96	1.66	1
06958	Manganese	7439-96-5	88.6	0.996	0.0827	1
06960	Molybdenum	7439-98-7	200	1.99	0.169	1
06961	Nickel	7440-02-0	49.1	1.99	0.129	1
10145	Phosphorus	7723-14-0	232	49.8	14.4	5
01662	Potassium	7440-09-7	1,780	99.6	8.31	1
01667	Sodium	7440-23-5	1,260	99.6	16.6	1
06969	Tin	7440-31-5	382	9.96	0.219	1
06970	Titanium	7440-32-6	228	0.996	0.169	1
06971	Vanadium	7440-62-2	55.2	0.996	0.129	1
06972	Zinc	7440-66-6	61.7	19.9	0.996	5
10146	Zirconium	7440-67-7	102	4.98	0.837	1
		SW-846 6020A	mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	2.11	0.398	0.0996	2
06142	Silver	7440-22-4	9.29	0.199	0.0259	2
06144	Strontium	7440-24-6	124	1.99	0.339	10
06145	Thallium	7440-28-0	0.406	0.199	0.0299	2
		SW-846 7471B	mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.185	0.0160	0.0096	1
Wet Chemistry						
		EPA 377.1	mg/kg	mg/kg	mg/kg	
00229	32a Sulfite in Soil EPA 377.1	14265-45-3	775	101	30.2	1
Wet Chemistry						
		EPA 160.3 modified	%	%	%	
11625	14a Moisture Content by 160.3	n.a.	0.60	0.10	0.10	1

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

*=This limit was used in the evaluation of the final result

Sample Description: SL-604-SA8-SB-0.0-0.5MSD Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7180870
LL Group # 1415397
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/29/2013 07:40 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/30/2013 09:15
Reported: 09/12/2013 16:29

60400 SDG#: PH097-01MSD

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
01643	Aluminum	SW-846 6010C	1	132420637001	09/04/2013	04:52	Tara L Snyder	1
06944	Antimony	SW-846 6010C	1	132420637001	09/04/2013	04:52	Tara L Snyder	1
06935	Arsenic	SW-846 6010C	1	132420637001	09/04/2013	04:52	Tara L Snyder	1
06946	Barium	SW-846 6010C	1	132420637001	09/04/2013	04:52	Tara L Snyder	1
06947	Beryllium	SW-846 6010C	1	132420637001	09/04/2013	04:52	Tara L Snyder	1
07914	Boron	SW-846 6010C	1	132420637001	09/04/2013	04:52	Tara L Snyder	1
06949	Cadmium	SW-846 6010C	1	132420637001	09/04/2013	04:52	Tara L Snyder	1
01650	Calcium	SW-846 6010C	1	132420637001	09/04/2013	19:00	John P Hook	10
06951	Chromium	SW-846 6010C	1	132420637001	09/04/2013	04:52	Tara L Snyder	1
06952	Cobalt	SW-846 6010C	1	132420637001	09/04/2013	04:52	Tara L Snyder	1
06953	Copper	SW-846 6010C	1	132420637001	09/04/2013	18:27	John P Hook	5
01654	Iron	SW-846 6010C	1	132420637001	09/04/2013	04:52	Tara L Snyder	1
06955	Lead	SW-846 6010C	1	132420637001	09/04/2013	18:27	John P Hook	5
01656	Lithium	SW-846 6010C	1	132420637001	09/04/2013	18:27	John P Hook	5
01657	Magnesium	SW-846 6010C	1	132420637001	09/04/2013	04:52	Tara L Snyder	1
06958	Manganese	SW-846 6010C	1	132420637001	09/04/2013	04:52	Tara L Snyder	1
06960	Molybdenum	SW-846 6010C	1	132420637001	09/04/2013	04:52	Tara L Snyder	1
06961	Nickel	SW-846 6010C	1	132420637001	09/04/2013	04:52	Tara L Snyder	1
10145	Phosphorus	SW-846 6010C	1	132420637001	09/04/2013	18:27	John P Hook	5
01662	Potassium	SW-846 6010C	1	132420637001	09/04/2013	04:52	Tara L Snyder	1
01667	Sodium	SW-846 6010C	1	132420637001	09/04/2013	04:52	Tara L Snyder	1
06969	Tin	SW-846 6010C	1	132420637001	09/04/2013	04:52	Tara L Snyder	1
06970	Titanium	SW-846 6010C	1	132420637001	09/04/2013	04:52	Tara L Snyder	1
06971	Vanadium	SW-846 6010C	1	132420637001	09/04/2013	04:52	Tara L Snyder	1
06972	Zinc	SW-846 6010C	1	132420637001	09/04/2013	18:27	John P Hook	5
10146	Zirconium	SW-846 6010C	1	132420637001	09/04/2013	04:52	Tara L Snyder	1
06141	Selenium	SW-846 6020A	1	132420637001B	09/05/2013	00:27	David K Beck	2
06142	Silver	SW-846 6020A	1	132420637001A	09/05/2013	00:27	David K Beck	2
06144	Strontium	SW-846 6020A	1	132420637001A	09/10/2013	21:19	David K Beck	10
06145	Thallium	SW-846 6020A	1	132420637001A	09/05/2013	00:27	David K Beck	2
00159	3a Mercury 7471A	SW-846 7471B	1	132420638001	09/04/2013	10:12	Damary Valentin	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132420637001	09/03/2013	10:15	Denise K Connors	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132420638001	09/03/2013	13:20	Denise K Connors	1
00229	32a Sulfite in Soil EPA 377.1	EPA 377.1	1	13242022902A	08/30/2013	19:30	Michelle L Lalli	1
11625	14a Moisture Content by 160.3	EPA 160.3 modified	1	13248162401A	09/06/2013	21:50	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-604-SA8-SB-0.0-0.5DUP Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7180871
LL Group # 1415397
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/29/2013 07:40 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/30/2013 09:15
Reported: 09/12/2013 16:29

60400 SDG#: PH097-01DUP

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals						
		SW-846 6010C	mg/kg	mg/kg	mg/kg	
01643	Aluminum	7429-90-5	2,620	39.8	7.18	1
06944	Antimony	7440-36-0	3.98 U	3.98	0.737	1
06935	Arsenic	7440-38-2	1.44 J	3.98	0.697	1
06946	Barium	7440-39-3	59.4	0.996	0.0329	1
06947	Beryllium	7440-41-7	0.996 U	0.996	0.0667	1
07914	Boron	7440-42-8	5.10 J	9.96	0.837	1
06949	Cadmium	7440-43-9	0.139 J	0.996	0.0757	1
01650	Calcium	7440-70-2	346,000	199	33.3	10
06951	Chromium	7440-47-3	3.82	2.99	0.159	1
06952	Cobalt	7440-48-4	0.911 J	0.996	0.0986	1
06953	Copper	7440-50-8	2.83 J	9.96	1.44	5
01654	Iron	7439-89-6	2,520	39.8	3.61	1
06955	Lead	7439-92-1	2.78 J	14.9	2.49	5
01656	Lithium	7439-93-2	3.3 J	19.9	1.7	5
Reporting limits for ICP metals were raised due to interference from the sample matrix.						
01657	Magnesium	7439-95-4	1,970	9.96	1.66	1
06958	Manganese	7439-96-5	41.0	0.996	0.0827	1
06960	Molybdenum	7439-98-7	0.170 J	1.99	0.169	1
06961	Nickel	7440-02-0	2.82	1.99	0.129	1
10145	Phosphorus	7723-14-0	142	49.8	14.4	5
01662	Potassium	7440-09-7	420	99.6	8.31	1
01667	Sodium	7440-23-5	146	99.6	16.6	1
06969	Tin	7440-31-5	1.71 J	9.96	0.219	1
06970	Titanium	7440-32-6	101	0.996	0.169	1
06971	Vanadium	7440-62-2	7.04	0.996	0.129	1
06972	Zinc	7440-66-6	8.54 J	19.9	0.996	5
10146	Zirconium	7440-67-7	1.52 J	4.98	0.837	1
		SW-846 6020A	mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	0.101 J	0.398	0.0996	2
06142	Silver	7440-22-4	0.0299 J	0.199	0.0259	2
06144	Strontium	7440-24-6	180	1.99	0.339	10
06145	Thallium	7440-28-0	0.199 U	0.199	0.0299	2
		SW-846 7471B	mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.0165 U	0.0165	0.0099	1
Wet Chemistry		EPA 300.0	mg/kg	mg/kg	mg/kg	
07332	1a Anions by 300.0-Fluoride	16984-48-8	0.82 J	1.0	0.40	1
07334	1a Anions by 300.0-Nitrite	14797-65-0	1.0 U	1.0	0.80	1
07338	1a Anions by 300.0-Sulfate	14808-79-8	9.0	5.0	5.0	1
		EPA 377.1	mg/kg	mg/kg	mg/kg	
00229	32a Sulfite in Soil EPA 377.1	14265-45-3	101 U	101	30.2	1
		SW-846 9045D modified	Std. Units	Std. Units	Std. Units	
00394	15a pH by 9045D	n.a.	7.80	0.0100	0.0100	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-604-SA8-SB-0.0-0.5DUP Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7180871
LL Group # 1415397
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/29/2013 07:40 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/30/2013 09:15

Reported: 09/12/2013 16:29

60400 SDG#: PH097-01DUP

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Wet Chemistry						
	SW-846 9045D modified		Std. Units	Std. Units	Std. Units	

The pH was measured in water at 21.7 C.

Wet Chemistry						
	EPA 160.3 modified		%	%	%	
11625	14a Moisture Content by 160.3	n.a.	0.60	0.10	0.10	1
11626	14a Moisture Content by 160.3	n.a.	0.56	0.10	0.10	1
The duplicate moisture value is provided to assess the precision of the moisture test. For comparability purposes, the initial moisture determination is the value used to perform dry weight calculations.						

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01643	Aluminum	SW-846 6010C	1	132420637001	09/04/2013 04:43	Tara L Snyder	1
06944	Antimony	SW-846 6010C	1	132420637001	09/04/2013 04:43	Tara L Snyder	1
06935	Arsenic	SW-846 6010C	1	132420637001	09/04/2013 04:43	Tara L Snyder	1
06946	Barium	SW-846 6010C	1	132420637001	09/04/2013 04:43	Tara L Snyder	1
06947	Beryllium	SW-846 6010C	1	132420637001	09/04/2013 04:43	Tara L Snyder	1
07914	Boron	SW-846 6010C	1	132420637001	09/04/2013 04:43	Tara L Snyder	1
06949	Cadmium	SW-846 6010C	1	132420637001	09/04/2013 04:43	Tara L Snyder	1
01650	Calcium	SW-846 6010C	1	132420637001	09/04/2013 18:44	John P Hook	10
06951	Chromium	SW-846 6010C	1	132420637001	09/04/2013 04:43	Tara L Snyder	1
06952	Cobalt	SW-846 6010C	1	132420637001	09/04/2013 04:43	Tara L Snyder	1
06953	Copper	SW-846 6010C	1	132420637001	09/04/2013 18:19	John P Hook	5
01654	Iron	SW-846 6010C	1	132420637001	09/04/2013 04:43	Tara L Snyder	1
06955	Lead	SW-846 6010C	1	132420637001	09/04/2013 18:19	John P Hook	5
01656	Lithium	SW-846 6010C	1	132420637001	09/04/2013 18:19	John P Hook	5
01657	Magnesium	SW-846 6010C	1	132420637001	09/04/2013 04:43	Tara L Snyder	1
06958	Manganese	SW-846 6010C	1	132420637001	09/04/2013 04:43	Tara L Snyder	1
06960	Molybdenum	SW-846 6010C	1	132420637001	09/04/2013 04:43	Tara L Snyder	1
06961	Nickel	SW-846 6010C	1	132420637001	09/04/2013 04:43	Tara L Snyder	1
10145	Phosphorus	SW-846 6010C	1	132420637001	09/04/2013 18:19	John P Hook	5
01662	Potassium	SW-846 6010C	1	132420637001	09/04/2013 04:43	Tara L Snyder	1
01667	Sodium	SW-846 6010C	1	132420637001	09/04/2013 04:43	Tara L Snyder	1
06969	Tin	SW-846 6010C	1	132420637001	09/04/2013 04:43	Tara L Snyder	1
06970	Titanium	SW-846 6010C	1	132420637001	09/04/2013 04:43	Tara L Snyder	1
06971	Vanadium	SW-846 6010C	1	132420637001	09/04/2013 04:43	Tara L Snyder	1
06972	Zinc	SW-846 6010C	1	132420637001	09/04/2013 18:19	John P Hook	5
10146	Zirconium	SW-846 6010C	1	132420637001	09/04/2013 04:43	Tara L Snyder	1
06141	Selenium	SW-846 6020A	1	132420637001B	09/05/2013 00:23	David K Beck	2
06142	Silver	SW-846 6020A	1	132420637001A	09/05/2013 00:23	David K Beck	2

*=This limit was used in the evaluation of the final result

Sample Description: SL-604-SA8-SB-0.0-0.5DUP Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7180871
LL Group # 1415397
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/29/2013 07:40 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/30/2013 09:15

Reported: 09/12/2013 16:29

60400 SDG#: PH097-01DUP

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
06144	Strontium	SW-846 6020A	1	132420637001A	09/10/2013	21:15	David K Beck	10
06145	Thallium	SW-846 6020A	1	132420637001A	09/05/2013	00:23	David K Beck	2
00159	3a Mercury 7471A	SW-846 7471B	1	132420638001	09/04/2013	10:08	Damary Valentin	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132420637001	09/03/2013	10:15	Denise K Connors	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132420638001	09/03/2013	13:20	Denise K Connors	1
07332	1a Anions by 300.0-Fluoride	EPA 300.0	1	13254254201A	09/11/2013	23:50	Sandra J Miller	1
07334	1a Anions by 300.0-Nitrite	EPA 300.0	1	13254254201A	09/11/2013	23:50	Sandra J Miller	1
07338	1a Anions by 300.0-Sulfate	EPA 300.0	1	13254254201A	09/11/2013	23:50	Sandra J Miller	1
01352	1b Anions by 300.0 - Extract.	EPA 300.0	2	13254254201A	09/11/2013	06:40	Nancy J Shoop	1
00229	32a Sulfite in Soil EPA 377.1	EPA 377.1	1	13242022902A	08/30/2013	19:30	Michelle L Lalli	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13242039402A	08/30/2013	20:40	Luz M Groff	1
11625	14a Moisture Content by 160.3	EPA 160.3 modified	1	13248162401A	09/06/2013	21:50	Scott W Freisher	1
11626	14a Moisture Content by 160.3	EPA 160.3 modified	1	13248162401A	09/06/2013	21:50	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-904-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7180872
LL Group # 1415397
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/29/2013 07:45 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/30/2013 09:15
Reported: 09/12/2013 16:29

90400 SDG#: PH097-02

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals						
		SW-846 6010C	mg/kg	mg/kg	mg/kg	
01643	Aluminum	7429-90-5	3,310	39.1	7.05	1
06944	Antimony	7440-36-0	3.91 U	3.91	0.724	1
06935	Arsenic	7440-38-2	2.78 J	3.91	0.685	1
06946	Barium	7440-39-3	58.6	0.978	0.0323	1
06947	Beryllium	7440-41-7	0.978 U	0.978	0.0655	1
07914	Boron	7440-42-8	5.52 J	9.78	0.822	1
06949	Cadmium	7440-43-9	0.174 J	0.978	0.0743	1
01650	Calcium	7440-70-2	305,000	196	32.7	10
06951	Chromium	7440-47-3	4.73	2.93	0.157	1
06952	Cobalt	7440-48-4	1.43	0.978	0.0968	1
06953	Copper	7440-50-8	3.39 J	9.78	1.42	5
01654	Iron	7439-89-6	3,540	39.1	3.54	1
06955	Lead	7439-92-1	2.97 J	14.7	2.45	5
01656	Lithium	7439-93-2	5.5 J	19.6	1.7	5
	Reporting limits for ICP metals were raised due to interference from the sample matrix.					
01657	Magnesium	7439-95-4	2,160	9.78	1.63	1
06958	Manganese	7439-96-5	59.1	0.978	0.0812	1
06960	Molybdenum	7439-98-7	1.96 U	1.96	0.166	1
06961	Nickel	7440-02-0	3.83	1.96	0.127	1
10145	Phosphorus	7723-14-0	140	48.9	14.1	5
01662	Potassium	7440-09-7	480	97.8	8.16	1
01667	Sodium	7440-23-5	132	97.8	16.3	1
06969	Tin	7440-31-5	1.72 J	9.78	0.215	1
06970	Titanium	7440-32-6	120	0.978	0.166	1
06971	Vanadium	7440-62-2	9.27	0.978	0.127	1
06972	Zinc	7440-66-6	11.8 J	19.6	0.978	5
10146	Zirconium	7440-67-7	0.963 J	4.89	0.822	1
		SW-846 6020A	mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	0.114 J	0.391	0.0978	2
06142	Silver	7440-22-4	0.0382 J	0.196	0.0254	2
06144	Strontium	7440-24-6	185	1.96	0.333	10
06145	Thallium	7440-28-0	0.0378 J	0.196	0.0293	2
		SW-846 7471B	mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.0164 U	0.0164	0.0098	1
		EPA 300.0	mg/kg	mg/kg	mg/kg	
07332	1a Anions by 300.0-Fluoride	16984-48-8	1.4	1.0	0.40	1
07334	1a Anions by 300.0-Nitrite	14797-65-0	1.0 U	1.0	0.80	1
07338	1a Anions by 300.0-Sulfate	14808-79-8	13.3	5.0	5.0	1
		EPA 377.1	mg/kg	mg/kg	mg/kg	
00229	32a Sulfite in Soil EPA 377.1	14265-45-3	101 U	101	30.2	1
		SW-846 9045D modified	Std. Units	Std. Units	Std. Units	
00394	15a pH by 9045D	n.a.	7.99	0.0100	0.0100	1

*=This limit was used in the evaluation of the final result

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Sample Description: SL-904-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7180872
LL Group # 1415397
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/29/2013 07:45 by VC

CDM Federal Programs Corp.

3201 Jermantown Road

Submitted: 08/30/2013 09:15

Suite 400

Reported: 09/12/2013 16:29

Fairfax VA 22030

90400 SDG#: PH097-02

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Wet Chemistry						
	SW-846 9045D modified		Std. Units	Std. Units	Std. Units	
The pH was measured in water at 21.6 C.						
Wet Chemistry						
	EPA 160.3 modified		%	%	%	
11624	14a Moisture Content by 160.3	n.a.	0.75	0.10	0.10	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01643	Aluminum	SW-846 6010C	1	132420637001	09/04/2013 05:46	Tara L Snyder	1
06944	Antimony	SW-846 6010C	1	132420637001	09/04/2013 05:46	Tara L Snyder	1
06935	Arsenic	SW-846 6010C	1	132420637001	09/04/2013 05:46	Tara L Snyder	1
06946	Barium	SW-846 6010C	1	132420637001	09/04/2013 05:46	Tara L Snyder	1
06947	Beryllium	SW-846 6010C	1	132420637001	09/04/2013 05:46	Tara L Snyder	1
07914	Boron	SW-846 6010C	1	132420637001	09/04/2013 05:46	Tara L Snyder	1
06949	Cadmium	SW-846 6010C	1	132420637001	09/04/2013 05:46	Tara L Snyder	1
01650	Calcium	SW-846 6010C	1	132420637001	09/04/2013 19:24	John P Hook	10
06951	Chromium	SW-846 6010C	1	132420637001	09/04/2013 05:46	Tara L Snyder	1
06952	Cobalt	SW-846 6010C	1	132420637001	09/04/2013 05:46	Tara L Snyder	1
06953	Copper	SW-846 6010C	1	132420637001	09/04/2013 19:20	John P Hook	5
01654	Iron	SW-846 6010C	1	132420637001	09/04/2013 05:46	Tara L Snyder	1
06955	Lead	SW-846 6010C	1	132420637001	09/04/2013 19:20	John P Hook	5
01656	Lithium	SW-846 6010C	1	132420637001	09/04/2013 19:20	John P Hook	5
01657	Magnesium	SW-846 6010C	1	132420637001	09/04/2013 05:46	Tara L Snyder	1
06958	Manganese	SW-846 6010C	1	132420637001	09/04/2013 05:46	Tara L Snyder	1
06960	Molybdenum	SW-846 6010C	1	132420637001	09/04/2013 05:46	Tara L Snyder	1
06961	Nickel	SW-846 6010C	1	132420637001	09/04/2013 05:46	Tara L Snyder	1
10145	Phosphorus	SW-846 6010C	1	132420637001	09/04/2013 19:20	John P Hook	5
01662	Potassium	SW-846 6010C	1	132420637001	09/04/2013 05:46	Tara L Snyder	1
01667	Sodium	SW-846 6010C	1	132420637001	09/04/2013 05:46	Tara L Snyder	1
06969	Tin	SW-846 6010C	1	132420637001	09/04/2013 05:46	Tara L Snyder	1
06970	Titanium	SW-846 6010C	1	132420637001	09/04/2013 05:46	Tara L Snyder	1
06971	Vanadium	SW-846 6010C	1	132420637001	09/04/2013 05:46	Tara L Snyder	1
06972	Zinc	SW-846 6010C	1	132420637001	09/04/2013 19:20	John P Hook	5
10146	Zirconium	SW-846 6010C	1	132420637001	09/04/2013 05:46	Tara L Snyder	1
06141	Selenium	SW-846 6020A	1	132420637001B	09/05/2013 00:58	David K Beck	2
06142	Silver	SW-846 6020A	1	132420637001A	09/05/2013 00:58	David K Beck	2
06144	Strontium	SW-846 6020A	1	132420637001A	09/10/2013 21:24	David K Beck	10

*=This limit was used in the evaluation of the final result

Sample Description: SL-904-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7180872
LL Group # 1415397
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/29/2013 07:45 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/30/2013 09:15

Reported: 09/12/2013 16:29

90400 SDG#: PH097-02

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
06145	Thallium	SW-846 6020A	1	132420637001A	09/05/2013	00:58	David K Beck	2
00159	3a Mercury 7471A	SW-846 7471B	1	132420638001	09/04/2013	10:14	Damary Valentin	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132420637001	09/03/2013	10:15	Denise K Conners	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132420638001	09/03/2013	13:20	Denise K Conners	1
07332	1a Anions by 300.0-Fluoride	EPA 300.0	1	13254254201A	09/12/2013	00:22	Sandra J Miller	1
07334	1a Anions by 300.0-Nitrite	EPA 300.0	1	13254254201A	09/12/2013	00:22	Sandra J Miller	1
07338	1a Anions by 300.0-Sulfate	EPA 300.0	1	13254254201A	09/12/2013	00:22	Sandra J Miller	1
01352	1b Anions by 300.0 - Extract.	EPA 300.0	2	13254254201A	09/11/2013	06:40	Nancy J Shoop	1
00229	32a Sulfite in Soil EPA 377.1	EPA 377.1	1	13242022902A	08/30/2013	19:30	Michelle L Lalli	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13242039402A	08/30/2013	20:40	Luz M Groff	1
11624	14a Moisture Content by 160.3	EPA 160.3 modified	1	13248162401A	09/06/2013	21:50	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-605-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7180873
LL Group # 1415397
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/29/2013 07:30 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/30/2013 09:15
Reported: 09/12/2013 16:29

60500 SDG#: PH097-03*

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals						
SW-846 6010C			mg/kg	mg/kg	mg/kg	
01643	Aluminum	7429-90-5	2,680	40.3	7.26	1
06944	Antimony	7440-36-0	4.03 U	4.03	0.745	1
06935	Arsenic	7440-38-2	2.05 J	4.03	0.705	1
06946	Barium	7440-39-3	69.2	1.01	0.0332	1
06947	Beryllium	7440-41-7	1.01 U	1.01	0.0674	1
07914	Boron	7440-42-8	5.77 J	10.1	0.845	1
06949	Cadmium	7440-43-9	0.211 J	1.01	0.0765	1
01650	Calcium	7440-70-2	323,000	201	33.6	10
06951	Chromium	7440-47-3	4.11	3.02	0.161	1
06952	Cobalt	7440-48-4	0.961 J	1.01	0.0996	1
06953	Copper	7440-50-8	4.91 J	10.1	1.46	5
01654	Iron	7439-89-6	2,840	40.3	3.64	1
06955	Lead	7439-92-1	4.73 J	15.1	2.52	5
01656	Lithium	7439-93-2	4.3 J	20.1	1.7	5
Reporting limits for ICP metals were raised due to interference from the sample matrix.						
01657	Magnesium	7439-95-4	2,460	10.1	1.68	1
06958	Manganese	7439-96-5	47.0	1.01	0.0835	1
06960	Molybdenum	7439-98-7	2.01 U	2.01	0.171	1
06961	Nickel	7440-02-0	3.08	2.01	0.131	1
10145	Phosphorus	7723-14-0	186	50.3	14.5	5
01662	Potassium	7440-09-7	621	101	8.39	1
01667	Sodium	7440-23-5	168	101	16.8	1
06969	Tin	7440-31-5	2.10 J	10.1	0.221	1
06970	Titanium	7440-32-6	126	1.01	0.171	1
06971	Vanadium	7440-62-2	7.62	1.01	0.131	1
06972	Zinc	7440-66-6	19.5 J	20.1	1.01	5
10146	Zirconium	7440-67-7	5.03 U	5.03	0.845	1
SW-846 6020A			mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	0.124 J	0.403	0.101	2
06142	Silver	7440-22-4	0.227	0.201	0.0262	2
06144	Strontium	7440-24-6	209	2.01	0.342	10
06145	Thallium	7440-28-0	0.0469 J	0.201	0.0302	2
SW-846 7471B			mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.0162 U	0.0162	0.0097	1
EPA 300.0			mg/kg	mg/kg	mg/kg	
07332	1a Anions by 300.0-Fluoride	16984-48-8	1.1	1.0	0.40	1
07334	1a Anions by 300.0-Nitrite	14797-65-0	1.0 U	1.0	0.80	1
07338	1a Anions by 300.0-Sulfate	14808-79-8	9.8	5.0	5.0	1
EPA 377.1			mg/kg	mg/kg	mg/kg	
00229	32a Sulfite in Soil EPA 377.1	14265-45-3	101 U	101	30.2	1
SW-846 9045D modified			Std. Units	Std. Units	Std. Units	
00394	15a pH by 9045D	n.a.	7.89	0.0100	0.0100	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-605-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7180873
LL Group # 1415397
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/29/2013 07:30 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/30/2013 09:15
Reported: 09/12/2013 16:29

60500 SDG#: PH097-03*

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Wet Chemistry						
	SW-846 9045D modified		Std. Units	Std. Units	Std. Units	
The pH was measured in water at 21.7 C.						
Wet Chemistry						
	EPA 160.3 modified		%	%	%	
11624	14a Moisture Content by 160.3	n.a.	0.65	0.10	0.10	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01643	Aluminum	SW-846 6010C	1	132420637001	09/04/2013 05:50	Tara L Snyder	1
06944	Antimony	SW-846 6010C	1	132420637001	09/04/2013 05:50	Tara L Snyder	1
06935	Arsenic	SW-846 6010C	1	132420637001	09/04/2013 05:50	Tara L Snyder	1
06946	Barium	SW-846 6010C	1	132420637001	09/04/2013 05:50	Tara L Snyder	1
06947	Beryllium	SW-846 6010C	1	132420637001	09/04/2013 05:50	Tara L Snyder	1
07914	Boron	SW-846 6010C	1	132420637001	09/04/2013 05:50	Tara L Snyder	1
06949	Cadmium	SW-846 6010C	1	132420637001	09/04/2013 05:50	Tara L Snyder	1
01650	Calcium	SW-846 6010C	1	132420637001	09/04/2013 19:33	John P Hook	10
06951	Chromium	SW-846 6010C	1	132420637001	09/04/2013 05:50	Tara L Snyder	1
06952	Cobalt	SW-846 6010C	1	132420637001	09/04/2013 05:50	Tara L Snyder	1
06953	Copper	SW-846 6010C	1	132420637001	09/04/2013 19:28	John P Hook	5
01654	Iron	SW-846 6010C	1	132420637001	09/04/2013 05:50	Tara L Snyder	1
06955	Lead	SW-846 6010C	1	132420637001	09/04/2013 19:28	John P Hook	5
01656	Lithium	SW-846 6010C	1	132420637001	09/04/2013 19:28	John P Hook	5
01657	Magnesium	SW-846 6010C	1	132420637001	09/04/2013 05:50	Tara L Snyder	1
06958	Manganese	SW-846 6010C	1	132420637001	09/04/2013 05:50	Tara L Snyder	1
06960	Molybdenum	SW-846 6010C	1	132420637001	09/04/2013 05:50	Tara L Snyder	1
06961	Nickel	SW-846 6010C	1	132420637001	09/04/2013 05:50	Tara L Snyder	1
10145	Phosphorus	SW-846 6010C	1	132420637001	09/04/2013 19:28	John P Hook	5
01662	Potassium	SW-846 6010C	1	132420637001	09/04/2013 05:50	Tara L Snyder	1
01667	Sodium	SW-846 6010C	1	132420637001	09/04/2013 05:50	Tara L Snyder	1
06969	Tin	SW-846 6010C	1	132420637001	09/04/2013 05:50	Tara L Snyder	1
06970	Titanium	SW-846 6010C	1	132420637001	09/04/2013 05:50	Tara L Snyder	1
06971	Vanadium	SW-846 6010C	1	132420637001	09/04/2013 05:50	Tara L Snyder	1
06972	Zinc	SW-846 6010C	1	132420637001	09/04/2013 19:28	John P Hook	5
10146	Zirconium	SW-846 6010C	1	132420637001	09/04/2013 05:50	Tara L Snyder	1
06141	Selenium	SW-846 6020A	1	132420637001B	09/05/2013 01:00	David K Beck	2
06142	Silver	SW-846 6020A	1	132420637001A	09/05/2013 01:00	David K Beck	2
06144	Strontium	SW-846 6020A	1	132420637001A	09/10/2013 21:26	David K Beck	10

*=This limit was used in the evaluation of the final result

Sample Description: SL-605-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7180873
LL Group # 1415397
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 08/29/2013 07:30 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 08/30/2013 09:15
Reported: 09/12/2013 16:29

60500 SDG#: PH097-03*

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
06145	Thallium	SW-846 6020A	1	132420637001A	09/05/2013	01:00	David K Beck	2
00159	3a Mercury 7471A	SW-846 7471B	1	132420638001	09/04/2013	10:17	Damary Valentin	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132420637001	09/03/2013	10:15	Denise K Conners	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132420638001	09/03/2013	13:20	Denise K Conners	1
07332	1a Anions by 300.0-Fluoride	EPA 300.0	1	13254254201A	09/12/2013	00:39	Sandra J Miller	1
07334	1a Anions by 300.0-Nitrite	EPA 300.0	1	13254254201A	09/12/2013	00:39	Sandra J Miller	1
07338	1a Anions by 300.0-Sulfate	EPA 300.0	1	13254254201A	09/12/2013	00:39	Sandra J Miller	1
01352	1b Anions by 300.0 - Extract.	EPA 300.0	2	13254254201A	09/11/2013	06:40	Nancy J Shoop	1
00229	32a Sulfite in Soil EPA 377.1	EPA 377.1	1	13242022902A	08/30/2013	19:30	Michelle L Lalli	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13242039402A	08/30/2013	20:40	Luz M Groff	1
11624	14a Moisture Content by 160.3	EPA 160.3 modified	1	13248162401A	09/06/2013	21:50	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 09/12/13 at 04:29 PM

Group Number: 1415397

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ**</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 132420637001	Sample number(s): 7180868-7180873								
Aluminum	40.0 U	40.0	7.21	mg/kg	106		80-120		
Antimony	4.00 U	4.00	0.740	mg/kg	107		80-120		
Arsenic	4.00 U	4.00	0.700	mg/kg	104		80-120		
Barium	1.00 U	1.00	0.0330	mg/kg	102		80-120		
Beryllium	1.00 U	1.00	0.0670	mg/kg	102		80-120		
Boron	10.0 U	10.0	0.840	mg/kg	100		80-120		
Cadmium	1.00 U	1.00	0.0760	mg/kg	104		80-120		
Calcium	9.35 J	20.0	3.34	mg/kg	103		80-120		
Chromium	3.00 U	3.00	0.160	mg/kg	105		80-120		
Cobalt	1.00 U	1.00	0.0990	mg/kg	104		80-120		
Copper	2.00 U	2.00	0.290	mg/kg	104		80-120		
Iron	40.0 U	40.0	3.62	mg/kg	102		80-120		
Lead	3.00 U	3.00	0.500	mg/kg	106		80-120		
Lithium	4.0 U	4.0	0.34	mg/kg	104		80-120		
Magnesium	10.0 U	10.0	1.67	mg/kg	102		80-120		
Manganese	1.00 U	1.00	0.0830	mg/kg	103		80-120		
Molybdenum	2.00 U	2.00	0.170	mg/kg	105		80-120		
Nickel	2.00 U	2.00	0.130	mg/kg	106		80-120		
Phosphorus	10.0 U	10.0	2.89	mg/kg	106		80-120		
Potassium	100 U	100.	8.34	mg/kg	102		80-120		
Sodium	100 U	100.	16.7	mg/kg	101		80-120		
Tin	1.64 J	10.0	0.220	mg/kg	105		80-120		
Titanium	1.00 U	1.00	0.170	mg/kg	106		80-120		
Vanadium	1.00 U	1.00	0.130	mg/kg	101		80-120		
Zinc	0.416 J	4.00	0.200	mg/kg	104		80-120		
Zirconium	5.00 U	5.00	0.840	mg/kg	105		80-120		
Batch number: 132420637001A	Sample number(s): 7180868-7180873								
Silver	0.200 U	0.200	0.0260	mg/kg	107		80-120		
Strontium	0.400 U	0.400	0.0680	mg/kg	104		80-120		
Thallium	0.200 U	0.200	0.0300	mg/kg	110		80-120		
Batch number: 132420637001B	Sample number(s): 7180868-7180873								
Selenium	0.400 U	0.400	0.100	mg/kg	108		80-120		
Batch number: 132420638001	Sample number(s): 7180868-7180873								
3a Mercury 7471A	0.0167 U	0.0167	0.0100	mg/kg	110		85-120		
Batch number: 13254254201A	Sample number(s): 7180868-7180869, 7180871-7180873								
1a Anions by 300.0-Fluoride	1.0 U	1.0	0.40	mg/kg	105		90-110		
1a Anions by 300.0-Nitrite	1.0 U	1.0	0.80	mg/kg	105		90-110		

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 09/12/13 at 04:29 PM

Group Number: 1415397

Analysis Name	Blank Result	Blank LOQ**	Blank MDL	Report Units	LCS %REC	LCS %REC	LCS/LCSD Limits	RPD	RPD Max
1a Anions by 300.0-Sulfate	5.0 U	5.0	5.0	mg/kg	109		90-110		
Batch number: 13242022902A	Sample number(s): 7180868-7180873								
32a Sulfite in Soil EPA 377.1	100 U	100.	30.0	mg/kg	91		80-120		
Batch number: 13242039402A	Sample number(s): 7180868,7180871-7180873								
15a pH by 9045D					100		95-105		
Batch number: 13248162401A	Sample number(s): 7180868-7180873								
14a Moisture Content by 160.3					100		80-120		
14a Moisture Content by 160.3					100		80-120		
14a Moisture Content by 160.3					100		80-120		

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 132420637001	Sample number(s): 7180868-7180873 UNSPK: 7180868 BKG: 7180868								
Aluminum	772 (2)	769 (2)	75-125	0	20	1,970	2,600	28*	20
Antimony	111	108	75-125	1	20	3.96 U	3.96 U	0 (1)	20
Arsenic	114	118	75-125	5	20	1.96 J	1.44 J	31* (1)	20
Barium	96	95	75-125	0	20	59.1	59.0	0	20
Beryllium	95	94	75-125	1	20	0.990 U	0.990 U	0 (1)	20
Boron	103	102	75-125	1	20	4.62 J	5.07 J	9 (1)	20
Cadmium	95	94	75-125	0	20	0.109 J	0.139 J	24* (1)	20
Calcium	263 (2)	7244 (2)	75-125	7	20	356,000	344,000	4	20
Chromium	100	99	75-125	0	20	2.87 J	3.79	28* (1)	20
Cobalt	94	94	75-125	0	20	0.580 J	0.906 J	44* (1)	20
Copper	110	108	75-125	0	20	2.09 J	2.82 J	29* (1)	20
Iron	737 (2)	804 (2)	75-125	3	20	1,740	2,500	36*	20
Lead	98	100	75-125	2	20	3.45 J	2.77 J	22* (1)	20
Lithium	113	112	75-125	0	20	3.7 J	3.3 J	12 (1)	20
Magnesium	51 (2)	21 (2)	75-125	3	20	1,920	1,960	2	20
Manganese	114	114	75-125	1	20	31.7	40.7	25*	20
Molybdenum	101	100	75-125	0	20	0.339 J	0.169 J	67* (1)	20
Nickel	95	94	75-125	0	20	2.13	2.80	27* (1)	20
Phosphorus	113	86	75-125	10	20	146	141	3 (1)	20
Potassium	155*	146*	75-125	4	20	324	418	25* (1)	20
Sodium	113	111	75-125	0	20	151	145	4 (1)	20
Tin	96	96	75-125	0	20	1.83 J	1.70 J	7 (1)	20
Titanium	164*	156*	75-125	3	20	72.6	100	32*	20
Vanadium	100	100	75-125	1	20	5.24	7.00	29*	20
Zinc	114	111	75-125	1	20	6.40 J	8.49 J	28* (1)	20
Zirconium	101	102	75-125	2	20	1.26 J	1.51 J	18 (1)	20
Batch number: 132420637001A	Sample number(s): 7180868-7180873 UNSPK: 7180868 BKG: 7180868								
Silver	94	93	75-125	0	20	0.198 U	0.0297 J	200* (1)	20
Strontium	-469	-813	75-125	20	20	188	179	5	20

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 09/12/13 at 04:29 PM

Group Number: 1415397

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

<u>Analysis Name</u>	<u>MS</u> <u>%REC</u> (2)	<u>MSD</u> <u>%REC</u> (2)	<u>MS/MSD</u> <u>Limits</u>	<u>RPD</u>	<u>RPD</u> <u>MAX</u>	<u>BKG</u> <u>Conc</u>	<u>DUP</u> <u>Conc</u>	<u>DUP</u> <u>RPD</u>	<u>Dup</u> <u>RPD</u> <u>Max</u>
Thallium	111	102	75-125	8	20	0.198 U	0.198 U	0 (1)	20
Batch number: 132420637001B	Sample number(s): 7180868-7180873 UNSPK: 7180868 BKG: 7180868								
Selenium	109	106	75-125	1	20	0.396 U	0.100 J	200* (1)	20
Batch number: 132420638001	Sample number(s): 7180868-7180873 UNSPK: 7180868 BKG: 7180868								
3a Mercury 7471A	120	116	65-135	3	20	0.0164 U	0.0164 U	0 (1)	20
Batch number: 13254254201A	Sample number(s): 7180868-7180869,7180871-7180873 UNSPK: 7180868 BKG: 7180868								
1a Anions by 300.0-Fluoride	52*		80-120			0.87 J	0.82 J	6 (1)	20
1a Anions by 300.0-Nitrite	109		80-120			1.0 U	1.0 U	0 (1)	20
1a Anions by 300.0-Sulfate	110		80-120			10.6	9.0	17 (1)	20
Batch number: 13242022902A	Sample number(s): 7180868-7180873 UNSPK: 7180868 BKG: 7180868								
32a Sulfite in Soil EPA 377.1	78*	77*	81-105	1	5	100 U	100 U	0 (1)	20
Batch number: 13242039402A	Sample number(s): 7180868,7180871-7180873 BKG: 7180868								
15a pH by 9045D						7.88	7.80	1	3
Batch number: 13248162401A	Sample number(s): 7180868-7180873 BKG: 7180868								
14a Moisture Content by 160.3						0.60	0.56	6	20
14a Moisture Content by 160.3						0.60	0.56	6	20
14a Moisture Content by 160.3						0.60	0.56	6	20

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

SSFL Phase 3 Chain of Custody

13013 1415397 7180868-73

CDM Smith
 Date Shipped: 8/29/2013
 Carrier Name: FedEx
 Airbill No: 796579709926

Contact Name: Pam Hartman
 Contact Phone: (818)466-8007

COC No: 20130829-01
 Cooler #: 1
 Lab: Lancaster
 Lab Phone: 717-556-7259
 Lab Address: 2425 New Holland Pike
 Lancaster, PA 17601

Sample	Date/Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	TIC 8270	SVOC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes	
SL-604-SA8-SB-0.0-0.5MS	8/29/13 07:40	SO	None	3 - 16 oz glass	10 day	X	X	X									X																				MS/MSD. Fluoride represents
SL-904-SA8-SB-0.0-0.5	8/29/13 07:45	SO	None	1 - 16 oz glass	10 day	X	X	X									X																				inorganics analysis EPA method 300.0 for
SL-605-SA8-SB-0.0-0.5	8/29/13 07:30	SO	None	1 - 16 oz glass	10 day	X	X	X									X																			Nitrite as NO3, fluoride, sulfate, sulfite.	

Special Instructions: Sampler: *V. Cortes*

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
<i>Slyj Mype</i>	<i>08/29/2013</i>	<i>1600</i>									
<i>[Large diagonal line across the table]</i>											
									<i>[Signature]</i>	<i>8-29-13</i>	<i>0915</i>

Subarea 8

Environmental Sample Administration 1415397
Receipt Documentation Log

Client/Project: ADM Smith
Date of Receipt: 8-30-13
Time of Receipt: 0915
Source Code: 5

Shipping Container Sealed: YES NO
Custody Seal Present * : YES NO
* Custody seal was intact unless otherwise noted in the discrepancy section
Package: Chilled Not Chilled

Temperature of Shipping Containers

Cooler #	Thermometer ID	Temperature (°C)	Temp Bottle (TB) or Surface Temp (ST)	Wet Ice (WI) or Dry Ice (DI) or Ice Packs (IP)	Ice Present? Y/N	Loose (L) Bagged Ice (B) or NA	Comments
1	D1131	1.1	TB	WI	Y	B	
2		1.7					
3							
4							
5							
6							

Number of Trip Blanks received NOT listed on chain of custody: 0

Paperwork Discrepancy/Unpacking Problems:

Unpacker Signature/Emp#: [Signature] 3200 Date/Time: 8-30-13 1029

Issued by Dept. 6042 Management

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	BMQL	Below Minimum Quantitation Level
N.D.	none detected	MPN	Most Probable Number
TNTC	Too Numerous To Count	CP Units	cobalt-chloroplatinate units
IU	International Units	NTU	nephelometric turbidity units
umhos/cm	micromhos/cm	ng	nanogram(s)
C	degrees Celsius	F	degrees Fahrenheit
meq	milliequivalents	lb.	pound(s)
g	gram(s)	kg	kilogram(s)
µg	microgram(s)	mg	milligram(s)
mL	milliliter(s)	L	liter(s)
m³	cubic meter(s)	µL	microliter(s)
		pg/L	picogram/liter

< less than - The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Data Qualifiers:

C – result confirmed by reanalysis.

J - estimated value – The result is \geq the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ).

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers

Inorganic Qualifiers

A	TIC is a possible aldol-condensation product	B	Value is $<$ CRDL, but \geq IDL
B	Analyte was also detected in the blank	E	Estimated due to interference
C	Pesticide result confirmed by GC/MS	M	Duplicate injection precision not met
D	Compound quantitated on a diluted sample	N	Spike sample not within control limits
E	Concentration exceeds the calibration range of the instrument	S	Method of standard additions (MSA) used for calculation
N	Presumptive evidence of a compound (TICs only)	U	Compound was not detected
P	Concentration difference between primary and confirmation columns $>$ 25%	W	Post digestion spike out of control limits
U	Compound was not detected	*	Duplicate analysis not within control limits
X,Y,Z	Defined in case narrative	+	Correlation coefficient for MSA $<$ 0.995

Analytical test results meet all requirements of NELAC unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

SAMPLE DELIVERY GROUP

PH115

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

October 09, 2013

Project: SSFL Phase 3 Sampling

Submittal Date: 09/26/2013
Group Number: 1421812
SDG: PH115
PO Number: 1204-002-001-AL
State of Sample Origin: CA

Client Sample Description

EB2-092513 Water

Lancaster Labs (LL) #

7213953

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC Eurofins Lancaster Labs Env
COPY TO

Attn: Nicole Maljovec

Respectfully Submitted,



Nicole L. Maljovec
Principal Specialist Group Leader

(717) 556-7259

Sample Description: **EB2-092513 Water**
SSFL Phase 3 Subarea 8

LL Sample # **WW 7213953**
LL Group # **1421812**
Account # **13013**

Project Name: **SSFL Phase 3 Sampling**

Collected: 09/25/2013 15:30 by PH

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 09/26/2013 09:05
Reported: 10/09/2013 15:06

25EB2 SDG#: PH115-01EB*

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Dilution Factor
GC/MS Semivolatiles SW-846 8270D SIM						
12971	Acenaphthene	83-32-9	0.051 U	ug/l	ug/l	1
12971	Acenaphthylene	208-96-8	0.051 U	ug/l	ug/l	1
12971	Anthracene	120-12-7	0.051 U	ug/l	ug/l	1
12971	Benzo(a)anthracene	56-55-3	0.051 U	ug/l	ug/l	1
12971	Benzo(a)pyrene	50-32-8	0.051 U	ug/l	ug/l	1
12971	Benzo(b)fluoranthene	205-99-2	0.051 U	ug/l	ug/l	1
12971	Benzo(e)pyrene	192-97-2	0.051 U	ug/l	ug/l	1
12971	Benzo(g,h,i)perylene	191-24-2	0.051 U	ug/l	ug/l	1
12971	Benzo(k)fluoranthene	207-08-9	0.051 U	ug/l	ug/l	1
12971	Butylbenzylphthalate	85-68-7	1.0 U	ug/l	ug/l	1
12971	Di-n-butylphthalate	84-74-2	0.15 J	ug/l	ug/l	1
12971	Chrysene	218-01-9	0.051 U	ug/l	ug/l	1
12971	Dibenz(a,h)anthracene	53-70-3	0.051 U	ug/l	ug/l	1
12971	Diethylphthalate	84-66-2	0.77 J	ug/l	ug/l	1
12971	Dimethylphthalate	131-11-3	1.0 U	ug/l	ug/l	1
12971	Bis(2-Ethylhexyl)phthalate	117-81-7	1.0 U	ug/l	ug/l	1
12971	Fluoranthene	206-44-0	0.051 U	ug/l	ug/l	1
12971	Fluorene	86-73-7	0.051 U	ug/l	ug/l	1
12971	Indeno(1,2,3-cd)pyrene	193-39-5	0.051 U	ug/l	ug/l	1
12971	1-Methylnaphthalene	90-12-0	0.051 U	ug/l	ug/l	1
12971	2-Methylnaphthalene	91-57-6	0.051 U	ug/l	ug/l	1
12971	Naphthalene	91-20-3	0.051 U	ug/l	ug/l	1
12971	N-Nitrosodimethylamine	62-75-9	0.051 U	ug/l	ug/l	1
12971	Di-n-octylphthalate	117-84-0	1.0 U	ug/l	ug/l	1
12971	Phenanthrene	85-01-8	0.051 U	ug/l	ug/l	1
12971	Pyrene	129-00-0	0.051 U	ug/l	ug/l	1
GC Volatiles TPH GRO SW-8015B						
08229	TPH-GRO S.CA water C5-C12	n.a.	50 U	ug/l	ug/l	1
Herbicides SW-846 8151A						
10407	2,4-D	94-75-7	0.48 U	ug/l	ug/l	1
10407	Dalapon	75-99-0	1.2 U	ug/l	ug/l	1
10407	2,4-DB	94-82-6	0.95 U	ug/l	ug/l	1
10407	Dicamba	1918-00-9	0.29 U	ug/l	ug/l	1
10407	Dinoseb	88-85-7	0.48 U	ug/l	ug/l	1
The QC window for dinoseb is advisory due to the erratic performance of the analyte using this method.						
10407	2,4-DP (Dichlorprop)	120-36-5	0.48 U	ug/l	ug/l	1
10407	MCPA	94-74-6	190 U	ug/l	ug/l	1
10407	MCPP	93-65-2	190 U	ug/l	ug/l	1
10407	2,4,5-T	93-76-5	0.048 U	ug/l	ug/l	1
10407	2,4,5-TP	93-72-1	0.048 U	ug/l	ug/l	1
Pesticides/PCBs SW-846 8081B						
10589	Aldrin	309-00-2	0.0083 U	ug/l	ug/l	1
10589	Alpha BHC	319-84-6	0.0083 U	ug/l	ug/l	1
10589	Beta BHC	319-85-7	0.0083 U	ug/l	ug/l	1
10589	Gamma BHC - Lindane	58-89-9	0.0083 U	ug/l	ug/l	1
10589	Chlordane	57-74-9	0.41 U	ug/l	ug/l	1

*=This limit was used in the evaluation of the final result

Sample Description: EB2-092513 Water
SSFL Phase 3 Subarea 8

LL Sample # WW 7213953
LL Group # 1421812
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 09/25/2013 15:30 by PH

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 09/26/2013 09:05
Reported: 10/09/2013 15:06

25EB2 SDG#: PH115-01EB*

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Dilution Factor
Pesticides/PCBs SW-846 8081B						
10589	p,p-DDD	72-54-8	0.017 U	0.017	0.0041	1
10589	p,p-DDE	72-55-9	0.017 U	0.017	0.0041	1
10589	p,p-DDT	50-29-3	0.017 U	0.017	0.0043	1
10589	Delta BHC	319-86-8	0.0083 U	0.0083	0.0028	1
10589	Dieldrin	60-57-1	0.017 U	0.017	0.0044	1
10589	Endosulfan I	959-98-8	0.0083 U	0.0083	0.0036	1
10589	Endosulfan II	33213-65-9	0.017 U	0.017	0.012	1
10589	Endosulfan Sulfate	1031-07-8	0.017 U	0.017	0.0048	1
10589	Endrin	72-20-8	0.017 U	0.017	0.0067	1
10589	Endrin Aldehyde	7421-93-4	0.083 U	0.083	0.017	1
10589	Endrin Ketone	53494-70-5	0.017 U	0.017	0.0041	1
10589	Heptachlor	76-44-8	0.0083 U	0.0083	0.0017	1
10589	Heptachlor Epoxide	1024-57-3	0.0083 U	0.0083	0.0019	1
10589	Methoxychlor	72-43-5	0.083 U	0.083	0.025	1
10589	Mirex	2385-85-5	0.041 U	0.041	0.0083	1
10589	Toxaphene	8001-35-2	2.5 U	2.5	0.83	1

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken:

The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Dilution Factor
Pesticides/PCBs SW-846 8082A						
13092	Aroclor 5432	63496-31-1	0.41 U	0.41	0.083	1
13092	Aroclor 5442	12642-23-8	0.41 U	0.41	0.083	1
13092	Aroclor 5460	11126-42-4	0.41 U	0.41	0.091	1
13092	PCB-1016	12674-11-2	0.41 U	0.41	0.083	1
13092	PCB-1221	11104-28-2	0.41 U	0.41	0.083	1
13092	PCB-1232	11141-16-5	0.41 U	0.41	0.17	1
13092	PCB-1242	53469-21-9	0.41 U	0.41	0.083	1
13092	PCB-1248	12672-29-6	0.41 U	0.41	0.083	1
13092	PCB-1254	11097-69-1	0.41 U	0.41	0.083	1
13092	PCB-1260	11096-82-5	0.41 U	0.41	0.12	1
13092	PCB-1262	37324-23-5	0.41 U	0.41	0.17	1
13092	PCB-1268	11100-14-4	0.41 U	0.41	0.13	1

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Dilution Factor
GC Petroleum Hydrocarbons SW-846 8015B modified						
10365	EFH (C12-C14)	n.a.	0.096 U	0.096	0.048	1
10365	EFH (C15-C20)	n.a.	0.096 U	0.096	0.048	1
10365	EFH (C21-C30)	n.a.	0.096 U	0.096	0.048	1
10365	EFH (C30 - C40)	n.a.	0.48 U	0.48	0.096	1
10365	EFH (C8-C11)	n.a.	0.096 U	0.096	0.048	1

The stated QC limits are advisory only until sufficient data points can be obtained to calculate statistical limits.

For all QC parameters which are outside project defined limits, but within the laboratory statistical limits, no corrective action is taken.

*=This limit was used in the evaluation of the final result

Sample Description: EB2-092513 Water
SSFL Phase 3 Subarea 8

LL Sample # WW 7213953
LL Group # 1421812
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 09/25/2013 15:30 by PH

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 09/26/2013 09:05
Reported: 10/09/2013 15:06

25EB2 SDG#: PH115-01EB*

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Dilution Factor
Metals						
		SW-846 6010C	mg/l	mg/l	mg/l	
01743	Aluminum	7429-90-5	0.400 U	0.400	0.0828	1
07044	Antimony	7440-36-0	0.0400 U	0.0400	0.0053	1
07035	Arsenic	7440-38-2	0.0400 U	0.0400	0.0068	1
07046	Barium	7440-39-3	0.0100 U	0.0100	0.00033	1
07047	Beryllium	7440-41-7	0.0100 U	0.0100	0.00067	1
08014	Boron	7440-42-8	0.100 U	0.100	0.0084	1
07049	Cadmium	7440-43-9	0.0100 U	0.0100	0.00076	1
01750	Calcium	7440-70-2	0.0676 J	0.400	0.0334	1
07051	Chromium	7440-47-3	0.0300 U	0.0300	0.0016	1
07052	Cobalt	7440-48-4	0.0100 U	0.0100	0.0013	1
07053	Copper	7440-50-8	0.0200 U	0.0200	0.0027	1
01754	Iron	7439-89-6	0.400 U	0.400	0.0430	1
07055	Lead	7439-92-1	0.0300 U	0.0300	0.0047	1
01756	Lithium	7439-93-2	0.0400 U	0.0400	0.0047	1
01757	Magnesium	7439-95-4	0.200 U	0.200	0.0167	1
07058	Manganese	7439-96-5	0.0100 U	0.0100	0.00083	1
07060	Molybdenum	7439-98-7	0.0200 U	0.0200	0.0017	1
07061	Nickel	7440-02-0	0.0200 U	0.0200	0.0015	1
10143	Phosphorus	7723-14-0	0.200 U	0.200	0.0418	1
01762	Potassium	7440-09-7	1.00 U	1.00	0.0980	1
01767	Sodium	7440-23-5	2.00 U	2.00	0.167	1
07069	Tin	7440-31-5	0.0400 U	0.0400	0.0029	1
07070	Titanium	7440-32-6	0.0200 U	0.0200	0.0017	1
07071	Vanadium	7440-62-2	0.0100 U	0.0100	0.0020	1
07072	Zinc	7440-66-6	0.0400 U	0.0400	0.0020	1
10144	Zirconium	7440-67-7	0.100 U	0.100	0.0084	1
		SW-846 6020A	mg/l	mg/l	mg/l	
06041	Selenium	7782-49-2	0.0040 U	0.0040	0.00050	1
06042	Silver	7440-22-4	0.0010 U	0.0010	0.00011	1
06044	Strontium	7440-24-6	0.0020 U	0.0020	0.00034	1
06045	Thallium	7440-28-0	0.0010 U	0.0010	0.00015	1
		SW-846 7470A	mg/l	mg/l	mg/l	
00259	3b Mercury 7470A	7439-97-6	0.00020 U	0.00020	0.000060	1
Wet Chemistry						
		SW-846 9040C	Std. Units	Std. Units	Std. Units	
12152	28b pH (9040B and 9040C)	n.a.	6.0	0.010	0.010	1

*=This limit was used in the evaluation of the final result

Sample Description: EB2-092513 Water
SSFL Phase 3 Subarea 8

LL Sample # WW 7213953
LL Group # 1421812
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 09/25/2013 15:30 by PH

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 09/26/2013 09:05
Reported: 10/09/2013 15:06

25EB2 SDG#: PH115-01EB*

CAT No.	Analysis Name	CAS Number	As Received Result	As Received MRL*	As Received EDL	Dilution Factor
Dioxins/Furans		EPA 1613B	pg/l	pg/l	pg/l	
10915	2378-TCDD	1746-01-6	1.92 U	1.92	0.233	1
10915	12378-PeCDD	40321-76-4	0.189 JBQ	9.60	0.154	1
10915	123478-HxCDD	39227-28-6	0.124 JBQ	9.60	0.124	1
10915	123678-HxCDD	57653-85-7	0.202 JBQ	9.60	0.129	1
10915	123789-HxCDD	19408-74-3	9.60 U	9.60	0.116	1
10915	1234678-HpCDD	35822-46-9	0.621 JBQ	9.60	0.131	1
10915	OCDD	3268-87-9	1.54 JBQ	19.2	0.147	1
10915	2378-TCDF	51207-31-9	1.92 U	1.92	0.157	1
10915	12378-PeCDF	57117-41-6	0.456 JBQ	9.60	0.0766	1
10915	23478-PeCDF	57117-31-4	0.359 JBQ	9.60	0.0704	1
10915	123478-HxCDF	70648-26-9	0.134 JBQ	9.60	0.0716	1
10915	123678-HxCDF	57117-44-9	0.213 JB	9.60	0.0716	1
10915	123789-HxCDF	72918-21-9	0.200 JBQ	9.60	0.0713	1
10915	234678-HxCDF	60851-34-5	0.232 JBQ	9.60	0.0664	1
10915	1234678-HpCDF	67562-39-4	0.415 JB	9.60	0.0550	1
10915	1234789-HpCDF	55673-89-7	0.232 JBQ	9.60	0.0598	1
10915	OCDF	39001-02-0	0.772 JBQ	19.2	0.143	1

Toxic Equivalents		EPA 1613B	pg/l	pg/l	pg/l	
10915	TEQ WHO 2005 - EDLx0.0	n.a.	0.0255			1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	69	25 - 164
13C12-12378-PeCDD	70	25 - 181
13C12-123478-HxCDD	81	32 - 141
13C12-123678-HxCDD	79	28 - 130
13C12-123789-HxCDD	80	28 - 130
13C12-1234678-HpCDD	82	23 - 140
13C12-OCDD	86	17 - 157
13C12-2378-TCDF	70	24 - 169
13C12-12378-PeCDF	71	24 - 185
13C12-23478-PeCDF	72	21 - 178
13C12-123478-HxCDF	79	26 - 152
13C12-123678-HxCDF	79	26 - 123
13C12-234678-HxCDF	80	28 - 136
13C12-123789-HxCDF	85	29 - 147
13C12-1234678-HpCDF	81	28 - 143
13C12-1234789-HpCDF	83	26 - 138
13C12-OCDF	86	17 - 157

Dioxins/Furans Data Qualifiers:

- B Detected in Method Blank
- U Undetected
- J Estimated concentration between Estimated Detection Limit and Minimum Level
- E Exceeds calibration range
- C Confirmed quantitation on secondary GC column
- Q EMPC - Estimated Maximum Possible Concentration

*=This limit was used in the evaluation of the final result

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Sample Description: EB2-092513 Water
SSFL Phase 3 Subarea 8

LL Sample # WW 7213953
LL Group # 1421812
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 09/25/2013 15:30 by PH

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 09/26/2013 09:05
Reported: 10/09/2013 15:06

25EB2 SDG#: PH115-01EB*

CAT No.	Analysis Name	CAS Number	As Received Result	As Received MRL*	As Received EDL	Dilution Factor
F	Interference is present					
S	Saturation of detection signal					

*=This limit was used in the evaluation of the final result

Sample Description: EB2-092513 Water
SSFL Phase 3 Subarea 8

LL Sample # WW 7213953
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Project Name: SSFL Phase 3 Sampling

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25EB2 SDG#: PH115-01EB*

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12971	7b SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13274WAK026	10/08/2013 14:38	Chad A Moline	1
10466	BNA Water Extraction SIM	SW-846 3510C	1	13274WAK026	10/02/2013 10:20	Anna E Stager	1
08229	11b TPH by EPA 8015B GRO	TPH GRO SW-8015B	1	13269B94A	09/27/2013 14:42	Catherine J Schwarz	1
01146	GC VOA Water Prep	SW-846 5030B	1	13269B94A	09/27/2013 14:42	Catherine J Schwarz	1
10407	24b Herbicides by EPA 8151A	SW-846 8151A	1	132740011A	10/02/2013 14:25	Melissa McDermott	1
10589	22b Pesticides by EPA 8081B	SW-846 8081B	1	132730010A	10/01/2013 12:43	Lisa A Reinert	1
13092	21b PCBs and PCTs 8082A	SW-846 8082A	1	132730011A	10/02/2013 23:21	Monica M Souders	1
13093	PCB/PCT Waters Update IV	SW-846 3510C	1	132730011A	09/30/2013 16:00	Seth A Farrier	1
11120	Pesticide Waters Update IV Ext	SW-846 3510C	1	132730010A	09/30/2013 16:00	Seth A Farrier	1
00816	Water Sample Herbicide Extract	SW-846 8151A	1	132740011A	10/01/2013 20:00	Elaine F Stoltzfus	1
10365	10b TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132730022A	10/02/2013 08:54	Heather E Williams	1
11203	EPH Waters Extraction	SW-846 3510C	1	132730022A	10/01/2013 03:00	Sherry L Morrow	1
10915	17b Dioxin/Furan by EPA 1613B	EPA 1613B	1	13276002	10/07/2013 17:57	Joseph D Anderson	1
10914	Dioxins/Furans in Water - SepF	EPA 1613B	1	13276002	10/03/2013 10:30	Deborah M Zimmerman	1
01743	Aluminum	SW-846 6010C	1	132700635002	09/30/2013 15:21	Eric L Eby	1
07044	Antimony	SW-846 6010C	1	132700635002	09/30/2013 15:21	Eric L Eby	1
07035	Arsenic	SW-846 6010C	1	132700635002	09/30/2013 15:21	Eric L Eby	1
07046	Barium	SW-846 6010C	1	132700635002	09/30/2013 15:21	Eric L Eby	1
07047	Beryllium	SW-846 6010C	1	132700635002	09/30/2013 15:21	Eric L Eby	1
08014	Boron	SW-846 6010C	1	132700635002	09/30/2013 15:21	Eric L Eby	1
07049	Cadmium	SW-846 6010C	1	132700635002	09/30/2013 15:21	Eric L Eby	1
01750	Calcium	SW-846 6010C	1	132700635002	09/30/2013 15:21	Eric L Eby	1
07051	Chromium	SW-846 6010C	1	132700635002	09/30/2013 15:21	Eric L Eby	1
07052	Cobalt	SW-846 6010C	1	132700635002	09/30/2013 15:21	Eric L Eby	1
07053	Copper	SW-846 6010C	1	132700635002	09/30/2013 15:21	Eric L Eby	1
01754	Iron	SW-846 6010C	1	132700635002	09/30/2013 15:21	Eric L Eby	1
07055	Lead	SW-846 6010C	1	132700635002	09/30/2013 15:21	Eric L Eby	1
01756	Lithium	SW-846 6010C	1	132700635002	09/30/2013 15:21	Eric L Eby	1
01757	Magnesium	SW-846 6010C	1	132700635002	09/30/2013 15:21	Eric L Eby	1
07058	Manganese	SW-846 6010C	1	132700635002	09/30/2013 15:21	Eric L Eby	1
07060	Molybdenum	SW-846 6010C	1	132700635002	09/30/2013 15:21	Eric L Eby	1
07061	Nickel	SW-846 6010C	1	132700635002	09/30/2013 15:21	Eric L Eby	1

*=This limit was used in the evaluation of the final result

Sample Description: EB2-092513 Water
SSFL Phase 3 Subarea 8

LL Sample # WW 7213953
LL Group # 1421812
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 09/25/2013 15:30 by PH

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 09/26/2013 09:05
Reported: 10/09/2013 15:06

25EB2 SDG#: PH115-01EB*

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
10143	Phosphorus	SW-846 6010C	1	132700635002	09/30/2013	15:21	Eric L Eby	1
01762	Potassium	SW-846 6010C	1	132700635002	09/30/2013	15:21	Eric L Eby	1
01767	Sodium	SW-846 6010C	1	132700635002	09/30/2013	15:21	Eric L Eby	1
07069	Tin	SW-846 6010C	1	132700635002	09/30/2013	15:21	Eric L Eby	1
07070	Titanium	SW-846 6010C	1	132700635002	09/30/2013	15:21	Eric L Eby	1
07071	Vanadium	SW-846 6010C	1	132700635002	09/30/2013	15:21	Eric L Eby	1
07072	Zinc	SW-846 6010C	1	132700635002	09/30/2013	15:21	Eric L Eby	1
10144	Zirconium	SW-846 6010C	1	132700635002	09/30/2013	15:21	Eric L Eby	1
06041	Selenium	SW-846 6020A	1	132700639001B	09/30/2013	13:45	Choon Y Tian	1
06042	Silver	SW-846 6020A	1	132700639001A	09/30/2013	13:45	Choon Y Tian	1
06044	Strontium	SW-846 6020A	1	132700639001A	09/30/2013	13:45	Choon Y Tian	1
06045	Thallium	SW-846 6020A	1	132700639001A	09/30/2013	13:45	Choon Y Tian	1
00259	3b Mercury 7470A	SW-846 7470A	1	132735713006	10/01/2013	09:09	Damary Valentin	1
10635	WW SW846(IV) ICP Dig (tot rec)	SW-846 3005A	1	132700635002	09/29/2013	22:30	Annamaria Stipkovits	1
10639	ICP/MS SW846 (IV) Water Digest	SW-846 3010A modified	1	132700639001	09/29/2013	22:30	Annamaria Stipkovits	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132735713006	09/30/2013	15:30	Nelli S Markaryan	1
12152	28b pH (9040B and 9040C)	SW-846 9040C	1	13270003102A	09/27/2013	16:11	Susan A Engle	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 10/09/13 at 03:06 PM

Group Number: 1421812

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ**</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 13274WAK026	Sample number(s): 7213953								
Acenaphthene	0.050 U	0.050	0.010	ug/l	103	100	77-118	2	30
Acenaphthylene	0.050 U	0.050	0.010	ug/l	102	101	80-123	1	30
Anthracene	0.050 U	0.050	0.010	ug/l	105	103	78-123	2	30
Benzo(a)anthracene	0.050 U	0.050	0.010	ug/l	107	106	73-127	1	30
Benzo(a)pyrene	0.050 U	0.050	0.010	ug/l	106	105	72-120	1	30
Benzo(b)fluoranthene	0.050 U	0.050	0.010	ug/l	136	133	79-136	2	30
Benzo(e)pyrene	0.050 U	0.050	0.010	ug/l	110	109	70-130	1	30
Benzo(g,h,i)perylene	0.050 U	0.050	0.010	ug/l	119	118	64-130	1	30
Benzo(k)fluoranthene	0.050 U	0.050	0.010	ug/l	115	115	73-131	0	30
Butylbenzylphthalate	1.0 U	1.0	0.050	ug/l	114	115	40-138	0	30
Di-n-butylphthalate	1.0 U	1.0	0.050	ug/l	92	91	64-141	1	30
Chrysene	0.050 U	0.050	0.010	ug/l	109	109	76-125	0	30
Dibenz(a,h)anthracene	0.050 U	0.050	0.010	ug/l	120	119	58-131	1	30
Diethylphthalate	1.0 U	1.0	0.050	ug/l	100	100	64-128	1	30
Dimethylphthalate	1.0 U	1.0	0.050	ug/l	85	86	23-139	1	30
Bis(2-Ethylhexyl)phthalate	1.0 U	1.0	0.050	ug/l	185*	73	70-143	87*	30
Fluoranthene	0.050 U	0.050	0.010	ug/l	107	107	79-124	0	30
Fluorene	0.050 U	0.050	0.010	ug/l	102	101	74-115	2	30
Indeno(1,2,3-cd)pyrene	0.050 U	0.050	0.010	ug/l	119	119	62-130	0	30
1-Methylnaphthalene	0.050 U	0.050	0.010	ug/l	110	107	80-126	3	30
2-Methylnaphthalene	0.050 U	0.050	0.010	ug/l	108	104	81-124	4	30
Naphthalene	0.050 U	0.050	0.030	ug/l	102	99	75-120	2	30
N-Nitrosodimethylamine	0.050 U	0.050	0.010	ug/l	72	67	36-120	8	30
Di-n-octylphthalate	1.0 U	1.0	0.050	ug/l	121	110	57-145	9	30
Phenanthrene	0.050 U	0.050	0.030	ug/l	103	102	75-120	1	30
Pyrene	0.050 U	0.050	0.010	ug/l	115	115	71-130	0	30
Batch number: 13269B94A	Sample number(s): 7213953								
TPH-GRO S.CA water C5-C12	50 U	50.	20	ug/l	106	102	75-135	4	30
Batch number: 132740011A	Sample number(s): 7213953								
2,4-D	0.50 U	0.50	0.16	ug/l	122	123	68-155	2	30
Dalapon	1.3 U	1.3	0.25	ug/l	59	76	25-119	25	30
2,4-DB	1.0 U	1.0	0.30	ug/l	121	120	50-163	1	30
Dicamba	0.30 U	0.30	0.080	ug/l	108	111	64-163	3	30
Dinoseb	0.50 U	0.50	0.12	ug/l	159	153	16-163	4	30
2,4-DP (Dichlorprop)	0.50 U	0.50	0.16	ug/l	134	133	89-162	1	30
MCPA	200 U	200.	50	ug/l	98	101	68-154	2	30
MCPP	200 U	200.	50	ug/l	108	110	46-173	2	30
2,4,5-T	0.050 U	0.050	0.015	ug/l	122	119	71-174	2	30
2,4,5-TP	0.050 U	0.050	0.010	ug/l	123	122	58-155	1	30

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

- (1) The result for one or both determinations was less than five times the LOQ / MRL.
- (2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 10/09/13 at 03:06 PM

Group Number: 1421812

Analysis Name	Blank Result	Blank LOQ**	Blank MDL	Report Units	LCS %REC	LCS D %REC	LCS/LCS D Limits	RPD	RPD Max
Batch number: 132730010A Sample number(s): 7213953									
Aldrin	0.0080 U	0.0080	0.0016	ug/l	77	77	45-125	0	30
Alpha BHC	0.0080 U	0.0080	0.0024	ug/l	97	94	51-139	3	30
Beta BHC	0.0080 U	0.0080	0.0027	ug/l	87	85	57-127	2	30
Gamma BHC - Lindane	0.0080 U	0.0080	0.0016	ug/l	89	86	57-133	3	30
Chlordane	0.40 U	0.40	0.13	ug/l					
p,p-DDD	0.016 U	0.016	0.0040	ug/l	88	86	55-145	3	30
p,p-DDE	0.016 U	0.016	0.0040	ug/l	88	85	58-130	2	30
p,p-DDT	0.016 U	0.016	0.0042	ug/l	87	88	45-140	0	30
Delta BHC	0.0080 U	0.0080	0.0027	ug/l	89	88	52-133	2	30
Dieldrin	0.016 U	0.016	0.0042	ug/l	90	89	60-135	1	30
Endosulfan I	0.0080 U	0.0080	0.0034	ug/l	82	80	56-128	2	30
Endosulfan II	0.016 U	0.016	0.012	ug/l	90	88	53-123	3	30
Endosulfan Sulfate	0.016 U	0.016	0.0046	ug/l	97	95	51-130	2	30
Endrin	0.016 U	0.016	0.0065	ug/l	24*	80	43-139	107*	30
Endrin Aldehyde	0.080 U	0.080	0.016	ug/l	109	92	50-122	17	20
Endrin Ketone	0.016 U	0.016	0.0040	ug/l	136*	92	51-133	38*	30
Heptachlor	0.0080 U	0.0080	0.0016	ug/l	82	81	48-130	2	30
Heptachlor Epoxide	0.0080 U	0.0080	0.0018	ug/l	87	87	65-128	0	30
Methoxychlor	0.080 U	0.080	0.024	ug/l	87	86	40-150	2	30
Mirex	0.040 U	0.040	0.0080	ug/l					
Toxaphene	2.4 U	2.4	0.80	ug/l					
Batch number: 132730011A Sample number(s): 7213953									
Aroclor 5432	0.40 U	0.40	0.080	ug/l					
Aroclor 5442	0.40 U	0.40	0.080	ug/l	69	83	35-84	19	30
Aroclor 5460	0.40 U	0.40	0.088	ug/l					
PCB-1016	0.40 U	0.40	0.080	ug/l	89	89	67-117	0	30
PCB-1221	0.40 U	0.40	0.080	ug/l					
PCB-1232	0.40 U	0.40	0.16	ug/l					
PCB-1242	0.40 U	0.40	0.080	ug/l					
PCB-1248	0.40 U	0.40	0.080	ug/l					
PCB-1254	0.40 U	0.40	0.080	ug/l					
PCB-1260	0.40 U	0.40	0.12	ug/l	110	111	67-128	0	30
PCB-1262	0.40 U	0.40	0.16	ug/l					
PCB-1268	0.40 U	0.40	0.13	ug/l					
Batch number: 132730022A Sample number(s): 7213953									
EFH (C12-C14)	0.10 U	0.10	0.050	mg/l	90	85	70-130	6	30
EFH (C15-C20)	0.10 U	0.10	0.050	mg/l	97	92	70-130	6	30
EFH (C21-C30)	0.10 U	0.10	0.050	mg/l	94	88	70-130	6	30
EFH (C30 - C40)	0.50 U	0.50	0.10	mg/l	67*	69*	70-130	3	30
EFH (C8-C11)	0.10 U	0.10	0.050	mg/l	64*	61*	70-130	6	30
Batch number: 132700635002 Sample number(s): 7213953									
Aluminum	0.400 U	0.400	0.0828	mg/l	104	104	80-120	0	20
Antimony	0.0400 U	0.0400	0.0053	mg/l	104	102	80-120	2	20
Arsenic	0.0400 U	0.0400	0.0068	mg/l	103	102	80-120	1	20
Barium	0.0100 U	0.0100	0.00033	mg/l	101	100	80-120	1	20
Beryllium	0.0100 U	0.0100	0.00067	mg/l	97	96	80-120	1	20
Boron	0.100 U	0.100	0.0084	mg/l	96	94	80-120	2	20
Cadmium	0.0100 U	0.0100	0.00076	mg/l	105	103	80-120	2	20
Calcium	0.0618 J	0.400	0.0334	mg/l	103	101	80-120	2	20
Chromium	0.0300 U	0.0300	0.0016	mg/l	102	101	80-120	1	20
Cobalt	0.0100 U	0.0100	0.0013	mg/l	105	104	80-120	1	20

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

- (1) The result for one or both determinations was less than five times the LOQ / MRL.
- (2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 10/09/13 at 03:06 PM

Group Number: 1421812

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ**</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Copper	0.0200 U	0.0200	0.0027	mg/l	102	102	80-120	1	20
Iron	0.400 U	0.400	0.0430	mg/l	101	99	80-120	2	20
Lead	0.0300 U	0.0300	0.0047	mg/l	109	107	80-120	2	20
Lithium	0.0400 U	0.0400	0.0047	mg/l	105	103	80-120	2	20
Magnesium	0.200 U	0.200	0.0167	mg/l	102	100	80-120	2	20
Manganese	0.0100 U	0.0100	0.00083	mg/l	102	101	80-120	1	20
Molybdenum	0.0200 U	0.0200	0.0017	mg/l	103	102	80-120	1	20
Nickel	0.0200 U	0.0200	0.0015	mg/l	106	105	80-120	1	20
Phosphorus	0.200 U	0.200	0.0418	mg/l	103	102	80-120	1	20
Potassium	1.00 U	1.00	0.0980	mg/l	103	101	80-120	2	20
Sodium	2.00 U	2.00	0.167	mg/l	102	100	80-120	2	20
Tin	0.0400 U	0.0400	0.0029	mg/l	101	100	80-120	1	20
Titanium	0.0200 U	0.0200	0.0017	mg/l	104	102	80-120	2	20
Vanadium	0.0100 U	0.0100	0.0020	mg/l	103	102	80-120	1	20
Zinc	0.0400 U	0.0400	0.0020	mg/l	102	101	80-120	1	20
Zirconium	0.100 U	0.100	0.0084	mg/l	105	103	80-120	2	20

Batch number: 132700639001A	Sample number(s): 7213953
Silver	0.0010 U 0.0010 0.00011 mg/l 103 101 90-115 2 20
Strontium	0.0020 U 0.0020 0.00034 mg/l 103 102 80-120 1 20
Thallium	0.0010 U 0.0010 0.00015 mg/l 100 102 80-120 2 20

Batch number: 132700639001B	Sample number(s): 7213953
Selenium	0.0040 U 0.0040 0.00050 mg/l 105 102 80-120 3 20

Batch number: 132735713006	Sample number(s): 7213953
3b Mercury 7470A	0.00020 U 0.00020 0.00006 mg/l 94 95 90-115 1 20

Batch number: 13270003102A	Sample number(s): 7213953
28b pH (9040B and 9040C)	99 99-103

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MRL**</u>	<u>Blank EDL</u>	<u>Report Units</u>	<u>OPR %REC</u>	<u>OPRD %REC</u>	<u>OPR/OPRD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 13276002	Sample number(s): 7213953								
2378-TCDD	0.346 J	2.00	0.273	pg/l	98		60-150		
12378-PeCDD	0.345 J	10.0	0.163	pg/l	101		60-150		
123478-HxCDD	0.207 J	10.0	0.125	pg/l	98		60-150		
123678-HxCDD	0.126 J	10.0	0.126	pg/l	101		60-150		
123789-HxCDD	0.369 J	10.0	0.109	pg/l	99		60-150		
1234678-HpCDD	0.518 J	10.0	0.114	pg/l	98		60-150		
OCDD	2.28 J	20.0	0.138	pg/l	96		60-150		
2378-TCDF	2.00 U	2.00	0.148	pg/l	98		60-150		
12378-PeCDF	0.494 J	10.0	0.0867	pg/l	100		60-150		
23478-PeCDF	0.155 J	10.0	0.0784	pg/l	100		60-150		
123478-HxCDF	0.225 J	10.0	0.0574	pg/l	100		60-150		
123678-HxCDF	0.268 J	10.0	0.0566	pg/l	101		60-150		
123789-HxCDF	0.383 J	10.0	0.0504	pg/l	101		60-150		
234678-HxCDF	0.369 J	10.0	0.0536	pg/l	101		60-150		
1234678-HpCDF	0.528 J	10.0	0.0451	pg/l	99		60-150		
1234789-HpCDF	0.306 J	10.0	0.0521	pg/l	100		60-150		
OCDF	0.989 J	20.0	0.138	pg/l	99		60-150		
TEQ WHO 2005 - EDLx0.0	0.00310			pg/l					

*- Outside of specification
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 (1) The result for one or both determinations was less than five times the LOQ / MRL.
 (2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 10/09/13 at 03:06 PM

Group Number: 1421812

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

<u>Analysis Name</u>	<u>MS %REC</u>	<u>MSD %REC</u>	<u>MS/MSD Limits</u>	<u>RPD</u>	<u>RPD MAX</u>	<u>BKG Conc</u>	<u>DUP Conc</u>	<u>DUP RPD</u>	<u>Dup RPD Max</u>
Batch number: 13270003102A 28b pH (9040B and 9040C)				Sample number(s): 7213953	BKG: P214407	7.1	7.1	1	3

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: 7b SVOC SIM EPA 8270D

Batch number: 13274WAK026

	Fluoranthene-d10	Benzo(a)pyrene-d12	1-Methylnaphthalene-d10
7213953	81	83	79
Blank	93	98	102
LCS	97	108	105
LCSD	97	106	102
Limits:	44-137	62-141	51-136

Analysis Name: 11b TPH by EPA 8015B GRO

Batch number: 13269B94A

	Trifluorotoluene-F
7213953	75
Blank	72
LCS	78
LCSD	77
Limits:	63-135

Analysis Name: 22b Pesticides by EPA 8081B

Batch number: 132730010A

	Tetrachloro-m-xylene	Decachlorobiphenyl
7213953	83	83
Blank	95	106
LCS	91	96
LCSD	88	97
Limits:	60-140	20-120

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

- (1) The result for one or both determinations was less than five times the LOQ / MRL.
- (2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 10/09/13 at 03:06 PM

Group Number: 1421812

Surrogate Quality Control

Analysis Name: 21b PCBs and PCTs 8082A

Batch number: 132730011A

	Tetrachloro-m-xylene	Decachlorobiphenyl
7213953	96	90
Blank	96	112
LCS	105	106
LCSD	106	101

Limits: 45-120 45-120

Analysis Name: 24b Herbicides by EPA 8151A

Batch number: 132740011A

2,4-Dichlorophenylacetic acid

7213953	99
Blank	91
LCS	105
LCSD	105

Limits: 50-150

Analysis Name: 10b TPH by EPA 8015B (DRO)

Batch number: 132730022A

	Chlorobenzene	Orthoterphenyl
7213953	135*	91
Blank	122	81
LCS	121	95
LCSD	112	85

Limits: 45-126 69-119

Analysis Name: 17b Dioxin/Furan by EPA 1613B

Batch number: 13276002

	13C12-2378-TCDD	13C12-23478-PeCDF	13C12-123478-HxCDF	13C12-123678-HxCDF	13C12-234678-HxCDF	13C12-123789-HxCDF
7213953	69	72	79	79	80	85
Blank	79	92	94	93	95	109
OPR	73	82	79	79	79	85

Limits: 25-164 21-178 26-152 26-123 28-136 29-147

	13C12-1234678-HpCDF	13C12-1234789-HpCDF	13C12-OCDF	13C12-12378-PeCDD	13C12-123478-HxCDD	13C12-123678-HxCDD
7213953	81	83	86	70	81	79
Blank	104	103	100	87	91	97
OPR	81	80	77	80	80	79

Limits: 28-143 26-138 17-157 25-181 32-141 28-130

13C12-123789-HxCDD 13C12-1234678-HpCDD 13C12-OCDD 13C12-2378-TCDF 13C12-12378-PeCDF

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

- (1) The result for one or both determinations was less than five times the LOQ / MRL.
- (2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 10/09/13 at 03:06 PM

Group Number: 1421812

Surrogate Quality Control

7213953	80	82	86	70	71
Blank	104	102	99	85	89
OPR	80	81	78	75	79
Limits:	28-130	23-140	17-157	24-169	24-185

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

- (1) The result for one or both determinations was less than five times the LOQ / MRL.
- (2) The unspiked result was more than four times the spike added.

SSFL Phase 3 Chain of Custody

13013

1421713

ADD 9/25/13

7213403-16

1421812

7213953

CDM Smith
 DateShipped: 9/25/2013
 CarrierName: FedEx
 AirbillNo: 796770904674

Contact Name: Pam Hartman
 Contact Phone: (818)466-8007

COC No: 20130925-04
 Cooler #: 1
 Lab: Lancaster
 Lab Phone: 717-556-7259
 Lab Address: 2425 New Holland Pike
 Lancaster, PA 17601

Sample	Date/Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Other Analysis/Notes
EB2-092513	9/25/13 15:30	WQ	HCl	2 - 1 L Amber	10 day	

- Methyl Mercury 1630
- Oranotin
- NDMA 1625
- Formaldehyde 8315
- Cyanide 9012
- Energetics 8330
- Nitrates 300.0/9056
- Terphenyls 8015
- Alcohols 8015
- Glycols 8015
- TPH-EFH 8015
- TPH-GRO 8015
- 1,4 Dioxane 8260 SIM
- VOCs 8260
- Pesticides 8081
- Herbicides 8151
- Hex Cr 7196/7199
- pH 9040 (Water)
- pH 9045 (Soil)
- Perchlorate Confirm 6850/6860
- Perchlorate 314.0/331
- PCBs/PCTs 8082
- Dioxins 1613
- 1,4 Dioxane 8270 SIM
- PAHS 8270 SIM
- TIC 8270
- SVOC 8270
- Fluoride 300.0/9056
- Mercury 7470 (Water)
- Mercury 7471 (Soil)
- Metals 6010 and 6020

Special Instructions: Sampler: *P. Hartman*

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
<i>[Signature]</i>	9/25/2013	1600									
<i>[Large diagonal slash]</i>											
									<i>[Signature]</i>	9-26-13	0905

Subarea 8

13013 1421812 7213953

SSFL Phase 3 Chain of Custody

CDM Smith
 DateShipped: 9/25/2013
 CarrierName: FedEx
 AirbillNo: 796770904674

Contact Name: Pam Hartman
 Contact Phone: (818)466-8007

COC No: 20130925-05
 Cooler #: 2
 Lab: Lancaster
 Lab Phone: 717-556-7259
 Lab Address: 2425 New Holland Pike
 Lancaster, PA 17601

Sample	Date/Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Methyl Mercury 1630	Organotin	NDMA 1625	Formaldehyde 8315	Cyanide 9012	Energetics 8330	Nitrates 300.0/9056	Terphenyls 8015	Alcohols 8015	Glycols 8015	TPH-EFH 8015	TPH-GR0 8015	1,4 Dioxane 8260 SIM	VOCs 8260	Pesticides 8081	Herbicides 8151	Hex Cl 7196/7199	pH 9040 (Water)	pH 9045 (Soil)	Perchlorate Confirm 6850/6860	Perchlorate 314.0/331	PCBS/PCTs 8082	Dioxins 1613	1,4 Dioxane 8270 SIM	PAHs 8270 SIM	TIC 8270	SVOC 8270	Fluoride 300.0/9056	Mercury 7470 (Water)	Mercury 7471 (Soil)	Metals 6010 and 6020	Other Analysis/Notes		
EB2-092513	9/25/13 15:30	WQ	HNO3 pH<2	1 - 250 mL Poly	10 day	X	X																																
EB2-092513	9/25/13 15:30	WQ	None	3 - 250 mL Amber	10 day															X							X												
EB2-092513	9/25/13 15:30	WQ	None	4 - 1 L Amber	10 day																X																		
EB2-092513	9/25/13 15:30	WQ	None	1 - 250 mL Poly	10 day																	X																	
EB2-092513	9/25/13 15:30	WQ	HCl	3 - 40 mL Vial	10 day																																		

Special Instructions: Sampler: *Pam Hartman*

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
<i>[Signature]</i>	9/25/2013	1600									
<i>[Diagonal line across the table]</i>											
									<i>[Signature]</i>	9-26-13	0905

Environmental Sample Administration
Receipt Documentation Log

1421812

Client/Project: CDM Smith
 Date of Receipt: 9-26-13
 Time of Receipt: 09:5
 Source Code: 5

Shipping Container Sealed: YES NO
 Custody Seal Present * : YES NO
 * Custody seal was intact unless otherwise noted in the discrepancy section
 Package: Chilled Not Chilled

Temperature of Shipping Containers							
Cooler #	Thermometer ID	Temperature (°C)	Temp Bottle (TB) or Surface Temp (ST)	Wet Ice (WI) or Dry Ice (DI) or Ice Packs (IP)	Ice Present? Y/N	Loose (L) Bagged Ice (B) or NA	Comments
1	DT131	2.3	TB	WI	Y	B	
2	↓	1.3	↓	↓	↓	↓	
3	↓	1.4	↓				
4	↓						
5	↓						
6	↓						

Number of Trip Blanks received NOT listed on chain of custody: 0

Paperwork Discrepancy/Unpacking Problems:

Unpacker Signature/Emp#: [Signature] 5100 Date/Time: 9-26-13 11:5

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	BMQL	Below Minimum Quantitation Level
N.D.	none detected	MPN	Most Probable Number
TNTC	Too Numerous To Count	CP Units	cobalt-chloroplatinate units
IU	International Units	NTU	nephelometric turbidity units
umhos/cm	micromhos/cm	ng	nanogram(s)
C	degrees Celsius	F	degrees Fahrenheit
meq	milliequivalents	lb.	pound(s)
g	gram(s)	kg	kilogram(s)
µg	microgram(s)	mg	milligram(s)
mL	milliliter(s)	L	liter(s)
m3	cubic meter(s)	µL	microliter(s)
		pg/L	picogram/liter

< less than - The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Data Qualifiers:

C – result confirmed by reanalysis.

J - estimated value – The result is \geq the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ).

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers

- A** TIC is a possible aldol-condensation product
- B** Analyte was also detected in the blank
- C** Pesticide result confirmed by GC/MS
- D** Compound quantitated on a diluted sample
- E** Concentration exceeds the calibration range of the instrument
- N** Presumptive evidence of a compound (TICs only)
- P** Concentration difference between primary and confirmation columns $>25\%$
- U** Compound was not detected
- X,Y,Z** Defined in case narrative

Inorganic Qualifiers

- B** Value is $<$ CRDL, but \geq IDL
- E** Estimated due to interference
- M** Duplicate injection precision not met
- N** Spike sample not within control limits
- S** Method of standard additions (MSA) used for calculation
- U** Compound was not detected
- W** Post digestion spike out of control limits
- *** Duplicate analysis not within control limits
- +** Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

SAMPLE DELIVERY GROUP

PH117

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

October 08, 2013

Project: SSFL Phase 3 Sampling

Submittal Date: 09/27/2013
Group Number: 1422081
SDG: PH117
PO Number: 1204-002-001-AL
State of Sample Origin: CA

<u>Client Sample Description</u>	<u>Lancaster Labs (LL) #</u>
TB2-092613 Water	7215514
SL-542-SA8-SB-0.0-0.5 Soil	7215515
SL-542-SA8-SB-4.0-5.0 Soil	7215516
SL-542-SA8-SB-9.0-10.0 Soil	7215517
SL-542-SA8-SB-14.0-15.0 Soil	7215518
SL-542-SA8-SB-17.5-18.5 Soil	7215519

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC Eurofins Lancaster Labs Env
COPY TO

Attn: Nicole Maljovec

Respectfully Submitted,



Nicole L. Maljovec
Principal Specialist Group Leader

(717) 556-7259

Sample Description: TB2-092613 Water
SSFL Phase 3 Subarea 8

LL Sample # WW 7215514
LL Group # 1422081
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 09/26/2013 08:00

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 09/27/2013 09:15

Reported: 10/08/2013 20:01

542TB SDG#: PH117-01TB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Dilution Factor
GC Volatiles						
	TPH GRO SW-8015B		ug/l	ug/l	ug/l	
08229	TPH-GRO S.CA water C5-C12	n.a.	50 U	50	20	1

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08229	11b TPH by EPA 8015B GRO	TPH GRO SW-8015B	1	13275A20A	10/04/2013 13:37	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030B	1	13275A20A	10/04/2013 13:37	Marie D Beamenderfer	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-542-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7215515
LL Group # 1422081
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 09/26/2013 09:00 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 09/27/2013 09:15
Reported: 10/08/2013 20:01

542-0 SDG#: PH117-02

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	1.8 U	1.8	0.70	1
12969	Acenaphthylene	208-96-8	1.8 U	1.8	0.35	1
12969	Anthracene	120-12-7	1.8 U	1.8	0.35	1
12969	Benzo(a)anthracene	56-55-3	1.8 U	1.8	0.70	1
12969	Benzo(a)pyrene	50-32-8	1.8 U	1.8	0.70	1
12969	Benzo(b)fluoranthene	205-99-2	0.81 J	1.8	0.70	1
12969	Benzo(e)pyrene	192-97-2	18 U	18	3.5	1
12969	Benzo(g,h,i)perylene	191-24-2	1.8 U	1.8	0.70	1
12969	Benzo(k)fluoranthene	207-08-9	1.8 U	1.8	0.70	1
12969	Butylbenzylphthalate	85-68-7	19 U	19	6.3	1
12969	Di-n-butylphthalate	84-74-2	19 U	19	6.3	1
12969	Chrysene	218-01-9	0.57 J	1.8	0.35	1
12969	Dibenz(a,h)anthracene	53-70-3	1.8 U	1.8	0.70	1
12969	Diethylphthalate	84-66-2	19 U	19	6.3	1
12969	Dimethylphthalate	131-11-3	19 U	19	6.3	1
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	19 U	19	6.3	1
12969	Fluoranthene	206-44-0	1.8 U	1.8	0.70	1
12969	Fluorene	86-73-7	1.8 U	1.8	0.70	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	1.8 U	1.8	0.70	1
12969	1-Methylnaphthalene	90-12-0	1.8 U	1.8	0.70	1
12969	2-Methylnaphthalene	91-57-6	1.0 J	1.8	0.70	1
12969	Naphthalene	91-20-3	1.2 J	1.8	0.70	1
12969	N-Nitrosodimethylamine	62-75-9	1.8 U	1.8	0.70	1
12969	Di-n-octylphthalate	117-84-0	19 U	19	6.3	1
12969	Phenanthrene	85-01-8	1.8 U	1.8	0.70	1
12969	Pyrene	129-00-0	1.8 U	1.8	0.70	1
Herbicides	SW-846 8151A		ug/kg	ug/kg	ug/kg	
10401	2,4-D	94-75-7	38 U	38	13	1
10401	Dalapon	75-99-0	95 U	95	46	1
10401	2,4-DB	94-82-6	18 U	18	6.5	1
10401	Dicamba	1918-00-9	13 U	13	4.2	1
10401	Dinoseb	88-85-7	25 U	25	9.5	1
The QC window for dinoseb is advisory due to the erratic performance of the analyte using this method.						
10401	2,4-DP (Dichlorprop)	120-36-5	18 U	18	9.5	1
10401	MCPA	94-74-6	2,600 U	2,600	800	1
10401	MCPP (Mecoprop)	93-65-2	2,600 U	2,600	790	1
10401	2,4,5-T	93-76-5	1.8 U	1.8	0.87	1
10401	2,4,5-TP	93-72-1	1.8 U	1.8	0.79	1
Pesticides/PCBs	SW-846 8081B		ug/kg	ug/kg	ug/kg	
10590	Aldrin	309-00-2	0.88 U	0.88	0.18	1
10590	Alpha BHC	319-84-6	0.88 U	0.88	0.18	1
10590	Beta BHC	319-85-7	2.0 U	2.0	1.0	1
10590	Gamma BHC - Lindane	58-89-9	0.88 U	0.88	0.18	1
10590	Chlordane	57-74-9	18 U	18	4.2	1
10590	p,p-DDD	72-54-8	1.8 U	1.8	0.35	1
10590	p,p-DDE	72-55-9	1.8 U	1.8	0.35	1
10590	p,p-DDT	50-29-3	1.8 U	1.8	0.37	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-542-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7215515
LL Group # 1422081
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 09/26/2013 09:00 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 09/27/2013 09:15
Reported: 10/08/2013 20:01

542-0 SDG#: PH117-02

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs SW-846 8081B							
10590	Delta BHC	319-86-8	0.88	U	0.88	0.48	1
10590	Dieldrin	60-57-1	1.8	U	1.8	0.35	1
10590	Endosulfan I	959-98-8	0.88	U	0.88	0.23	1
10590	Endosulfan II	33213-65-9	1.8	U	1.8	0.35	1
10590	Endosulfan Sulfate	1031-07-8	1.8	U	1.8	0.35	1
10590	Endrin	72-20-8	1.8	U	1.8	0.35	1
10590	Endrin Aldehyde	7421-93-4	1.8	U	1.8	0.35	1
10590	Endrin Ketone	53494-70-5	1.9	U	1.9	0.64	1
10590	Heptachlor	76-44-8	0.88	U	0.88	0.18	1
10590	Heptachlor Epoxide	1024-57-3	0.88	U	0.88	0.18	1
10590	Methoxychlor	72-43-5	7.1	U	7.1	1.8	1
10590	Mirex	2385-85-5	1.8	U	1.8	0.37	1
10590	Toxaphene	8001-35-2	35	U	35	15	1

Pesticides/PCBs SW-846 8082A							
CAT No.	Analysis Name	CAS Number	Dry Result		Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
10592	Aroclor 5432	63496-31-1	35	U	35	11	1
10592	Aroclor 5442	12642-23-8	35	U	35	11	1
10592	Aroclor 5460	11126-42-4	35	U	35	11	1
10592	PCB-1016	12674-11-2	18	U	18	3.5	1
10592	PCB-1221	11104-28-2	18	U	18	5.4	1
10592	PCB-1232	11141-16-5	18	U	18	4.3	1
10592	PCB-1242	53469-21-9	18	U	18	4.3	1
10592	PCB-1248	12672-29-6	18	U	18	3.5	1
10592	PCB-1254	11097-69-1	18	U	18	4.7	1
10592	PCB-1260	11096-82-5	18	U	18	4.1	1
10592	PCB-1262	37324-23-5	18	U	18	3.5	1
10592	PCB-1268	11100-14-4	18	U	18	3.5	1

For all QC parameters which are outside project defined limits, but within the laboratory statistical limits, no corrective action is taken.

GC Petroleum SW-846 8015B modified							
CAT No.	Analysis Name	CAS Number	Dry Result		Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Hydrocarbons							
12952	EFH (C12-C14)	n.a.	5.2	U	5.2	2.1	1
12952	EFH (C15-C20)	n.a.	5.2	U	5.2	2.1	1
12952	EFH (C21-C30)	n.a.	5.7		5.2	2.1	1
12952	EFH (C30-C40)	n.a.	11		10	4.2	1
12952	EFH (C8-C11)	n.a.	5.2	U	5.2	2.1	1

Metals SW-846 6010C							
CAT No.	Analysis Name	CAS Number	Dry Result		Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
01643	Aluminum	7429-90-5	29,000		42.4	7.64	1
06944	Antimony	7440-36-0	4.24	U	4.24	0.784	1
06935	Arsenic	7440-38-2	5.50		4.24	0.742	1
06946	Barium	7440-39-3	113		1.06	0.0350	1
06947	Beryllium	7440-41-7	0.909	J	1.06	0.0710	1
07914	Boron	7440-42-8	11.2		10.6	0.890	1
06949	Cadmium	7440-43-9	0.477	J	1.06	0.0805	1
01650	Calcium	7440-70-2	32,600		21.2	3.54	1
06951	Chromium	7440-47-3	38.1		3.18	0.169	1
06952	Cobalt	7440-48-4	9.92		1.06	0.105	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-542-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7215515
LL Group # 1422081
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 09/26/2013 09:00 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 09/27/2013 09:15
Reported: 10/08/2013 20:01

542-0 SDG#: PH117-02

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals						
		SW-846 6010C	mg/kg	mg/kg	mg/kg	
06953	Copper	7440-50-8	23.1	2.12	0.307	1
01654	Iron	7439-89-6	36,200	84.7	7.67	2
06955	Lead	7439-92-1	10.6	3.18	0.530	1
01656	Lithium	7439-93-2	26.7	4.2	0.36	1
01657	Magnesium	7439-95-4	8,530	10.6	1.77	1
06958	Manganese	7439-96-5	428	1.06	0.0879	1
06960	Molybdenum	7439-98-7	2.12 U	2.12	0.180	1
06961	Nickel	7440-02-0	20.1	2.12	0.138	1
10145	Phosphorus	7723-14-0	675	10.6	3.06	1
01662	Potassium	7440-09-7	7,120	106	8.83	1
01667	Sodium	7440-23-5	200	106	17.7	1
06969	Tin	7440-31-5	3.45 J	10.6	0.233	1
06970	Titanium	7440-32-6	1,310	2.12	0.360	2
06971	Vanadium	7440-62-2	70.0	1.06	0.138	1
06972	Zinc	7440-66-6	83.1	4.24	0.212	1
10146	Zirconium	7440-67-7	4.64 J	5.30	0.890	1
		SW-846 6020A	mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	0.287 J	0.424	0.106	2
06142	Silver	7440-22-4	0.0336 J	0.212	0.0275	2
06144	Strontium	7440-24-6	81.0	0.424	0.0720	2
06145	Thallium	7440-28-0	0.396	0.212	0.0318	2
		SW-846 7471B	mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.0174 U	0.0174	0.0104	1
Wet Chemistry						
		SW-846 9045D modified	Std. Units	Std. Units	Std. Units	
00394	15a pH by 9045D The pH was measured in water at 20 C.	n.a.	7.79	0.0100	0.0100	1
Wet Chemistry						
		EPA 160.3 modified	%	%	%	
11624	14a Moisture Content by 160.3 Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.	n.a.	5.6	0.10	0.10	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-542-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7215515
LL Group # 1422081
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 09/26/2013 09:00 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 09/27/2013 09:15
Reported: 10/08/2013 20:01

542-0 SDG#: PH117-02

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
Dioxins/Furans			ng/kg	ng/kg	ng/kg	
EPA 1613B						
11031	2378-TCDD	1746-01-6	1.01 U	1.01	0.0320	1
11031	12378-PeCDD	40321-76-4	0.0698 JBQ	5.05	0.0214	1
11031	123478-HxCDD	39227-28-6	0.0405 JBQ	5.05	0.0155	1
11031	123678-HxCDD	57653-85-7	0.0459 JBQ	5.05	0.0167	1
11031	123789-HxCDD	19408-74-3	0.0707 JBQ	5.05	0.0153	1
11031	1234678-HpCDD	35822-46-9	0.122 JBQ	5.05	0.0167	1
11031	OCDD	3268-87-9	0.425 JB	10.1	0.0157	1
11031	2378-TCDF	51207-31-9	1.01 U	1.01	0.0263	1
11031	12378-PeCDF	57117-41-6	0.121 JB	5.05	0.0111	1
11031	23478-PeCDF	57117-31-4	0.0673 JBQ	5.05	0.0112	1
11031	123478-HxCDF	70648-26-9	0.0695 JB	5.05	0.0120	1
11031	123678-HxCDF	57117-44-9	0.0605 JB	5.05	0.0109	1
11031	123789-HxCDF	72918-21-9	0.0879 JBQ	5.05	0.0119	1
11031	234678-HxCDF	60851-34-5	0.0491 JBQ	5.05	0.0113	1
11031	1234678-HpCDF	67562-39-4	0.0666 JBQ	5.05	0.00561	1
11031	1234789-HpCDF	55673-89-7	0.0424 JBQ	5.05	0.00858	1
11031	OCDF	39001-02-0	0.129 JBQ	10.1	0.0215	1

Toxic Equivalents		EPA 1613B	ng/kg	ng/kg	ng/kg	
11031	TEQ WHO 2005 - EDLx0.0	n.a.	0.0167			1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	69	25 - 164
13C12-12378-PeCDD	72	25 - 181
13C12-123478-HxCDD	72	32 - 141
13C12-123678-HxCDD	71	28 - 130
13C12-123789-HxCDD	70	28 - 130
13C12-1234678-HpCDD	72	23 - 140
13C12-OCDD	69	17 - 157
13C12-2378-TCDF	62	24 - 169
13C12-12378-PeCDF	73	24 - 185
13C12-23478-PeCDF	67	21 - 178
13C12-123478-HxCDF	65	26 - 152
13C12-123678-HxCDF	70	26 - 123
13C12-234678-HxCDF	65	28 - 136
13C12-123789-HxCDF	71	29 - 147
13C12-1234678-HpCDF	79	28 - 143
13C12-1234789-HpCDF	61	26 - 138
13C12-OCDF	58	17 - 157

Dioxins/Furans Data Qualifiers:

- B Detected in Method Blank
- U Undetected
- J Estimated concentration between Estimated Detection Limit and Minimum Level
- E Exceeds calibration range
- C Confirmed quantitation on secondary GC column
- Q EMPC - Estimated Maximum Possible Concentration

*=This limit was used in the evaluation of the final result

Sample Description: SL-542-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7215515
LL Group # 1422081
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 09/26/2013 09:00 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 09/27/2013 09:15

Reported: 10/08/2013 20:01

542-0 SDG#: PH117-02

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
F	Interference is present					
S	Saturation of detection signal					

*=This limit was used in the evaluation of the final result

Sample Description: SL-542-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7215515
LL Group # 1422081
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 09/26/2013 09:00 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 09/27/2013 09:15
Reported: 10/08/2013 20:01

542-0 SDG#: PH117-02

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13273SLE026	10/02/2013 09:52	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	13273SLE026	10/01/2013 08:00	Kerrie A Freeburn	1
10401	21a Herbicides by EPA 8151A	SW-846 8151A	1	132760027A	10/04/2013 16:28	Elizabeth J Marin	1
10590	20a Pesticides by EPA 8081B	SW-846 8081B	1	132760006A	10/07/2013 11:11	Jamie L Brillhart	1
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132750029A	10/04/2013 09:25	Monica M Souders	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132750029A	10/03/2013 10:30	David S Schrum	1
10496	PPL Pest. Microwave Extraction	SW-846 3546	1	132760006A	10/03/2013 16:25	JoElla L Rice	1
04181	Herbicide Soil Extraction	SW-846 3550B/SW-846 8151A	1	132760027A	10/04/2013 09:15	Katheryne V Sponheimer	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132730031A	10/02/2013 13:30	Heather E Williams	1
12959	EFH soil ext. (microwave)	SW-846 3546	1	132730031A	10/01/2013 08:00	Joseph S Feister	1
11031	23a Dioxin/Furan by EPA 1613B	EPA 1613B	1	13273002	10/03/2013 20:38	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	13273002	09/30/2013 12:35	Brett M Weidman	1
01643	Aluminum	SW-846 6010C	1	132740637001	10/03/2013 15:19	Eric L Eby	1
06944	Antimony	SW-846 6010C	1	132740637001	10/03/2013 15:19	Eric L Eby	1
06935	Arsenic	SW-846 6010C	1	132740637001	10/03/2013 15:19	Eric L Eby	1
06946	Barium	SW-846 6010C	1	132740637001	10/03/2013 15:19	Eric L Eby	1
06947	Beryllium	SW-846 6010C	1	132740637001	10/03/2013 15:19	Eric L Eby	1
07914	Boron	SW-846 6010C	1	132740637001	10/03/2013 15:19	Eric L Eby	1
06949	Cadmium	SW-846 6010C	1	132740637001	10/03/2013 15:19	Eric L Eby	1
01650	Calcium	SW-846 6010C	1	132740637001	10/03/2013 15:19	Eric L Eby	1
06951	Chromium	SW-846 6010C	1	132740637001	10/03/2013 15:19	Eric L Eby	1
06952	Cobalt	SW-846 6010C	1	132740637001	10/03/2013 15:19	Eric L Eby	1
06953	Copper	SW-846 6010C	1	132740637001	10/03/2013 15:19	Eric L Eby	1
01654	Iron	SW-846 6010C	1	132740637001	10/04/2013 01:50	John W Yanzuk II	2
06955	Lead	SW-846 6010C	1	132740637001	10/03/2013 15:19	Eric L Eby	1
01656	Lithium	SW-846 6010C	1	132740637001	10/03/2013 15:19	Eric L Eby	1
01657	Magnesium	SW-846 6010C	1	132740637001	10/03/2013 15:19	Eric L Eby	1
06958	Manganese	SW-846 6010C	1	132740637001	10/03/2013 15:19	Eric L Eby	1
06960	Molybdenum	SW-846 6010C	1	132740637001	10/03/2013 15:19	Eric L Eby	1
06961	Nickel	SW-846 6010C	1	132740637001	10/03/2013 15:19	Eric L Eby	1
10145	Phosphorus	SW-846 6010C	1	132740637001	10/03/2013 15:19	Eric L Eby	1
01662	Potassium	SW-846 6010C	1	132740637001	10/03/2013 15:19	Eric L Eby	1
01667	Sodium	SW-846 6010C	1	132740637001	10/03/2013 15:19	Eric L Eby	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-542-SA8-SB-0.0-0.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7215515
LL Group # 1422081
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 09/26/2013 09:00 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 09/27/2013 09:15
Reported: 10/08/2013 20:01

542-0 SDG#: PH117-02

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
06969	Tin	SW-846 6010C	1	132740637001	10/03/2013	15:19	Eric L Eby	1
06970	Titanium	SW-846 6010C	1	132740637001	10/04/2013	01:50	John W Yanzuk II	2
06971	Vanadium	SW-846 6010C	1	132740637001	10/04/2013	01:46	John W Yanzuk II	1
06972	Zinc	SW-846 6010C	1	132740637001	10/03/2013	15:19	Eric L Eby	1
10146	Zirconium	SW-846 6010C	1	132740637001	10/03/2013	15:19	Eric L Eby	1
06141	Selenium	SW-846 6020A	1	132740637001B	10/03/2013	06:47	Choon Y Tian	2
06142	Silver	SW-846 6020A	1	132740637001A	10/03/2013	06:47	Choon Y Tian	2
06144	Strontium	SW-846 6020A	1	132740637001A	10/03/2013	06:47	Choon Y Tian	2
06145	Thallium	SW-846 6020A	1	132740637001A	10/03/2013	06:47	Choon Y Tian	2
00159	3a Mercury 7471A	SW-846 7471B	1	132740638001	10/03/2013	04:55	Damary Valentin	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132740637001	10/02/2013	09:39	Denise K Conners	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132740638001	10/02/2013	12:35	Denise K Conners	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13270039402A	09/27/2013	22:20	Luz M Groff	1
11624	14a Moisture Content by 160.3	EPA 160.3 modified	1	13275162401B	10/02/2013	22:11	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-542-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7215516
LL Group # 1422081
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 09/26/2013 09:20 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 09/27/2013 09:15
Reported: 10/08/2013 20:01

542-4 SDG#: PH117-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	1.9 U	1.9	0.76	1
12969	Acenaphthylene	208-96-8	1.9 U	1.9	0.38	1
12969	Anthracene	120-12-7	1.9 U	1.9	0.38	1
12969	Benzo(a)anthracene	56-55-3	1.9 U	1.9	0.76	1
12969	Benzo(a)pyrene	50-32-8	1.9 U	1.9	0.76	1
12969	Benzo(b)fluoranthene	205-99-2	1.9 U	1.9	0.76	1
12969	Benzo(e)pyrene	192-97-2	19 U	19	3.8	1
12969	Benzo(g,h,i)perylene	191-24-2	1.9 U	1.9	0.76	1
12969	Benzo(k)fluoranthene	207-08-9	1.9 U	1.9	0.76	1
12969	Butylbenzylphthalate	85-68-7	20 U	20	6.8	1
12969	Di-n-butylphthalate	84-74-2	20 U	20	6.8	1
12969	Chrysene	218-01-9	1.9 U	1.9	0.38	1
12969	Dibenz(a,h)anthracene	53-70-3	1.9 U	1.9	0.76	1
12969	Diethylphthalate	84-66-2	20 U	20	6.8	1
12969	Dimethylphthalate	131-11-3	20 U	20	6.8	1
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	20 U	20	6.8	1
12969	Fluoranthene	206-44-0	1.9 U	1.9	0.76	1
12969	Fluorene	86-73-7	1.9 U	1.9	0.76	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	1.9 U	1.9	0.76	1
12969	1-Methylnaphthalene	90-12-0	1.4 J	1.9	0.76	1
12969	2-Methylnaphthalene	91-57-6	2.1	1.9	0.76	1
12969	Naphthalene	91-20-3	3.1	1.9	0.76	1
12969	N-Nitrosodimethylamine	62-75-9	1.9 U	1.9	0.76	1
12969	Di-n-octylphthalate	117-84-0	20 U	20	6.8	1
12969	Phenanthrene	85-01-8	1.9 U	1.9	0.76	1
12969	Pyrene	129-00-0	1.9 U	1.9	0.76	1
GC Volatiles	TPH GRO SW-846 8015B mod	mg/kg	mg/kg	mg/kg		
05551	11a TPH by EPA 8015B GRO	n.a.	1.1 U	1.1	0.2	24.51
Herbicides	SW-846 8151A	ug/kg	ug/kg	ug/kg		
10401	2,4-D	94-75-7	41 U	41	14	1
10401	Dalapon	75-99-0	100 U	100	50	1
10401	2,4-DB	94-82-6	19 U	19	7.1	1
10401	Dicamba	1918-00-9	14 U	14	4.6	1
10401	Dinoseb	88-85-7	27 U	27	10	1
The QC window for dinoseb is advisory due to the erratic performance of the analyte using this method.						
10401	2,4-DP (Dichlorprop)	120-36-5	19 U	19	10	1
10401	MCPA	94-74-6	2,900 U	2,900	870	1
10401	MCPP (Mecoprop)	93-65-2	2,900 U	2,900	860	1
10401	2,4,5-T	93-76-5	1.9 U	1.9	0.94	1
10401	2,4,5-TP	93-72-1	1.9 U	1.9	0.86	1
Pesticides/PCBs	SW-846 8081B	ug/kg	ug/kg	ug/kg		
10590	Aldrin	309-00-2	0.95 U	0.95	0.19	1
10590	Alpha BHC	319-84-6	0.95 U	0.95	0.19	1
10590	Beta BHC	319-85-7	2.2 U	2.2	1.1	1
10590	Gamma BHC - Lindane	58-89-9	0.95 U	0.95	0.19	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-542-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7215516
LL Group # 1422081
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 09/26/2013 09:20 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 09/27/2013 09:15
Reported: 10/08/2013 20:01

542-4 SDG#: PH117-03

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs SW-846 8081B							
10590	Chlordane	57-74-9	19	U	19	4.6	1
10590	p,p-DDD	72-54-8	1.9	U	1.9	0.38	1
10590	p,p-DDE	72-55-9	1.9	U	1.9	0.38	1
10590	p,p-DDT	50-29-3	1.9	U	1.9	0.40	1
10590	Delta BHC	319-86-8	0.95	U	0.95	0.51	1
10590	Dieldrin	60-57-1	1.9	U	1.9	0.38	1
10590	Endosulfan I	959-98-8	0.95	U	0.95	0.25	1
10590	Endosulfan II	33213-65-9	1.9	U	1.9	0.38	1
10590	Endosulfan Sulfate	1031-07-8	1.9	U	1.9	0.38	1
10590	Endrin	72-20-8	1.9	U	1.9	0.38	1
10590	Endrin Aldehyde	7421-93-4	1.9	U	1.9	0.38	1
10590	Endrin Ketone	53494-70-5	2.1	U	2.1	0.69	1
10590	Heptachlor	76-44-8	0.95	U	0.95	0.19	1
10590	Heptachlor Epoxide	1024-57-3	0.95	U	0.95	0.19	1
10590	Methoxychlor	72-43-5	7.7	U	7.7	1.9	1
10590	Mirex	2385-85-5	1.9	U	1.9	0.40	1
10590	Toxaphene	8001-35-2	38	U	38	16	1
Pesticides/PCBs SW-846 8082A							
10592	Aroclor 5432	63496-31-1	38	U	38	11	1
10592	Aroclor 5442	12642-23-8	38	U	38	11	1
10592	Aroclor 5460	11126-42-4	38	U	38	11	1
10592	PCB-1016	12674-11-2	19	U	19	3.8	1
10592	PCB-1221	11104-28-2	19	U	19	5.8	1
10592	PCB-1232	11141-16-5	19	U	19	4.7	1
10592	PCB-1242	53469-21-9	19	U	19	4.7	1
10592	PCB-1248	12672-29-6	19	U	19	3.8	1
10592	PCB-1254	11097-69-1	19	U	19	5.0	1
10592	PCB-1260	11096-82-5	19	U	19	4.5	1
10592	PCB-1262	37324-23-5	19	U	19	3.8	1
10592	PCB-1268	11100-14-4	19	U	19	3.8	1
For all QC parameters which are outside project defined limits, but within the laboratory statistical limits, no corrective action is taken.							
GC Petroleum SW-846 8015B modified							
Hydrocarbons							
12952	EFH (C12-C14)	n.a.	5.7	U	5.7	2.3	1
12952	EFH (C15-C20)	n.a.	5.7	U	5.7	2.3	1
12952	EFH (C21-C30)	n.a.	5.7	U	5.7	2.3	1
12952	EFH (C30-C40)	n.a.	11	U	11	4.6	1
12952	EFH (C8-C11)	n.a.	5.7	U	5.7	2.3	1
Metals SW-846 6010C							
01643	Aluminum	7429-90-5	31,500		45.8	8.25	1
06944	Antimony	7440-36-0	4.58	U	4.58	0.847	1
06935	Arsenic	7440-38-2	6.26		4.58	0.801	1
06946	Barium	7440-39-3	138		1.14	0.0378	1
06947	Beryllium	7440-41-7	0.991	J	1.14	0.0767	1
07914	Boron	7440-42-8	10.3	J	11.4	0.961	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-542-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7215516
LL Group # 1422081
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 09/26/2013 09:20 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 09/27/2013 09:15
Reported: 10/08/2013 20:01

542-4 SDG#: PH117-03

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals							
		SW-846 6010C	mg/kg		mg/kg	mg/kg	
06949	Cadmium	7440-43-9	0.477 J		1.14	0.0870	1
01650	Calcium	7440-70-2	36,700		22.9	3.82	1
06951	Chromium	7440-47-3	40.2		3.43	0.183	1
06952	Cobalt	7440-48-4	9.98		1.14	0.113	1
06953	Copper	7440-50-8	23.0		2.29	0.332	1
01654	Iron	7439-89-6	36,700		91.5	8.28	2
06955	Lead	7439-92-1	10.8		3.43	0.572	1
01656	Lithium	7439-93-2	31.3		4.6	0.39	1
01657	Magnesium	7439-95-4	8,430		11.4	1.91	1
06958	Manganese	7439-96-5	421		1.14	0.0950	1
06960	Molybdenum	7439-98-7	2.29 U		2.29	0.195	1
06961	Nickel	7440-02-0	20.8		2.29	0.149	1
10145	Phosphorus	7723-14-0	456		11.4	3.31	1
01662	Potassium	7440-09-7	5,680		114	9.54	1
01667	Sodium	7440-23-5	181		114	19.1	1
06969	Tin	7440-31-5	3.43 J		11.4	0.252	1
06970	Titanium	7440-32-6	1,360		2.29	0.389	2
06971	Vanadium	7440-62-2	72.7		1.14	0.149	1
06972	Zinc	7440-66-6	80.5		4.58	0.229	1
10146	Zirconium	7440-67-7	5.11 J		5.72	0.961	1
SW-846 6020A							
			mg/kg		mg/kg	mg/kg	
06141	Selenium	7782-49-2	0.321 J		0.458	0.114	2
06142	Silver	7440-22-4	0.0480 J		0.229	0.0297	2
06144	Strontium	7440-24-6	84.9		0.458	0.0778	2
06145	Thallium	7440-28-0	0.459		0.229	0.0343	2
SW-846 7471B							
			mg/kg		mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.0178 U		0.0178	0.0107	1
Wet Chemistry							
		SW-846 9045D modified	Std. Units		Std. Units	Std. Units	
00394	15a pH by 9045D The pH was measured in water at 20.5 C.	n.a.	7.93		0.0100	0.0100	1
Wet Chemistry							
		EPA 160.3 modified	%		%	%	
11624	14a Moisture Content by 160.3 Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.	n.a.	12.6		0.10	0.10	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-542-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7215516
LL Group # 1422081
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 09/26/2013 09:20 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 09/27/2013 09:15
Reported: 10/08/2013 20:01

542-4 SDG#: PH117-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
Dioxins/Furans			ng/kg	ng/kg	ng/kg	
EPA 1613B						
11031	2378-TCDD	1746-01-6	0.0684 JQ	1.11	0.0465	1
11031	12378-PeCDD	40321-76-4	0.0781 JBQ	5.53	0.0271	1
11031	123478-HxCDD	39227-28-6	0.0848 JB	5.53	0.0176	1
11031	123678-HxCDD	57653-85-7	0.100 JBQ	5.53	0.0190	1
11031	123789-HxCDD	19408-74-3	0.124 JB	5.53	0.0172	1
11031	1234678-HpCDD	35822-46-9	0.139 JB	5.53	0.0174	1
11031	OCDD	3268-87-9	0.376 JB	11.1	0.0175	1
11031	2378-TCDF	51207-31-9	0.0670 JQ	1.11	0.0394	1
11031	12378-PeCDF	57117-41-6	0.162 JB	5.53	0.0137	1
11031	23478-PeCDF	57117-31-4	0.152 JB	5.53	0.0132	1
11031	123478-HxCDF	70648-26-9	0.124 JB	5.53	0.0130	1
11031	123678-HxCDF	57117-44-9	0.0784 JB	5.53	0.0120	1
11031	123789-HxCDF	72918-21-9	0.144 JB	5.53	0.0132	1
11031	234678-HxCDF	60851-34-5	0.0654 JBQ	5.53	0.0114	1
11031	1234678-HpCDF	67562-39-4	0.0927 JB	5.53	0.00606	1
11031	1234789-HpCDF	55673-89-7	0.0635 JBQ	5.53	0.00915	1
11031	OCDF	39001-02-0	0.148 JBQ	11.1	0.0255	1

Toxic Equivalents		EPA 1613B	ng/kg	ng/kg	ng/kg	
11031	TEQ WHO 2005 - EDLx0.0	n.a.	0.109			1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	67	25 - 164
13C12-12378-PeCDD	83	25 - 181
13C12-123478-HxCDD	75	32 - 141
13C12-123678-HxCDD	73	28 - 130
13C12-123789-HxCDD	74	28 - 130
13C12-1234678-HpCDD	76	23 - 140
13C12-OCDD	77	17 - 157
13C12-2378-TCDF	65	24 - 169
13C12-12378-PeCDF	83	24 - 185
13C12-23478-PeCDF	80	21 - 178
13C12-123478-HxCDF	69	26 - 152
13C12-123678-HxCDF	73	26 - 123
13C12-234678-HxCDF	70	28 - 136
13C12-123789-HxCDF	69	29 - 147
13C12-1234678-HpCDF	85	28 - 143
13C12-1234789-HpCDF	67	26 - 138
13C12-OCDF	65	17 - 157

Dioxins/Furans Data Qualifiers:

- B Detected in Method Blank
- U Undetected
- J Estimated concentration between Estimated Detection Limit and Minimum Level
- E Exceeds calibration range
- C Confirmed quantitation on secondary GC column
- Q EMPC - Estimated Maximum Possible Concentration

*=This limit was used in the evaluation of the final result

Sample Description: SL-542-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7215516
LL Group # 1422081
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 09/26/2013 09:20 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 09/27/2013 09:15

Reported: 10/08/2013 20:01

542-4 SDG#: PH117-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor
F	Interference is present					
S	Saturation of detection signal					

*=This limit was used in the evaluation of the final result

Sample Description: SL-542-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7215516
LL Group # 1422081
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 09/26/2013 09:20 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 09/27/2013 09:15

Reported: 10/08/2013 20:01

542-4 SDG#: PH117-03

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13273SLE026	10/02/2013 10:25	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	13273SLE026	10/01/2013 08:00	Kerrie A Freeburn	1
05551	11a TPH by EPA 8015B GRO	TPH GRO SW-846 8015B mod	1	13274A31A	10/01/2013 21:18	Laura M Krieger	24.51
06130	GC - 5 g HL Encore Prep	SW-846 5035A	1	201327032541	09/27/2013 16:39	Larry E Bevins	n.a.
06130	GC - 5 g HL Encore Prep	SW-846 5035A	2	201327032541	09/27/2013 16:39	Larry E Bevins	n.a.
10401	21a Herbicides by EPA 8151A	SW-846 8151A	1	132760027A	10/04/2013 16:54	Elizabeth J Marin	1
10590	20a Pesticides by EPA 8081B	SW-846 8081B	1	132760006A	10/07/2013 11:26	Jamie L Brillhart	1
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132750029A	10/04/2013 09:43	Monica M Souders	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132750029A	10/03/2013 10:30	David S Schrum	1
10496	PPL Pest. Microwave Extraction	SW-846 3546	1	132760006A	10/03/2013 16:25	JoElla L Rice	1
04181	Herbicide Soil Extraction	SW-846 3550B/SW-846 8151A	1	132760027A	10/04/2013 09:15	Katheryne V Sponheimer	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132730031A	10/02/2013 12:05	Heather E Williams	1
12959	EFH soil ext. (microwave)	SW-846 3546	1	132730031A	10/01/2013 08:00	Joseph S Feister	1
11031	23a Dioxin/Furan by EPA 1613B	EPA 1613B	1	13273002	10/04/2013 07:09	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	13273002	09/30/2013 12:35	Brett M Weidman	1
01643	Aluminum	SW-846 6010C	1	132740637001	10/03/2013 15:23	Eric L Eby	1
06944	Antimony	SW-846 6010C	1	132740637001	10/03/2013 15:23	Eric L Eby	1
06935	Arsenic	SW-846 6010C	1	132740637001	10/03/2013 15:23	Eric L Eby	1
06946	Barium	SW-846 6010C	1	132740637001	10/03/2013 15:23	Eric L Eby	1
06947	Beryllium	SW-846 6010C	1	132740637001	10/03/2013 15:23	Eric L Eby	1
07914	Boron	SW-846 6010C	1	132740637001	10/03/2013 15:23	Eric L Eby	1
06949	Cadmium	SW-846 6010C	1	132740637001	10/03/2013 15:23	Eric L Eby	1
01650	Calcium	SW-846 6010C	1	132740637001	10/03/2013 15:23	Eric L Eby	1
06951	Chromium	SW-846 6010C	1	132740637001	10/03/2013 15:23	Eric L Eby	1
06952	Cobalt	SW-846 6010C	1	132740637001	10/03/2013 15:23	Eric L Eby	1
06953	Copper	SW-846 6010C	1	132740637001	10/03/2013 15:23	Eric L Eby	1
01654	Iron	SW-846 6010C	1	132740637001	10/04/2013 02:05	John W Yanzuk II	2
06955	Lead	SW-846 6010C	1	132740637001	10/03/2013 15:23	Eric L Eby	1
01656	Lithium	SW-846 6010C	1	132740637001	10/03/2013 15:23	Eric L Eby	1
01657	Magnesium	SW-846 6010C	1	132740637001	10/03/2013 15:23	Eric L Eby	1
06958	Manganese	SW-846 6010C	1	132740637001	10/03/2013 15:23	Eric L Eby	1
06960	Molybdenum	SW-846 6010C	1	132740637001	10/03/2013 15:23	Eric L Eby	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-542-SA8-SB-4.0-5.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7215516
LL Group # 1422081
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 09/26/2013 09:20 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 09/27/2013 09:15
Reported: 10/08/2013 20:01

542-4 SDG#: PH117-03

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
06961	Nickel	SW-846 6010C	1	132740637001	10/03/2013	15:23	Eric L Eby	1
10145	Phosphorus	SW-846 6010C	1	132740637001	10/03/2013	15:23	Eric L Eby	1
01662	Potassium	SW-846 6010C	1	132740637001	10/03/2013	15:23	Eric L Eby	1
01667	Sodium	SW-846 6010C	1	132740637001	10/03/2013	15:23	Eric L Eby	1
06969	Tin	SW-846 6010C	1	132740637001	10/03/2013	15:23	Eric L Eby	1
06970	Titanium	SW-846 6010C	1	132740637001	10/04/2013	02:05	John W Yanzuk II	2
06971	Vanadium	SW-846 6010C	1	132740637001	10/04/2013	01:54	John W Yanzuk II	1
06972	Zinc	SW-846 6010C	1	132740637001	10/03/2013	15:23	Eric L Eby	1
10146	Zirconium	SW-846 6010C	1	132740637001	10/03/2013	15:23	Eric L Eby	1
06141	Selenium	SW-846 6020A	1	132740637001B	10/03/2013	06:50	Choon Y Tian	2
06142	Silver	SW-846 6020A	1	132740637001A	10/03/2013	06:50	Choon Y Tian	2
06144	Strontium	SW-846 6020A	1	132740637001A	10/03/2013	06:50	Choon Y Tian	2
06145	Thallium	SW-846 6020A	1	132740637001A	10/03/2013	06:50	Choon Y Tian	2
00159	3a Mercury 7471A	SW-846 7471B	1	132740638001	10/03/2013	04:57	Damary Valentin	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132740637001	10/02/2013	09:39	Denise K Conners	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132740638001	10/02/2013	12:35	Denise K Conners	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13270039402A	09/27/2013	22:20	Luz M Groff	1
11624	14a Moisture Content by 160.3	EPA 160.3 modified	1	13275162401B	10/02/2013	22:11	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-542-SA8-SB-9.0-10.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7215517
LL Group # 1422081
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 09/26/2013 09:50 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 09/27/2013 09:15
Reported: 10/08/2013 20:01

542-9 SDG#: PH117-04

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	1.9 U	1.9	0.78	1
12969	Acenaphthylene	208-96-8	1.9 U	1.9	0.39	1
12969	Anthracene	120-12-7	1.9 U	1.9	0.39	1
12969	Benzo(a)anthracene	56-55-3	1.9 U	1.9	0.78	1
12969	Benzo(a)pyrene	50-32-8	1.9 U	1.9	0.78	1
12969	Benzo(b)fluoranthene	205-99-2	1.9 U	1.9	0.78	1
12969	Benzo(e)pyrene	192-97-2	20 U	20	3.9	1
12969	Benzo(g,h,i)perylene	191-24-2	1.9 U	1.9	0.78	1
12969	Benzo(k)fluoranthene	207-08-9	1.9 U	1.9	0.78	1
12969	Butylbenzylphthalate	85-68-7	21 U	21	7.0	1
12969	Di-n-butylphthalate	84-74-2	21 U	21	7.0	1
12969	Chrysene	218-01-9	0.39 J	1.9	0.39	1
12969	Dibenz(a,h)anthracene	53-70-3	1.9 U	1.9	0.78	1
12969	Diethylphthalate	84-66-2	21 U	21	7.0	1
12969	Dimethylphthalate	131-11-3	21 U	21	7.0	1
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	15 J	21	7.0	1
12969	Fluoranthene	206-44-0	1.9 U	1.9	0.78	1
12969	Fluorene	86-73-7	1.9 U	1.9	0.78	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	1.9 U	1.9	0.78	1
12969	1-Methylnaphthalene	90-12-0	1.9 U	1.9	0.78	1
12969	2-Methylnaphthalene	91-57-6	0.97 J	1.9	0.78	1
12969	Naphthalene	91-20-3	0.90 J	1.9	0.78	1
12969	N-Nitrosodimethylamine	62-75-9	1.9 U	1.9	0.78	1
12969	Di-n-octylphthalate	117-84-0	21 U	21	7.0	1
12969	Phenanthrene	85-01-8	1.9 U	1.9	0.78	1
12969	Pyrene	129-00-0	1.9 U	1.9	0.78	1
GC Volatiles	TPH GRO SW-846 8015B mod	mg/kg	mg/kg	mg/kg		
05551	11a TPH by EPA 8015B GRO	n.a.	1.1 U	1.1	0.2	24.27
Herbicides	SW-846 8151A	ug/kg	ug/kg	ug/kg		
10401	2,4-D	94-75-7	42 U	42	14	1
10401	Dalapon	75-99-0	100 U	100	51	1
10401	2,4-DB	94-82-6	20 U	20	7.2	1
10401	Dicamba	1918-00-9	14 U	14	4.7	1
10401	Dinoseb	88-85-7	28 U	28	10	1
The QC window for dinoseb is advisory due to the erratic performance of the analyte using this method.						
10401	2,4-DP (Dichlorprop)	120-36-5	20 U	20	10	1
10401	MCPA	94-74-6	2,900 U	2,900	890	1
10401	MCPP (Mecoprop)	93-65-2	2,900 U	2,900	870	1
10401	2,4,5-T	93-76-5	2.0 U	2.0	0.96	1
10401	2,4,5-TP	93-72-1	2.0 U	2.0	0.87	1
Pesticides/PCBs	SW-846 8081B	ug/kg	ug/kg	ug/kg		
10590	Aldrin	309-00-2	0.97 U	0.97	0.20	1
10590	Alpha BHC	319-84-6	0.97 U	0.97	0.20	1
10590	Beta BHC	319-85-7	2.2 U	2.2	1.1	1
10590	Gamma BHC - Lindane	58-89-9	0.97 U	0.97	0.20	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-542-SA8-SB-9.0-10.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7215517
LL Group # 1422081
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 09/26/2013 09:50 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 09/27/2013 09:15
Reported: 10/08/2013 20:01

542-9 SDG#: PH117-04

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs SW-846 8081B							
10590	Chlordane	57-74-9	20	U	20	4.7	1
10590	p,p-DDD	72-54-8	2.0	U	2.0	0.38	1
10590	p,p-DDE	72-55-9	2.0	U	2.0	0.38	1
10590	p,p-DDT	50-29-3	2.0	U	2.0	0.41	1
10590	Delta BHC	319-86-8	0.97	U	0.97	0.52	1
10590	Dieldrin	60-57-1	2.0	U	2.0	0.38	1
10590	Endosulfan I	959-98-8	0.97	U	0.97	0.26	1
10590	Endosulfan II	33213-65-9	2.0	U	2.0	0.38	1
10590	Endosulfan Sulfate	1031-07-8	2.0	U	2.0	0.38	1
10590	Endrin	72-20-8	2.0	U	2.0	0.38	1
10590	Endrin Aldehyde	7421-93-4	2.0	U	2.0	0.38	1
10590	Endrin Ketone	53494-70-5	2.1	U	2.1	0.70	1
10590	Heptachlor	76-44-8	0.97	U	0.97	0.20	1
10590	Heptachlor Epoxide	1024-57-3	0.97	U	0.97	0.20	1
10590	Methoxychlor	72-43-5	7.8	U	7.8	2.0	1
10590	Mirex	2385-85-5	2.0	U	2.0	0.41	1
10590	Toxaphene	8001-35-2	38	U	38	16	1
Pesticides/PCBs SW-846 8082A							
10592	Aroclor 5432	63496-31-1	38	U	38	12	1
10592	Aroclor 5442	12642-23-8	38	U	38	12	1
10592	Aroclor 5460	11126-42-4	38	U	38	12	1
10592	PCB-1016	12674-11-2	20	U	20	3.8	1
10592	PCB-1221	11104-28-2	20	U	20	5.9	1
10592	PCB-1232	11141-16-5	20	U	20	4.8	1
10592	PCB-1242	53469-21-9	20	U	20	4.8	1
10592	PCB-1248	12672-29-6	20	U	20	3.8	1
10592	PCB-1254	11097-69-1	20	U	20	5.1	1
10592	PCB-1260	11096-82-5	20	U	20	4.5	1
10592	PCB-1262	37324-23-5	20	U	20	3.8	1
10592	PCB-1268	11100-14-4	20	U	20	3.8	1
For all QC parameters which are outside project defined limits, but within the laboratory statistical limits, no corrective action is taken.							
GC Petroleum SW-846 8015B modified							
Hydrocarbons							
12952	EFH (C12-C14)	n.a.	5.8	U	5.8	2.3	1
12952	EFH (C15-C20)	n.a.	5.8	U	5.8	2.3	1
12952	EFH (C21-C30)	n.a.	6.3	U	5.8	2.3	1
12952	EFH (C30-C40)	n.a.	11	J	12	4.6	1
12952	EFH (C8-C11)	n.a.	5.8	U	5.8	2.3	1
Metals SW-846 6010C							
01643	Aluminum	7429-90-5	22,000		46.2	8.32	1
06944	Antimony	7440-36-0	4.62	U	4.62	0.854	1
06935	Arsenic	7440-38-2	5.52		4.62	0.808	1
06946	Barium	7440-39-3	106		1.15	0.0381	1
06947	Beryllium	7440-41-7	0.710	J	1.15	0.0773	1
07914	Boron	7440-42-8	8.19	J	11.5	0.969	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-542-SA8-SB-9.0-10.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7215517
LL Group # 1422081
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 09/26/2013 09:50 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 09/27/2013 09:15
Reported: 10/08/2013 20:01

542-9 SDG#: PH117-04

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals						
		SW-846 6010C	mg/kg	mg/kg	mg/kg	
06949	Cadmium	7440-43-9	0.501 J	1.15	0.0877	1
01650	Calcium	7440-70-2	86,500	46.2	7.71	2
06951	Chromium	7440-47-3	30.9	3.46	0.185	1
06952	Cobalt	7440-48-4	8.37	1.15	0.114	1
06953	Copper	7440-50-8	15.9	2.31	0.335	1
01654	Iron	7439-89-6	27,300	46.2	4.18	1
06955	Lead	7439-92-1	8.45	3.46	0.577	1
01656	Lithium	7439-93-2	26.0	4.6	0.39	1
01657	Magnesium	7439-95-4	6,890	11.5	1.93	1
06958	Manganese	7439-96-5	353	1.15	0.0958	1
06960	Molybdenum	7439-98-7	2.31 U	2.31	0.196	1
06961	Nickel	7440-02-0	16.0	2.31	0.150	1
10145	Phosphorus	7723-14-0	470	11.5	3.33	1
01662	Potassium	7440-09-7	4,080	115	9.62	1
01667	Sodium	7440-23-5	146	115	19.3	1
06969	Tin	7440-31-5	2.85 J	11.5	0.254	1
06970	Titanium	7440-32-6	936	1.15	0.196	1
06971	Vanadium	7440-62-2	55.0	1.15	0.150	1
06972	Zinc	7440-66-6	64.5	4.62	0.231	1
10146	Zirconium	7440-67-7	4.28 J	5.77	0.969	1
		SW-846 6020A	mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	0.192 J	0.462	0.115	2
06142	Silver	7440-22-4	0.0338 J	0.231	0.0300	2
06144	Strontium	7440-24-6	146	1.15	0.196	5
06145	Thallium	7440-28-0	0.338	0.231	0.0346	2
		SW-846 7471B	mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.0187 U	0.0187	0.0112	1
Wet Chemistry						
		SW-846 9045D modified	Std. Units	Std. Units	Std. Units	
00394	15a pH by 9045D The pH was measured in water at 20.6 C.	n.a.	7.96	0.0100	0.0100	1
Wet Chemistry						
		EPA 160.3 modified	%	%	%	
11624	14a Moisture Content by 160.3 Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.	n.a.	14.2	0.10	0.10	1

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

*=This limit was used in the evaluation of the final result

Sample Description: SL-542-SA8-SB-9.0-10.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7215517
LL Group # 1422081
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 09/26/2013 09:50 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 09/27/2013 09:15
Reported: 10/08/2013 20:01

542-9 SDG#: PH117-04

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13273SLE026	10/02/2013 10:59	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	13273SLE026	10/01/2013 08:00	Kerrie A Freeburn	1
05551	11a TPH by EPA 8015B GRO	TPH GRO SW-846 8015B mod	1	13274A31A	10/01/2013 21:54	Laura M Krieger	24.27
06130	GC - 5 g HL Encore Prep	SW-846 5035A	1	201327032541	09/27/2013 16:41	Larry E Bevins	n.a.
06130	GC - 5 g HL Encore Prep	SW-846 5035A	2	201327032541	09/27/2013 16:41	Larry E Bevins	n.a.
10401	21a Herbicides by EPA 8151A	SW-846 8151A	1	132760027A	10/04/2013 17:21	Elizabeth J Marin	1
10590	20a Pesticides by EPA 8081B	SW-846 8081B	1	132760006A	10/07/2013 11:41	Jamie L Brillhart	1
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132750029A	10/04/2013 10:01	Monica M Souders	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132750029A	10/03/2013 10:30	David S Schrum	1
10496	PPL Pest. Microwave Extraction	SW-846 3546	1	132760006A	10/03/2013 16:25	JoElla L Rice	1
04181	Herbicide Soil Extraction	SW-846 3550B/SW-846 8151A	1	132760027A	10/04/2013 09:15	Katheryne V Sponheimer	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132730031A	10/02/2013 13:52	Heather E Williams	1
12959	EPH soil ext. (microwave)	SW-846 3546	1	132730031A	10/01/2013 08:00	Joseph S Feister	1
01643	Aluminum	SW-846 6010C	1	132740637001	10/03/2013 15:28	Eric L Eby	1
06944	Antimony	SW-846 6010C	1	132740637001	10/03/2013 15:28	Eric L Eby	1
06935	Arsenic	SW-846 6010C	1	132740637001	10/03/2013 15:28	Eric L Eby	1
06946	Barium	SW-846 6010C	1	132740637001	10/03/2013 15:28	Eric L Eby	1
06947	Beryllium	SW-846 6010C	1	132740637001	10/03/2013 15:28	Eric L Eby	1
07914	Boron	SW-846 6010C	1	132740637001	10/03/2013 15:28	Eric L Eby	1
06949	Cadmium	SW-846 6010C	1	132740637001	10/03/2013 15:28	Eric L Eby	1
01650	Calcium	SW-846 6010C	1	132740637001	10/04/2013 02:13	John W Yanzuk II	2
06951	Chromium	SW-846 6010C	1	132740637001	10/03/2013 15:28	Eric L Eby	1
06952	Cobalt	SW-846 6010C	1	132740637001	10/03/2013 15:28	Eric L Eby	1
06953	Copper	SW-846 6010C	1	132740637001	10/03/2013 15:28	Eric L Eby	1
01654	Iron	SW-846 6010C	1	132740637001	10/03/2013 15:28	Eric L Eby	1
06955	Lead	SW-846 6010C	1	132740637001	10/03/2013 15:28	Eric L Eby	1
01656	Lithium	SW-846 6010C	1	132740637001	10/03/2013 15:28	Eric L Eby	1
01657	Magnesium	SW-846 6010C	1	132740637001	10/03/2013 15:28	Eric L Eby	1
06958	Manganese	SW-846 6010C	1	132740637001	10/03/2013 15:28	Eric L Eby	1
06960	Molybdenum	SW-846 6010C	1	132740637001	10/03/2013 15:28	Eric L Eby	1
06961	Nickel	SW-846 6010C	1	132740637001	10/03/2013 15:28	Eric L Eby	1
10145	Phosphorus	SW-846 6010C	1	132740637001	10/03/2013 15:28	Eric L Eby	1
01662	Potassium	SW-846 6010C	1	132740637001	10/03/2013 15:28	Eric L Eby	1
01667	Sodium	SW-846 6010C	1	132740637001	10/03/2013 15:28	Eric L Eby	1
06969	Tin	SW-846 6010C	1	132740637001	10/03/2013 15:28	Eric L Eby	1
06970	Titanium	SW-846 6010C	1	132740637001	10/04/2013 02:09	John W Yanzuk II	1
06971	Vanadium	SW-846 6010C	1	132740637001	10/04/2013 02:09	John W Yanzuk II	1
06972	Zinc	SW-846 6010C	1	132740637001	10/03/2013 15:28	Eric L Eby	1
10146	Zirconium	SW-846 6010C	1	132740637001	10/03/2013 15:28	Eric L Eby	1
06141	Selenium	SW-846 6020A	1	132740637001B	10/03/2013 06:52	Choon Y Tian	2
06142	Silver	SW-846 6020A	1	132740637001A	10/03/2013 06:52	Choon Y Tian	2
06144	Strontium	SW-846 6020A	1	132740637001A	10/03/2013 07:41	Choon Y Tian	5

*=This limit was used in the evaluation of the final result

Sample Description: SL-542-SA8-SB-9.0-10.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7215517
LL Group # 1422081
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 09/26/2013 09:50 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 09/27/2013 09:15
Reported: 10/08/2013 20:01

542-9 SDG#: PH117-04

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
06145	Thallium	SW-846 6020A	1	132740637001A	10/03/2013	06:52	Choon Y Tian	2
00159	3a Mercury 7471A	SW-846 7471B	1	132740638001	10/03/2013	04:59	Damary Valentin	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132740637001	10/02/2013	09:39	Denise K Conners	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132740638001	10/02/2013	12:35	Denise K Conners	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13270039402A	09/27/2013	22:20	Luz M Groff	1
11624	14a Moisture Content by 160.3	EPA 160.3 modified	1	13275162401B	10/02/2013	22:11	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-542-SA8-SB-14.0-15.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7215518
LL Group # 1422081
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 09/26/2013 11:50 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 09/27/2013 09:15
Reported: 10/08/2013 20:01

54214 SDG#: PH117-05

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	1.9 U	1.9	0.78	1
12969	Acenaphthylene	208-96-8	1.9 U	1.9	0.39	1
12969	Anthracene	120-12-7	1.9 U	1.9	0.39	1
12969	Benzo(a)anthracene	56-55-3	1.9 U	1.9	0.78	1
12969	Benzo(a)pyrene	50-32-8	1.9 U	1.9	0.78	1
12969	Benzo(b)fluoranthene	205-99-2	1.9 U	1.9	0.78	1
12969	Benzo(e)pyrene	192-97-2	20 U	20	3.9	1
12969	Benzo(g,h,i)perylene	191-24-2	1.9 U	1.9	0.78	1
12969	Benzo(k)fluoranthene	207-08-9	1.9 U	1.9	0.78	1
12969	Butylbenzylphthalate	85-68-7	21 U	21	7.0	1
12969	Di-n-butylphthalate	84-74-2	21 U	21	7.0	1
12969	Chrysene	218-01-9	1.9 U	1.9	0.39	1
12969	Dibenz(a,h)anthracene	53-70-3	1.9 U	1.9	0.78	1
12969	Diethylphthalate	84-66-2	21 U	21	7.0	1
12969	Dimethylphthalate	131-11-3	21 U	21	7.0	1
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	13 J	21	7.0	1
12969	Fluoranthene	206-44-0	1.9 U	1.9	0.78	1
12969	Fluorene	86-73-7	1.9 U	1.9	0.78	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	1.9 U	1.9	0.78	1
12969	1-Methylnaphthalene	90-12-0	1.9 U	1.9	0.78	1
12969	2-Methylnaphthalene	91-57-6	1.9 U	1.9	0.78	1
12969	Naphthalene	91-20-3	1.9 U	1.9	0.78	1
12969	N-Nitrosodimethylamine	62-75-9	1.9 U	1.9	0.78	1
12969	Di-n-octylphthalate	117-84-0	21 U	21	7.0	1
12969	Phenanthrene	85-01-8	1.9 U	1.9	0.78	1
12969	Pyrene	129-00-0	1.9 U	1.9	0.78	1
GC Volatiles	TPH GRO SW-846 8015B mod	mg/kg	mg/kg	mg/kg		
05551	11a TPH by EPA 8015B GRO	n.a.	1.1 U	1.1	0.2	23.72
Herbicides	SW-846 8151A	ug/kg	ug/kg	ug/kg		
10401	2,4-D	94-75-7	42 U	42	14	1
10401	Dalapon	75-99-0	110 U	110	51	1
10401	2,4-DB	94-82-6	20 U	20	7.3	1
10401	Dicamba	1918-00-9	14 U	14	4.7	1
10401	Dinoseb	88-85-7	28 U	28	11	1
The QC window for dinoseb is advisory due to the erratic performance of the analyte using this method.						
10401	2,4-DP (Dichlorprop)	120-36-5	20 U	20	11	1
10401	MCPA	94-74-6	2,900 U	2,900	890	1
10401	MCPP (Mecoprop)	93-65-2	2,900 U	2,900	880	1
10401	2,4,5-T	93-76-5	2.0 U	2.0	0.96	1
10401	2,4,5-TP	93-72-1	2.0 U	2.0	0.88	1
Pesticides/PCBs	SW-846 8081B	ug/kg	ug/kg	ug/kg		
10590	Aldrin	309-00-2	0.97 U	0.97	0.20	1
10590	Alpha BHC	319-84-6	0.97 U	0.97	0.20	1
10590	Beta BHC	319-85-7	2.2 U	2.2	1.1	1
10590	Gamma BHC - Lindane	58-89-9	0.97 U	0.97	0.20	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-542-SA8-SB-14.0-15.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7215518
LL Group # 1422081
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 09/26/2013 11:50 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 09/27/2013 09:15
Reported: 10/08/2013 20:01

54214 SDG#: PH117-05

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs SW-846 8081B							
10590	Chlordane	57-74-9	20	U	20	4.7	1
10590	p,p-DDD	72-54-8	2.0	U	2.0	0.39	1
10590	p,p-DDE	72-55-9	2.0	U	2.0	0.39	1
10590	p,p-DDT	50-29-3	2.0	U	2.0	0.41	1
10590	Delta BHC	319-86-8	0.97	U	0.97	0.53	1
10590	Dieldrin	60-57-1	2.0	U	2.0	0.39	1
10590	Endosulfan I	959-98-8	0.97	U	0.97	0.26	1
10590	Endosulfan II	33213-65-9	2.0	U	2.0	0.39	1
10590	Endosulfan Sulfate	1031-07-8	2.0	U	2.0	0.39	1
10590	Endrin	72-20-8	2.0	U	2.0	0.39	1
10590	Endrin Aldehyde	7421-93-4	2.0	U	2.0	0.39	1
10590	Endrin Ketone	53494-70-5	2.1	U	2.1	0.70	1
10590	Heptachlor	76-44-8	0.97	U	0.97	0.20	1
10590	Heptachlor Epoxide	1024-57-3	0.97	U	0.97	0.20	1
10590	Methoxychlor	72-43-5	7.9	U	7.9	2.0	1
10590	Mirex	2385-85-5	2.0	U	2.0	0.41	1
10590	Toxaphene	8001-35-2	39	U	39	16	1
Pesticides/PCBs SW-846 8082A							
10592	Aroclor 5432	63496-31-1	39	U	39	12	1
10592	Aroclor 5442	12642-23-8	39	U	39	12	1
10592	Aroclor 5460	11126-42-4	39	U	39	12	1
10592	PCB-1016	12674-11-2	20	U	20	3.9	1
10592	PCB-1221	11104-28-2	20	U	20	6.0	1
10592	PCB-1232	11141-16-5	20	U	20	4.8	1
10592	PCB-1242	53469-21-9	20	U	20	4.8	1
10592	PCB-1248	12672-29-6	20	U	20	3.9	1
10592	PCB-1254	11097-69-1	20	U	20	5.2	1
10592	PCB-1260	11096-82-5	20	U	20	4.6	1
10592	PCB-1262	37324-23-5	20	U	20	3.9	1
10592	PCB-1268	11100-14-4	20	U	20	3.9	1
For all QC parameters which are outside project defined limits, but within the laboratory statistical limits, no corrective action is taken.							
GC Petroleum SW-846 8015B modified							
Hydrocarbons							
12952	EFH (C12-C14)	n.a.	5.8	U	5.8	2.3	1
12952	EFH (C15-C20)	n.a.	5.8	U	5.8	2.3	1
12952	EFH (C21-C30)	n.a.	5.8	U	5.8	2.3	1
12952	EFH (C30-C40)	n.a.	12	U	12	4.6	1
12952	EFH (C8-C11)	n.a.	5.8	U	5.8	2.3	1
Metals SW-846 6010C							
01643	Aluminum	7429-90-5	19,400		46.5	8.38	1
06944	Antimony	7440-36-0	4.65	U	4.65	0.860	1
06935	Arsenic	7440-38-2	5.32		4.65	0.813	1
06946	Barium	7440-39-3	106		1.16	0.0383	1
06947	Beryllium	7440-41-7	0.629	J	1.16	0.0779	1
07914	Boron	7440-42-8	6.62	J	11.6	0.976	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-542-SA8-SB-14.0-15.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7215518
LL Group # 1422081
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 09/26/2013 11:50 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 09/27/2013 09:15
Reported: 10/08/2013 20:01

54214 SDG#: PH117-05

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals						
		SW-846 6010C	mg/kg	mg/kg	mg/kg	
06949	Cadmium	7440-43-9	0.574 J	1.16	0.0883	1
01650	Calcium	7440-70-2	139,000	116	19.4	5
06951	Chromium	7440-47-3	25.4	3.49	0.186	1
06952	Cobalt	7440-48-4	6.74	1.16	0.115	1
06953	Copper	7440-50-8	14.5	2.32	0.337	1
01654	Iron	7439-89-6	23,500	46.5	4.21	1
06955	Lead	7439-92-1	7.05	3.49	0.581	1
01656	Lithium	7439-93-2	21.8	4.6	0.40	1
01657	Magnesium	7439-95-4	6,000	11.6	1.94	1
06958	Manganese	7439-96-5	284	1.16	0.0965	1
06960	Molybdenum	7439-98-7	2.32 U	2.32	0.198	1
06961	Nickel	7440-02-0	15.1	2.32	0.151	1
10145	Phosphorus	7723-14-0	343	11.6	3.36	1
01662	Potassium	7440-09-7	3,240	116	9.69	1
01667	Sodium	7440-23-5	126	116	19.4	1
06969	Tin	7440-31-5	2.67 J	11.6	0.256	1
06970	Titanium	7440-32-6	744	1.16	0.198	1
06971	Vanadium	7440-62-2	44.6	1.16	0.151	1
06972	Zinc	7440-66-6	51.4	4.65	0.232	1
10146	Zirconium	7440-67-7	4.33 J	5.81	0.976	1
		SW-846 6020A	mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	0.465 U	0.465	0.116	2
06142	Silver	7440-22-4	0.0439 J	0.232	0.0302	2
06144	Strontium	7440-24-6	205	2.32	0.395	10
06145	Thallium	7440-28-0	0.291	0.232	0.0349	2
		SW-846 7471B	mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.0147 J	0.0194	0.0116	1
Wet Chemistry						
		SW-846 9045D modified	Std. Units	Std. Units	Std. Units	
00394	15a pH by 9045D The pH was measured in water at 20.2 C.	n.a.	8.03	0.0100	0.0100	1
Wet Chemistry						
		EPA 160.3 modified	%	%	%	
11624	14a Moisture Content by 160.3 Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.	n.a.	14.8	0.10	0.10	1

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

*=This limit was used in the evaluation of the final result

Sample Description: SL-542-SA8-SB-14.0-15.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7215518
LL Group # 1422081
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 09/26/2013 11:50 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 09/27/2013 09:15
Reported: 10/08/2013 20:01

54214 SDG#: PH117-05

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13273SLE026	10/02/2013 11:33	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	13273SLE026	10/01/2013 08:00	Kerrie A Freeburn	1
05551	11a TPH by EPA 8015B GRO	TPH GRO SW-846 8015B mod	1	13274A31A	10/01/2013 22:30	Laura M Krieger	23.72
06130	GC - 5 g HL Encore Prep	SW-846 5035A	1	201327032541	09/27/2013 16:38	Larry E Bevins	n.a.
06130	GC - 5 g HL Encore Prep	SW-846 5035A	2	201327032541	09/27/2013 16:38	Larry E Bevins	n.a.
10401	21a Herbicides by EPA 8151A	SW-846 8151A	1	132760027A	10/04/2013 17:47	Elizabeth J Marin	1
10590	20a Pesticides by EPA 8081B	SW-846 8081B	1	132760006A	10/07/2013 11:57	Jamie L Brillhart	1
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132750029A	10/04/2013 10:20	Monica M Souders	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132750029A	10/03/2013 10:30	David S Schrum	1
10496	PPL Pest. Microwave Extraction	SW-846 3546	1	132760006A	10/03/2013 16:25	JoElla L Rice	1
04181	Herbicide Soil Extraction	SW-846 3550B/SW-846 8151A	1	132760027A	10/04/2013 09:15	Katheryne V Sponheimer	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132730031A	10/02/2013 12:26	Heather E Williams	1
12959	EPH soil ext. (microwave)	SW-846 3546	1	132730031A	10/01/2013 08:00	Joseph S Feister	1
01643	Aluminum	SW-846 6010C	1	132740637001	10/03/2013 15:32	Eric L Eby	1
06944	Antimony	SW-846 6010C	1	132740637001	10/03/2013 15:32	Eric L Eby	1
06935	Arsenic	SW-846 6010C	1	132740637001	10/03/2013 15:32	Eric L Eby	1
06946	Barium	SW-846 6010C	1	132740637001	10/03/2013 15:32	Eric L Eby	1
06947	Beryllium	SW-846 6010C	1	132740637001	10/03/2013 15:32	Eric L Eby	1
07914	Boron	SW-846 6010C	1	132740637001	10/03/2013 15:32	Eric L Eby	1
06949	Cadmium	SW-846 6010C	1	132740637001	10/03/2013 15:32	Eric L Eby	1
01650	Calcium	SW-846 6010C	1	132740637001	10/04/2013 02:21	John W Yanzuk II	5
06951	Chromium	SW-846 6010C	1	132740637001	10/03/2013 15:32	Eric L Eby	1
06952	Cobalt	SW-846 6010C	1	132740637001	10/03/2013 15:32	Eric L Eby	1
06953	Copper	SW-846 6010C	1	132740637001	10/03/2013 15:32	Eric L Eby	1
01654	Iron	SW-846 6010C	1	132740637001	10/03/2013 15:32	Eric L Eby	1
06955	Lead	SW-846 6010C	1	132740637001	10/03/2013 15:32	Eric L Eby	1
01656	Lithium	SW-846 6010C	1	132740637001	10/03/2013 15:32	Eric L Eby	1
01657	Magnesium	SW-846 6010C	1	132740637001	10/03/2013 15:32	Eric L Eby	1
06958	Manganese	SW-846 6010C	1	132740637001	10/03/2013 15:32	Eric L Eby	1
06960	Molybdenum	SW-846 6010C	1	132740637001	10/03/2013 15:32	Eric L Eby	1
06961	Nickel	SW-846 6010C	1	132740637001	10/03/2013 15:32	Eric L Eby	1
10145	Phosphorus	SW-846 6010C	1	132740637001	10/03/2013 15:32	Eric L Eby	1
01662	Potassium	SW-846 6010C	1	132740637001	10/03/2013 15:32	Eric L Eby	1
01667	Sodium	SW-846 6010C	1	132740637001	10/03/2013 15:32	Eric L Eby	1
06969	Tin	SW-846 6010C	1	132740637001	10/03/2013 15:32	Eric L Eby	1
06970	Titanium	SW-846 6010C	1	132740637001	10/04/2013 02:17	John W Yanzuk II	1
06971	Vanadium	SW-846 6010C	1	132740637001	10/04/2013 02:17	John W Yanzuk II	1
06972	Zinc	SW-846 6010C	1	132740637001	10/03/2013 15:32	Eric L Eby	1
10146	Zirconium	SW-846 6010C	1	132740637001	10/03/2013 15:32	Eric L Eby	1
06141	Selenium	SW-846 6020A	1	132740637001B	10/03/2013 06:54	Choon Y Tian	2
06142	Silver	SW-846 6020A	1	132740637001A	10/03/2013 06:54	Choon Y Tian	2
06144	Strontium	SW-846 6020A	1	132740637001A	10/03/2013 07:44	Choon Y Tian	10

*=This limit was used in the evaluation of the final result

Sample Description: SL-542-SA8-SB-14.0-15.0 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7215518
LL Group # 1422081
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 09/26/2013 11:50 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 09/27/2013 09:15
Reported: 10/08/2013 20:01

54214 SDG#: PH117-05

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
06145	Thallium	SW-846 6020A	1	132740637001A	10/03/2013	06:54	Choon Y Tian	2
00159	3a Mercury 7471A	SW-846 7471B	1	132740638001	10/03/2013	05:01	Damary Valentin	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132740637001	10/02/2013	09:39	Denise K Conners	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132740638001	10/02/2013	12:35	Denise K Conners	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13270039402A	09/27/2013	22:20	Luz M Groff	1
11624	14a Moisture Content by 160.3	EPA 160.3 modified	1	13275162401B	10/02/2013	22:11	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-542-SA8-SB-17.5-18.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7215519
LL Group # 1422081
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 09/26/2013 12:20 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 09/27/2013 09:15
Reported: 10/08/2013 20:01

54217 SDG#: PH117-06*

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D SIM	ug/kg	ug/kg	ug/kg	
12969	Acenaphthene	83-32-9	1.9 U	1.9	0.75	1
12969	Acenaphthylene	208-96-8	1.9 U	1.9	0.38	1
12969	Anthracene	120-12-7	1.9 U	1.9	0.38	1
12969	Benzo(a)anthracene	56-55-3	1.9 U	1.9	0.75	1
12969	Benzo(a)pyrene	50-32-8	1.9 U	1.9	0.75	1
12969	Benzo(b)fluoranthene	205-99-2	1.9 U	1.9	0.75	1
12969	Benzo(e)pyrene	192-97-2	19 U	19	3.7	1
12969	Benzo(g,h,i)perylene	191-24-2	1.9 U	1.9	0.75	1
12969	Benzo(k)fluoranthene	207-08-9	1.9 U	1.9	0.75	1
12969	Butylbenzylphthalate	85-68-7	20 U	20	6.8	1
12969	Di-n-butylphthalate	84-74-2	20 U	20	6.8	1
12969	Chrysene	218-01-9	1.9 U	1.9	0.38	1
12969	Dibenz(a,h)anthracene	53-70-3	1.9 U	1.9	0.75	1
12969	Diethylphthalate	84-66-2	20 U	20	6.8	1
12969	Dimethylphthalate	131-11-3	20 U	20	6.8	1
12969	Bis(2-Ethylhexyl)phthalate	117-81-7	20 U	20	6.8	1
12969	Fluoranthene	206-44-0	1.9 U	1.9	0.75	1
12969	Fluorene	86-73-7	1.9 U	1.9	0.75	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	1.9 U	1.9	0.75	1
12969	1-Methylnaphthalene	90-12-0	1.9 U	1.9	0.75	1
12969	2-Methylnaphthalene	91-57-6	1.9 U	1.9	0.75	1
12969	Naphthalene	91-20-3	1.9 U	1.9	0.75	1
12969	N-Nitrosodimethylamine	62-75-9	1.9 U	1.9	0.75	1
12969	Di-n-octylphthalate	117-84-0	20 U	20	6.8	1
12969	Phenanthrene	85-01-8	1.9 U	1.9	0.75	1
12969	Pyrene	129-00-0	1.9 U	1.9	0.75	1
GC Volatiles	TPH GRO SW-846 8015B mod	mg/kg	mg/kg	mg/kg		
05551	11a TPH by EPA 8015B GRO	n.a.	1.1 U	1.1	0.2	24.32
Herbicides	SW-846 8151A	ug/kg	ug/kg	ug/kg		
10401	2,4-D	94-75-7	41 U	41	14	1
10401	Dalapon	75-99-0	100 U	100	50	1
10401	2,4-DB	94-82-6	19 U	19	7.0	1
10401	Dicamba	1918-00-9	14 U	14	4.5	1
10401	Dinoseb	88-85-7	27 U	27	10	1
The QC window for dinoseb is advisory due to the erratic performance of the analyte using this method.						
10401	2,4-DP (Dichlorprop)	120-36-5	19 U	19	10	1
10401	MCPA	94-74-6	2,800 U	2,800	860	1
10401	MCPP (Mecoprop)	93-65-2	2,800 U	2,800	850	1
10401	2,4,5-T	93-76-5	1.9 U	1.9	0.93	1
10401	2,4,5-TP	93-72-1	1.9 U	1.9	0.85	1
Pesticides/PCBs	SW-846 8081B	ug/kg	ug/kg	ug/kg		
10590	Aldrin	309-00-2	0.95 U	0.95	0.19	1
10590	Alpha BHC	319-84-6	0.95 U	0.95	0.19	1
10590	Beta BHC	319-85-7	2.2 U	2.2	1.1	1
10590	Gamma BHC - Lindane	58-89-9	0.95 U	0.95	0.19	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-542-SA8-SB-17.5-18.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7215519
LL Group # 1422081
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 09/26/2013 12:20 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 09/27/2013 09:15
Reported: 10/08/2013 20:01

54217 SDG#: PH117-06*

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs SW-846 8081B							
10590	Chlordane	57-74-9	19	U	19	4.6	1
10590	p,p-DDD	72-54-8	1.9	U	1.9	0.38	1
10590	p,p-DDE	72-55-9	1.9	U	1.9	0.38	1
10590	p,p-DDT	50-29-3	1.9	U	1.9	0.40	1
10590	Delta BHC	319-86-8	0.95	U	0.95	0.51	1
10590	Dieldrin	60-57-1	1.9	U	1.9	0.38	1
10590	Endosulfan I	959-98-8	0.95	U	0.95	0.25	1
10590	Endosulfan II	33213-65-9	1.9	U	1.9	0.38	1
10590	Endosulfan Sulfate	1031-07-8	1.9	U	1.9	0.38	1
10590	Endrin	72-20-8	1.9	U	1.9	0.38	1
10590	Endrin Aldehyde	7421-93-4	1.9	U	1.9	0.38	1
10590	Endrin Ketone	53494-70-5	2.1	U	2.1	0.68	1
10590	Heptachlor	76-44-8	0.95	U	0.95	0.19	1
10590	Heptachlor Epoxide	1024-57-3	0.95	U	0.95	0.19	1
10590	Methoxychlor	72-43-5	7.6	U	7.6	1.9	1
10590	Mirex	2385-85-5	1.9	U	1.9	0.40	1
10590	Toxaphene	8001-35-2	38	U	38	16	1
Pesticides/PCBs SW-846 8082A							
10592	Aroclor 5432	63496-31-1	38	U	38	11	1
10592	Aroclor 5442	12642-23-8	38	U	38	11	1
10592	Aroclor 5460	11126-42-4	38	U	38	11	1
10592	PCB-1016	12674-11-2	19	U	19	3.8	1
10592	PCB-1221	11104-28-2	19	U	19	5.8	1
10592	PCB-1232	11141-16-5	19	U	19	4.7	1
10592	PCB-1242	53469-21-9	19	U	19	4.7	1
10592	PCB-1248	12672-29-6	19	U	19	3.8	1
10592	PCB-1254	11097-69-1	19	U	19	5.0	1
10592	PCB-1260	11096-82-5	19	U	19	4.4	1
10592	PCB-1262	37324-23-5	19	U	19	3.8	1
10592	PCB-1268	11100-14-4	19	U	19	3.8	1
For all QC parameters which are outside project defined limits, but within the laboratory statistical limits, no corrective action is taken.							
GC Petroleum SW-846 8015B modified							
Hydrocarbons							
12952	EFH (C12-C14)	n.a.	5.7	U	5.7	2.3	1
12952	EFH (C15-C20)	n.a.	5.7	U	5.7	2.3	1
12952	EFH (C21-C30)	n.a.	5.7	U	5.7	2.3	1
12952	EFH (C30-C40)	n.a.	11	U	11	4.5	1
12952	EFH (C8-C11)	n.a.	5.7	U	5.7	2.3	1
Metals SW-846 6010C							
01643	Aluminum	7429-90-5	16,000		44.7	8.06	1
06944	Antimony	7440-36-0	4.47	U	4.47	0.827	1
06935	Arsenic	7440-38-2	6.60		4.47	0.783	1
06946	Barium	7440-39-3	76.7		1.12	0.0369	1
06947	Beryllium	7440-41-7	0.527	J	1.12	0.0749	1
07914	Boron	7440-42-8	2.26	J	11.2	0.939	1

*=This limit was used in the evaluation of the final result

Sample Description: SL-542-SA8-SB-17.5-18.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7215519
LL Group # 1422081
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 09/26/2013 12:20 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 09/27/2013 09:15
Reported: 10/08/2013 20:01

54217 SDG#: PH117-06*

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Metals						
		SW-846 6010C	mg/kg	mg/kg	mg/kg	
06949	Cadmium	7440-43-9	0.295 J	1.12	0.0850	1
01650	Calcium	7440-70-2	88,900	44.7	7.47	2
06951	Chromium	7440-47-3	20.2	3.35	0.179	1
06952	Cobalt	7440-48-4	5.30	1.12	0.111	1
06953	Copper	7440-50-8	11.8	2.24	0.324	1
01654	Iron	7439-89-6	21,400	44.7	4.05	1
06955	Lead	7439-92-1	4.44	3.35	0.559	1
01656	Lithium	7439-93-2	26.0	4.5	0.38	1
01657	Magnesium	7439-95-4	5,770	11.2	1.87	1
06958	Manganese	7439-96-5	220	1.12	0.0928	1
06960	Molybdenum	7439-98-7	2.24 U	2.24	0.190	1
06961	Nickel	7440-02-0	11.7	2.24	0.145	1
10145	Phosphorus	7723-14-0	317	11.2	3.23	1
01662	Potassium	7440-09-7	2,660	112	9.32	1
01667	Sodium	7440-23-5	95.1 J	112	18.7	1
06969	Tin	7440-31-5	2.66 J	11.2	0.246	1
06970	Titanium	7440-32-6	998	1.12	0.190	1
06971	Vanadium	7440-62-2	39.4	1.12	0.145	1
06972	Zinc	7440-66-6	49.1	4.47	0.224	1
10146	Zirconium	7440-67-7	2.88 J	5.59	0.939	1
		SW-846 6020A	mg/kg	mg/kg	mg/kg	
06141	Selenium	7782-49-2	0.447 U	0.447	0.112	2
06142	Silver	7440-22-4	0.224 U	0.224	0.0291	2
06144	Strontium	7440-24-6	167	2.24	0.380	10
06145	Thallium	7440-28-0	0.289	0.224	0.0335	2
		SW-846 7471B	mg/kg	mg/kg	mg/kg	
00159	3a Mercury 7471A	7439-97-6	0.0189 U	0.0189	0.0114	1
Wet Chemistry						
		SW-846 9045D modified	Std. Units	Std. Units	Std. Units	
00394	15a pH by 9045D The pH was measured in water at 20.5 C.	n.a.	8.20	0.0100	0.0100	1
Wet Chemistry						
		EPA 160.3 modified	%	%	%	
11624	14a Moisture Content by 160.3 Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.	n.a.	12.3	0.10	0.10	1

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

*=This limit was used in the evaluation of the final result

Sample Description: SL-542-SA8-SB-17.5-18.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7215519
LL Group # 1422081
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 09/26/2013 12:20 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 09/27/2013 09:15
Reported: 10/08/2013 20:01

54217 SDG#: PH117-06*

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12969	7a SVOC SIM EPA 8270D	SW-846 8270D SIM	1	13273SLE026	10/02/2013 12:07	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	13273SLE026	10/01/2013 08:00	Kerrie A Freeburn	1
05551	11a TPH by EPA 8015B GRO	TPH GRO SW-846 8015B mod	1	13274A31A	10/01/2013 23:06	Laura M Krieger	24.32
06130	GC - 5 g HL Encore Prep	SW-846 5035A	1	201327032541	09/27/2013 16:40	Larry E Bevins	n.a.
06130	GC - 5 g HL Encore Prep	SW-846 5035A	2	201327032541	09/27/2013 16:40	Larry E Bevins	n.a.
10401	21a Herbicides by EPA 8151A	SW-846 8151A	1	132760027A	10/04/2013 18:13	Elizabeth J Marin	1
10590	20a Pesticides by EPA 8081B	SW-846 8081B	1	132760006A	10/07/2013 12:12	Jamie L Brillhart	1
10592	19a PCBs and PCTs 8082A	SW-846 8082A	1	132750029A	10/04/2013 10:38	Monica M Souders	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	132750029A	10/03/2013 10:30	David S Schrum	1
10496	PPL Pest. Microwave Extraction	SW-846 3546	1	132760006A	10/03/2013 16:25	JoElla L Rice	1
04181	Herbicide Soil Extraction	SW-846 3550B/SW-846 8151A	1	132760027A	10/04/2013 09:15	Katheryne V Sponheimer	1
12952	10a TPH by EPA 8015B (DRO)	SW-846 8015B modified	1	132730031A	10/02/2013 12:48	Heather E Williams	1
12959	EPH soil ext. (microwave)	SW-846 3546	1	132730031A	10/01/2013 08:00	Joseph S Feister	1
01643	Aluminum	SW-846 6010C	1	132740637001	10/03/2013 15:36	Eric L Eby	1
06944	Antimony	SW-846 6010C	1	132740637001	10/03/2013 15:36	Eric L Eby	1
06935	Arsenic	SW-846 6010C	1	132740637001	10/03/2013 15:36	Eric L Eby	1
06946	Barium	SW-846 6010C	1	132740637001	10/03/2013 15:36	Eric L Eby	1
06947	Beryllium	SW-846 6010C	1	132740637001	10/03/2013 15:36	Eric L Eby	1
07914	Boron	SW-846 6010C	1	132740637001	10/03/2013 15:36	Eric L Eby	1
06949	Cadmium	SW-846 6010C	1	132740637001	10/03/2013 15:36	Eric L Eby	1
01650	Calcium	SW-846 6010C	1	132740637001	10/04/2013 02:29	John W Yanzuk II	2
06951	Chromium	SW-846 6010C	1	132740637001	10/03/2013 15:36	Eric L Eby	1
06952	Cobalt	SW-846 6010C	1	132740637001	10/03/2013 15:36	Eric L Eby	1
06953	Copper	SW-846 6010C	1	132740637001	10/03/2013 15:36	Eric L Eby	1
01654	Iron	SW-846 6010C	1	132740637001	10/03/2013 15:36	Eric L Eby	1
06955	Lead	SW-846 6010C	1	132740637001	10/03/2013 15:36	Eric L Eby	1
01656	Lithium	SW-846 6010C	1	132740637001	10/03/2013 15:36	Eric L Eby	1
01657	Magnesium	SW-846 6010C	1	132740637001	10/03/2013 15:36	Eric L Eby	1
06958	Manganese	SW-846 6010C	1	132740637001	10/03/2013 15:36	Eric L Eby	1
06960	Molybdenum	SW-846 6010C	1	132740637001	10/03/2013 15:36	Eric L Eby	1
06961	Nickel	SW-846 6010C	1	132740637001	10/03/2013 15:36	Eric L Eby	1
10145	Phosphorus	SW-846 6010C	1	132740637001	10/03/2013 15:36	Eric L Eby	1
01662	Potassium	SW-846 6010C	1	132740637001	10/03/2013 15:36	Eric L Eby	1
01667	Sodium	SW-846 6010C	1	132740637001	10/03/2013 15:36	Eric L Eby	1
06969	Tin	SW-846 6010C	1	132740637001	10/03/2013 15:36	Eric L Eby	1
06970	Titanium	SW-846 6010C	1	132740637001	10/04/2013 02:25	John W Yanzuk II	1
06971	Vanadium	SW-846 6010C	1	132740637001	10/04/2013 02:25	John W Yanzuk II	1
06972	Zinc	SW-846 6010C	1	132740637001	10/03/2013 15:36	Eric L Eby	1
10146	Zirconium	SW-846 6010C	1	132740637001	10/03/2013 15:36	Eric L Eby	1
06141	Selenium	SW-846 6020A	1	132740637001B	10/03/2013 06:57	Choon Y Tian	2
06142	Silver	SW-846 6020A	1	132740637001A	10/03/2013 06:57	Choon Y Tian	2
06144	Strontium	SW-846 6020A	1	132740637001A	10/03/2013 07:46	Choon Y Tian	10

*=This limit was used in the evaluation of the final result

Sample Description: SL-542-SA8-SB-17.5-18.5 Soil
SSFL Phase 3 Subarea 8

LL Sample # SW 7215519
LL Group # 1422081
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 09/26/2013 12:20 by VC

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

Submitted: 09/27/2013 09:15

Reported: 10/08/2013 20:01

54217 SDG#: PH117-06*

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution Factor
					Date	Time		
06145	Thallium	SW-846 6020A	1	132740637001A	10/03/2013	06:57	Choon Y Tian	2
00159	3a Mercury 7471A	SW-846 7471B	1	132740638001	10/03/2013	05:06	Damary Valentin	1
10637	SW SW846 (IV) ICP/ICPMS Digest	SW-846 3050B	1	132740637001	10/02/2013	09:39	Denise K Conners	1
10638	SW SW846 (IV) Hg Digest	SW-846 7471B	1	132740638001	10/02/2013	12:35	Denise K Conners	1
00394	15a pH by 9045D	SW-846 9045D modified	1	13270039402A	09/27/2013	22:20	Luz M Groff	1
11624	14a Moisture Content by 160.3	EPA 160.3 modified	1	13275162401B	10/02/2013	22:11	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 10/08/13 at 08:01 PM

Group Number: 1422081

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ**</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 13273SLE026	Sample number(s): 7215515-7215519								
Acenaphthene	1.7 U	1.7	0.67	ug/kg	99		77-116		
Acenaphthylene	1.7 U	1.7	0.33	ug/kg	105		78-120		
Anthracene	1.7 U	1.7	0.33	ug/kg	97		80-116		
Benzo(a)anthracene	1.7 U	1.7	0.67	ug/kg	100		83-119		
Benzo(a)pyrene	1.7 U	1.7	0.67	ug/kg	100		80-122		
Benzo(b)fluoranthene	1.7 U	1.7	0.67	ug/kg	107		82-135		
Benzo(e)pyrene	17 U	17.	3.3	ug/kg	93		81-110		
Benzo(g,h,i)perylene	1.7 U	1.7	0.67	ug/kg	98		79-121		
Benzo(k)fluoranthene	1.7 U	1.7	0.67	ug/kg	103		79-123		
Butylbenzylphthalate	18 U	18.	6.0	ug/kg	109		77-123		
Di-n-butylphthalate	18 U	18.	6.0	ug/kg	109		78-125		
Chrysene	1.7 U	1.7	0.33	ug/kg	99		84-113		
Dibenz(a,h)anthracene	1.7 U	1.7	0.67	ug/kg	100		78-124		
Diethylphthalate	18 U	18.	6.0	ug/kg	105		77-130		
Dimethylphthalate	18 U	18.	6.0	ug/kg	104		85-122		
Bis(2-Ethylhexyl)phthalate	18 U	18.	6.0	ug/kg	103		79-121		
Fluoranthene	1.7 U	1.7	0.67	ug/kg	101		85-116		
Fluorene	1.7 U	1.7	0.67	ug/kg	102		81-126		
Indeno(1,2,3-cd)pyrene	1.7 U	1.7	0.67	ug/kg	101		77-124		
1-Methylnaphthalene	1.7 U	1.7	0.67	ug/kg	108		78-119		
2-Methylnaphthalene	1.7 U	1.7	0.67	ug/kg	105		78-121		
Naphthalene	1.7 U	1.7	0.67	ug/kg	101		79-113		
N-Nitrosodimethylamine	1.7 U	1.7	0.67	ug/kg	111		71-124		
Di-n-octylphthalate	18 U	18.	6.0	ug/kg	114		76-131		
Phenanthrene	1.7 U	1.7	0.67	ug/kg	97		72-110		
Pyrene	1.7 U	1.7	0.67	ug/kg	103		79-112		
Batch number: 13274A31A	Sample number(s): 7215516-7215519								
11a TPH by EPA 8015B GRO	1.0 U	1.0	0.2	mg/kg	91		67-119		
Batch number: 13275A20A	Sample number(s): 7215514								
TPH-GRO S.CA water C5-C12	50 U	50.	20	ug/l	109	107	75-135	2	30
Batch number: 132760027A	Sample number(s): 7215515-7215519								
2,4-D	36 U	36.	12	ug/kg	108		59-122		
Dalapon	90 U	90.	44	ug/kg	72		25-100		
2,4-DB	17 U	17.	6.2	ug/kg	112		54-131		
Dicamba	12 U	12.	4.0	ug/kg	108		55-138		
Dinoseb	24 U	24.	9.0	ug/kg	9*		10-56		
2,4-DP (Dichlorprop)	17 U	17.	9.0	ug/kg	121		65-158		
MCPA	2,500 U	2,500.	760	ug/kg	100		56-133		
MCPP (Mecoprop)	2,500 U	2,500.	750	ug/kg	100		54-134		

*- Outside of specification

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- (2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 10/08/13 at 08:01 PM

Group Number: 1422081

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ**</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
2,4,5-T	1.7 U	1.7	0.82	ug/kg	107		58-135		
2,4,5-TP	1.7 U	1.7	0.75	ug/kg	114		63-130		
Batch number: 132750029A	Sample number(s): 7215515-7215519								
Aroclor 5432	33 U	33.	10	ug/kg					
Aroclor 5442	33 U	33.	10	ug/kg	86	80	62-87	7	30
Aroclor 5460	33 U	33.	10	ug/kg					
PCB-1016	17 U	17.	3.3	ug/kg	97		82-116		
PCB-1221	17 U	17.	5.1	ug/kg					
PCB-1232	17 U	17.	4.1	ug/kg					
PCB-1242	17 U	17.	4.1	ug/kg					
PCB-1248	17 U	17.	3.3	ug/kg					
PCB-1254	17 U	17.	4.4	ug/kg					
PCB-1260	17 U	17.	3.9	ug/kg	118		84-125		
PCB-1262	17 U	17.	3.3	ug/kg					
PCB-1268	17 U	17.	3.3	ug/kg					
Batch number: 132760006A	Sample number(s): 7215515-7215519								
Aldrin	0.83 U	0.83	0.17	ug/kg	95		60-118		
Alpha BHC	0.83 U	0.83	0.17	ug/kg	99		62-128		
Beta BHC	1.9 U	1.9	0.96	ug/kg	97		69-121		
Gamma BHC - Lindane	0.83 U	0.83	0.17	ug/kg	95		64-130		
Chlordane	17 U	17.	4.0	ug/kg					
p,p-DDD	1.7 U	1.7	0.33	ug/kg	103		69-141		
p,p-DDE	1.7 U	1.7	0.33	ug/kg	104		69-130		
p,p-DDT	1.7 U	1.7	0.35	ug/kg	103		64-139		
Delta BHC	0.83 U	0.83	0.45	ug/kg	101		51-141		
Dieldrin	1.7 U	1.7	0.33	ug/kg	106		73-135		
Endosulfan I	0.83 U	0.83	0.22	ug/kg	100		64-130		
Endosulfan II	1.7 U	1.7	0.33	ug/kg	109		68-128		
Endosulfan Sulfate	1.7 U	1.7	0.33	ug/kg	112		71-132		
Endrin	1.7 U	1.7	0.33	ug/kg	101		70-132		
Endrin Aldehyde	1.7 U	1.7	0.33	ug/kg	104		60-120		
Endrin Ketone	1.8 U	1.8	0.60	ug/kg	104		74-127		
Heptachlor	0.83 U	0.83	0.17	ug/kg	95		62-127		
Heptachlor Epoxide	0.83 U	0.83	0.17	ug/kg	103		69-125		
Methoxychlor	6.7 U	6.7	1.7	ug/kg	97		67-136		
Mirex	1.7 U	1.7	0.35	ug/kg					
Toxaphene	33 U	33.	14	ug/kg					
Batch number: 132730031A	Sample number(s): 7215515-7215519								
EFH (C12-C14)	5.0 U	5.0	2.0	mg/kg	94		70-123		
EFH (C15-C20)	5.0 U	5.0	2.0	mg/kg	99		75-128		
EFH (C21-C30)	5.0 U	5.0	2.0	mg/kg	95		64-134		
EFH (C30-C40)	10 U	10.	4.0	mg/kg	76		65-128		
EFH (C8-C11)	5.0 U	5.0	2.0	mg/kg	78		49-107		
Batch number: 132740637001	Sample number(s): 7215515-7215519								
Aluminum	40.0 U	40.0	7.21	mg/kg	104		80-120		
Antimony	4.00 U	4.00	0.740	mg/kg	104		80-120		
Arsenic	4.00 U	4.00	0.700	mg/kg	102		80-120		
Barium	1.00 U	1.00	0.0330	mg/kg	104		80-120		
Beryllium	1.00 U	1.00	0.0670	mg/kg	101		80-120		
Boron	10.0 U	10.0	0.840	mg/kg	99		80-120		
Cadmium	1.00 U	1.00	0.0760	mg/kg	103		80-120		

*- Outside of specification

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 10/08/13 at 08:01 PM

Group Number: 1422081

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ**</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Calcium	9.48 J	20.0	3.34	mg/kg	101		80-120		
Chromium	3.00 U	3.00	0.160	mg/kg	105		80-120		
Cobalt	1.00 U	1.00	0.0990	mg/kg	103		80-120		
Copper	2.00 U	2.00	0.290	mg/kg	105		80-120		
Iron	40.0 U	40.0	3.62	mg/kg	100		80-120		
Lead	3.00 U	3.00	0.500	mg/kg	107		80-120		
Lithium	4.0 U	4.0	0.34	mg/kg	103		80-120		
Magnesium	10.0 U	10.0	1.67	mg/kg	100		80-120		
Manganese	1.00 U	1.00	0.0830	mg/kg	103		80-120		
Molybdenum	2.00 U	2.00	0.170	mg/kg	100		80-120		
Nickel	2.00 U	2.00	0.130	mg/kg	104		80-120		
Phosphorus	10.0 U	10.0	2.89	mg/kg	103		80-120		
Potassium	100 U	100.	8.34	mg/kg	99		80-120		
Sodium	100 U	100.	16.7	mg/kg	99		80-120		
Tin	1.46 J	10.0	0.220	mg/kg	101		80-120		
Titanium	1.00 U	1.00	0.170	mg/kg	101		80-120		
Vanadium	1.00 U	1.00	0.130	mg/kg	103		80-120		
Zinc	0.850 J	4.00	0.200	mg/kg	102		80-120		
Zirconium	5.00 U	5.00	0.840	mg/kg	101		80-120		

Batch number: 132740637001A

Sample number(s): 7215515-7215519

Silver	0.200 U	0.200	0.0260	mg/kg	95		80-120		
Strontium	0.400 U	0.400	0.0680	mg/kg	96		80-120		
Thallium	0.200 U	0.200	0.0300	mg/kg	96		80-120		

Batch number: 132740637001B

Sample number(s): 7215515-7215519

Selenium	0.400 U	0.400	0.100	mg/kg	101		80-120		
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Batch number: 132740638001

Sample number(s): 7215515-7215519

3a Mercury 7471A	0.0167 U	0.0167	0.0100	mg/kg	109		85-120		
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Batch number: 13270039402A

Sample number(s): 7215515-7215519

15a pH by 9045D					100		95-105		
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Batch number: 13275162401B

Sample number(s): 7215515-7215519

14a Moisture Content by 160.3					100		80-120		
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<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MRL**</u>	<u>Blank EDL</u>	<u>Report Units</u>	<u>OPR %REC</u>	<u>OPRD %REC</u>	<u>OPR/OPRD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 13273002	Sample number(s): 7215515-7215516								
2378-TCDD	1.00 U	1.00	0.0390	ng/kg	100		67-158		
12378-PeCDD	0.0738 J	5.00	0.0254	ng/kg	102		70-142		
123478-HxCDD	0.0334 J	5.00	0.0169	ng/kg	101		70-164		
123678-HxCDD	0.0256 J	5.00	0.0182	ng/kg	101		76-134		
123789-HxCDD	0.0369 J	5.00	0.0172	ng/kg	99		64-162		
1234678-HpCDD	0.0965 J	5.00	0.0155	ng/kg	98		70-140		
OCDD	0.249 J	10.0	0.0199	ng/kg	97		78-144		
2378-TCDF	1.00 U	1.00	0.0244	ng/kg	103		75-158		
12378-PeCDF	0.0876 J	5.00	0.0133	ng/kg	99		80-134		
23478-PeCDF	0.0646 J	5.00	0.0127	ng/kg	101		68-160		
123478-HxCDF	0.0515 J	5.00	0.0108	ng/kg	100		72-134		
123678-HxCDF	0.0453 J	5.00	0.0101	ng/kg	102		84-130		

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 10/08/13 at 08:01 PM

Group Number: 1422081

Analysis Name	Blank Result	Blank MRL**	Blank EDL	Report Units	OPR %REC	OPRD %REC	OPR/OPRD Limits	RPD	RPD Max
123789-HxCDF	0.0754 J	5.00	0.0107	ng/kg	102		78-130		
234678-HxCDF	0.0332 J	5.00	0.0106	ng/kg	101		70-156		
1234678-HpCDF	0.0595 J	5.00	0.00690	ng/kg	99		82-122		
1234789-HpCDF	0.0657 J	5.00	0.00960	ng/kg	101		78-138		
OCDF	0.137 J	10.0	0.0215	ng/kg	100		63-170		
TEQ WHO 2005 - EDLx0.0	0.00400			ng/kg					

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 13273SLE026	Sample number(s): 7215515-7215519 UNSPK: P213412								
Acenaphthene	85	84	48-127	1	30				
Acenaphthylene	90	90	49-121	0	30				
Anthracene	84	88	52-126	4	30				
Benzo(a)anthracene	84	90	44-143	6	30				
Benzo(a)pyrene	81	86	44-140	6	30				
Benzo(b)fluoranthene	86	89	26-142	4	30				
Benzo(e)pyrene	76	80	70-130	5	30				
Benzo(g,h,i)perylene	84	90	33-141	7	30				
Benzo(k)fluoranthene	81	86	54-142	7	30				
Butylbenzylphthalate	97	107	49-151	10	30				
Di-n-butylphthalate	94	97	52-147	3	30				
Chrysene	83	87	29-148	5	30				
Dibenz(a,h)anthracene	90	97	20-137	7	30				
Diethylphthalate	91	91	43-145	0	30				
Dimethylphthalate	80	89	58-129	11	30				
Bis(2-Ethylhexyl)phthalate	94	100	39-167	7	30				
Fluoranthene	84	88	40-148	5	30				
Fluorene	85	86	51-137	1	30				
Indeno(1,2,3-cd)pyrene	88	95	17-136	8	30				
1-Methylnaphthalene	78	77	50-131	1	30				
2-Methylnaphthalene	57	57	35-152	0	30				
Naphthalene	68	67	31-148	1	30				
N-Nitrosodimethylamine	93	93	48-113	1	30				
Di-n-octylphthalate	97	102	52-162	5	30				
Phenanthrene	83	85	29-142	2	30				
Pyrene	86	87	26-143	1	30				
Batch number: 13274A31A	Sample number(s): 7215516-7215519 UNSPK: P213412								
11a TPH by EPA 8015B GRO	92	86	69-123	2	30				
Batch number: 132760027A	Sample number(s): 7215515-7215519 UNSPK: P218895								
2,4-D	113	105	42-143	7	35				
Dalapon	64	54	16-98	16	50				
2,4-DB	121	116	10-179	4	50				

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Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 10/08/13 at 08:01 PM

Group Number: 1422081

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

<u>Analysis Name</u>	<u>MS</u> <u>%REC</u>	<u>MSD</u> <u>%REC</u>	<u>MS/MSD</u> <u>Limits</u>	<u>RPD</u> <u>RPD</u>	<u>RPD</u> <u>MAX</u>	<u>BKG</u> <u>Conc</u>	<u>DUP</u> <u>Conc</u>	<u>DUP</u> <u>RPD</u>	<u>Dup RPD</u> <u>Max</u>
Dicamba	105	94	55-133	11	50				
Dinoseb	10	11	10-52	7	35				
2,4-DP (Dichlorprop)	127	117	32-171	8	50				
MCPA	102	97	23-169	5	50				
MCPP (Mecoprop)	102	99	24-164	3	50				
2,4,5-T	116	108	12-172	7	35				
2,4,5-TP	119	111	10-142	7	35				
Batch number: 132750029A Sample number(s): 7215515-7215519 UNSPK: P213412									
PCB-1016	83	89	41-135	7	50				
PCB-1260	94	107	40-134	13	50				
Batch number: 132760006A Sample number(s): 7215515-7215519 UNSPK: P215511									
Aldrin	89	88	16-126	1	50				
Alpha BHC	90	90	14-140	0	50				
Beta BHC	110	109	42-133	1	50				
Gamma BHC - Lindane	88	87	30-137	0	50				
p,p-DDD	94	92	43-149	2	50				
p,p-DDE	96	94	35-152	2	50				
p,p-DDT	95	93	12-193	2	50				
Delta BHC	93	92	13-153	2	50				
Dieldrin	96	94	41-153	1	50				
Endosulfan I	91	89	26-146	2	50				
Endosulfan II	100	97	34-141	3	50				
Endosulfan Sulfate	101	100	10-181	1	50				
Endrin	92	91	30-152	1	50				
Endrin Aldehyde	93	92	23-138	2	50				
Endrin Ketone	94	93	30-148	2	50				
Heptachlor	87	86	16-152	2	50				
Heptachlor Epoxide	93	92	33-144	1	50				
Methoxychlor	91	90	41-161	2	50				
Batch number: 132730031A Sample number(s): 7215515-7215519 UNSPK: P213412									
EFH (C12-C14)	90	84	49-123	8	20				
EFH (C15-C20)	98	92	49-123	7	20				
EFH (C21-C30)	91	87	49-123	6	20				
EFH (C30-C40)	90	93	49-123	3	20				
EFH (C8-C11)	73	71	49-123	2	20				
Batch number: 132740637001 Sample number(s): 7215515-7215519 UNSPK: P208982 BKG: P208982									
Aluminum	-136 (2)	-131 (2)	75-125	0	20	20,500	13,200	43*	20
Antimony	44*	42*	75-125	6	20	4.00 U	3.96 U	0 (1)	20
Arsenic	97	104	75-125	4	20	4.06	3.28 J	21* (1)	20
Barium	94	92	75-125	3	20	95.6	88.7	8	20
Beryllium	97	98	75-125	0	20	0.565 J	0.412 J	31* (1)	20
Boron	97	100	75-125	1	20	9.44 J	6.97 J	30* (1)	20
Cadmium	94	97	75-125	2	20	0.321 J	0.442 J	32* (1)	20
Calcium	1949 (2)	2450 (2)	75-125	4	20	37,100	42,800	14	20
Chromium	123	109	75-125	6	20	31.3	27.9	12	20
Cobalt	89	90	75-125	0	20	7.96	5.90	30*	20

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

- (1) The result for one or both determinations was less than five times the LOQ / MRL.
- (2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 10/08/13 at 08:01 PM

Group Number: 1422081

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

<u>Analysis Name</u>	<u>MS</u>	<u>MSD</u>	<u>MS/MSD</u>	<u>RPD</u>	<u>RPD</u>	<u>BKG</u>	<u>DUP</u>	<u>DUP</u>	<u>Dup</u>	<u>RPD</u>
	<u>%REC</u>	<u>%REC</u>	<u>Limits</u>	<u>RPD</u>	<u>MAX</u>	<u>Conc</u>	<u>Conc</u>	<u>RPD</u>	<u>Max</u>	
Copper	97	98	75-125	0	20	16.0	13.1	20		20
Iron	-5142 (2)	-6500 (2)	75-125	6	20	26,000	17,500	39*		20
Lead	88	91	75-125	1	20	7.08	6.86	3 (1)		20
Lithium	91	92	75-125	0	20	32.9	18.4	56* (1)		20
Magnesium	-455 (2)	-524 (2)	75-125	2	20	7,180	5,120	33*		20
Manganese	230 (2)	342 (2)	75-125	13	20	266	355	29*		20
Molybdenum	93	94	75-125	1	20	2.00 U	0.388 J	200* (1)		20
Nickel	89	87	75-125	3	20	17.4	14.8	16		20
Phosphorus	173 (2)	168 (2)	75-125	1	20	439	503	14		20
Potassium	48*	64*	75-125	4	20	3,370	2,470	31*		20
Sodium	94	94	75-125	2	20	187	146	25* (1)		20
Tin	84	86	75-125	1	20	3.09 J	2.55 J	19 (1)		20
Titanium	177 (2)	236 (2)	75-125	4	20	1,100	652	51*		20
Vanadium	103	111	75-125	3	20	56.4	41.7	30*		20
Zinc	57*	66*	75-125	4	20	78.2	54.7	35*		20
Zirconium	95	99	75-125	2	20	4.25 J	5.63	28* (1)		20
Batch number: 132740637001A	Sample number(s): 7215515-7215519 UNSPK: P208982 BKG: P208982									
Silver	111	114	75-125	0	20	0.0327 J	0.0359 J	9 (1)		20
Strontium	145 (2)	98 (2)	75-125	4	20	89.7	84.5	6		20
Thallium	123	117	75-125	4	20	0.283	0.251	12 (1)		20
Batch number: 132740637001B	Sample number(s): 7215515-7215519 UNSPK: P208982 BKG: P208982									
Selenium	106	113	75-125	4	20	0.183 J	0.238 J	26* (1)		20
Batch number: 132740638001	Sample number(s): 7215515-7215519 UNSPK: P208982 BKG: P208982									
3a Mercury 7471A	115	103	65-135	11	20	0.0115 J	0.0111 J	4 (1)		20
Batch number: 13270039402A	Sample number(s): 7215515-7215519 BKG: P215511									
15a pH by 9045D						7.89	7.91	0		3
Batch number: 13275162401B	Sample number(s): 7215515-7215519 BKG: P213412									
14a Moisture Content by 160.3						7.4	7.6	1		20
Batch number: 13273002	Sample number(s): 7215515-7215516 UNSPK: P211497									
2378-TCDD	97	102	40-135	4	20					
12378-PeCDD	102	103	40-135	0	20					
123478-HxCDD	99	100	40-135	1	20					
123678-HxCDD	104	102	40-135	3	20					
123789-HxCDD	97	100	40-135	2	20					
1234678-HpCDD	99	100	40-135	0	20					
OCDD	97	100	40-135	2	20					
2378-TCDF	103	105	40-135	0	20					
12378-PeCDF	101	100	40-135	2	20					
23478-PeCDF	100	103	40-135	2	20					
123478-HxCDF	100	103	40-135	2	20					
123678-HxCDF	103	104	40-135	1	20					
123789-HxCDF	101	104	40-135	1	20					
234678-HxCDF	101	102	40-135	0	20					
1234678-HpCDF	99	101	40-135	1	20					

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ / MRL.

(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 10/08/13 at 08:01 PM

Group Number: 1422081

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

<u>Analysis Name</u>	<u>MS</u> <u>%REC</u>	<u>MSD</u> <u>%REC</u>	<u>MS/MSD</u> <u>Limits</u>	<u>RPD</u> <u>RPD</u>	<u>RPD</u> <u>MAX</u>	<u>BKG</u> <u>Conc</u>	<u>DUP</u> <u>Conc</u>	<u>DUP</u> <u>RPD</u>	<u>Dup RPD</u> <u>Max</u>
1234789-HpCDF	102	102	40-135	1	20				
OCDF	100	103	40-135	2	20				

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: 7a SVOC SIM EPA 8270D
Batch number: 13273SLE026

	Fluoranthene-d10	Benzo(a)pyrene-d12	1-Methylnaphthalene-d10
7215515	88	94	106
7215516	91	93	107
7215517	90	96	108
7215518	90	96	107
7215519	86	94	106
Blank	89	96	108
LCS	92	100	110
MS	78	83	97
MSD	82	86	95

Limits: 54-129 59-125 61-125

Analysis Name: 11a TPH by EPA 8015B GRO
Batch number: 13274A31A

	Trifluorotoluene-F
7215516	78
7215517	75
7215518	87
7215519	80
Blank	92
LCS	95
MS	70
MSD	77

Limits: 50-142

Analysis Name: 11b TPH by EPA 8015B GRO
Batch number: 13275A20A

	Trifluorotoluene-F
7215514	96
Blank	92
LCS	98
LCSD	99

*- Outside of specification

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- (2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 10/08/13 at 08:01 PM

Group Number: 1422081

Surrogate Quality Control

Limits: 63-135

Analysis Name: 19a PCBs and PCTs 8082A
Batch number: 132750029A

	Tetrachloro-m-xylene	Decachlorobiphenyl
7215515	106	111
7215516	104	112
7215517	102	111
7215518	108	115
7215519	106	111
Blank	117	117
LCS	117	122*
LCSD	109	120
MS	100	105
MSD	106	113

Limits: 45-120 45-120

Analysis Name: 20a Pesticides by EPA 8081B
Batch number: 132760006A

	Tetrachloro-m-xylene	Decachlorobiphenyl
7215515	92	106
7215516	94	104
7215517	121	136*
7215518	92	107
7215519	92	107
Blank	94	109
LCS	96	111
MS	92	101
MSD	91	100

Limits: 50-130 20-120

Analysis Name: 21a Herbicides by EPA 8151A
Batch number: 132760027A

	2,4-Dichlorophenylacetic acid
7215515	84
7215516	95
7215517	86
7215518	87
7215519	94
Blank	92
LCS	101
MS	101
MSD	97

Limits: 50-150

Analysis Name: 10a TPH by EPA 8015B (DRO)
Batch number: 132730031A

	Chlorobenzene	Orthoterphenyl
--	---------------	----------------

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

- (1) The result for one or both determinations was less than five times the LOQ / MRL.
- (2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: CDM Federal Programs Corp.
Reported: 10/08/13 at 08:01 PM

Group Number: 1422081

Surrogate Quality Control

7215515	99	87
7215516	93	82
7215517	111	95
7215518	106	90
7215519	106	90
Blank	112	90
LCS	109	88
MS	104	84
MSD	100	81

Limits: 37-125 66-123

Analysis Name: 23a Dioxin/Furan by EPA 1613B

Batch number: 13273002

	13C12-2378-TCDD	13C12-23478-PeCDF	13C12-123478-HxCDF	13C12-123678-HxCDF	13C12-234678-HxCDF	13C12-123789-HxCDF
7215515	69	67	65	70	65	71
7215516	67	80	69	73	70	69
Blank	69	71	70	73	71	74
MS	67	68	69	75	71	68
MSD	69	69	69	76	70	71
OPR	65	69	68	75	72	68

Limits: 25-164 21-178 26-152 26-123 28-136 29-147

	13C12-1234678-HpCDF	13C12-1234789-HpCDF	13C12-OCDF	13C12-12378-PeCDD	13C12-123478-HxCDD	13C12-123678-HxCDD
7215515	79	61	58	72	72	71
7215516	85	67	65	83	75	73
Blank	89	73	73	74	77	77
MS	90	68	66	72	77	76
MSD	94	67	64	73	79	76
OPR	93	70	68	75	80	80

Limits: 28-143 26-138 17-157 25-181 32-141 28-130

	13C12-123789-HxCDD	13C12-1234678-HpCDD	13C12-OCDD	13C12-2378-TCDF	13C12-12378-PeCDF
7215515	70	72	69	62	73
7215516	74	76	77	65	83
Blank	77	81	85	65	72
MS	77	79	80	63	72
MSD	76	81	80	64	74
OPR	81	84	83	59	73

Limits: 28-130 23-140 17-157 24-169 24-185

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

- (1) The result for one or both determinations was less than five times the LOQ / MRL.
- (2) The unspiked result was more than four times the spike added.

acct# 13013 Cup# 1422081 sample# 7215514-19

SSFL Phase 3 Chain of Custody

CDM Smith
 Date Shipped: 9/26/2013
 Carrier Name: FedEx
 Airbill No: 796780309074

Contact Name: Pam Hartman
 Contact Phone: (818)466-8007

COC No: 20130926-02
 Cooler #: 1
 Lab: Lancaster
 Lab Phone: 717-556-7259
 Lab Address: 2425 New Holland Pike
 Lancaster, PA 17601

Sample	Date/Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metal 6010 and 6020	Mercury 7471 (Soil)	Mercury 300.0/9056	Fluoride 300.0/9056	TIC 8270	SVOC 8270	1,4 Dioxane 8270 SIM	PAH 8270 SIM	Dioxins 1613	PCBS/PCIS 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EH 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes													
TB2-092613	9/26/13 08:00	WQ	HCl	3 - 40 mL Vial	10 day																																													
SL-542-SA8-SB-0.0-0.5	9/26/13 09:00	SO	None	2 - SS-Sleeve	10 day	X	X					X	X	X						X	X		X																											
SL-542-SA8-SB-0.0-0.5	9/26/13 09:00	SO	None	1 - 4 oz glass	10 day													X																																
SL-542-SA8-SB-4.0-5.0	9/26/13 09:20	SO	None	2 - SS-Sleeve	10 day	X	X					X	X	X							X	X		X																										
SL-542-SA8-SB-4.0-5.0	9/26/13 09:20	SO	None	1 - 4 oz glass	10 day												X																																	
SL-542-SA8-SB-4.0-5.0	9/26/13 09:20	SO	None	2 - Encore	10 day																					X																								
SL-542-SA8-SB-9.0-10.0	9/26/13 09:50	SO	None	2 - SS-Sleeve	10 day	X	X					X	X	X								X	X		X																									
SL-542-SA8-SB-9.0-10.0	9/26/13 09:50	SO	None	1 - 4 oz glass	10 day												X																																	
SL-542-SA8-SB-9.0-10.0	9/26/13 09:50	SO	None	2 - Encore	10 day																					X																								
SL-542-SA8-SB-14.0-15.0	9/26/13 11:50	SO	None	2 - SS-Sleeve	10 day	X	X					X	X	X								X	X		X																									
SL-542-SA8-SB-14.0-15.0	9/26/13 11:50	SO	None	1 - 4 oz glass	10 day													X																																
SL-542-SA8-SB-14.0-15.0	9/26/13 11:50	SO	None	2 - Encore	10 day																					X																								
SL-542-SA8-SB-17.5-18.5	9/26/13 12:20	SO	None	2 - SS-Sleeve	10 day	X	X					X	X	X								X	X		X																									
SL-542-SA8-SB-17.5-18.5	9/26/13 12:20	SO	None	1 - 4 oz glass	10 day													X																																
SL-542-SA8-SB-17.5-18.5	9/26/13 12:20	SO	None	2 - Encore	10 day																					X																								

Special Instructions: Sampler: *V. Cortez*

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
<i>Steph / Kyp</i>	9/26/2013	10:00									

Environmental Sample Administration
Receipt Documentation Log

Client/Project: CDM
 Date of Receipt: 9-27-13
 Time of Receipt: 915
 Source Code: 50-1

Shipping Container Sealed: YES NO
 Custody Seal Present * : YES NO
 * Custody seal was intact unless otherwise noted in the discrepancy section
 Package: Chilled Not Chilled

Temperature of Shipping Containers							
Cooler #	Thermometer ID	Temperature (°C)	Temp Bottle (TB) or Surface Temp (ST)	Wet Ice (WI) or Dry Ice (DI) or Ice Packs (IP)	Ice Present? Y/N	Loose (L) Bagged Ice (B) or NA	Comments
1	DH46	1.2	TB	WI	Y	B	
2							
3							
4							
5							
6							
6							

Number of Trip Blanks received NOT listed on chain of custody: 0

Paperwork Discrepancy/Unpacking Problems:

Unpacker Signature/Emp#: Bruno My 2299 Date/Time: 9-27-13 1112

Issued by Dept. 6042 Management

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	BMQL	Below Minimum Quantitation Level
N.D.	none detected	MPN	Most Probable Number
TNTC	Too Numerous To Count	CP Units	cobalt-chloroplatinate units
IU	International Units	NTU	nephelometric turbidity units
umhos/cm	micromhos/cm	ng	nanogram(s)
C	degrees Celsius	F	degrees Fahrenheit
meq	milliequivalents	lb.	pound(s)
g	gram(s)	kg	kilogram(s)
µg	microgram(s)	mg	milligram(s)
mL	milliliter(s)	L	liter(s)
m3	cubic meter(s)	µL	microliter(s)
		pg/L	picogram/liter

< less than - The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Data Qualifiers:

C – result confirmed by reanalysis.

J - estimated value – The result is \geq the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ).

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers

- A** TIC is a possible aldol-condensation product
- B** Analyte was also detected in the blank
- C** Pesticide result confirmed by GC/MS
- D** Compound quantitated on a diluted sample
- E** Concentration exceeds the calibration range of the instrument
- N** Presumptive evidence of a compound (TICs only)
- P** Concentration difference between primary and confirmation columns $>25\%$
- U** Compound was not detected
- X,Y,Z** Defined in case narrative

Inorganic Qualifiers

- B** Value is $<$ CRDL, but \geq IDL
- E** Estimated due to interference
- M** Duplicate injection precision not met
- N** Spike sample not within control limits
- S** Method of standard additions (MSA) used for calculation
- U** Compound was not detected
- W** Post digestion spike out of control limits
- *** Duplicate analysis not within control limits
- +** Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR part 136 Table II as “analyze immediately” are not performed within 15 minutes.

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Appendix C
Data Usability Assessment Report and
Data Validation Reports
(On CD)

Appendix C

Data Usability Assessment Report

The purpose of this data usability and assessment report (DUAR) is to summarize the data validation performed on the data sets for Subarea 5D and Subarea 8 samples collected, and determine whether the sample results meet the Data Quality Objectives (DQOs) outlined in the *Master Field Sampling Plan for Chemical Data Gap Investigation Sampling at Area IV, Santa Susana Field Laboratory, Ventura County, California* (CDM Federal Programs Corporation [CDM Smith] 2012a) (Master FSP) and *Addendum No. 7 to Master Field Sampling Plan for Chemical Data Gap Investigation, Phase 3 Soil Chemical Sampling at Area IV, Santa Susana Field Laboratory, Ventura County, California, Subarea 8* (CDM Smith 2013a) (Addendum to the Master FSP), and *Addendum No. 8 to Master Field Sampling Plan for Chemical Data Gap Investigation, Phase 3 Soil Chemical Sampling at Area IV, Santa Susana Field Laboratory, Ventura County, California, Subarea 5D* (CDM Smith 2013b) (Addendum to the Master FSP).

The Master FSP is Appendix A of *Work Plan for Chemical Data Gap Investigation, Phase 3 Soil Chemical Sampling at Area IV, Santa Susana Field Laboratory, Ventura County, California* (CDM Smith 2012b) (Work Plan), which also includes Appendix B, Quality Assurance Project Plan (QAPP); Appendix C, Worker Safety and Health Program; and Appendix D, Standard Operating Procedures (SOPs).

C.1 Usability Summary

For this data usability assessment, 28 data sets were reviewed for Subarea 5D and 34 data sets were reviewed for Subarea 8. A data set consists of 20 or fewer samples grouped together by analytical method for analyses depending on the time and date of when the samples were received by the laboratory. A data set is called a sample delivery group (SDG). The analyses performed are discussed in Section 2.5 of the Subareas 5D and 8 Technical Memorandum (TM).

Samples were collected and analyzed in accordance with the Master FSP (CDM Smith 2012a). Deviations were encountered during the field investigation for the Subareas 5D and 8 sampling activities and are discussed in detail in Section 2.7 of the Subareas 5D and 8 TM.

The validated data for Subarea 5D samples are usable as reported except for the rejected data. Seven herbicide results (dinitrobutyl phenol) were rejected due to laboratory control sample criteria. For all Subarea 5D data, 0.039 percent of the results were rejected. For Subarea 8, ten herbicide results (2,4,5-TP, 2,4,5-T, 2,4-D, 2,4-DB, 2,2-dichloropropionic acid and dinitrobutyl phenol) and four SVOC results (benzidine) were rejected. For all Subarea 8 data, 0.062 percent of the results were rejected.

The validated data for Phase 3 Subareas 5D and 8 samples are usable as reported with the exception of the rejected data. These rejected data and any impact to project objectives and goals are being evaluated in the data gap review process. Specific details are provided in the validation reports in this appendix and below.

C.2 Data Validation Procedures

Data were validated by the independent data validation firm Laboratory Data Consultants, Inc. All data validation was conducted in accordance with *U.S. Environmental Protection Agency (EPA) Contract Laboratory Program National Functional Guidelines for Inorganic Data Review* (EPA 2004), *EPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review* (EPA 2008), and *EPA Contract Laboratory Program National Functional Guidelines for Chlorinated Dioxin/Furan Data Review* (EPA 2005).

The data validation strategy was to validate 10 percent of the data according to EPA Level IV protocols (all QC parameters and raw data) and the remaining 90 percent according to EPA Level III (all QC parameters except calibrations and raw data) protocols. The Level IV determination also included reviewing 10 percent for each laboratory and each method. In order to achieve this, the validators chose appropriate samples in each SDG. Hence, not all samples in some of the SDGs were Level IV validated but they received a mixture of Level IV and Level III review.

Table C-1 shows all SDGs that include Subarea 5D and Subarea 8 samples and which SDGs were validated as Level III or Level IV. Some SDGs contain samples from other subareas but all samples in an SDG were validated together.

In order to evaluate the quality of the laboratory and the validation firm, CDM Smith chemists reviewed 10 percent of the Subarea 5D and Subarea 8 sample SDGs. The purpose of the review was to identify any quality control issues with the laboratory not identified by the validation firm or any discrepancies in validation procedures by the validation firm. No additional qualifiers were applied to the data based on CDM Smith's review.

C.3 Quality Assurance Objectives

Quality assurance (QA) objectives for measurement data are expressed in terms of precision, accuracy, representativeness, comparability, completeness, and sensitivity (PARCCS). The QA objectives provide a mechanism for evaluating and measuring data quality.

A review of the collected data is necessary to determine if data quality objectives established in the Master FSP (CDM Smith 2012a) have been met. The following data measurement tasks were evaluated:

- Specification and adherence to analytical method and reporting limit requirements
- Identification of the appropriate laboratory analytical QC requirements and verification that QC requirements were met
- Verification that measurement performance criteria (representativeness and completeness) for the data were met
- Verification that field procedures were followed, deviations were documented, and determination of impact on data quality from these deviations

The data validation review determines if the collected data are of sufficient quality to support their intended use.

C.4 Summary of Field and Laboratory QA Activities

CDM Smith completed sampling activities in Subareas 5D and 8 in accordance with the approved Master FSP (CDM Smith 2012a) and discussed in the Subareas 5D and 8 TM. A total of 273 soil samples in Subarea 5D and 241 samples in Subarea 8 were collected and analyzed from the locations in Subareas 5D and 8. Tables 2-1 and 2-2 in the Subareas 5D and 8 TM provides a summary of the samples collected and the laboratory analyses requested.

An index of samples associated with each SDG is presented at the beginning of the data validation reports presented in this appendix. The Master FSP (CDM Smith 2012a) defined the procedures to be followed and the data quality requirements for the field sampling events.

C.5 Field Quality QA/QC

The MS/MSDs and field duplicates field QC samples were collected at a frequency of approximately 1 per 20 samples (5 percent). During sampling in Subarea 5D, a total of 16 field duplicate/MS/MSD samples were collected equating to approximately six percent. On an individual method basis, the five percent goal was met or exceeded for all analyses.

In Subarea 8, a total of 13 field QC samples (field duplicate and MS/MSD samples) were collected equating to approximately six percent. On an individual method basis, the five percent goal was met or exceeded for all analyses. Field duplicate and MS/MSD samples met the frequency requirements detailed in the Master FSP (CDM Smith 2012a).

Twenty-five equipment rinsate blank samples were collected for Subareas 5D and 8. The equipment rinsate blank results are presented in Tables C-2 and C-3.

One field blank was collected during sampling for Subareas 5D and 8. Other field blanks are associated with these Subareas and associated samples have been qualified accordingly. The results for these samples are presented in Tables C-4 and C-5.

Fifty-nine trip blank samples were shipped with the Subareas 5D and 8 samples. The results for these samples are presented in Tables C-6 and C-7. Data qualifications based on blank detections are discussed in Section C.7.3 and in the Appendix C validation reports.

Temperature blanks were included with each shipment of samples. Based on validation results, all temperature blanks for Subareas 5D and 8 met criteria.

As stated previously, on an individual method basis, the five percent goal was met or exceeded for all analyses. Field duplicate and MS/MSD samples met the frequency requirements detailed in the Master FSP (CDM Smith 2012a) for the Phase 3 Subareas 5D and 8 sampling program except for the methods listed above. Further, field QA/QC objectives

were attained through the use of appropriate sampling techniques and collection of the required number and frequency of QC samples.

C.6 Laboratory Quality QA/QC

Analytical QA/QC was assessed by laboratory QC checks, method blanks, sample custody tracking, sample preservation, adherence to holding times, laboratory control samples (LCSs), MSs, calibration recoveries, surrogates, tuning criteria, second column confirmations, internal standards, serial dilutions, laboratory duplicates, and interference check standards. The majority of the laboratory QC sample criteria met project requirements as indicated in the data validation reports in this appendix with the appropriate qualifiers applied. Twenty-one analyte results were rejected and are discussed below.

C.7 Data Quality Indicators

This section summarizes the validation performed. Individual SDG validation reports with specific sample detail are provided in this appendix.

Achievement of the DQOs was determined in part by the use of data quality indicators (DQIs) as described in the Master FSP (CDM Smith 2012a). These DQIs for measurement data are expressed in terms of PARCCS. The DQIs provide a mechanism for ongoing control to evaluate and measure data quality throughout the project. These criteria are defined in the sections below.

C.7.1 Precision

Precision is a quantitative term that estimates the reproducibility of a set of replicate measurements under a given set of conditions. It is defined as a measurement of mutual agreement between measurements of the same property and is expressed in terms of relative percent difference (RPD) between duplicate determinations.

RPD is calculated as follows:

$$\text{RPD} = \text{absolute value} \left[\frac{(C1-C2)}{\{(C1+C2)/2\}} \right] \times 100\%$$

Where:

C1 = concentration of primary sample

C2 = concentration of duplicate sample

Field and analytical precision were determined from the review of the field duplicate results. The sample results were compared by calculating their RPDs. The field duplicate samples were collected in the same manner as the original samples but were collected in separate, individual containers, given separate sample identifiers, and treated as individual samples by the laboratory.

Laboratory duplicate RPD control limits are presented in the Work Plan (CDM Smith 2012c) or are laboratory specific. For laboratory duplicates, if one or both of the sample results were

less than two times the RL, a control limit of the absolute difference equal to the RL value was used for comparison.

The field duplicate RPD criterion is 50 percent. Field duplicates for this project were validated using the following: If one result is non-detect and the other result is above the RL, the RPD result is shown as 200 percent and the field duplicate sample and parent sample results are qualified as estimated "J" or "UJ." If the field duplicate RPD was above the 50 percent criterion (and both sample results were above the RL), the field duplicate and parent sample results for that analyte were qualified as estimated "J."

Qualifiers were applied to applicable sample analyte results during the validation process based on laboratory and field duplicate precision results. Details are discussed in the laboratory validation reports in this appendix. Tables C-8 and C-9 show the field duplicate pairs and RPD results for Subareas 5D and 8. RPD results outside of criteria are highlighted.

The following Subarea 5D individual analyte results were qualified as estimated "J/UJ" based on precision criteria:

- 244 metal analyte results and 10 fluoride results due to laboratory precision criteria

The following Subarea 8 individual analyte results were qualified as estimated "J/UJ" based on precision criteria:

- 296 metal analyte results, and 5 hexavalent chromium results due to laboratory precision criteria

Field duplicate precision criteria for Phase 3 Subarea 5D samples required the qualification of the following analytes:

- 53 dioxin results
- 2 fluoride results
- 11 metal results
- 1 hexavalent chromium result
- 4 mercury results
- 11 TPH GRO/EFH results
- 1 pesticide result
- 1 PCB/PCT result
- 20 SVOC SIM results

For Phase 3 Subarea 8 samples the following analytes were qualified due to field duplicate precision:

- 99 dioxins results
- 30 metals results
- 1 perchlorate result

- 1 hexavalent chromium result
- 1 mercury result
- 5 five TPH GRO/EFH results
- 1 pesticide result
- 3 PCB/PCT results
- 1 herbicide result
- 2 SVOC results
- 34 SVOC SIM results

No results were rejected based on field duplicate precision criteria. All field duplicate RPD results are presented in Appendix C. In summary, sample results that have been qualified as estimated "J/UJ" due to precision criteria are usable for project decisions with a degree of caution.

There is no discernable pattern or reason for the laboratory and field sample RPD exceedances identified. No field sampling issues were identified from the RPD results that were outside of criteria and the exceedances are reasonable for this type of sampling activity.

C.7.2 Accuracy

Accuracy is the degree of agreement between a measurement and the accepted reference or true value and is a measure of the bias in a system. Accuracy of the data was assessed by comparing LCS recovery, MS recovery, calibration recovery, Inductively Coupled Plasma (ICP) interferences, and by performing serial dilution checks during metals analyses. Accuracy is expressed as percent recovery (%R), which is calculated by:

$$\text{Percent Recovery} = \frac{(\text{Total Analyte Found} - \text{Analyte Originally Present}) \times 100}{\text{Analyte Added}}$$

Analytical accuracy for the entire data collection activity is difficult to assess because several sources of error exist. Errors can be introduced by any of the following:

- Sampling procedure
- Field contamination
- Sample preservation and handling
- Sample matrix
- Sample preparation
- Analytical techniques

Accuracy is maintained to the extent possible by adhering to the approved analytical method and field and analytical standard operating procedures.

Qualifiers were applied to applicable sample analyte results during the validation process based on laboratory accuracy results and are discussed in detail in the laboratory validation reports in Appendix C.

The following Subarea 5D individual analyte results were qualified as estimated "J/UJ" based on accuracy criteria:

- 1 dioxin result, 88 fluoride results, 473 metal results, 1 perchlorate result, 13 TPH GRO/EFH results, and 9 SVOC SIM results due to MS recoveries
- 203 metal analyte results due to serial dilutions
- 4 pesticide results, 32 PCB/PCT results, and 5 herbicide results for calibration recoveries
- 1 PCB/PCT result and 7 herbicide results for LCS recoveries
- 5 TPH GRO/EFH results and 2 PCB/PCT results for surrogate recoveries
- 4 TPH GRO/EFH results due to holding time criteria

The following individual analyte results were rejected "R" based on accuracy criteria:

- 7 herbicide results (dinitrobutyl phenol) based on LCSs

The following Subarea 8 individual analyte results were qualified as estimated "J/UJ" based on accuracy criteria:

- 3 dioxins, 2 fluoride results, 2 sulfite results, 572 metals, 12 TPH GRO/EFH results, 1 pesticide result, 5 herbicides, 5 SVOC results, and 3 SVOC SIM results due to MSs
- 2 PCB/PCT results, 5 herbicide results, 6 SVOC results, and 10 SVOC SIM results due to LCSs
- 7 pesticide results, and 10 herbicide results due to surrogates
- 208 metal analyte results due to serial dilutions
- 3 PCB/PCT results due to confirmation column results
- 18 herbicide results, 1 VOC result, and 6 SVOC results based on calibration criteria

The following individual analyte results were rejected "R" based on accuracy criteria:

- 10 herbicide results (2,4,5-TP [silvex], 2,4,5-T, 2,4-D, 2,4-DB, 2,2-dichloropropionic acid, dinitrobutyl phenol) based on MSs and LCSs
- 4 SVOC SIM results (benzidine) based on MSs

Sample preservation, handling, and holding times are additional measures of accuracy of the data. All sample preservation, holding times and handling criteria were met except as indicated previously.

Sample results that have been qualified as estimated "J/UJ" due to accuracy criteria are usable for project decisions. Sample results that have been rejected are not usable for project decisions.

C.7.3 Blank Contamination

Field blanks (e.g., equipment and trip) and laboratory method blanks are analyzed to identify possible sources of contamination. Contamination of a sample can be introduced by field sample collection methods, sample handling, preparation, and/or analysis. The laboratory validation reports in this appendix and summarized below discuss the results qualified based on field and laboratory blank contamination.

The following individual analyte results were qualified as nondetect "U" based on blank contamination for the Subarea 5D samples:

- 682 dioxin results (40% of all dioxin results)
- 198 metal results (4.1% of all metal results)
- 12 SVOC SIM results (0.25% of all SVOC SIM results)

The following individual analyte results were qualified as nondetect "U" based on blank contamination for the Subarea 8 samples:

- 1,186 dioxin results (35% of all dioxin results)
- 258 metal results (5% of all metal results)

For the dioxins, MDLs for this analysis are very low, reported in nanogram per kilogram (ng/kg) or parts per trillion, resulting in numerous results qualified as estimated "J." Many of these estimated values have been subsequently qualified as non-detect "U" because the compound was detected in related laboratory blanks. In the laboratory blanks, low level detections of dioxin analytes are somewhat inevitable because of the nature and universal extent of the compounds. The dioxin levels found in the blanks are well below site-related action levels. Therefore, the resulting qualification of associated sample results as not detected or "U" does not falsely diminish identification of site-related contaminants.

Tables C-2 through C-7 provide a summary of chemicals observed in the equipment, field and trip blank samples. Most of the equipment blanks, field blanks and trip blanks detected compounds were below the RLs but above the MDLs. ASTM International Type II water is not typically certified "clean" to the low RLs established for the low level methods used for the co-located sampling program.

A review of the Phase 3 equipment blanks for Subarea 5D and Subarea 8 was also performed. In general, a variety of analytes were detected above their respective RLs. All Phase 3 equipment blanks will continue to be monitored to determine if these low level detections are consistent, thus indicating a possible deficiency in decontamination procedures and/or source water impacts that need to be addressed and corrected.

For Subarea 5D, 102 metal results and 10 SVOC SIM results were qualified based on field/equipment blanks results. For Subarea 8, 126 metal results, 1 VOC result and 17 SVOC

SIM results, were also qualified based on field/equipment blank criteria. To date, chemical detections in equipment blank samples appear to be random occurrences.

Trip blank results are presented in Tables C-6 and C-7. All the trip blank results were nondetect.

C.7.4 Representativeness, Comparability, and Sensitivity

Representativeness, comparability, and sensitivity are achieved by using EPA-approved sampling procedures and analytical methodologies. By following the procedures described in the Work Plan (CDM Smith 2012c) for this sampling event and future sampling events, sample analysis should yield results representative of environmental conditions at the time of sampling. Similarly, reasonable comparability of analytical results for this and future sampling events can be achieved if approved EPA analytical methods and standardized reporting units are employed.

C.7.4.1 Representativeness

Representativeness is a qualitative term that expresses the degree to which the sample data accurately and precisely represent the environmental conditions corresponding to the location and depth interval of sample collection. Requirements and procedures for sample collection are designed to maximize sample representativeness.

Representativeness also can be monitored by reviewing field documentation and/or by performing field audits. For this report, a detailed review was performed on the COC forms, field data collection forms, laboratory sample confirmation logs, and data validation packages. Laboratory QA/QC requirements were included in the Master FSP (CDM Smith 2012a) and laboratory statements of work (SOWs) to ensure that the laboratory analytical results were representative of true field conditions.

Field sampling accuracy was attained through strict adherence to the approved Master FSP (CDM Smith 2012a) and by using approved standard operating procedures for field data collection. Based on this, the data should represent as near as possible the actual field conditions at the time of sampling.

Representativeness has been achieved by the performed field work and laboratory analyses. The analytical data generated, that have not been rejected, are viewed to be a representative characterization of the project area.

C.7.4.2 Comparability

Comparability is a qualitative term that expresses the confidence with which a data set can be compared with another. Strict adherence to standard sample collection procedures, analytical detection limits, and analytical methods assures that data from like samples and sample conditions are comparable. This comparability is independent of laboratory personnel, data reviewers, or sampling personnel. Comparability criteria are met for the project if, based on data review, the sample collection and analytical procedures are determined to have been followed, or defined to show that variations did not affect the values reported.

To ensure comparability of data generated for the site, standard sample collection procedures and Department of Toxic Substances Control (DTSC)-approved analytical methods were utilized by CDM Smith. The sample analyses were performed by Eurofins Lancaster Laboratories. Utilizing such procedures and methods enables the current data to be comparable with previous and future data sets generated with similar methods.

C.7.4.3 Sensitivity

Sensitivity is related to the ability to compare analytical results with project-specific levels of interest, such as risk-based screening levels or action levels. Analytical detection limits for the various sample analytes should be below the level of interest to allow an effective comparison.

Detection Limits

Each analytical method used during the sampling events was selected because it had potential to achieve RLs established for this project. RLs were established for each analyte in consultation with the laboratory to achieve analytical results at or below regulatory comparison criteria.

The method detection limit (MDL) is defined as the concentration of an analyte that produces a signal with a 99 percent confidence that the concentration is above that of a blank but that that concentration cannot be accurately quantified. A blank is a sample that does not contain measurable concentrations of the analyte of concern. Tested by statistical performance, calibration samples, and LCSs, MDLs represent the best fundamental measurement of instrument sensitivity and the basis for establishing RLs.

The laboratory RL is typically about 3 to 5 times higher than the MDL and is a laboratory-specific number. The actual sample RL is variable based on the sample matrix, moisture content, and other sample-specific factors. When a sample has to be diluted before analysis, either because of matrix problems or to bring the instrument response within the linear dynamic range, the RL is raised by a factor corresponding to the dilution factor.

In reporting environmental sample results, laboratories follow protocols that help ensure that the result reported is at the lowest level and is defensible, taking into account the ability of the instrument to differentiate a signal generated by the analyte from the background instrument noise, imprecision added to the detection capabilities of the analyte due to the sample processing manipulations (MDLs) and sample matrix affects, and adjustments made to the detection limits based on difficulties encountered in analyzing the sample (dilution factors, etc.).

The result for an analyte is flagged with a "U" if that analyte was not detected, or qualified with a "J" flag if blank or other QC results fall outside the appropriate tolerance limits. If an analyte is present at a concentration between the MDL and the RL, the analytical result is flagged with a "J," indicating an estimated quantity. Qualifying the result as an estimated concentration reflects increased uncertainty in the reported value.

The following analyses and individual analyte sample results were qualified as estimated "J" due to the sample results being reported as detected below the RL for Subarea 5D samples:

- Method 1613B (Dioxins)
 - 619 individual analyte results
- Method 300 (Fluoride)
 - 15 individual analyte results
- Methods 6010C/6020A (Metals)
 - 908 individual analyte results
- Methods 6850 (Perchlorate)
 - 1 individual analyte result
- Methods 7199 (Hexavalent Chromium)
 - 6 individual analyte results
- Methods 7471B (Mercury)
 - 58 individual analyte results
- Method 8015B (TPH GRO/EFH)
 - 61 individual analyte results
- Method 8081B (Pesticides)
 - 36 individual analyte results
- Method 8082A (PCBs)
 - 12 individual analyte results
- Method 8270C SIM (SVOCs)
 - 374 individual analyte results

The following analyses and individual analyte sample results were qualified as estimated "J" due to the sample results being reported as detected below the RL for Subarea 8 samples:

- Method 1613B (Dioxins)
 - 1,347 individual analyte results
- Method 300 (Fluoride)
 - 1 individual analyte result
- Methods 6010C/6020A (Metals)
 - 1,174 individual analyte results
- Methods 6850 (Perchlorate)
 - 3 individual analyte results
- Methods 7199 (Hexavalent Chromium)
 - 7 individual analyte results

- Methods 7471B (Mercury)
 - 53 individual analyte results
- Method 8015M (TPH GRO/EFH)
 - 91 individual analyte results
- Method 8081B (Pesticides)
 - 14 individual analyte results
- Method 8082A (PCBs)
 - 35 individual analyte results
- Method 8151A (Herbicides)
 - 5 individual analyte results
- Method 8270D (SVOCs)
 - 22 individual analyte results
- Method 8270C SIM (SVOCs)
 - 589 individual analyte results

For the data validated in the Subareas 5D and 8 TM, RLs for a majority of the sample results were low enough to compare to the RLs stated in the Master FSP (CDM Smith 2012a). RLs above those stated in the Master FSP (CDM Smith 2012a) will be evaluated on a case by case basis to see if resampling is required.

C.8 Review of Selected Validation Reports

CDM Smith performed a review of 10 percent of the validation reports identified in Table C-1. This review involved comparing the validation report results against the laboratory data packages as well as the validation guidance documents. All validation report results that were reviewed were verified against the laboratory data packages and determined that validation documents were followed as required.

C.9 Data Completeness

Completeness of the data collection program is defined as the percentage of samples planned for collection as listed in the Master FSP (CDM Smith 2012a) versus the actual number of samples collected during the field program (see equation A).

Completeness for acceptable data is defined as the percentage of acceptable data obtained judged to be valid versus the total quantity of data generated (see equation B). Acceptable data include both data that pass all the QC criteria (unqualified data) and data that may not pass all the QC criteria but had appropriate corrective actions taken (qualified but usable data).

$$A. \quad \% \text{Completeness} = Cx \frac{100}{n}$$

Where:

C = actual number of samples collected
n = total number of samples planned

B. **%Completeness** = $V \times \frac{100}{n'}$

Where:

V = number of measurements judged valid
n' = total number of measurements made

The overall completeness goal, as defined in the Master FSP (CDM Smith 2012a), for these sampling events was 90 percent for each analytical test for all project data.

A total of 273 soil samples including the field duplicates were collected and analyzed for Subarea 5D and 241 soil samples for Subarea 8. Two mineral grab samples were collected from the hill slope south of ESADA in Subarea 8 to evaluate a potential source of elevated strontium. Four split samples collected with DTSC are also included in the total sample number for Subarea 8. Some locations required only a subsurface sample while other locations required both a surface and a subsurface sample. The number of subsurface samples to be collected at each location was not pre-determined because the total depth of each boring varies depending on the local geology. No subsurface samples were collected at one location due to shallow refusal at less than 2.5 feet bgs in Subarea 8. Two locations in Subarea 5D and 11 locations in Subarea 8 were not sampled because they are planned to be completed as trenches and/or test pits as noted in Section 2.7.1.

The completeness goal for the actual number of samples collected compared to the number of samples planned is considered acceptable as a sample was collected from each location (depending on shallow refusal) and locations for trench samples and near active transformers will be collected during future Phase 3 sampling activities.

The completeness goal achieved for acceptable data was 99.96 percent for Subarea 5D and 99.94 percent for Subarea 8 for the number of measurements judged to be valid versus the total number of measurements made for all samples analyzed.

The following Phase 3 Subarea 5D individual analyte results were rejected per analyses:

- Method 8151A
– 7 out of 390 individual herbicide analyte results (1.79 %)

The following Phase 3 Subarea 8 individual analyte results were rejected per analyses:

- Method 8151A
– 10 out of 330 individual herbicide analyte results (3.03 %)
- 4 out of 1,083 individual SVOC results (0.37 %)

Tables C-10 and C-11 summarize all results that were estimated or rejected for Phase 3 Subarea 5D and 8 respectively.

The completeness goals for both the locations sampled and the number of measurements judged to be valid were met or are planned to be met.

Sampling deviations from procedures described in the Master FSP (CDM Smith 2012a) are discussed in Section 2.7 of the Subareas 5D and 8 Phase 3 TM. Deviations did not impact DQOs for this sampling event. The data reported are suitable for their intended use for characterization of Area IV of SSFL. The DQIs identified in the Master FSP (CDM Smith 2012a) met appropriate criteria. The completeness goals for both the locations sampled and the number of measurements judged to be valid were met or will be met. The achievement of the completeness goals for the data indicates a sufficient amount of usable data has been generated for project decisions.

C.10 Assessment of Data Usability and Reconciliation with WP/FSAP Goals

Over 99 percent of the data validated for Subarea 5D and Subarea 8 Phase 3, are suitable for their intended use for site characterization. Sample results that were qualified as estimated are usable for project decisions. Rejected sample results are not suitable for project use. The rejected analyte results do not impact achievement of the overall project objectives. The RLs reported generally met the expected limits proposed by the analytical laboratories in their subcontract agreements with CDM Smith.

Field duplicate precision also met criteria a majority of the time. RPDs were outside criteria predominantly when the sample results were close to the RL and/or below the project required action limits. Decisions based on results close to the RL should be made with a degree of caution. The achievement of the completeness goals for number of samples collected, and the number of sample results acceptable for use provides sufficient quality data to support project decisions.

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Table C-1 Sample Delivery Groups and Validation Levels for Subarea 5D and Subarea 8

Subarea 5D SDGs		
Sample Delivery Group	Level of Validation Performed	CDM Smith Review
PH093	Level III	
PH095	Level III	X
PH098	Level IV	
PH099	Level III	
PH100	Level III	
PH101	Level III	
PH102	Level IV	X
PH103	Level III	
PH104	Level III	
PH105	Level III	
PH106	Level III	
PH107	Level III	
PH108	Level III	
PH109	Level III	
PH110	Level III	X
PH111	Level III	
PH112	Level III	
PH113	Level III	
PH114	Level III	
PH116	Level III	
PH118	Level III	X
PH119	Level IV	
PH120	Level III	
PH122	Level III	
PH123	Level III	
PH127	Level III	
PH130	Level III	
Subarea 8 SDGs		
Sample Delivery Group	Level of Validation Performed	CDM Smith Review
PH062	Level III	
PH063	Level III	
PH064	Level III	
PH065	Level III	
PH066	Level III	X
PH067	Level III	
PH068	Level III	
PH069	Level IV	
PH070	Level III	

Table C-1 Sample Delivery Groups and Validation Levels for Subarea 5D and Subarea 8

Subarea 8 SDGs		
Sample Delivery Group	Level of Validation Performed	CDM Smith Review
PH071	Level III	
PH072	Level III	
PH073	Level III	
PH074	Level III	X
PH075	Level IV	
PH076	Level III	
PH078	Level III	
PH080	Level III	
PH081	Level III	
PH082	Level III	
PH083	Level IV	X
PH084	Level III	
PH085	Level III	
PH086	Level III	
PH087	Level III	
PH088	Level III	
PH089	Level III	
PH090	Level IV	
PH091	Level III	X
PH092	Level III	
PH094	Level III	
PH096	Level III	
PH097	Level IV	
PH115	Level III	
PH117	Level III	

Note: Some SDGs may contain samples from other subareas, but all samples in an SDG were validated together.

Table C-2 - Subarea 5D - Equipment Rinsate Samples

Sample Name: Location: Sample Date: Sample Type: Lab:			EB-090413 5D_DG_EB 09/04/2013 EB LL	EB-091113 5D_DG_EB 09/11/2013 EB LL	EB-091213 5D_DG_EB 09/12/2013 EB LL	EB-100813 5D_DG_EB 10/08/2013 EB LL				
Analyte	Analytic Method	Units	Concentration	Final Qualifer	Concentration	Final Qualifer	Concentration	Final Qualifer	Concentration	Final Qualifer
1,1,1,2-Tetrachloroethane	8260B	µg/L								
1,1,1-Trichloroethane	8260B	µg/L								
1,1,2,2-Tetrachloroethane	8260B	µg/L								
1,1,2-Trichloro-1,2,2-trifluoroethane	8260B	µg/L								
1,1,2-Trichloroethane	8260B	µg/L								
1,1'-Biphenyl	8270D	µg/L								
1,1-Dichloroethane	8260B	µg/L								
1,1-Dichloroethene	8260B	µg/L								
1,1-Dichloropropene	8260B	µg/L								
1,2,3,4,6,7,8-Heptachlorodibenzo-p-Dioxin	1613B	pg/L	10.1	U	9.62	U	9.71	U	9.67	U
1,2,3,4,6,7,8-HPCDF	1613B	pg/L	10.1	U	9.62	U	9.71	U	9.67	U
1,2,3,4,7,8,9-HPCDF	1613B	pg/L	10.1	U	9.62	U	9.71	U	9.67	U
1,2,3,4,7,8-Hexachlorodibenzo-p-Dioxin	1613B	pg/L	10.1	U	9.62	U	9.71	U	9.67	U
1,2,3,4,7,8-HXCDF	1613B	pg/L	10.1	U	9.62	U	9.71	U	9.67	U
1,2,3,6,7,8-Hexachlorodibenzo-p-Dioxin	1613B	pg/L	10.1	U	9.62	U	9.71	U	9.67	U
1,2,3,6,7,8-HXCDF	1613B	pg/L	10.1	U	9.62	U	9.71	U	9.67	U
1,2,3,7,8,9-Hexachlorodibenzo-p-Dioxin	1613B	pg/L	10.1	U	9.62	U	9.71	U	9.67	U
1,2,3,7,8,9-HXCDF	1613B	pg/L	10.1	U	9.62	U	9.71	U	9.67	U
1,2,3,7,8-Pentachlorodibenzofuran	1613B	pg/L	0.614	J	9.62	U	9.71	U	9.67	U
1,2,3,7,8-Pentachlorodibenzo-p-Dioxin	1613B	pg/L	10.1	U	9.62	U	9.71	U	9.67	U
1,2,3-Trichlorobenzene	8260B	µg/L								
1,2,3-Trichloropropane	8260B	µg/L								
1,2,4-Trichlorobenzene	8260B	µg/L								
1,2,4-Trichlorobenzene	8270D	µg/L								
1,2,4-Trimethylbenzene	8260B	µg/L								
1,2-Dibromo-3-chloropropane	8260B	µg/L								
1,2-Dibromoethane	8260B	µg/L								
1,2-Dichlorobenzene	8260B	µg/L								
1,2-Dichlorobenzene	8270D	µg/L								
1,2-Dichloroethane	8260B	µg/L								
1,2-Dichloropropane	8260B	µg/L								
1,2-Diphenylhydrazine	8270D	µg/L								
1,3,5-Trimethylbenzene	8260B	µg/L								
1,3-Dichlorobenzene	8260B	µg/L								
1,3-Dichlorobenzene	8270D	µg/L								
1,3-Dichloropropane	8260B	µg/L								
1,4-Dichlorobenzene	8260B	µg/L								
1,4-Dichlorobenzene	8270D	µg/L								
1,4-Dioxane	8260B SIM	µg/L								
1-Chlorohexane	8260B	µg/L								
1-Methylnaphthalene	8270D SIM	µg/L	0.051	UJ	0.051	U	0.2	UJ	0.052	U
2,2-Dichloropropane	8260B	µg/L								
2,2-Dichlor-Propionic Acid	8151A	µg/L	1.2	U	1.2	U	1.2	U	1.2	U
2,3,4,6,7,8-HXCDF	1613B	pg/L	10.1	U	9.62	U	9.71	U	9.67	U
2,3,4,7,8-PCDF	1613B	pg/L	10.1	U	9.62	U	9.71	U	9.67	U
2,3,7,8-TCDD	1613B	pg/L	2.01	U	0.813	J	1.94	U	1.93	U
2,3,7,8-Tetrachlorodibenzofuran	1613B	pg/L	2.01	U	1.92	U	1.94	U	1.93	U
2,4,5-T	8151A	µg/L	0.049	U	0.049	U	0.048	U	0.048	U
2,4,5-Trichlorophenol	8270D	µg/L								
2,4,6-Trichlorophenol	8270D	µg/L								
2,4-D	8151A	µg/L	0.49	U	0.49	U	0.48	U	0.48	U
2,4-DB	8151A	µg/L	0.98	U	0.99	U	0.95	U	0.95	U
2,4-Dichlorophenol	8270D	µg/L								
2,4-Dimethylphenol	8270D	µg/L								
2,4-Dinitrophenol	8270D	µg/L								
2,6-Dichlorophenol	8270D	µg/L								
2-Butanone (MEK)	8260B	µg/L								
2-Chloro-1,1,1-trifluoroethane	8260B	µg/L								
2-Chloroethyl Vinyl Ether	8260B	µg/L								
2-Chloronaphthalene	8270D	µg/L								
2-Chlorophenol	8270D	µg/L								
2-Chlorotoluene	8260B	µg/L								
2-Hexanone	8260B	µg/L								
2-Methylnaphthalene	8270D SIM	µg/L	0.051	UJ	0.051	U	0.2	UJ	0.052	U
2-Methylphenol	8270D	µg/L								
2-Nitroaniline	8270D	µg/L								
2-Nitrophenol	8270D	µg/L								
2-Phenylbutane	8260B	µg/L								
2-Propanol	8015C	µg/L								
3,3'-Dichlorobenzidine	8270D	µg/L								
3,5-Dimethylphenol	8270D	µg/L								
3-Nitroaniline	8270D	µg/L								
4,4'-DDD	8081B	µg/L	0.018	U	0.017	U			0.017	U
4,4'-DDE	8081B	µg/L	0.018	U	0.017	U			0.017	U
4,4'-DDT	8081B	µg/L	0.018	U	0.017	U			0.017	U
4,6-Dinitro-2-methylphenol	8270D	µg/L								
4-Bromophenyl-phenylether	8270D	µg/L								
4-Chloro-3-methylphenol	8270D	µg/L								
4-Chloroaniline	8270D	µg/L								
4-Chlorophenyl-phenylether	8270D	µg/L								
4-Chlorotoluene	8260B	µg/L								
4-Methyl-2-pentanone (MIBK)	8260B	µg/L								
4-Methylphenol	8270D	µg/L								
4-Nitroaniline	8270D	µg/L								
4-Nitrophenol	8270D	µg/L								
Acenaphthene	8270D SIM	µg/L	0.051	UJ	0.051	U	0.2	UJ	0.052	U
Acenaphthylene	8270D SIM	µg/L	0.051	UJ	0.051	U	0.2	UJ	0.052	U
Acetone	8260B	µg/L								
Acrolein	8260B	µg/L								
Acrylonitrile	8260B	µg/L								
Aldrin	8081B	µg/L	0.009	U	0.0083	U			0.0084	U
Alpha-Bhc	8081B	µg/L	0.009	U	0.0083	U			0.0084	U
Aluminum	6010C	mg/L	0.4	U	0.4	U	0.4	U	0.4	U
Aniline	8270D	µg/L								
Anthracene	8270D SIM	µg/L	0.051	UJ	0.051	U	0.2	UJ	0.052	U
Antimony	6010C	mg/L	0.04	U	0.04	U	0.04	U	0.04	U
Aroclor 1016	8082A	µg/L	0.41	U	0.41	UJ	0.44	U	0.42	U

Table C-2 - Subarea 5D - Equipment Rinsate Samples

Sample Name: Location: Sample Date: Sample Type: Lab:			EB-090413 5D_DG_EB 09/04/2013 EB LL		EB-091113 5D_DG_EB 09/11/2013 EB LL		EB-091213 5D_DG_EB 09/12/2013 EB LL		EB-100813 5D_DG_EB 10/08/2013 EB LL	
Analyte	Analytic Method	Units	Concentration	Final Qualifer						
Aroclor 1221	8082A	µg/L	0.41	U	0.41	UJ	0.44	U	0.42	U
Aroclor 1232	8082A	µg/L	0.41	U	0.41	UJ	0.44	U	0.42	U
Aroclor 1242	8082A	µg/L	0.41	U	0.41	UJ	0.44	U	0.42	U
Aroclor 1248	8082A	µg/L	0.41	U	0.41	UJ	0.44	U	0.42	U
Aroclor 1254	8082A	µg/L	0.41	U	0.41	UJ	0.44	U	0.42	U
Aroclor 1260	8082A	µg/L	0.41	U	0.41	UJ	0.44	U	0.42	U
Aroclor 1262	8082A	µg/L	0.41	U	0.41	UJ	0.44	U	0.42	U
Aroclor 1268	8082A	µg/L	0.41	U	0.41	UJ	0.44	U	0.42	U
Aroclor 5432	8082A	µg/L	0.41	U	0.41	UJ	0.44	U	0.42	U
Aroclor 5442	8082A	µg/L	0.41	U	0.41	UJ	0.44	U	0.42	U
Aroclor 5460	8082A	µg/L	0.41	U	0.41	UJ	0.44	U	0.42	U
Arsenic	6010C	mg/L	0.04	U	0.04	U	0.04	U	0.04	U
Barium	6010C	mg/L	0.0004	J	0.01	U	0.01	U	0.01	U
Benzene	8260B	µg/L								
Benzydine	8270D	µg/L								
Benzo(a)anthracene	8270D SIM	µg/L	0.051	UJ	0.051	U	0.2	UJ	0.052	U
Benzo(a)pyrene	8270D SIM	µg/L	0.051	UJ	0.051	U	0.2	UJ	0.052	U
Benzo(b)fluoranthene	8270D SIM	µg/L	0.051	UJ	0.051	U	0.2	UJ	0.052	U
Benzo(e)pyrene	8270D SIM	µg/L	0.051	UJ	0.051	U	0.2	UJ	0.052	U
Benzo(g,h,i)perylene	8270D SIM	µg/L	0.051	UJ	0.051	U	0.2	UJ	0.052	U
Benzo(k)fluoranthene	8270D SIM	µg/L	0.051	UJ	0.051	U	0.2	UJ	0.052	U
Benzoic Acid	8270D	µg/L								
Benzyl Alcohol	8270D	µg/L								
Beryllium	6010C	mg/L	0.01	U	0.01	U	0.01	U	0.01	U
Beta-Bhc	8081B	µg/L	0.009	U	0.0083	U			0.0084	U
bis(2-chloroethoxy)methane	8270D	µg/L								
bis(2-chloroethyl) ether	8270D	µg/L								
bis(2-chloroisopropyl) ether	8270D	µg/L								
Bis(2-ethylhexyl)phthalate	8270D SIM	µg/L	1.6	J	0.21	J	4.1	UJ	1	U
Boron	6010C	mg/L	0.1	U	0.1	U	0.1	U	0.1	U
Bromobenzene	8260B	µg/L								
Bromochloromethane	8260B	µg/L								
Bromodichloromethane	8260B	µg/L								
Bromoform	8260B	µg/L								
Bromomethane	8260B	µg/L								
Butylbenzylphthalate	8270D SIM	µg/L	1	UJ	1	UJ	4.1	UJ	1	U
Cadmium	6010C	mg/L	0.01	U	0.01	U	0.01	U	0.01	U
Calcium	6010C	mg/L	0.4	U	0.4	U	0.4	U	0.4	U
Carbazole	8270D	µg/L								
Carbon Disulfide	8260B	µg/L								
Carbon Tetrachloride	8260B	µg/L								
Chlordane	8081B	µg/L	0.45	U	0.41	U			0.42	U
Chlorobenzene	8260B	µg/L								
Chloroethane	8260B	µg/L								
Chloroform	8260B	µg/L								
Chloromethane	8260B	µg/L								
Chlorotrifluoroethylene	8260B	µg/L								
Chromium	6010C	mg/L	0.03	U	0.03	U	0.03	U	0.03	U
Chromium (Hexavalent Compounds)	7199	µg/L	10	U	10	U	10	U	10	U
Chrysene	8270D SIM	µg/L	0.051	UJ	0.051	U	0.2	UJ	0.052	U
cis-1,2-Dichloroethene	8260B	µg/L								
cis-1,3-Dichloropropene	8260B	µg/L								
Cobalt	6010C	mg/L	0.01	U	0.01	U	0.01	U	0.01	U
Copper	6010C	mg/L	0.02	U	0.02	U	0.02	U	0.02	U
Cymene	8260B	µg/L								
Delta-Bhc	8081B	µg/L	0.009	U	0.0083	U			0.0084	U
Di isopropyl Ether	8260B	µg/L								
Dibenzo(a,h)anthracene	8270D SIM	µg/L	0.051	UJ	0.051	U	0.2	UJ	0.052	U
Dibenzofuran	8270D	µg/L								
Dibromochloromethane	8260B	µg/L								
Dibromomethane	8260B	µg/L								
Dicamba	8151A	µg/L	0.29	U	0.3	U	0.29	U	0.29	U
Dichlorodifluoromethane	8260B	µg/L								
Dichlorprop	8151A	µg/L	0.49	U	0.49	U	0.48	U	0.48	U
Dieldrin	8081B	µg/L	0.018	U	0.017	U			0.017	U
Diethylphthalate	8270D SIM	µg/L	0.3	J	0.24	J	4.1	UJ	0.29	J
Dimethylphthalate	8270D SIM	µg/L	1	UJ	1	UJ	4.1	UJ	1	U
Di-n-butylphthalate	8270D SIM	µg/L	0.11	J	0.2	J	4.1	UJ	0.17	J
Dinitrobutyl Phenol	8151A	µg/L	0.49	U	0.49	U	0.48	U	0.48	U
Di-n-octylphthalate	8270D SIM	µg/L	1	UJ	1	U	4.1	UJ	1	U
Diphenylamine	8270D	µg/L								
EFH (C12-C14)	8015M	mg/L	0.096	U	0.097	U	0.097	U	0.096	U
EFH (C15-C20)	8015M	mg/L	0.096	U	0.097	U	0.097	U	0.096	U
EFH (C21-C30)	8015M	mg/L	0.096	U	0.097	U	0.097	U	0.096	U
EFH (C30-C40)	8015M	mg/L	0.48	U	0.48	U	0.49	U	0.48	U
EFH (C8-C11)	8015M	mg/L	0.096	UJ	0.097	U	0.097	U	0.096	UJ
Endosulfan I	8081B	µg/L	0.009	U	0.0083	U			0.0084	U
Endosulfan II	8081B	µg/L	0.018	U	0.017	U			0.017	U
Endosulfan Sulfate	8081B	µg/L	0.018	U	0.017	U			0.017	U
Endrin	8081B	µg/L	0.018	U	0.017	U			0.017	U
Endrin Aldehyde	8081B	µg/L	0.09	U	0.083	U			0.084	U
Endrin Ketone	8081B	µg/L	0.018	U	0.017	U			0.017	U
Ethanol	8015C	µg/L								
Ethylbenzene	8260B	µg/L								
Fluoranthene	8270D SIM	µg/L	0.051	UJ	0.051	U	0.2	UJ	0.052	U
Fluorene	8270D SIM	µg/L	0.051	UJ	0.051	U	0.2	UJ	0.052	U
Fluoride	300.0	mg/L	0.1	U	0.1	U	0.1	U	0.1	U
Formaldehyde	8315A	µg/L								
Gamma-Bhc (Lindane)	8081B	µg/L	0.009	U	0.0083	U			0.0084	U
Gasoline Range Organics (C5-C12)	8015M	µg/L	50	U	50	U			50	U
Heptachlor	8081B	µg/L	0.009	U	0.0083	U			0.0084	U
Heptachlor Epoxide	8081B	µg/L	0.009	U	0.0083	U			0.0084	U
Hexachloro-1,3-butadiene	8260B	µg/L								
Hexachlorobenzene	8270D	µg/L								
Hexachlorobutadiene	8270D	µg/L								
Hexachlorocyclopentadiene	8270D	µg/L								
Hexachloroethane	8270D	µg/L								

Table C-2 - Subarea 5D - Equipment Rinsate Samples

Sample Name: Location: Sample Date: Sample Type: Lab:			EB-090413 5D_DG_EB 09/04/2013 EB LL	EB-091113 5D_DG_EB 09/11/2013 EB LL	EB-091213 5D_DG_EB 09/12/2013 EB LL	EB-100813 5D_DG_EB 10/08/2013 EB LL				
Analyte	Analytic Method	Units	Concentration	Final Qualifer	Concentration	Final Qualifer	Concentration	Final Qualifer	Concentration	Final Qualifer
Indeno(1,2,3-cd)pyrene	8270D SIM	µg/L	0.051	UJ	0.051	U	0.2	UJ	0.052	U
Iron	6010C	mg/L	0.4	U	0.4	U	0.4	U	0.4	U
Isophorone	8270D	µg/L								
Isopropylbenzene	8260B	µg/L								
Lead	6010C	mg/L	0.03	U	0.03	U	0.03	U	0.03	U
Lithium	6010C	mg/L	0.04	U	0.04	U	0.04	U	0.04	U
m,p-Xylene	8260B	µg/L								
Magnesium	6010C	mg/L	0.2	U	0.2	U	0.2	U	0.2	U
Manganese	6010C	mg/L	0.0011	J	0.0019	J	0.01	U	0.01	U
MCPA	8151A	µg/L	200	U	200	U	190	U	190	U
MCPD	8151A	µg/L	200	U	200	U	190	U	190	U
Mercury	7470A	mg/L	0.0002	U	0.0002	U	0.0002	U	0.0002	U
Methanol	8015C	µg/L								
Methoxychlor	8081B	µg/L	0.09	U	0.083	U			0.084	U
Methyl Iodide	8260B	µg/L								
Methyl Tert-Butyl Ether	8260B	µg/L								
Methylene Chloride	8260B	µg/L								
Mirex	8081B	µg/L	0.22	U	0.21	U			0.042	U
Molybdenum	6010C	mg/L	0.02	U	0.02	U	0.02	U	0.02	U
Morpholine	8270D SIM	µg/L								
Naphthalene	8270D SIM	µg/L	0.032	J	0.038	J	0.2	UJ	0.052	U
n-Butylbenzene	8260B	µg/L								
Nickel	6010C	mg/L	0.02	U	0.02	U	0.02	U	0.02	U
Nitrobenzene	8270D	µg/L								
N-Nitrosodimethylamine	8270D SIM	µg/L	0.051	UJ	0.051	U	0.2	UJ	0.052	U
N-Nitroso-di-n-propylamine	8270D	µg/L								
N-Nitrosodiphenylamine	8270D	µg/L								
n-Propylbenzene	8260B	µg/L								
OCDD	1613B	pg/L	20.1	U	19.2	U	19.4	U	19.3	U
OCDF	1613B	pg/L	20.1	U	19.2	U	19.4	U	19.3	U
o-Xylene	8260B	µg/L								
Pentachlorophenol	8270D	µg/L								
Perchlorate	6850	µg/L	1	U	1	U	1	U		
pH	9040C	pH	6		6.2				6.5	
Phenanthrene	8270D SIM	µg/L	0.051	UJ	0.051	U	0.2	UJ	0.052	U
Phenol	8270D	µg/L								
Phosphorus	6010C	mg/L	0.2	U	0.2	U	0.2	U	0.2	U
Potassium	6010C	mg/L	1	U	1	U	1	U	1	U
Pyrene	8270D SIM	µg/L	0.051	UJ	0.051	U	0.2	UJ	0.052	U
Pyridine	8270D	µg/L								
Selenium	6020A	mg/L	0.004	U	0.004	U	0.004	U	0.004	U
Silver	6020A	mg/L	0.001	U	0.001	U	0.001	U	0.001	U
Silvex (2,4,5-TP)	8151A	µg/L	0.049	U	0.049	U	0.048	U	0.048	U
Sodium	6010C	mg/L	2	U	2	U	2	U	2	U
Strontium	6020A	mg/L	0.002	U	0.002	U	0.002	U	0.002	U
Styrene	8260B	µg/L								
TCDD TEQ	1613B	pg/L	0.0266		0.0111		1.61		0.15	
Technical Toxaphene	8081B	µg/L	2.7	U	2.5	U			2.5	U
tert-Butyl ethyl ether	8260B	µg/L								
tert-Butylbenzene	8260B	µg/L								
Tertiary amyl methyl ether	8260B	µg/L								
Tertiary butyl alcohol	8260B	µg/L								
Tetrachloroethene	8260B	µg/L								
Thallium	6020A	mg/L	0.001	U	0.001	U	0.001	U	0.001	U
Tin	6010C	mg/L	0.04	U	0.04	U	0.04	U	0.04	U
Titanium	6010C	mg/L	0.02	U	0.02	U	0.02	U	0.02	U
Toluene	8260B	µg/L								
trans-1,2-Dichloroethene	8260B	µg/L								
trans-1,3-Dichloropropene	8260B	µg/L								
Trichloroethene	8260B	µg/L								
Trichlorofluoromethane	8260B	µg/L								
Vanadium	6010C	mg/L	0.01	U	0.01	U	0.01	U	0.01	U
Vinyl Acetate	8260B	µg/L								
Vinyl Chloride	8260B	µg/L								
Zinc	6010C	mg/L	0.04	U	0.04	U	0.04	U	0.04	U
Zirconium	6010C	mg/L	0.1	U	0.1	U	0.1	U	0.1	U

Notes:

ug/L - microgram per liter

mg/L - milligram per liter

ng/L - nanogram per liter

pg/L - picogram per liter

U - Compound not detected above the reporting limit

Table C-2 - Subarea 5D - Equipment Rinsate Samples

Sample Name: Location: Sample Date: Sample Type: Lab:		EB1-082813 5D_DG_EB 08/28/2013 EB LL	EB1-091813 5D_DG_EB 09/18/2013 EB LL	EB1-092513 5D_DG_EB 09/25/2013 EB LL	EB1-100213 5D_DG_EB 10/02/2013 EB LL					
Analyte	Analytic Method	Units	Concentration	Final Qualifier	Concentration	Final Qualifier	Concentration	Final Qualifier	Concentration	Final Qualifier
1,1,1,2-Tetrachloroethane	8260B	µg/L								
1,1,1-Trichloroethane	8260B	µg/L								
1,1,2,2-Tetrachloroethane	8260B	µg/L								
1,1,2-Trichloro-1,2,2-trifluoroethane	8260B	µg/L								
1,1,2-Trichloroethane	8260B	µg/L								
1,1'-Biphenyl	8270D	µg/L								
1,1-Dichloroethane	8260B	µg/L								
1,1-Dichloroethene	8260B	µg/L								
1,1-Dichloropropene	8260B	µg/L								
1,2,3,4,6,7,8-Heptachlorodibenzo-p-Dioxin	1613B	pg/L	9.67	U	9.65	U	9.78	U	9.7	U
1,2,3,4,6,7,8-HPCDF	1613B	pg/L	9.67	U	9.65	U	9.78	U	9.7	U
1,2,3,4,7,8,9-HPCDF	1613B	pg/L	9.67	U	9.65	U	9.78	U	9.7	U
1,2,3,4,7,8-Hexachlorodibenzo-p-Dioxin	1613B	pg/L	9.67	U	9.65	U	9.78	U	9.7	U
1,2,3,4,7,8-HXCDF	1613B	pg/L	9.67	U	9.65	U	9.78	U	9.7	U
1,2,3,6,7,8-Hexachlorodibenzo-p-Dioxin	1613B	pg/L	9.67	U	9.65	U	9.78	U	9.7	U
1,2,3,6,7,8-HXCDF	1613B	pg/L	9.67	U	9.65	U	9.78	U	9.7	U
1,2,3,7,8,9-Hexachlorodibenzo-p-Dioxin	1613B	pg/L	9.67	U	9.65	U	9.78	U	9.7	U
1,2,3,7,8,9-HXCDF	1613B	pg/L	9.67	U	9.65	U	9.78	U	9.7	U
1,2,3,7,8-Pentachlorodibenzofuran	1613B	pg/L	9.67	U	9.65	U	9.78	U	9.7	U
1,2,3,7,8-Pentachlorodibenzo-p-Dioxin	1613B	pg/L	9.67	U	9.65	U	9.78	U	9.7	U
1,2,3-Trichlorobenzene	8260B	µg/L								
1,2,3-Trichloropropane	8260B	µg/L								
1,2,4-Trichlorobenzene	8260B	µg/L								
1,2,4-Trichlorobenzene	8270D	µg/L								
1,2,4-Trimethylbenzene	8260B	µg/L								
1,2-Dibromo-3-chloropropane	8260B	µg/L								
1,2-Dibromoethane	8260B	µg/L								
1,2-Dichlorobenzene	8260B	µg/L								
1,2-Dichlorobenzene	8270D	µg/L								
1,2-Dichloroethane	8260B	µg/L								
1,2-Dichloropropane	8260B	µg/L								
1,2-Diphenylhydrazine	8270D	µg/L								
1,3,5-Trimethylbenzene	8260B	µg/L								
1,3-Dichlorobenzene	8260B	µg/L								
1,3-Dichlorobenzene	8270D	µg/L								
1,3-Dichloropropane	8260B	µg/L								
1,4-Dichlorobenzene	8260B	µg/L								
1,4-Dichlorobenzene	8270D	µg/L								
1,4-Dioxane	8260B SIM	µg/L								
1-Chlorohexane	8260B	µg/L								
1-Methylnaphthalene	8270D SIM	µg/L	0.051	U	0.05	U	0.052	U	0.051	UJ
2,2-Dichloropropane	8260B	µg/L								
2,2-Dichlor-Propionic Acid	8151A	µg/L	1.2	U	1.2	U	1.2	U	1.2	U
2,3,4,6,7,8-HXCDF	1613B	pg/L	9.67	U	9.65	U	9.78	U	9.7	U
2,3,4,7,8-PCDF	1613B	pg/L	9.67	U	9.65	U	9.78	U	9.7	U
2,3,7,8-TCDD	1613B	pg/L	1.93	U	1.93	U	1.96	U	1.94	U
2,3,7,8-Tetrachlorodibenzofuran	1613B	pg/L	1.93	U	1.93	U	1.96	U	0.237	J
2,4,5-T	8151A	µg/L	0.049	U	0.048	U	0.048	U	0.048	U
2,4,5-Trichlorophenol	8270D	µg/L								
2,4,6-Trichlorophenol	8270D	µg/L								
2,4-D	8151A	µg/L	0.49	U	0.48	U	0.48	U	0.48	U
2,4-DB	8151A	µg/L	0.98	U	0.96	U	0.95	U	0.95	U
2,4-Dichlorophenol	8270D	µg/L								
2,4-Dimethylphenol	8270D	µg/L								
2,4-Dinitrophenol	8270D	µg/L								
2,6-Dichlorophenol	8270D	µg/L								
2-Butanone (MEK)	8260B	µg/L								
2-Chloro-1,1,1-trifluoroethane	8260B	µg/L								
2-Chloroethyl Vinyl Ether	8260B	µg/L								
2-Chloronaphthalene	8270D	µg/L								
2-Chlorophenol	8270D	µg/L								
2-Chlorotoluene	8260B	µg/L								
2-Hexanone	8260B	µg/L								
2-Methylnaphthalene	8270D SIM	µg/L	0.051	U	0.05	U	0.052	U	0.051	UJ
2-Methylphenol	8270D	µg/L								
2-Nitroaniline	8270D	µg/L								
2-Nitrophenol	8270D	µg/L								
2-Phenylbutane	8260B	µg/L								
2-Propanol	8015C	µg/L								
3,3'-Dichlorobenzidine	8270D	µg/L								
3,5-Dimethylphenol	8270D	µg/L								
3-Nitroaniline	8270D	µg/L								
4,4'-DDD	8081B	µg/L	0.017	U	0.016	U	0.016	U	0.017	U
4,4'-DDE	8081B	µg/L	0.017	UJ	0.016	U	0.016	U	0.017	U
4,4'-DDT	8081B	µg/L	0.017	U	0.016	U	0.016	U	0.017	U
4,6-Dinitro-2-methylphenol	8270D	µg/L								
4-Bromophenyl-phenylether	8270D	µg/L								
4-Chloro-3-methylphenol	8270D	µg/L								
4-Chloroaniline	8270D	µg/L								
4-Chlorophenyl-phenylether	8270D	µg/L								
4-Chlorotoluene	8260B	µg/L								
4-Methyl-2-pentanone (MIBK)	8260B	µg/L								
4-Methylphenol	8270D	µg/L								
4-Nitroaniline	8270D	µg/L								
4-Nitrophenol	8270D	µg/L								
Acenaphthene	8270D SIM	µg/L	0.051	U	0.05	U	0.052	U	0.051	UJ
Acenaphthylene	8270D SIM	µg/L	0.051	U	0.05	U	0.052	U	0.051	UJ
Acetone	8260B	µg/L								
Acrolein	8260B	µg/L								
Acrylonitrile	8260B	µg/L								
Aldrin	8081B	µg/L	0.0085	UJ	0.0082	U	0.0081	U	0.0084	U
Alpha-Bhc	8081B	µg/L	0.0085	UJ	0.0082	U	0.0081	U	0.0084	U
Aluminum	6010C	mg/L	0.4	U	0.4	U	0.4	U	0.4	U
Aniline	8270D	µg/L								
Anthracene	8270D SIM	µg/L	0.051	U	0.05	U	0.052	U	0.051	UJ
Antimony	6010C	mg/L	0.04	U	0.04	U	0.04	U	0.04	U
Aroclor 1016	8082A	µg/L	0.43	U	0.41	UJ	0.41	U	0.42	U

Table C-2 - Subarea 5D - Equipment Rinsate Samples

Sample Name: Location: Sample Date: Sample Type: Lab:			EB1-082813 5D_DG_EB 08/28/2013 EB LL	EB1-091813 5D_DG_EB 09/18/2013 EB LL	EB1-092513 5D_DG_EB 09/25/2013 EB LL	EB1-100213 5D_DG_EB 10/02/2013 EB LL				
Analyte	Analytic Method	Units	Concentration	Final Qualifier	Concentration	Final Qualifier	Concentration	Final Qualifier	Concentration	Final Qualifier
Aroclor 1221	8082A	µg/L	0.43	U	0.41	UJ	0.41	U	0.42	U
Aroclor 1232	8082A	µg/L	0.43	U	0.41	UJ	0.41	U	0.42	U
Aroclor 1242	8082A	µg/L	0.43	U	0.41	UJ	0.41	U	0.42	U
Aroclor 1248	8082A	µg/L	0.43	U	0.41	UJ	0.41	U	0.42	U
Aroclor 1254	8082A	µg/L	0.43	U	0.41	UJ	0.41	U	0.42	U
Aroclor 1260	8082A	µg/L	0.43	U	0.41	UJ	0.41	U	0.42	U
Aroclor 1262	8082A	µg/L	0.43	U	0.41	UJ	0.41	U	0.42	U
Aroclor 1268	8082A	µg/L	0.43	U	0.41	UJ	0.41	U	0.42	U
Aroclor 5432	8082A	µg/L	0.43	U	0.41	UJ	0.41	U	0.42	U
Aroclor 5442	8082A	µg/L	0.43	U	0.41	UJ	0.41	U	0.42	U
Aroclor 5460	8082A	µg/L	0.43	U	0.41	UJ	0.41	U	0.42	U
Arsenic	6010C	mg/L	0.04	U	0.04	U	0.04	U	0.04	U
Barium	6010C	mg/L	0.00035	J	0.01	U	0.01	U	0.00058	J
Benzene	8260B	µg/L								
Benzidine	8270D	µg/L								
Benzo(a)anthracene	8270D SIM	µg/L	0.051	U	0.05	U	0.052	U	0.051	UJ
Benzo(a)pyrene	8270D SIM	µg/L	0.051	U	0.05	U	0.052	U	0.051	UJ
Benzo(b)fluoranthene	8270D SIM	µg/L	0.051	U	0.05	U	0.052	U	0.051	UJ
Benzo(e)pyrene	8270D SIM	µg/L	0.051	U	0.05	U	0.052	U	0.051	UJ
Benzo(g,h,i)perylene	8270D SIM	µg/L	0.051	U	0.05	U	0.052	U	0.051	UJ
Benzo(k)fluoranthene	8270D SIM	µg/L	0.051	U	0.05	U	0.052	U	0.051	UJ
Benzoic Acid	8270D	µg/L								
Benzyl Alcohol	8270D	µg/L								
Beryllium	6010C	mg/L	0.01	U	0.01	U	0.01	U	0.01	U
Beta-Bhc	8081B	µg/L	0.0085	UJ	0.0082	U	0.0081	U	0.0084	U
bis(2-chloroethoxy)methane	8270D	µg/L								
bis(2-chloroethyl) ether	8270D	µg/L								
bis(2-chloroisopropyl) ether	8270D	µg/L								
Bis(2-ethylhexyl)phthalate	8270D SIM	µg/L	1	U	1	U	1	UJ	0.059	J
Boron	6010C	mg/L	0.1	U	0.1	U	0.1	U	0.0098	J
Bromobenzene	8260B	µg/L								
Bromochloromethane	8260B	µg/L								
Bromodichloromethane	8260B	µg/L								
Bromoform	8260B	µg/L								
Bromomethane	8260B	µg/L								
Butylbenzylphthalate	8270D SIM	µg/L	1	U	1	U	1	U	1	UJ
Cadmium	6010C	mg/L	0.01	U	0.01	U	0.01	U	0.01	U
Calcium	6010C	mg/L	0.4	U	0.4	U	0.4	U	0.0427	J
Carbazole	8270D	µg/L								
Carbon Disulfide	8260B	µg/L								
Carbon Tetrachloride	8260B	µg/L								
Chlordane	8081B	µg/L	0.43	U	0.41	U	0.41	U	0.42	U
Chlorobenzene	8260B	µg/L								
Chloroethane	8260B	µg/L								
Chloroform	8260B	µg/L								
Chloromethane	8260B	µg/L								
Chlorotrifluoroethylene	8260B	µg/L								
Chromium	6010C	mg/L	0.03	U	0.03	U	0.03	U	0.03	U
Chromium (Hexavalent Compounds)	7199	µg/L			0.05	U			10	UJ
Chrysene	8270D SIM	µg/L	0.051	U	0.05	U	0.052	U	0.051	UJ
cis-1,2-Dichloroethene	8260B	µg/L								
cis-1,3-Dichloropropene	8260B	µg/L								
Cobalt	6010C	mg/L	0.01	U	0.01	U	0.01	U	0.01	U
Copper	6010C	mg/L	0.02	U	0.02	U	0.02	U	0.0028	J
Cymene	8260B	µg/L								
Delta-Bhc	8081B	µg/L	0.0085	UJ	0.0082	U	0.0081	U	0.0084	U
Di isopropyl Ether	8260B	µg/L								
Dibenzo(a,h)anthracene	8270D SIM	µg/L	0.051	U	0.05	U	0.052	U	0.051	U
Dibenzofuran	8270D	µg/L								
Dibromochloromethane	8260B	µg/L								
Dibromomethane	8260B	µg/L								
Dicamba	8151A	µg/L	0.29	U	0.29	U	0.29	U	0.29	U
Dichlorodifluoromethane	8260B	µg/L								
Dichloroprop	8151A	µg/L	0.49	U	0.48	U	0.48	U	0.48	U
Dieldrin	8081B	µg/L	0.017	U	0.016	U	0.016	U	0.017	U
Diethylphthalate	8270D SIM	µg/L	0.37	J	0.3	J	0.83	J	0.27	J
Dimethylphthalate	8270D SIM	µg/L	1	U	1	U	1	U	1	UJ
Di-n-butylphthalate	8270D SIM	µg/L	1	U	0.2	J	0.22	J	0.18	J
Dinitrobutyl Phenol	8151A	µg/L	0.49	U	0.48	U	0.48	U	0.48	U
Di-n-octylphthalate	8270D SIM	µg/L	1	U	1	U	1	U	1	U
Diphenylamine	8270D	µg/L								
EFH (C12-C14)	8015M	mg/L	0.095	U	0.098	U	0.097	U	0.097	U
EFH (C15-C20)	8015M	mg/L	0.095	U	0.098	U	0.097	U	0.097	U
EFH (C21-C30)	8015M	mg/L	0.095	U	0.098	U	0.097	U	0.097	U
EFH (C30-C40)	8015M	mg/L	0.47	U	0.49	UJ	0.49	UJ	0.48	U
EFH (C8-C11)	8015M	mg/L	0.095	UJ	0.098	U	0.097	UJ	0.097	UJ
Endosulfan I	8081B	µg/L	0.0085	U	0.0082	U	0.0081	U	0.0084	U
Endosulfan II	8081B	µg/L	0.017	U	0.016	U	0.016	U	0.017	U
Endosulfan Sulfate	8081B	µg/L	0.017	UJ	0.016	U	0.016	U	0.017	U
Endrin	8081B	µg/L	0.017	UJ	0.016	U	0.016	UJ	0.017	U
Endrin Aldehyde	8081B	µg/L	0.085	UJ	0.082	U	0.081	U	0.084	U
Endrin Ketone	8081B	µg/L	0.017	U	0.016	U	0.016	UJ	0.017	U
Ethanol	8015C	µg/L								
Ethylbenzene	8260B	µg/L								
Fluoranthene	8270D SIM	µg/L	0.051	U	0.05	U	0.052	U	0.051	UJ
Fluorene	8270D SIM	µg/L	0.051	U	0.05	U	0.052	U	0.051	UJ
Fluoride	300.0	mg/L			0.1	U	0.1	U	0.1	U
Formaldehyde	8315A	µg/L								
Gamma-Bhc (Lindane)	8081B	µg/L	0.0085	UJ	0.0082	U	0.0081	U	0.0084	U
Gasoline Range Organics (C5-C12)	8015M	µg/L	50	U	50	U	50	U	50	U
Heptachlor	8081B	µg/L	0.0085	U	0.0082	U	0.0081	U	0.0084	U
Heptachlor Epoxide	8081B	µg/L	0.0085	UJ	0.0082	U	0.0081	U	0.0084	U
Hexachloro-1,3-butadiene	8260B	µg/L								
Hexachlorobenzene	8270D	µg/L								
Hexachlorobutadiene	8270D	µg/L								
Hexachlorocyclopentadiene	8270D	µg/L								
Hexachloroethane	8270D	µg/L								

Table C-2 - Subarea 5D - Equipment Rinsate Samples

Sample Name: Location: Sample Date: Sample Type: Lab:			EB1-082813 5D_DG_EB 08/28/2013 EB LL	EB1-091813 5D_DG_EB 09/18/2013 EB LL	EB1-092513 5D_DG_EB 09/25/2013 EB LL	EB1-100213 5D_DG_EB 10/02/2013 EB LL
Analyte	Analytic Method	Units	Concentration Final Qualifer	Concentration Final Qualifer	Concentration Final Qualifer	Concentration Final Qualifer
Indeno(1,2,3-cd)pyrene	8270D SIM	µg/L	0.051 U	0.05 U	0.052 U	0.051 U
Iron	6010C	mg/L	0.4 U	0.4 U	0.4 U	0.4 U
Isophorone	8270D	µg/L				
Isopropylbenzene	8260B	µg/L				
Lead	6010C	mg/L	0.03 U	0.03 U	0.03 U	0.03 U
Lithium	6010C	mg/L	0.04 U	0.04 U	0.04 U	0.04 U
m,p-Xylene	8260B	µg/L				
Magnesium	6010C	mg/L	0.2 U	0.2 U	0.2 U	0.2 U
Manganese	6010C	mg/L	0.01 U	0.01 U	0.01 U	0.01 U
MCPA	8151A	µg/L	200 U	190 U	190 U	190 U
MCPD	8151A	µg/L	200 U	190 U	190 U	190 U
Mercury	7470A	mg/L	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Methanol	8015C	µg/L				
Methoxychlor	8081B	µg/L	0.085 U	0.082 U	0.081 U	0.084 U
Methyl Iodide	8260B	µg/L				
Methyl Tert-Butyl Ether	8260B	µg/L				
Methylene Chloride	8260B	µg/L				
Mirex	8081B	µg/L	0.21 U	0.041 U	0.041 U	0.042 U
Molybdenum	6010C	mg/L	0.02 U	0.02 U	0.02 U	0.02 U
Morpholine	8270D SIM	µg/L				
Naphthalene	8270D SIM	µg/L	0.051 U	0.05 U	0.052 U	0.051 U
n-Butylbenzene	8260B	µg/L				
Nickel	6010C	mg/L	0.02 U	0.02 U	0.02 U	0.02 U
Nitrobenzene	8270D	µg/L				
N-Nitrosodimethylamine	8270D SIM	µg/L	0.051 U	0.05 U	0.052 U	0.051 U
N-Nitroso-di-n-propylamine	8270D	µg/L				
N-Nitrosodiphenylamine	8270D	µg/L				
n-Propylbenzene	8260B	µg/L				
OCDD	1613B	pg/L	19.3 U	19.3 U	19.6 U	19.4 U
OCDF	1613B	pg/L	19.3 U	19.3 U	19.6 U	19.4 U
o-Xylene	8260B	µg/L				
Pentachlorophenol	8270D	µg/L				
Perchlorate	6850	µg/L		1 U	1 U	
pH	9040C	pH	5.9	6.3	6.4	8.4
Phenanthrene	8270D SIM	µg/L	0.051 U	0.05 U	0.052 U	0.051 U
Phenol	8270D	µg/L				
Phosphorus	6010C	mg/L	0.2 U	0.2 U	0.2 U	0.2 U
Potassium	6010C	mg/L	1 U	1 U	1 U	1 U
Pyrene	8270D SIM	µg/L	0.051 U	0.05 U	0.052 U	0.051 U
Pyridine	8270D	µg/L				
Selenium	6020A	mg/L	0.004 U	0.004 U	0.004 U	0.004 U
Silver	6020A	mg/L	0.001 U	0.001 U	0.001 U	0.001 U
Silvex (2,4,5-TP)	8151A	µg/L	0.049 U	0.048 U	0.048 U	0.048 U
Sodium	6010C	mg/L	2 U	2 U	2 U	2 U
Strontium	6020A	mg/L	0.002 U	0.002 U	0.002 U	0.002 U
Styrene	8260B	µg/L				
TCDD TEQ	1613B	pg/L	0.0245	0.0788	0.0454	0.0004
Technical Toxaphene	8081B	µg/L	2.6 U	2.5 U	2.4 U	2.5 U
tert-Butyl ethyl ether	8260B	µg/L				
tert-Butylbenzene	8260B	µg/L				
Tertiary amyl methyl ether	8260B	µg/L				
Tertiary butyl alcohol	8260B	µg/L				
Tetrachloroethene	8260B	µg/L				
Thallium	6020A	mg/L	0.001 U	0.001 U	0.001 U	0.001 U
Tin	6010C	mg/L	0.04 U	0.04 U	0.04 U	0.04 U
Titanium	6010C	mg/L	0.02 U	0.02 U	0.02 U	0.02 U
Toluene	8260B	µg/L				
trans-1,2-Dichloroethene	8260B	µg/L				
trans-1,3-Dichloropropene	8260B	µg/L				
Trichloroethene	8260B	µg/L				
Trichlorofluoromethane	8260B	µg/L				
Vanadium	6010C	mg/L	0.01 U	0.01 U	0.01 U	0.01 U
Vinyl Acetate	8260B	µg/L				
Vinyl Chloride	8260B	µg/L				
Zinc	6010C	mg/L	0.04 U	0.04 U	0.04 U	0.04 U
Zirconium	6010C	mg/L	0.1 U	0.1 U	0.1 U	0.1 U

Notes:

ug/L - microgram per liter

mg/L - milligram per liter

ng/L - nanogram per liter

pg/L - picogram per liter

U - Compound not detected above the reporting limit

Table C-2 - Subarea 5D - Equipment Rinsate Samples

Sample Name: Location: Sample Date: Sample Type: Lab:			EB1-111213 5D_DG_EB 11/12/2013 EB LL	EB-111413 5D_DG_EB 11/14/2013 EB LL	EB2-082813 5D_DG_EB 08/28/2013 EB LL	EB2-091813 5D_DG_EB 09/18/2013 EB LL				
Analyte	Analytic Method	Units	Concentration	Final Qualifer	Concentration	Final Qualifer	Concentration	Final Qualifer	Concentration	Final Qualifer
1,1,1,2-Tetrachloroethane	8260B	µg/L			5	U				
1,1,1-Trichloroethane	8260B	µg/L			5	U				
1,1,2,2-Tetrachloroethane	8260B	µg/L			5	U				
1,1,2-Trichloro-1,2,2-trifluoroethane	8260B	µg/L			5	U				
1,1,2-Trichloroethane	8260B	µg/L			5	U				
1,1'-Biphenyl	8270D	µg/L	1	U						
1,1-Dichloroethane	8260B	µg/L			5	U				
1,1-Dichloroethene	8260B	µg/L			5	U				
1,1-Dichloropropene	8260B	µg/L			5	U				
1,2,3,4,6,7,8-Heptachlorodibenzo-p-Dioxin	1613B	pg/L	9.95	U	9.78	U	9.85	U	9.57	U
1,2,3,4,6,7,8-HPCDF	1613B	pg/L	9.95	U	9.78	U	9.85	U	9.57	U
1,2,3,4,7,8,9-HPCDF	1613B	pg/L	9.95	U	9.78	U	9.85	U	9.57	U
1,2,3,4,7,8-Hexachlorodibenzo-p-Dioxin	1613B	pg/L	9.95	U	9.78	U	9.85	U	9.57	U
1,2,3,4,7,8-HXCDF	1613B	pg/L	9.95	U	9.78	U	9.85	U	9.57	U
1,2,3,6,7,8-Hexachlorodibenzo-p-Dioxin	1613B	pg/L	9.95	U	0.578	J	9.85	U	9.57	U
1,2,3,6,7,8-HXCDF	1613B	pg/L	9.95	U	9.78	U	9.85	U	9.57	U
1,2,3,7,8,9-Hexachlorodibenzo-p-Dioxin	1613B	pg/L	9.95	U	9.78	U	9.85	U	9.57	U
1,2,3,7,8,9-HXCDF	1613B	pg/L	9.95	U	9.78	U	9.85	U	9.57	U
1,2,3,7,8-Pentachlorodibenzofuran	1613B	pg/L	9.95	U	9.78	U	9.85	U	9.57	U
1,2,3,7,8-Pentachlorodibenzo-p-Dioxin	1613B	pg/L	9.95	U	9.78	U	9.85	U	9.57	U
1,2,3-Trichlorobenzene	8260B	µg/L			5	U				
1,2,3-Trichloropropane	8260B	µg/L			5	U				
1,2,4-Trichlorobenzene	8260B	µg/L			5	U				
1,2,4-Trichlorobenzene	8270D	µg/L	1	U						
1,2,4-Trimethylbenzene	8260B	µg/L			5	U				
1,2-Dibromo-3-chloropropane	8260B	µg/L			5	U				
1,2-Dibromoethane	8260B	µg/L			5	U				
1,2-Dichlorobenzene	8260B	µg/L			5	U				
1,2-Dichlorobenzene	8270D	µg/L	1	U						
1,2-Dichloroethane	8260B	µg/L			5	U				
1,2-Dichloropropane	8260B	µg/L			5	U				
1,2-Diphenylhydrazine	8270D	µg/L	1	U						
1,3,5-Trimethylbenzene	8260B	µg/L			5	U				
1,3-Dichlorobenzene	8260B	µg/L			5	U				
1,3-Dichlorobenzene	8270D	µg/L	1	U						
1,3-Dichloropropane	8260B	µg/L			5	U				
1,4-Dichlorobenzene	8260B	µg/L			5	U				
1,4-Dichlorobenzene	8270D	µg/L	1	U						
1,4-Dioxane	8260B SIM	µg/L			2	U				
1-Chlorohexane	8260B	µg/L			5	U				
1-Methylnaphthalene	8270D SIM	µg/L	0.051	U	0.052	U	0.053	U	0.05	U
2,2-Dichloropropane	8260B	µg/L			5	U				
2,2-Dichlor-Propionic Acid	8151A	µg/L	1.2	UJ					1.2	U
2,3,4,6,7,8-HXCDF	1613B	pg/L	9.95	U	9.78	U	9.85	U	9.57	U
2,3,4,7,8-PECDF	1613B	pg/L	9.95	U	9.78	U	9.85	U	9.57	U
2,3,7,8-TCDD	1613B	pg/L	1.99	U	1.96	U	1.97	U	1.91	U
2,3,7,8-Tetrachlorodibenzofuran	1613B	pg/L	1.99	U	0.366	J	1.97	U	1.91	U
2,4,5-T	8151A	µg/L	0.05	UJ					0.048	U
2,4,5-Trichlorophenol	8270D	µg/L	1	U						
2,4,6-Trichlorophenol	8270D	µg/L	1	U						
2,4-D	8151A	µg/L	0.5	UJ					0.48	U
2,4-DB	8151A	µg/L	0.99	UJ					0.97	U
2,4-Dichlorophenol	8270D	µg/L	1	U						
2,4-Dimethylphenol	8270D	µg/L	1	U						
2,4-Dinitrophenol	8270D	µg/L	31	U						
2,6-Dichlorophenol	8270D	µg/L	1	UJ						
2-Butanone (MEK)	8260B	µg/L			10	U				
2-Chloro-1,1,1-trifluoroethane	8260B	µg/L			5	U				
2-Chloroethyl Vinyl Ether	8260B	µg/L			10	U				
2-Chloronaphthalene	8270D	µg/L	1	U						
2-Chlorophenol	8270D	µg/L	1	U						
2-Chlorotoluene	8260B	µg/L			5	U				
2-Hexanone	8260B	µg/L			10	U				
2-Methylnaphthalene	8270D SIM	µg/L	0.051	U	0.052	U	0.053	U	0.05	U
2-Methylphenol	8270D	µg/L	1	U						
2-Nitroaniline	8270D	µg/L	1	U						
2-Nitrophenol	8270D	µg/L	1	U						
2-Phenylbutane	8260B	µg/L			5	U				
2-Propanol	8015C	µg/L			1000	U				
3,3'-Dichlorobenzidine	8270D	µg/L	5	U						
3,5-Dimethylphenol	8270D	µg/L	10	UJ						
3-Nitroaniline	8270D	µg/L	1	U						
4,4'-DDD	8081B	µg/L	0.018	U	0.016	U			0.017	U
4,4'-DDE	8081B	µg/L	0.018	U	0.016	U			0.017	U
4,4'-DDT	8081B	µg/L	0.018	U	0.016	U			0.017	U
4,6-Dinitro-2-methylphenol	8270D	µg/L	15	U						
4-Bromophenyl-phenylether	8270D	µg/L	1	U						
4-Chloro-3-methylphenol	8270D	µg/L	1	U						
4-Chloroaniline	8270D	µg/L	1	U						
4-Chlorophenyl-phenylether	8270D	µg/L	1	U						
4-Chlorotoluene	8260B	µg/L			5	U				
4-Methyl-2-pentanone (MIBK)	8260B	µg/L			10	U				
4-Methylphenol	8270D	µg/L	1	U						
4-Nitroaniline	8270D	µg/L	1	U						
4-Nitrophenol	8270D	µg/L	31	U						
Acenaphthene	8270D SIM	µg/L	0.051	U	0.052	U	0.053	U	0.05	U
Acenaphthylene	8270D SIM	µg/L	0.051	U	0.052	U	0.053	U	0.05	U
Acetone	8260B	µg/L			20	U				
Acrolein	8260B	µg/L			100	U				
Acrylonitrile	8260B	µg/L			20	U				
Aldrin	8081B	µg/L	0.0092	U	0.008	U			0.0083	U
Alpha-Bhc	8081B	µg/L	0.0092	U	0.008	U			0.0083	U
Aluminum	6010C	mg/L	0.4	U	0.4	U	0.4	U	0.4	U
Aniline	8270D	µg/L	1	U						
Anthracene	8270D SIM	µg/L	0.051	U	0.052	U	0.053	U	0.05	U
Antimony	6010C	mg/L	0.04	U	0.04	U	0.04	U	0.04	U
Aroclor 1016	8082A	µg/L	0.46	U	0.4	U	0.42	U	0.42	UJ

Table C-2 - Subarea 5D - Equipment Rinsate Samples

Sample Name: Location: Sample Date: Sample Type: Lab:		EB1-111213 5D_DG_EB 11/12/2013 EB LL	EB-111413 5D_DG_EB 11/14/2013 EB LL	EB2-082813 5D_DG_EB 08/28/2013 EB LL	EB2-091813 5D_DG_EB 09/18/2013 EB LL	
Analyte	Analytic Method	Units	Concentration Final Qualifer	Concentration Final Qualifer	Concentration Final Qualifer	Concentration Final Qualifer
Aroclor 1221	8082A	µg/L	0.46 U	0.4 U	0.42 U	0.42 UJ
Aroclor 1232	8082A	µg/L	0.46 U	0.4 U	0.42 U	0.42 UJ
Aroclor 1242	8082A	µg/L	0.46 U	0.4 U	0.42 U	0.42 UJ
Aroclor 1248	8082A	µg/L	0.46 U	0.4 U	0.42 U	0.42 UJ
Aroclor 1254	8082A	µg/L	0.46 U	0.4 U	0.42 U	0.42 UJ
Aroclor 1260	8082A	µg/L	0.46 U	0.4 U	0.42 U	0.42 UJ
Aroclor 1262	8082A	µg/L	0.46 U	0.4 U	0.42 U	0.42 UJ
Aroclor 1268	8082A	µg/L	0.46 U	0.4 U	0.42 U	0.42 UJ
Aroclor 5432	8082A	µg/L	0.46 U	0.4 U	0.42 U	0.42 UJ
Aroclor 5442	8082A	µg/L	0.46 U	0.4 U	0.42 U	0.42 UJ
Aroclor 5460	8082A	µg/L	0.46 U	0.4 U	0.42 U	0.42 UJ
Arsenic	6010C	mg/L	0.04 U	0.04 U	0.04 U	0.04 U
Barium	6010C	mg/L	0.00034 J	0.01 U	0.01 U	0.01 U
Benzene	8260B	µg/L		5 U		
Benzidine	8270D	µg/L	61 U			
Benzo(a)anthracene	8270D SIM	µg/L	0.051 U	0.052 U	0.053 U	0.05 U
Benzo(a)pyrene	8270D SIM	µg/L	0.051 U	0.052 U	0.053 U	0.05 U
Benzo(b)fluoranthene	8270D SIM	µg/L	0.051 U	0.052 U	0.053 U	0.05 U
Benzo(e)pyrene	8270D SIM	µg/L	0.051 U	0.052 U	0.053 U	0.05 U
Benzo(g,h,i)perylene	8270D SIM	µg/L	0.051 U	0.052 U	0.053 U	0.05 U
Benzo(k)fluoranthene	8270D SIM	µg/L	0.051 U	0.052 U	0.053 U	0.05 U
Benzoic Acid	8270D	µg/L	15 U			
Benzyl Alcohol	8270D	µg/L	15 U			
Beryllium	6010C	mg/L	0.01 U	0.01 U	0.01 U	0.01 U
Beta-Bhc	8081B	µg/L	0.0092 U	0.0037 J		0.0083 U
bis(2-chloroethoxy)methane	8270D	µg/L	1 U			
bis(2-chloroethyl) ether	8270D	µg/L	1 U			
bis(2-chloroisopropyl) ether	8270D	µg/L	1 U			
Bis(2-ethylhexyl)phthalate	8270D SIM	µg/L	1 U	1 U	1.1 U	1 U
Boron	6010C	mg/L	0.1 U	0.1 U	0.1 U	0.1 U
Bromobenzene	8260B	µg/L		5 U		
Bromochloromethane	8260B	µg/L		5 U		
Bromodichloromethane	8260B	µg/L		5 U		
Bromoform	8260B	µg/L		5 U		
Bromomethane	8260B	µg/L		5 U		
Butylbenzylphthalate	8270D SIM	µg/L	1 U	1 U	1.1 U	1 U
Cadmium	6010C	mg/L	0.01 U	0.01 U	0.01 U	0.01 U
Calcium	6010C	mg/L	0.0349 J	0.4 U	0.4 U	0.4 U
Carbazole	8270D	µg/L	1 U			
Carbon Disulfide	8260B	µg/L		5 U		
Carbon Tetrachloride	8260B	µg/L		5 U		
Chlordane	8081B	µg/L	0.46 U	0.4 U		0.42 U
Chlorobenzene	8260B	µg/L		5 U		
Chloroethane	8260B	µg/L		5 U		
Chloroform	8260B	µg/L		5 U		
Chloromethane	8260B	µg/L		5 U		
Chlorotrifluoroethylene	8260B	µg/L		5 U		
Chromium	6010C	mg/L	0.03 U	0.03 U	0.03 U	0.03 U
Chromium (Hexavalent Compounds)	7199	µg/L	10 U	10 U		0.05 U
Chrysene	8270D SIM	µg/L	0.051 U	0.052 U	0.053 U	0.05 U
cis-1,2-Dichloroethene	8260B	µg/L		5 U		
cis-1,3-Dichloropropene	8260B	µg/L		5 U		
Cobalt	6010C	mg/L	0.01 U	0.01 U	0.01 U	0.01 U
Copper	6010C	mg/L	0.02 U	0.02 U	0.02 U	0.02 U
Cymene	8260B	µg/L		5 U		
Delta-Bhc	8081B	µg/L	0.0092 U	0.008 U		0.0083 U
Di isopropyl Ether	8260B	µg/L		5 U		
Dibenzo(a,h)anthracene	8270D SIM	µg/L	0.051 U	0.052 U	0.053 U	0.05 U
Dibenzofuran	8270D	µg/L	1 U			
Dibromochloromethane	8260B	µg/L		5 U		
Dibromomethane	8260B	µg/L		5 U		
Dicamba	8151A	µg/L	0.3 UJ			0.29 U
Dichlorodifluoromethane	8260B	µg/L		5 U		
Dichlorprop	8151A	µg/L	0.5 UJ			0.48 U
Dieldrin	8081B	µg/L	0.018 U	0.016 U		0.017 U
Diethylphthalate	8270D SIM	µg/L	1 U	1 U	0.36 J	0.3 J
Dimethylphthalate	8270D SIM	µg/L	1 U	1 U	1.1 U	1 U
Di-n-butylphthalate	8270D SIM	µg/L	1 U	1 U	1.1 U	0.19 J
Dinitrobutyl Phenol	8151A	µg/L	0.5 U			0.48 U
Di-n-octylphthalate	8270D SIM	µg/L	1 U	1 U	1.1 U	1 U
Diphenylamine	8270D	µg/L	5 U			
EFH (C12-C14)	8015M	mg/L	0.097 U	0.099 U	0.097 U	0.095 U
EFH (C15-C20)	8015M	mg/L	0.097 U	0.099 U	0.097 U	0.095 U
EFH (C21-C30)	8015M	mg/L	0.097 U	0.099 U	0.097 U	0.095 U
EFH (C30-C40)	8015M	mg/L	0.49 UJ	0.49 UJ	0.49 U	0.47 UJ
EFH (C8-C11)	8015M	mg/L	0.097 UJ	0.099 UJ	0.097 UJ	0.095 U
Endosulfan I	8081B	µg/L	0.0092 U	0.008 U		0.0083 U
Endosulfan II	8081B	µg/L	0.018 U	0.016 U		0.017 U
Endosulfan Sulfate	8081B	µg/L	0.018 U	0.016 U		0.017 U
Endrin	8081B	µg/L	0.018 U	0.016 U		0.017 U
Endrin Aldehyde	8081B	µg/L	0.092 U	0.08 U		0.083 U
Endrin Ketone	8081B	µg/L	0.018 U	0.016 U		0.017 U
Ethanol	8015C	µg/L		1000 U		
Ethylbenzene	8260B	µg/L		5 U		
Fluoranthene	8270D SIM	µg/L	0.051 U	0.052 U	0.053 U	0.05 U
Fluorene	8270D SIM	µg/L	0.051 U	0.052 U	0.053 U	0.05 U
Fluoride	300.0	mg/L				0.1 U
Formaldehyde	8315A	µg/L		50 U		
Gamma-Bhc (Lindane)	8081B	µg/L	0.0092 U	0.008 U		0.0083 U
Gasoline Range Organics (C5-C12)	8015M	µg/L	50 U	50 U	50 U	50 U
Heptachlor	8081B	µg/L	0.0092 U	0.008 U		0.0083 U
Heptachlor Epoxide	8081B	µg/L	0.0092 U	0.008 U		0.0083 U
Hexachloro-1,3-butadiene	8260B	µg/L		5 U		
Hexachlorobenzene	8270D	µg/L	0.5 U			
Hexachlorobutadiene	8270D	µg/L	1 U			
Hexachlorocyclopentadiene	8270D	µg/L	15 U			
Hexachloroethane	8270D	µg/L	5 U			

Table C-2 - Subarea 5D - Equipment Rinsate Samples

Sample Name: Location: Sample Date: Sample Type: Lab:			EB1-111213 5D_DG_EB 11/12/2013 EB LL	EB-111413 5D_DG_EB 11/14/2013 EB LL	EB2-082813 5D_DG_EB 08/28/2013 EB LL	EB2-091813 5D_DG_EB 09/18/2013 EB LL				
Analyte	Analytic Method	Units	Concentration	Final Qualifer	Concentration	Final Qualifer	Concentration	Final Qualifer	Concentration	Final Qualifer
Indeno(1,2,3-cd)pyrene	8270D SIM	µg/L	0.051	U	0.052	U	0.053	U	0.05	U
Iron	6010C	mg/L	0.4	U	0.4	U	0.4	U	0.4	U
Isophorone	8270D	µg/L	1	U						
Isopropylbenzene	8260B	µg/L			5	U				
Lead	6010C	mg/L	0.03	U	0.03	U	0.03	U	0.03	U
Lithium	6010C	mg/L	0.04	U	0.04	U	0.04	U	0.04	U
m,p-Xylene	8260B	µg/L			5	U				
Magnesium	6010C	mg/L	0.2	U	0.2	U	0.2	U	0.2	U
Manganese	6010C	mg/L	0.01	U	0.01	U	0.01	U	0.01	U
MCPA	8151A	µg/L	200	UJ					190	U
MCPP	8151A	µg/L	200	UJ					190	U
Mercury	7470A	mg/L	0.0002	U	0.0002	U	0.0002	U	0.0002	U
Methanol	8015C	µg/L			1000	U				
Methoxychlor	8081B	µg/L	0.092	U	0.08	U			0.083	U
Methyl Iodide	8260B	µg/L			5	U				
Methyl Tert-Butyl Ether	8260B	µg/L			5	U				
Methylene Chloride	8260B	µg/L			5	U				
Mirex	8081B	µg/L	0.046	U	0.04	U			0.042	U
Molybdenum	6010C	mg/L	0.02	U	0.02	U	0.02	U	0.02	U
Morpholine	8270D SIM	µg/L			20	U				
Naphthalene	8270D SIM	µg/L	0.051	U	0.052	U	0.053	U	0.05	U
n-Butylbenzene	8260B	µg/L			5	U				
Nickel	6010C	mg/L	0.02	U	0.02	U	0.02	U	0.02	U
Nitrobenzene	8270D	µg/L	1	U						
N-Nitrosodimethylamine	8270D SIM	µg/L	0.051	U	0.052	U	0.053	U	0.05	U
N-Nitroso-di-n-propylamine	8270D	µg/L	1	U						
N-Nitrosodiphenylamine	8270D	µg/L	1	U						
n-Propylbenzene	8260B	µg/L			5	U				
OCDD	1613B	pg/L	19.9	U	19.6	U	19.7	U	19.1	U
OCDF	1613B	pg/L	19.9	U	19.6	U	19.7	U	19.1	U
o-Xylene	8260B	µg/L			5	U				
Pentachlorophenol	8270D	µg/L	5	U						
Perchlorate	6850	µg/L							0.25	J
pH	9040C	pH	6		6.7		5.6		5.9	
Phenanthrene	8270D SIM	µg/L	0.051	U	0.052	U	0.053	U	0.05	U
Phenol	8270D	µg/L	1	U						
Phosphorus	6010C	mg/L	0.2	U	0.2	U	0.2	U	0.2	U
Potassium	6010C	mg/L	1	U	1	U	1	U	1	U
Pyrene	8270D SIM	µg/L	0.051	U	0.052	U	0.053	U	0.05	U
Pyridine	8270D	µg/L	5	U						
Selenium	6020A	mg/L	0.004	U	0.004	U	0.004	U	0.004	U
Silver	6020A	mg/L	0.001	U	0.001	U	0.001	U	0.001	U
Silvex (2,4,5-TP)	8151A	µg/L	0.05	UJ					0.048	U
Sodium	6010C	mg/L	2	U	2	U	2	U	2	U
Strontium	6020A	mg/L	0.002	U	0.002	U	0.002	U	0.002	U
Styrene	8260B	µg/L			5	U				
TCDD TEQ	1613B	pg/L	1.28		0.227		0.49		0.186	
Technical Toxaphene	8081B	µg/L	0.92	U	0.8	U			2.5	U
tert-Butyl ethyl ether	8260B	µg/L			5	U				
tert-Butylbenzene	8260B	µg/L			5	U				
Tertiary amyl methyl ether	8260B	µg/L			5	U				
Tertiary butyl alcohol	8260B	µg/L			50	U				
Tetrachloroethene	8260B	µg/L			5	U				
Thallium	6020A	mg/L	0.001	U	0.001	U	0.001	U	0.001	U
Tin	6010C	mg/L	0.04	U	0.04	U	0.04	U	0.04	U
Titanium	6010C	mg/L	0.02	U	0.02	U	0.02	U	0.02	U
Toluene	8260B	µg/L			5	U				
trans-1,2-Dichloroethene	8260B	µg/L			5	U				
trans-1,3-Dichloropropene	8260B	µg/L			5	U				
Trichloroethene	8260B	µg/L			5	U				
Trichlorofluoromethane	8260B	µg/L			5	U				
Vanadium	6010C	mg/L	0.01	U	0.01	U	0.01	U	0.01	U
Vinyl Acetate	8260B	µg/L			10	U				
Vinyl Chloride	8260B	µg/L			5	U				
Zinc	6010C	mg/L	0.04	U	0.04	U	0.04	U	0.04	U
Zirconium	6010C	mg/L	0.1	U	0.1	U	0.1	U	0.1	U

Notes:

ug/L - microgram per liter

mg/L - milligram per liter

ng/L - nanogram per liter

pg/L - picogram per liter

U - Compound not detected above the reporting limit

Table C-3 - Subarea 8 Equipment Rinsate Samples

Sample Name: Location: Sample Date: Sample Type: Lab:			EB-080713 8_DG_EB 08/07/2013 EB LL	EB-081413 8_DG_EB 08/14/2013 EB LL	EB1-071013 8_DG_EB 07/10/2013 EB LL	EB1-071713 8_DG_EB 07/17/2013 EB LL				
Analyte	Analytic Method	Units	Concentration	Final Qualifer	Concentration	Final Qualifer	Concentration	Final Qualifer	Concentration	Final Qualifer
Isopropylbenzene	8260B	µg/L	5	U			5	U	5	U
Lead	6010C	mg/L	0.03	U	0.03	U	0.03	U	0.03	U
Lithium	6010C	mg/L	0.04	U	0.04	U	0.04	U	0.04	U
m,p-Xylene	8260B	µg/L	5	U			5	U	5	U
Magnesium	6010C	mg/L	0.2	U	0.2	U	0.2	U	0.2	U
Manganese	6010C	mg/L	0.01	U	0.01	U	0.01	U	0.01	U
MCPA	8151A	µg/L	200	U	200	U	200	U	190	U
MCPP	8151A	µg/L	200	U	200	U	200	U	190	U
Mercury	7470A	mg/L	0.0002	U	0.0002	U	0.0002	U	0.0002	U
Methoxychlor	8081B	µg/L	0.085	U	0.081	U	0.084	U	0.083	U
Methyl Iodide	8260B	µg/L	5	U			5	U	5	U
Methyl Tert-Butyl Ether	8260B	µg/L	5	U			5	U	5	U
Methylene Chloride	8260B	µg/L	5	U			5	U	5	U
Mirex	8081B	µg/L	0.21	U	0.2	U	0.21	U	0.21	U
Molybdenum	6010C	mg/L	0.02	U	0.02	U	0.0035	J	0.02	U
Naphthalene	8270D SIM	µg/L	0.035	J	0.058		0.034	J	0.046	J
n-Butylbenzene	8260B	µg/L	5	U			5	U	5	U
Nickel	6010C	mg/L	0.02	U	0.02	U	0.02	U	0.02	U
Nitrate	300.0	mg/L								
Nitrite-NO2	300.0	mg/L								
Nitrobenzene	8270D	µg/L	1	U					1	U
N-Nitrosodimethylamine	8270D SIM	µg/L	0.052	U	0.053	U	0.052	U	0.055	U
N-Nitroso-di-n-propylamine	8270D	µg/L	1	U					1	U
N-Nitrosodiphenylamine	8270D	µg/L	1	U					1	U
n-Propylbenzene	8260B	µg/L	5	U			5	U	5	U
OCDD	1613B	pg/L	19.3	U	19.6	U	19.3	U	20	U
OCDF	1613B	pg/L	19.3	U	19.6	U	19.3	U	20	U
o-Xylene	8260B	µg/L	5	U			5	U	5	U
Pentachlorophenol	8270D	µg/L	5	U					6	U
Perchlorate	6850	µg/L					1	U	1	U
pH	9040C	pH	5.5		5.8		6		6.3	
Phenanthrene	8270D SIM	µg/L	0.052	U	0.053	U	0.052	U	0.055	U
Phenol	8270D	µg/L	1	U					1	U
Phosphorus	6010C	mg/L	0.2	U	0.2	U	0.2	U	0.2	U
Potassium	6010C	mg/L	1	U	1	U	1	U	1	U
Pyrene	8270D SIM	µg/L	0.052	U	0.053	U	0.052	U	0.055	U
Pyridine	8270D	µg/L	5	U					6	U
Selenium	6020A	mg/L	0.004	U	0.004	U	0.004	U	0.004	U
Silver	6020A	mg/L	0.001	U	0.001	U	0.001	U	0.001	U
Silvex (2,4,5-TP)	8151A	µg/L	0.049	U	0.049	U	0.049	U	0.048	U
Sodium	6010C	mg/L	2	U	2	U	2	U	2	U
Strontium	6020A	mg/L	0.002	U	0.002	U	0.002	U	0.002	U
Styrene	8260B	µg/L	5	U			5	U	5	U
TCDD TEQ	1613B	pg/L	0.0495		0.103		0.0336		0.0556	
Technical Toxaphene	8081B	µg/L	2.6	U	2.4	U	2.5	U	2.5	U
tert-Butyl ethyl ether	8260B	µg/L	5	U			5	U	5	U
tert-Butylbenzene	8260B	µg/L	5	U			5	U	5	U
Tertiary amyl methyl ether	8260B	µg/L	5	U			5	U	5	U
Tertiary butyl alcohol	8260B	µg/L	50	U			50	U	50	U
Tetrachloroethene	8260B	µg/L	5	U			5	U	5	U
Thallium	6020A	mg/L	0.001	U	0.001	U	0.001	U	0.001	U
Tin	6010C	mg/L	0.0029	J	0.04	U	0.04	U	0.04	U
Titanium	6010C	mg/L	0.02	U	0.02	U	0.02	U	0.02	U
Toluene	8260B	µg/L	5	U			5	U	5	U
trans-1,2-Dichloroethene	8260B	µg/L	5	U			5	U	5	U
trans-1,3-Dichloropropene	8260B	µg/L	5	U			5	U	5	U
Trichloroethene	8260B	µg/L	5	U			5	U	5	U
Trichlorofluoromethane	8260B	µg/L	5	U			5	U	5	U
Vanadium	6010C	mg/L	0.01	U	0.01	U	0.01	U	0.01	U
Vinyl Acetate	8260B	µg/L	10	U			10	U	10	U
Vinyl Chloride	8260B	µg/L	5	U			5	U	5	U
Zinc	6010C	mg/L	0.04	U	0.04	U	0.04	U	0.04	U
Zirconium	6010C	mg/L	0.1	U	0.1	U	0.1	U	0.1	U

Notes:
 ug/L - microgram per liter
 mg/L - milligram per liter
 ng/L - nanogram per liter
 pg/L - picogram per liter
 U - Compound not detected above the reporting limit

Table C-3 - Subarea 8 Equipment Rinsate Samples

Sample Name: Location: Sample Date: Sample Type: Lab:			EB1-072513 8_DG_EB 07/25/2013 EB LL	EB1-080113 8_DG_EB 08/01/2013 EB LL	EB2-071013 8_DG_EB 07/10/2013 EB LL	EB2-071713 8_DG_EB 07/17/2013 EB LL				
Analyte	Analytic Method	Units	Concentration	Final Qualifier	Concentration	Final Qualifier	Concentration	Final Qualifier	Concentration	Final Qualifier
Isopropylbenzene	8260B	µg/L					5	U		
Lead	6010C	mg/L	0.03	U	0.03	U	0.03	U	0.03	U
Lithium	6010C	mg/L	0.04	U	0.04	U	0.04	U	0.04	U
m,p-Xylene	8260B	µg/L					5	U		
Magnesium	6010C	mg/L	0.2	U	0.2	U	0.2	U	0.2	U
Manganese	6010C	mg/L	0.01	U	0.01	U	0.01	U	0.01	U
MCPA	8151A	µg/L					210	UJ	190	U
MCPP	8151A	µg/L					210	UJ	190	U
Mercury	7470A	mg/L	0.0002	U	0.0002	U	0.0002	U	0.0002	U
Methoxychlor	8081B	µg/L					0.087	U	0.083	U
Methyl Iodide	8260B	µg/L					5	U		
Methyl Tert-Butyl Ether	8260B	µg/L					5	U		
Methylene Chloride	8260B	µg/L					5	U		
Mirex	8081B	µg/L					0.22	U	0.21	U
Molybdenum	6010C	mg/L	0.02	U	0.02	U	0.02	U	0.02	U
Naphthalene	8270D SIM	µg/L	0.037	J	0.051	U	0.032	J	0.045	J
n-Butylbenzene	8260B	µg/L					5	U		
Nickel	6010C	mg/L	0.02	U	0.02	U	0.02	U	0.02	U
Nitrate	300.0	mg/L								
Nitrite-NO2	300.0	mg/L								
Nitrobenzene	8270D	µg/L	1	U						
N-Nitrosodimethylamine	8270D SIM	µg/L	0.052	U	0.051	U	0.051	U	0.051	U
N-Nitroso-di-n-propylamine	8270D	µg/L	1	U						
N-Nitrosodiphenylamine	8270D	µg/L	1	U						
n-Propylbenzene	8260B	µg/L					5	U		
OCDD	1613B	pg/L	19.9	U	19.6	U	20.4	U	19.9	U
OCDF	1613B	pg/L	19.9	U	19.6	U	20.4	U	19.9	U
o-Xylene	8260B	µg/L					5	U		
Pentachlorophenol	8270D	µg/L	5	U						
Perchlorate	6850	µg/L					1	U		
pH	9040C	pH	5.9		5.9		6.2		6	
Phenanthrene	8270D SIM	µg/L	0.052	U	0.051	U	0.051	U	0.051	U
Phenol	8270D	µg/L	1	U						
Phosphorus	6010C	mg/L	0.2	U	0.2	U	0.2	U	0.2	U
Potassium	6010C	mg/L	1	U	1	U	1	U	1	U
Pyrene	8270D SIM	µg/L	0.052	U	0.051	U	0.051	U	0.051	U
Pyridine	8270D	µg/L	5	U						
Selenium	6020A	mg/L	0.004	U	0.004	U	0.004	U	0.004	U
Silver	6020A	mg/L	0.001	U	0.001	U	0.001	U	0.001	U
Silvex (2,4,5-TP)	8151A	µg/L					0.051	UJ	0.048	U
Sodium	6010C	mg/L	2	U	2	U	2	U	2	U
Strontium	6020A	mg/L	0.002	U	0.002	U	0.002	U	0.002	U
Styrene	8260B	µg/L					5	U		
TCDD TEQ	1613B	pg/L	0.0814		0.0622		0.0534		0.0896	
Technical Toxaphene	8081B	µg/L					2.6	U	2.5	U
tert-Butyl ethyl ether	8260B	µg/L					5	U		
tert-Butylbenzene	8260B	µg/L					5	U		
Tertiary amyl methyl ether	8260B	µg/L					5	U		
Tertiary butyl alcohol	8260B	µg/L					50	U		
Tetrachloroethene	8260B	µg/L					5	U		
Thallium	6020A	mg/L	0.001	U	0.001	U	0.001	U	0.001	U
Tin	6010C	mg/L	0.04	U	0.04	U	0.04	U	0.04	U
Titanium	6010C	mg/L	0.02	U	0.02	U	0.02	U	0.02	U
Toluene	8260B	µg/L					5	U		
trans-1,2-Dichloroethene	8260B	µg/L					5	U		
trans-1,3-Dichloropropene	8260B	µg/L					5	U		
Trichloroethene	8260B	µg/L					5	U		
Trichlorofluoromethane	8260B	µg/L					5	U		
Vanadium	6010C	mg/L	0.01	U	0.01	U	0.01	U	0.01	U
Vinyl Acetate	8260B	µg/L					10	U		
Vinyl Chloride	8260B	µg/L					5	U		
Zinc	6010C	mg/L	0.04	U	0.04	U	0.04	U	0.04	U
Zirconium	6010C	mg/L	0.1	U	0.1	U	0.1	U	0.1	U

Notes:

ug/L - microgram per liter

mg/L - milligram per liter

ng/L - nanogram per liter

pg/L - picogram per liter

U - Compound not detected above the reporting limit

Table C-3 - Subarea 8 Equipment Rinsate Samples

Sample Name: Location: Sample Date: Sample Type: Lab:			EB2-072513 8_DG_EB 07/25/2013 EB LL	EB2-080113 8_DG_EB 08/01/2013 EB LL	EB2-092513 8_DG_EB 09/25/2013 EB LL	EB3-082813 8_DG_EB 08/28/2013 EB LL				
Analyte	Analytic Method	Units	Concentration	Final Qualifer	Concentration	Final Qualifer	Concentration	Final Qualifer	Concentration	Final Qualifer
Isopropylbenzene	8260B	µg/L								
Lead	6010C	mg/L	0.03	U	0.03	U	0.03	U	0.03	U
Lithium	6010C	mg/L	0.04	U	0.04	U	0.04	U	0.04	U
m,p-Xylene	8260B	µg/L								
Magnesium	6010C	mg/L	0.2	U	0.2	U	0.2	U	0.2	U
Manganese	6010C	mg/L	0.01	U	0.01	U	0.01	U	0.01	U
MCPA	8151A	µg/L	190	U	200	U	190	U	200	U
MCPP	8151A	µg/L	190	U	200	U	190	U	200	U
Mercury	7470A	mg/L	0.0002	U	0.0002	U	0.0002	U	0.0002	U
Methoxychlor	8081B	µg/L	0.083	U	0.085	U	0.083	U	0.082	U
Methyl Iodide	8260B	µg/L								
Methyl Tert-Butyl Ether	8260B	µg/L								
Methylene Chloride	8260B	µg/L								
Mirex	8081B	µg/L	0.21	U	0.21	U	0.041	U	0.2	U
Molybdenum	6010C	mg/L	0.02	U	0.02	U	0.02	U	0.02	U
Naphthalene	8270D SIM	µg/L			0.033	J	0.051	U	0.053	U
n-Butylbenzene	8260B	µg/L								
Nickel	6010C	mg/L	0.02	U	0.02	U	0.02	U	0.02	U
Nitrate	300.0	mg/L								
Nitrite-NO2	300.0	mg/L								
Nitrobenzene	8270D	µg/L								
N-Nitrosodimethylamine	8270D SIM	µg/L			0.051	U	0.051	U	0.053	U
N-Nitroso-di-n-propylamine	8270D	µg/L								
N-Nitrosodiphenylamine	8270D	µg/L								
n-Propylbenzene	8260B	µg/L								
OCDD	1613B	pg/L			19.2	U	19.2	U	19.2	U
OCDF	1613B	pg/L			19.2	U	19.2	U	19.2	U
o-Xylene	8260B	µg/L								
Pentachlorophenol	8270D	µg/L								
Perchlorate	6850	µg/L								
pH	9040C	pH			5.9		6		5.5	
Phenanthrene	8270D SIM	µg/L			0.051	U	0.051	U	0.053	U
Phenol	8270D	µg/L								
Phosphorus	6010C	mg/L	0.2	U	0.2	U	0.2	U	0.2	U
Potassium	6010C	mg/L	1	U	1	U	1	U	1	U
Pyrene	8270D SIM	µg/L			0.051	U	0.051	U	0.053	U
Pyridine	8270D	µg/L								
Selenium	6020A	mg/L	0.004	U	0.004	U	0.004	U	0.004	U
Silver	6020A	mg/L	0.001	U	0.001	U	0.001	U	0.001	U
Silvex (2,4,5-TP)	8151A	µg/L	0.048	U	0.049	U	0.048	U	0.049	U
Sodium	6010C	mg/L	2	U	2	U	2	U	2	U
Strontium	6020A	mg/L	0.002	U	0.002	U	0.002	U	0.002	U
Styrene	8260B	µg/L								
TCDD TEQ	1613B	pg/L			2.66		0.0255		0	U
Technical Toxaphene	8081B	µg/L	2.5	U	2.6	U	2.5	U	2.5	U
tert-Butyl ethyl ether	8260B	µg/L								
tert-Butylbenzene	8260B	µg/L								
Tertiary amyl methyl ether	8260B	µg/L								
Tertiary butyl alcohol	8260B	µg/L								
Tetrachloroethene	8260B	µg/L								
Thallium	6020A	mg/L	0.001	U	0.001	U	0.001	U	0.001	U
Tin	6010C	mg/L	0.04	U	0.04	U	0.04	U	0.04	U
Titanium	6010C	mg/L	0.02	U	0.02	U	0.02	U	0.02	U
Toluene	8260B	µg/L								
trans-1,2-Dichloroethene	8260B	µg/L								
trans-1,3-Dichloropropene	8260B	µg/L								
Trichloroethene	8260B	µg/L								
Trichlorofluoromethane	8260B	µg/L								
Vanadium	6010C	mg/L	0.01	U	0.01	U	0.01	U	0.01	U
Vinyl Acetate	8260B	µg/L								
Vinyl Chloride	8260B	µg/L								
Zinc	6010C	mg/L	0.04	U	0.04	U	0.04	U	0.04	U
Zirconium	6010C	mg/L	0.1	U	0.1	U	0.1	U	0.1	U

Notes:

ug/L - microgram per liter

mg/L - milligram per liter

ng/L - nanogram per liter

pg/L - picogram per liter

U - Compound not detected above the reporting limit

Table C-3 - Subarea 8 Equipment Rinsate Samples

		Sample Name:	EB4-082813	
		Location:	8_DG_EB	
		Sample Date:	08/28/2013	
		Sample Type:	EB	
		Lab:	LL	
Analyte	Analytic Method	Units	Concentration	Final Qualifer
1,1,1,2-Tetrachloroethane	8260B	µg/L		
1,1,1-Trichloroethane	8260B	µg/L		
1,1,2,2-Tetrachloroethane	8260B	µg/L		
1,1,2-Trichloro-1,2,2-trifluoroethane	8260B	µg/L		
1,1,2-Trichloroethane	8260B	µg/L		
1,1'-Biphenyl	8270D	µg/L		
1,1-Dichloroethane	8260B	µg/L		
1,1-Dichloroethene	8260B	µg/L		
1,1-Dichloropropene	8260B	µg/L		
1,2,3,4,6,7,8-Heptachlorodibenzo-p-Dioxin	1613B	pg/L	9.62	U
1,2,3,4,6,7,8-HPCDF	1613B	pg/L	9.62	U
1,2,3,4,7,8,9-HPCDF	1613B	pg/L	9.62	U
1,2,3,4,7,8-Hexachlorodibenzo-p-Dioxin	1613B	pg/L	9.62	U
1,2,3,4,7,8-HXCDF	1613B	pg/L	9.62	U
1,2,3,6,7,8-Hexachlorodibenzo-p-Dioxin	1613B	pg/L	9.62	U
1,2,3,6,7,8-HXCDF	1613B	pg/L	9.62	U
1,2,3,7,8,9-Hexachlorodibenzo-p-Dioxin	1613B	pg/L	9.62	U
1,2,3,7,8,9-HXCDF	1613B	pg/L	9.62	U
1,2,3,7,8-Pentachlorodibenzofuran	1613B	pg/L	9.62	U
1,2,3,7,8-Pentachlorodibenzo-p-Dioxin	1613B	pg/L	9.62	U
1,2,3-Trichlorobenzene	8260B	µg/L		
1,2,3-Trichloropropane	8260B	µg/L		
1,2,4-Trichlorobenzene	8260B	µg/L		
1,2,4-Trichlorobenzene	8270D	µg/L		
1,2,4-Trimethylbenzene	8260B	µg/L		
1,2-Dibromo-3-chloropropane	8260B	µg/L		
1,2-Dibromoethane	8260B	µg/L		
1,2-Dichlorobenzene	8260B	µg/L		
1,2-Dichlorobenzene	8270D	µg/L		
1,2-Dichloroethane	8260B	µg/L		
1,2-Dichloropropane	8260B	µg/L		
1,2-Diphenylhydrazine	8270D	µg/L		
1,3,5-Trimethylbenzene	8260B	µg/L		
1,3-Dichlorobenzene	8260B	µg/L		
1,3-Dichlorobenzene	8270D	µg/L		
1,3-Dichloropropane	8260B	µg/L		
1,4-Dichlorobenzene	8260B	µg/L		
1,4-Dichlorobenzene	8270D	µg/L		
1-Chlorohexane	8260B	µg/L		
1-Methylnaphthalene	8270D SIM	µg/L	0.051	U
2,2-Dichloropropane	8260B	µg/L		
2,2-Dichlor-Propionic Acid	8151A	µg/L		
2,3,4,6,7,8-HXCDF	1613B	pg/L	9.62	U
2,3,4,7,8-PECDF	1613B	pg/L	9.62	U
2,3,7,8-TCDD	1613B	pg/L	1.92	U
2,3,7,8-Tetrachlorodibenzofuran	1613B	pg/L	1.92	U
2,4,5-T	8151A	µg/L		
2,4,5-Trichlorophenol	8270D	µg/L		
2,4,6-Trichlorophenol	8270D	µg/L		
2,4-D	8151A	µg/L		
2,4-DB	8151A	µg/L		
2,4-Dichlorophenol	8270D	µg/L		
2,4-Dimethylphenol	8270D	µg/L		
2,4-Dinitrophenol	8270D	µg/L		
2,6-Dichlorophenol	8270D	µg/L		
2-Butanone (MEK)	8260B	µg/L		
2-Chloro-1,1,1-trifluoroethane	8260B	µg/L		
2-Chloroethyl Vinyl Ether	8260B	µg/L		
2-Chloronaphthalene	8270D	µg/L		
2-Chlorophenol	8270D	µg/L		
2-Chlorotoluene	8260B	µg/L		
2-Hexanone	8260B	µg/L		
2-Methylnaphthalene	8270D SIM	µg/L	0.011	J
2-Methylphenol	8270D	µg/L		
2-Nitroaniline	8270D	µg/L		
2-Nitrophenol	8270D	µg/L		
2-Phenylbutane	8260B	µg/L		
3,3'-Dichlorobenzidine	8270D	µg/L		
3,5-Dimethylphenol	8270D	µg/L		
3-Nitroaniline	8270D	µg/L		
4,4'-DDD	8081B	µg/L		
4,4'-DDE	8081B	µg/L		
4,4'-DDT	8081B	µg/L		
4,6-Dinitro-2-methylphenol	8270D	µg/L		
4-Bromophenyl-phenylether	8270D	µg/L		
4-Chloro-3-methylphenol	8270D	µg/L		
4-Chloroaniline	8270D	µg/L		
4-Chlorophenyl-phenylether	8270D	µg/L		
4-Chlorotoluene	8260B	µg/L		
4-Methyl-2-pentanone (MIBK)	8260B	µg/L		
4-Methylphenol	8270D	µg/L		
4-Nitroaniline	8270D	µg/L		
4-Nitrophenol	8270D	µg/L		
Acenaphthene	8270D SIM	µg/L	0.051	U
Acenaphthylene	8270D SIM	µg/L	0.051	U
Acetone	8260B	µg/L		
Acrolein	8260B	µg/L		
Acrylonitrile	8260B	µg/L		
Aldrin	8081B	µg/L		
Alpha-Bhc	8081B	µg/L		
Aluminum	6010C	mg/L	0.4	U
Aniline	8270D	µg/L		
Anthracene	8270D SIM	µg/L	0.051	U
Antimony	6010C	mg/L	0.04	U
Aroclor 1016	8082A	µg/L	0.41	U
Aroclor 1221	8082A	µg/L	0.41	U
Aroclor 1232	8082A	µg/L	0.41	U

Table C-3 - Subarea 8 Equipment Rinsate Samples

	Sample Name:	EB4-082813		
	Location:	8_DG_EB		
	Sample Date:	08/28/2013		
	Sample Type:	EB		
	Lab:	LL		
Analyte	Analytic Method	Units	Concentration	Final Qualifer
Aroclor 1242	8082A	µg/L	0.41	U
Aroclor 1248	8082A	µg/L	0.41	U
Aroclor 1254	8082A	µg/L	0.41	U
Aroclor 1260	8082A	µg/L	0.41	U
Aroclor 1262	8082A	µg/L	0.41	U
Aroclor 1268	8082A	µg/L	0.41	U
Aroclor 5432	8082A	µg/L	0.41	U
Aroclor 5442	8082A	µg/L	0.41	U
Aroclor 5460	8082A	µg/L	0.41	U
Arsenic	6010C	mg/L	0.04	U
Barium	6010C	mg/L	0.01	U
Benzene	8260B	µg/L		
Benidine	8270D	µg/L		
Benzo(a)anthracene	8270D SIM	µg/L	0.051	U
Benzo(a)pyrene	8270D SIM	µg/L	0.051	U
Benzo(b)fluoranthene	8270D SIM	µg/L	0.051	U
Benzo(e)pyrene	8270D SIM	µg/L	0.051	U
Benzo(g,h,i)perylene	8270D SIM	µg/L	0.051	U
Benzo(k)fluoranthene	8270D SIM	µg/L	0.051	U
Benzoic Acid	8270D	µg/L		
Benzyl Alcohol	8270D	µg/L		
Beryllium	6010C	mg/L	0.01	U
Beta-Bhc	8081B	µg/L		
bis(2-chloroethoxy)methane	8270D	µg/L		
bis(2-chloroethyl) ether	8270D	µg/L		
bis(2-chloroisopropyl) ether	8270D	µg/L		
Bis(2-ethylhexyl)phthalate	8270D SIM	µg/L	1	U
Boron	6010C	mg/L	0.1	U
Bromobenzene	8260B	µg/L		
Bromochloromethane	8260B	µg/L		
Bromodichloromethane	8260B	µg/L		
Bromoform	8260B	µg/L		
Bromomethane	8260B	µg/L		
Butylbenzylphthalate	8270D SIM	µg/L	1	U
Cadmium	6010C	mg/L	0.01	U
Calcium	6010C	mg/L	0.4	U
Carbazole	8270D	µg/L		
Carbon Disulfide	8260B	µg/L		
Carbon Tetrachloride	8260B	µg/L		
Chlordane	8081B	µg/L		
Chlorobenzene	8260B	µg/L		
Chloroethane	8260B	µg/L		
Chloroform	8260B	µg/L		
Chloromethane	8260B	µg/L		
Chlorotrifluoroethylene	8260B	µg/L		
Chromium	6010C	mg/L	0.03	U
Chromium (Hexavalent Compounds)	7199	µg/L		
Chrysene	8270D SIM	µg/L	0.051	U
cis-1,2-Dichloroethene	8260B	µg/L		
cis-1,3-Dichloropropene	8260B	µg/L		
Cobalt	6010C	mg/L	0.01	U
Copper	6010C	mg/L	0.02	U
Cyanide	9012B	mg/L		
Cymene	8260B	µg/L		
Delta-Bhc	8081B	µg/L		
Di isopropyl Ether	8260B	µg/L		
Dibenzo(a,h)anthracene	8270D SIM	µg/L	0.051	U
Dibenzofuran	8270D	µg/L		
Dibromochloromethane	8260B	µg/L		
Dibromomethane	8260B	µg/L		
Dicamba	8151A	µg/L		
Dichlorodifluoromethane	8260B	µg/L		
Dichloroprop	8151A	µg/L		
Dieldrin	8081B	µg/L		
Diethylphthalate	8270D SIM	µg/L	0.4	J
Dimethylphthalate	8270D SIM	µg/L	1	U
Di-n-butylphthalate	8270D SIM	µg/L	1	U
Dinitrobutyl Phenol	8151A	µg/L		
Di-n-octylphthalate	8270D SIM	µg/L	1	U
Diphenylamine	8270D	µg/L		
EFH (C12-C14)	8015M	mg/L	0.094	U
EFH (C15-C20)	8015M	mg/L	0.094	U
EFH (C21-C30)	8015M	mg/L	0.094	U
EFH (C30-C40)	8015M	mg/L	0.47	U
EFH (C8-C11)	8015M	mg/L	0.094	UJ
Endosulfan I	8081B	µg/L		
Endosulfan II	8081B	µg/L		
Endosulfan Sulfate	8081B	µg/L		
Endrin	8081B	µg/L		
Endrin Aldehyde	8081B	µg/L		
Endrin Ketone	8081B	µg/L		
Ethylbenzene	8260B	µg/L		
Fluoranthene	8270D SIM	µg/L	0.051	U
Fluorene	8270D SIM	µg/L	0.013	J
Fluoride	300.0	mg/L	0.1	U
Gamma-Bhc (Lindane)	8081B	µg/L		
Gasoline Range Organics (C5-C12)	8015M	µg/L		
Heptachlor	8081B	µg/L		
Heptachlor Epoxide	8081B	µg/L		
Hexachloro-1,3-butadiene	8260B	µg/L		
Hexachlorobenzene	8270D	µg/L		
Hexachlorobutadiene	8270D	µg/L		
Hexachlorocyclopentadiene	8270D	µg/L		
Hexachloroethane	8270D	µg/L		
Indeno(1,2,3-cd)pyrene	8270D SIM	µg/L	0.051	U
Iron	6010C	mg/L	0.4	U
Isophorone	8270D	µg/L		

Table C-3 - Subarea 8 Equipment Rinsate Samples

		Sample Name:	EB4-082813	
		Location:	8_DG_EB	
		Sample Date:	08/28/2013	
		Sample Type:	EB	
		Lab:	LL	
Analyte	Analytic Method	Units	Concentration	Final Qualifier
Isopropylbenzene	8260B	µg/L		
Lead	6010C	mg/L	0.03	U
Lithium	6010C	mg/L	0.04	U
m,p-Xylene	8260B	µg/L		
Magnesium	6010C	mg/L	0.2	U
Manganese	6010C	mg/L	0.01	U
MCPA	8151A	µg/L		
MCPP	8151A	µg/L		
Mercury	7470A	mg/L	0.0002	U
Methoxychlor	8081B	µg/L		
Methyl Iodide	8260B	µg/L		
Methyl Tert-Butyl Ether	8260B	µg/L		
Methylene Chloride	8260B	µg/L		
Mirex	8081B	µg/L		
Molybdenum	6010C	mg/L	0.02	U
Naphthalene	8270D SIM	µg/L	0.051	U
n-Butylbenzene	8260B	µg/L		
Nickel	6010C	mg/L	0.02	U
Nitrate	300.0	mg/L	0.1	U
Nitrite-NO2	300.0	mg/L	0.1	U
Nitrobenzene	8270D	µg/L		
N-Nitrosodimethylamine	8270D SIM	µg/L	0.051	U
N-Nitroso-di-n-propylamine	8270D	µg/L		
N-Nitrosodiphenylamine	8270D	µg/L		
n-Propylbenzene	8260B	µg/L		
OCDD	1613B	pg/L	19.2	U
OCDF	1613B	pg/L	19.2	U
o-Xylene	8260B	µg/L		
Pentachlorophenol	8270D	µg/L		
Perchlorate	6850	µg/L		
pH	9040C	pH	5.7	
Phenanthrene	8270D SIM	µg/L	0.051	U
Phenol	8270D	µg/L		
Phosphorus	6010C	mg/L	0.2	U
Potassium	6010C	mg/L	1	U
Pyrene	8270D SIM	µg/L	0.015	J
Pyridine	8270D	µg/L		
Selenium	6020A	mg/L	0.004	U
Silver	6020A	mg/L	0.001	U
Silvex (2,4,5-TP)	8151A	µg/L		
Sodium	6010C	mg/L	2	U
Strontium	6020A	mg/L	0.002	U
Styrene	8260B	µg/L		
TCDD TEQ	1613B	pg/L	0.0006	
Technical Toxaphene	8081B	µg/L		
tert-Butyl ethyl ether	8260B	µg/L		
tert-Butylbenzene	8260B	µg/L		
Tertiary amyl methyl ether	8260B	µg/L		
Tertiary butyl alcohol	8260B	µg/L		
Tetrachloroethene	8260B	µg/L		
Thallium	6020A	mg/L	0.001	U
Tin	6010C	mg/L	0.04	U
Titanium	6010C	mg/L	0.02	U
Toluene	8260B	µg/L		
trans-1,2-Dichloroethene	8260B	µg/L		
trans-1,3-Dichloropropene	8260B	µg/L		
Trichloroethene	8260B	µg/L		
Trichlorofluoromethane	8260B	µg/L		
Vanadium	6010C	mg/L	0.01	U
Vinyl Acetate	8260B	µg/L		
Vinyl Chloride	8260B	µg/L		
Zinc	6010C	mg/L	0.04	U
Zirconium	6010C	mg/L	0.1	U

Notes:

ug/L - microgram per liter

mg/L - milligram per liter

ng/L - nanogram per liter

pg/L - picogram per liter

U - Compound not detected above the reporting limit

Table C-4 - Subarea 5D Field Blank Samples

Sample Name: Location: Sample Date: Sample Type: Lab:		FB-041113 FIELD BLANK 04/11/2013 FB LL		FB-041613 FIELD BLANK 04/16/2013 FB LL		
Analyte	Analytic Method	Units	Concentration	Final Qualifer	Concentration	Final Qualifer
1,1,1,2-Tetrachloroethane	8260B	µg/L	5	U	5	U
1,1,1-Trichloroethane	8260B	µg/L	5	U	5	U
1,1,2,2-Tetrachloroethane	8260B	µg/L	5	U	5	U
1,1,2-Trichloro-1,2,2-trifluoroethane	8260B	µg/L	5	U	5	U
1,1,2-Trichloroethane	8260B	µg/L	5	U	5	U
1,1'-Biphenyl	8270D	µg/L	1	U	1	U
1,1-Dichloroethane	8260B	µg/L	5	U	5	U
1,1-Dichloroethene	8260B	µg/L	5	U	5	U
1,1-Dichloropropene	8260B	µg/L	5	U	5	U
1,2,3,4,6,7,8-Heptachlorodibenzo-p-Dioxin	1613B	pg/L	9.76	U	9.71	U
1,2,3,4,6,7,8-HPCDF	1613B	pg/L	9.76	U	9.71	U
1,2,3,4,7,8,9-HPCDF	1613B	pg/L	9.76	U	9.71	U
1,2,3,4,7,8-Hexachlorodibenzo-p-Dioxin	1613B	pg/L	0.125	J	9.71	U
1,2,3,4,7,8-HXCDF	1613B	pg/L	9.76	U	0.257	J
1,2,3,6,7,8-Hexachlorodibenzo-p-Dioxin	1613B	pg/L	9.76	U	9.71	U
1,2,3,6,7,8-HXCDF	1613B	pg/L	9.76	U	9.71	U
1,2,3,7,8,9-Hexachlorodibenzo-p-Dioxin	1613B	pg/L	9.76	U	9.71	U
1,2,3,7,8,9-HXCDF	1613B	pg/L	9.76	U	9.71	U
1,2,3,7,8-Pentachlorodibenzofuran	1613B	pg/L	9.76	U	9.71	U
1,2,3,7,8-Pentachlorodibenzo-p-Dioxin	1613B	pg/L	9.76	U	9.71	U
1,2,3-Trichlorobenzene	8260B	µg/L	5	U	5	U
1,2,3-Trichloropropane	8260B	µg/L	5	U	5	U
1,2,4-Trichlorobenzene	8260B	µg/L	5	U	5	U
1,2,4-Trichlorobenzene	8270D	µg/L	1	U	1	U
1,2,4-Trimethylbenzene	8260B	µg/L	5	U	5	U
1,2-Dibromo-3-chloropropane	8260B	µg/L	5	U	5	U
1,2-Dibromoethane	8260B	µg/L	5	U	5	U
1,2-Dichlorobenzene	8260B	µg/L	5	U	5	U
1,2-Dichlorobenzene	8270D	µg/L	1	U	1	U
1,2-Dichloroethane	8260B	µg/L	5	U	5	U
1,2-Dichloropropane	8260B	µg/L	5	U	5	U
1,2-Diphenylhydrazine	8270D	µg/L	1	U	1	U
1,3,5-Trimethylbenzene	8260B	µg/L	5	U	5	U
1,3,5-Trinitrobenzene	8330A	µg/L	0.6	UJ	0.6	U
1,3-Dichlorobenzene	8260B	µg/L	5	U	5	U
1,3-Dichlorobenzene	8270D	µg/L	1	U	1	U
1,3-Dichloropropane	8260B	µg/L	5	U	5	U
1,4-Dichlorobenzene	8260B	µg/L	5	U	5	U
1,4-Dichlorobenzene	8270D	µg/L	1	U	1	U
1,4-Dioxane	8260B SIM	µg/L	2	U	2	U
1-Chlorohexane	8260B	µg/L	5	U	5	U
1-Methylnaphthalene	8270D	µg/L	0.5	U	0.5	U
1-Methylnaphthalene	8270D	µg/L	0.5	U	0.5	U
1-Methylnaphthalene	8270D SIM	µg/L	0.019	J	0.052	U
2,2-Dichloropropane	8260B	µg/L	5	U	5	U
2,2-Dichlor-Propionic Acid	8151A	µg/L	1.2	U	1.2	UJ
2,3,4,6,7,8-HXCDF	1613B	pg/L	9.76	U	9.71	U
2,3,4,7,8-PECDF	1613B	pg/L	9.76	U	9.71	U
2,3,7,8-TCDD	1613B	pg/L	1.95	U	1.94	U
2,3,7,8-Tetrachlorodibenzofuran	1613B	pg/L	1.95	U	1.94	U
2,4,5-T	8151A	µg/L	0.049	U	0.049	UJ
2,4,5-Trichlorophenol	8270D	µg/L	1	U	1	U
2,4,6-Trichlorophenol	8270D	µg/L	1	U	1	U
2,4,6-Trinitrotoluene	8330A	µg/L	0.6	UJ	0.6	U
2,4-D	8151A	µg/L	0.49	U	0.49	U
2,4-DB	8151A	µg/L	0.98	U	0.98	U
2,4-Diamino-6-nitrotoluene	8330A	µg/L	0.6	U	0.6	U
2,4-Dichlorophenol	8270D	µg/L	1	U	1	U
2,4-Dimethylphenol	8270D	µg/L	1	U	1	U
2,4-Dinitrophenol	8270D	µg/L	31	U	31	U
2,4-Dinitrotoluene	8330A	µg/L	0.6	UJ	0.6	U
2,6-Diamino-4-nitrotoluene	8330A	µg/L	0.6	U	0.6	U
2,6-Dichlorophenol	8270D	µg/L	1	U	1	U
2,6-Dinitrotoluene	8330A	µg/L	0.6	U	0.6	U
2-Amino-4,6-Dinitrotoluene	8330A	µg/L	0.6	UJ	0.6	U
2-Butanone (MEK)	8260B	µg/L	10	U	10	U
2-Chloro-1,1,1-trifluoroethane	8260B	µg/L	5	U	5	U
2-Chloroethyl Vinyl Ether	8260B	µg/L	10	U	10	U
2-Chloronaphthalene	8270D	µg/L	1	U	1	U
2-Chlorophenol	8270D	µg/L	1	U	1	U
2-Chlorotoluene	8260B	µg/L	5	U	5	U
2-Hexanone	8260B	µg/L	10	U	10	U
2-Methylnaphthalene	8270D	µg/L	0.5	U	0.5	U
2-Methylnaphthalene	8270D	µg/L	0.5	U	0.5	U
2-Methylnaphthalene	8270D SIM	µg/L	0.024	J	0.012	J
2-Methylphenol	8270D	µg/L	1	U	1	U
2-Nitroaniline	8270D	µg/L	1	U	1	U
2-Nitrophenol	8270D	µg/L	1	U	1	U
2-Nitrotoluene	8330A	µg/L	0.6	UJ	0.6	U
2-Phenylbutane	8260B	µg/L	5	U	5	U
2-Propanol	8015C	µg/L	1000	UJ	1000	UJ
3,3'-Dichlorobenzidine	8270D	µg/L	5	U	5	U
3,5-Dimethylphenol	8270D	µg/L	10	U	10	U
3-Nitroaniline	8270D	µg/L	1	U	1	U
3-Nitrotoluene	8330A	µg/L	1.2	UJ	1.2	U
4,4'-DDD	8081B	µg/L	0.016	U	0.017	U
4,4'-DDE	8081B	µg/L	0.016	U	0.017	U
4,4'-DDT	8081B	µg/L	0.016	U	0.017	U
4,6-Dinitro-2-methylphenol	8270D	µg/L	15	U	16	U
4-Amino-2,6-Dinitrotoluene	8330A	µg/L	0.6	U	0.6	U
4-Bromophenyl-phenylether	8270D	µg/L	1	U	1	U
4-Chloro-3-methylphenol	8270D	µg/L	1	U	1	U
4-Chloroaniline	8270D	µg/L	1	U	1	U
4-Chlorophenyl-phenylether	8270D	µg/L	1	U	1	U
4-Chlorotoluene	8260B	µg/L	5	U	5	U
4-Methyl-2-pentanone (MIBK)	8260B	µg/L	10	U	10	U
4-Methylphenol	8270D	µg/L	1	U	1	U

Table C-4 - Subarea 5D Field Blank Samples

Sample Name: Location: Sample Date: Sample Type: Lab:			FB-041113 FIELD BLANK 04/11/2013 FB LL		FB-041613 FIELD BLANK 04/16/2013 FB LL	
Analyte	Analytic Method	Units	Concentration	Final Qualifier	Concentration	Final Qualifier
4-Nitroaniline	8270D	µg/L	1	U	1	U
4-Nitrophenol	8270D	µg/L	31	U	31	U
4-Nitrotoluene	8330A	µg/L	1.2	UJ	1.2	U
Acenaphthene	8270D	µg/L	0.5 0.5	U U	0.5 0.5	U U
Acenaphthene	8270D SIM	µg/L	0.051	U	0.052	U
Acenaphthylene	8270D	µg/L	0.5 0.5	U U	0.5 0.5	U U
Acenaphthylene	8270D SIM	µg/L	0.051	U	0.052	U
Acetone	8260B	µg/L	20	U	20	U
Acrolein	8260B	µg/L	100	U	100	U
Acrylonitrile	8260B	µg/L	20	U	20	U
Aldrin	8081B	µg/L	0.0081	U	0.0086	U
Alpha-Bhc	8081B	µg/L	0.0081	U	0.0086	U
Aluminum	6010C	mg/L	0.4	U	0.4	U
Aniline	8270D	µg/L	1	U	1	U
Anthracene	8270D	µg/L	0.5 0.5	U U	0.5 0.5	U U
Anthracene	8270D SIM	µg/L	0.051	U	0.052	U
Antimony	6010C	mg/L	0.04	U	0.04	U
Aroclor 1016	8082A	µg/L	0.4	U	0.43	U
Aroclor 1221	8082A	µg/L	0.4	U	0.43	U
Aroclor 1232	8082A	µg/L	0.4	U	0.43	U
Aroclor 1242	8082A	µg/L	0.4	U	0.43	U
Aroclor 1248	8082A	µg/L	0.4	U	0.43	U
Aroclor 1254	8082A	µg/L	0.4	U	0.43	U
Aroclor 1260	8082A	µg/L	0.4	U	0.43	U
Aroclor 1262	8082A	µg/L	0.4	U	0.43	U
Aroclor 1268	8082A	µg/L	0.4	U	0.43	U
Aroclor 5432	8082A	µg/L	0.4	U	0.43	U
Aroclor 5442	8082A	µg/L	0.4	U	0.43	U
Aroclor 5460	8082A	µg/L	0.4	U	0.43	U
Arsenic	6010C	mg/L	0.04	U	0.04	U
Barium	6010C	mg/L	0.01	U	0.01	U
Benzene	8260B	µg/L	5	U	5	U
Benzidine	8270D	µg/L	61	U	62	U
Benzo(a)anthracene	8270D	µg/L	0.5 0.5	U U	0.5 0.5	U U
Benzo(a)anthracene	8270D SIM	µg/L	0.051	U	0.052	U
Benzo(a)pyrene	8270D	µg/L	0.5 0.5	U U	0.5 0.5	U U
Benzo(a)pyrene	8270D SIM	µg/L	0.051	U	0.052	U
Benzo(b)fluoranthene	8270D	µg/L	0.5 0.5	U U	0.5 0.5	U U
Benzo(b)fluoranthene	8270D SIM	µg/L	0.051	U	0.052	U
Benzo(e)pyrene	8270D SIM	µg/L	0.051	U	0.052	U
Benzo(g,h,i)perylene	8270D	µg/L	0.5 0.5	U U	0.5 0.5	U U
Benzo(g,h,i)perylene	8270D SIM	µg/L	0.051	U	0.052	U
Benzo(k)fluoranthene	8270D	µg/L	0.5 0.5	U U	0.5 0.5	U U
Benzo(k)fluoranthene	8270D SIM	µg/L	0.051	U	0.052	U
Benzoic Acid	8270D	µg/L	15	UJ	16	UJ
Benzyl Alcohol	8270D	µg/L	15	U	16	U
Beryllium	6010C	mg/L	0.01	U	0.01	U
Beta-Bhc	8081B	µg/L	0.0081	U	0.0086	U
bis(2-chloroethoxy)methane	8270D	µg/L	1	U	1	U
bis(2-chloroethyl) ether	8270D	µg/L	1	U	1	U
bis(2-chloroisopropyl) ether	8270D	µg/L	1	U	1	U
Bis(2-ethylhexyl)phthalate	8270D	µg/L	5 5	U U	5 5	U U
Bis(2-ethylhexyl)phthalate	8270D SIM	µg/L	1	U	1	U
Boron	6010C	mg/L	0.1	U	0.1	U
Bromobenzene	8260B	µg/L	5	U	5	U
Bromochloromethane	8260B	µg/L	5	U	5	U
Bromodichloromethane	8260B	µg/L	5	U	5	U
Bromoform	8260B	µg/L	5	U	5	U
Bromomethane	8260B	µg/L	5	U	5	U
Butylbenzylphthalate	8270D	µg/L	5 5	U U	5 5	U U
Butylbenzylphthalate	8270D SIM	µg/L	1	U	1	U
Cadmium	6010C	mg/L	0.01	U	0.01	U
Calcium	6010C	mg/L	0.4	U	0.4	U
Carbazole	8270D	µg/L	1	U	1	U
Carbon Disulfide	8260B	µg/L	5	U	5	U
Carbon Tetrachloride	8260B	µg/L	5	U	5	U
Chlordane	8081B	µg/L	0.4	U	0.43	U
Chlorobenzene	8260B	µg/L	5	U	5	U
Chloroethane	8260B	µg/L	5	U	5	U
Chloroform	8260B	µg/L	5	U	3	J
Chloromethane	8260B	µg/L	5	U	5	U
Chlorotrifluoroethylene	8260B	µg/L	5	U	5	U
Chromium	6010C	mg/L	0.03	U	0.03	U
Chromium (Hexavalent Compounds)	7199	µg/L	10	U	10	U
Chrysene	8270D	µg/L	0.5 0.5	U U	0.5 0.5	U U
Chrysene	8270D SIM	µg/L	0.051	U	0.052	U
cis-1,2-Dichloroethene	8260B	µg/L	5	U	5	U
cis-1,3-Dichloropropene	8260B	µg/L	5	U	5	U
Cobalt	6010C	mg/L	0.01	U	0.01	U
Copper	6010C	mg/L	0.02	U	0.02	U
Cyanide	9012B	mg/L	0.01	U	0.01	U
Cymene	8260B	µg/L	5	U	5	U
Delta-Bhc	8081B	µg/L	0.0081	U	0.0086	U
Di isopropyl Ether	8260B	µg/L	5	U	5	U
Dibenzo(a,h)anthracene	8270D	µg/L	0.5 0.5	U U	0.5 0.5	U U

Table C-4 - Subarea 5D Field Blank Samples

Sample Name: Location: Sample Date: Sample Type: Lab:			FB-041113 FIELD BLANK 04/11/2013 FB LL		FB-041613 FIELD BLANK 04/16/2013 FB LL	
Analyte	Analytic Method	Units	Concentration	Final Qualifer	Concentration	Final Qualifer
Dibenzo(a,h)anthracene	8270D SIM	µg/L	0.051	U	0.052	U
Dibenzofuran	8270D	µg/L	1	U	1	U
Dibromochloromethane	8260B	µg/L	5	U	5	U
Dibromomethane	8260B	µg/L	5	U	5	U
Dicamba	8151A	µg/L	0.29	U	0.29	UJ
Dichlorodifluoromethane	8260B	µg/L	5	U	5	U
Dichloroprop	8151A	µg/L	0.49	U	0.49	UJ
Dieldrin	8081B	µg/L	0.016	U	0.017	U
Diethylene Glycol	8015C	mg/L	10	UJ	10	U
Diethylphthalate	8270D	µg/L	5	U	5	U
			5	U	5	U
Diethylphthalate	8270D SIM	µg/L	0.18	J	1	U
Dimethylphthalate	8270D	µg/L	5	U	5	U
			5	U	5	U
Dimethylphthalate	8270D SIM	µg/L	1	U	1	U
Di-n-butylphthalate	8270D	µg/L	5	U	5	U
			5	U	5	U
Di-n-butylphthalate	8270D SIM	µg/L	0.17	J	0.11	J
Dinitrobutyl Phenol	8151A	µg/L	0.49	U	0.49	UJ
Di-n-octylphthalate	8270D	µg/L	5	U	5	U
			5	U	5	U
Di-n-octylphthalate	8270D SIM	µg/L	1	UJ	1	UJ
Diphenylamine	8270D	µg/L	5	U	5	U
EFH (C12-C14)	8015M	mg/L	0.57	U	0.59	U
EFH (C15-C20)	8015M	mg/L	0.57	U	0.59	U
EFH (C21-C30)	8015M	mg/L	0.57	U	0.59	U
EFH (C30-C40)	8015M	mg/L	0.57	U	0.59	UJ
EFH (C8-C11)	8015M	mg/L	0.57	UJ	0.59	U
Endosulfan I	8081B	µg/L	0.0081	U	0.0086	U
Endosulfan II	8081B	µg/L	0.016	U	0.017	U
Endosulfan Sulfate	8081B	µg/L	0.016	U	0.017	U
Endrin	8081B	µg/L	0.016	U	0.017	U
Endrin Aldehyde	8081B	µg/L	0.081	U	0.086	U
Endrin Ketone	8081B	µg/L	0.016	U	0.017	U
Ethanol	8015C	µg/L	1000	UJ	1000	UJ
Ethylbenzene	8260B	µg/L	5	U	5	U
Ethylene Glycol	8015C	mg/L	10	UJ	10	U
Fluoranthene	8270D	µg/L	0.5	U	0.5	U
			0.5	U	0.5	U
Fluoranthene	8270D SIM	µg/L	0.051	U	0.052	U
Fluorene	8270D	µg/L	0.5	U	0.5	U
			0.5	U	0.5	U
Fluorene	8270D SIM	µg/L	0.051	U	0.052	U
Fluoride	300.0	mg/L	0.1	U	0.1	U
Formaldehyde	8315A	µg/L	50	U	50	U
Gamma-Bhc (Lindane)	8081B	µg/L	0.0081	U	0.0086	U
Gasoline Range Organics (C5-C12)	8015M	µg/L	50	U	50	U
Heptachlor	8081B	µg/L	0.0081	U	0.0086	U
Heptachlor Epoxide	8081B	µg/L	0.0081	U	0.0086	U
Hexachloro-1,3-butadiene	8260B	µg/L	5	U	5	U
Hexachlorobenzene	8270D	µg/L	0.5	U	0.5	U
Hexachlorobutadiene	8270D	µg/L	1	U	1	U
Hexachlorocyclopentadiene	8270D	µg/L	15	U	16	U
Hexachloroethane	8270D	µg/L	5	U	5	U
HMX	8330A	µg/L	2	UJ	2	U
Indeno(1,2,3-cd)pyrene	8270D	µg/L	0.5	U	0.5	U
			0.5	U	0.5	U
Indeno(1,2,3-cd)pyrene	8270D SIM	µg/L	0.051	U	0.052	U
Iron	6010C	mg/L	0.4	U	0.4	U
Isophorone	8270D	µg/L	1	U	1	U
Isopropylbenzene	8260B	µg/L	5	U	5	U
Lead	6010C	mg/L	0.03	U	0.03	U
Lithium	6010C	mg/L	0.04	U	0.04	U
m,p-Xylene	8260B	µg/L	5	U	5	U
Magnesium	6010C	mg/L	0.2	U	0.2	U
Manganese	6010C	mg/L	0.01	U	0.01	U
MCPA	8151A	µg/L	200	U	200	U
MCPP	8151A	µg/L	200	U	200	UJ
M-Dinitrobenzene	8330A	µg/L	0.6	UJ	0.6	U
Mercury	7470A	mg/L	0.0002	U	0.0002	U
Methanol	8015C	µg/L	1000	UJ	1000	UJ
Methoxychlor	8081B	µg/L	0.081	U	0.086	U
Methyl Iodide	8260B	µg/L	5	U	5	U
Methyl Tert-Butyl Ether	8260B	µg/L	5	U	5	U
Methylene Chloride	8260B	µg/L	2	J	18	
Mirex	8081B	µg/L	0.2	U	0.22	U
Molybdenum	6010C	mg/L	0.02	U	0.02	U
m-Terphenyl	8015B	mg/L	0.0048	U	0.0049	U
Naphthalene	8270D	µg/L	0.2	J	0.5	U
			0.2	J	0.5	U
Naphthalene	8270D SIM	µg/L	0.17		0.052	U
n-Butylbenzene	8260B	µg/L	5	U	5	U
Nickel	6010C	mg/L	0.02	U	0.02	U
Nitrate	300.0	mg/L	0.1	U	0.1	U
Nitrite-NO2	300.0	mg/L	0.1	U	0.1	U
Nitrobenzene	8270D	µg/L	1	U	1	U
Nitrobenzene	8330A	µg/L	0.6	U	0.6	U
Nitroglycerin	8330A	µg/kg	100000000	UJ	100000000	U
N-Nitrosodimethylamine	8270D	µg/L	5	U	5	U
			5	U	5	U
N-Nitrosodimethylamine	8270D SIM	µg/L	0.051	U	0.052	U
N-Nitroso-di-n-propylamine	8270D	µg/L	1	U	1	U
N-Nitrosodiphenylamine	8270D	µg/L	1	U	1	U
n-Propylbenzene	8260B	µg/L	5	U	5	U
OCDD	1613B	pg/L	19.5	U	19.4	U
OCDF	1613B	pg/L	19.5	U	19.4	U
o-Terphenyl	8015B	mg/L	0.0048	U	0.0049	U

Table C-4 - Subarea 5D Field Blank Samples

Sample Name: Location: Sample Date: Sample Type: Lab:			FB-041113 FIELD BLANK 04/11/2013 FB LL		FB-041613 FIELD BLANK 04/16/2013 FB LL	
Analyte	Analytic Method	Units	Concentration	Final Qualifier	Concentration	Final Qualifier
o-Xylene	8260B	µg/L	5	U	5	U
Pentachlorophenol	8270D	µg/L	5	U	5	U
Perchlorate	6850	µg/L	1	U	1	U
PETN	8330A	µg/kg	100000000	UJ	100000000	U
pH	9040C	pH	7.5		5.7	
Phenanthrene	8270D	µg/L	0.5	U	0.5	U
			0.5	U	0.5	U
Phenanthrene	8270D SIM	µg/L	0.051	U	0.052	U
Phenol	8270D	µg/L	1	U	1	U
Phosphorus	6010C	mg/L	0.2	U	0.2	U
Potassium	6010C	mg/L	1	U	1	U
Propylene Glycol	8015C	mg/L	10	UJ	10	U
p-Terphenyl	8015B	mg/L	0.0048	U	0.0049	U
Pyrene	8270D	µg/L	0.5	U	0.5	U
			0.5	U	0.5	U
Pyrene	8270D SIM	µg/L	0.051	U	0.052	U
Pyridine	8270D	µg/L	5	U	5	U
RDX	8330A	µg/L	0.6	UJ	0.6	U
Selenium	6020A	mg/L	0.004	U	0.004	U
Silver	6020A	mg/L	0.001	U	0.001	U
Silvex (2,4,5-TP)	8151A	µg/L	0.049	U	0.049	U
Sodium	6010C	mg/L	2	U	2	U
Strontium	6020A	mg/L	0.002	U	0.002	U
Styrene	8260B	µg/L	5	U	5	U
TCDD TEQ	1613B	pg/L	0.082		0.0354	
Technical Toxaphene	8081B	µg/L	2.4	U	2.6	U
tert-Butyl ethyl ether	8260B	µg/L	5	U	5	U
tert-Butylbenzene	8260B	µg/L	5	U	5	U
Tertiary amyl methyl ether	8260B	µg/L	5	U	5	U
Tertiary butyl alcohol	8260B	µg/L	50	U	50	U
Tetrachloroethene	8260B	µg/L	5	U	5	U
Tetryl	8330A	µg/L	0.6	U	0.6	U
Thallium	6020A	mg/L	0.001	U	0.001	U
Tin	6010C	mg/L	0.04	U	0.0029	J
Titanium	6010C	mg/L	0.02	U	0.02	U
Toluene	8260B	µg/L	5	U	5	U
trans-1,2-Dichloroethene	8260B	µg/L	5	U	5	U
trans-1,3-Dichloropropene	8260B	µg/L	5	U	5	U
Trichloroethene	8260B	µg/L	5	U	5	U
Trichlorofluoromethane	8260B	µg/L	5	U	5	U
Triethylene Glycol	8015C	mg/L	10	UJ	10	U
Vanadium	6010C	mg/L	0.01	U	0.01	U
Vinyl Acetate	8260B	µg/L	10	U	10	U
Vinyl Chloride	8260B	µg/L	5	U	5	U
Zinc	6010C	mg/L	0.04	U	0.04	U
Zirconium	6010C	mg/L	0.1	U	0.1	U

Notes:

ug/L - microgram per liter

mg/L - milligram per liter

ng/L - nanogram per liter

pg/L - picogram per liter

U - Compound not detected above the reporting limit

Table C-5 - Subarea 8 Field Blank Samples

		Sample Name:	FB-041113	
		Location:	FIELD BLANK	
		Sample Date:	04/11/2013	
		Sample Type:	FB	
		Lab:	LL	
Analyte	Analytic Method	Units	Concentration	Final Qualifier
1,1,1,2-Tetrachloroethane	8260B	µg/L	5	U
1,1,1-Trichloroethane	8260B	µg/L	5	U
1,1,2,2-Tetrachloroethane	8260B	µg/L	5	U
1,1,2-Trichloro-1,2,2-trifluoroethane	8260B	µg/L	5	U
1,1,2-Trichloroethane	8260B	µg/L	5	U
1,1'-Biphenyl	8270D	µg/L	1	U
1,1-Dichloroethane	8260B	µg/L	5	U
1,1-Dichloroethene	8260B	µg/L	5	U
1,1-Dichloropropene	8260B	µg/L	5	U
1,2,3,4,6,7,8-Heptachlorodibenzo-p-Dioxin	1613B	pg/L	9.76	U
1,2,3,4,6,7,8-HPCDF	1613B	pg/L	9.76	U
1,2,3,4,7,8,9-HPCDF	1613B	pg/L	9.76	U
1,2,3,4,7,8-Hexachlorodibenzo-p-Dioxin	1613B	pg/L	0.125	J
1,2,3,4,7,8-HXCDF	1613B	pg/L	9.76	U
1,2,3,6,7,8-Hexachlorodibenzo-p-Dioxin	1613B	pg/L	9.76	U
1,2,3,6,7,8-HXCDF	1613B	pg/L	9.76	U
1,2,3,7,8,9-Hexachlorodibenzo-p-Dioxin	1613B	pg/L	9.76	U
1,2,3,7,8,9-HXCDF	1613B	pg/L	9.76	U
1,2,3,7,8-Pentachlorodibenzofuran	1613B	pg/L	9.76	U
1,2,3,7,8-Pentachlorodibenzo-p-Dioxin	1613B	pg/L	9.76	U
1,2,3-Trichlorobenzene	8260B	µg/L	5	U
1,2,3-Trichloropropane	8260B	µg/L	5	U
1,2,4-Trichlorobenzene	8260B	µg/L	5	U
1,2,4-Trichlorobenzene	8270D	µg/L	1	U
1,2,4-Trimethylbenzene	8260B	µg/L	5	U
1,2-Dibromo-3-chloropropane	8260B	µg/L	5	U
1,2-Dibromoethane	8260B	µg/L	5	U
1,2-Dichlorobenzene	8260B	µg/L	5	U
1,2-Dichlorobenzene	8270D	µg/L	1	U
1,2-Dichloroethane	8260B	µg/L	5	U
1,2-Dichloropropane	8260B	µg/L	5	U
1,2-Diphenylhydrazine	8270D	µg/L	1	U
1,3,5-Trimethylbenzene	8260B	µg/L	5	U
1,3,5-Trinitrobenzene	8330A	µg/L	0.6	UJ
1,3-Dichlorobenzene	8260B	µg/L	5	U
1,3-Dichlorobenzene	8270D	µg/L	1	U
1,3-Dichloropropane	8260B	µg/L	5	U
1,4-Dichlorobenzene	8260B	µg/L	5	U
1,4-Dichlorobenzene	8270D	µg/L	1	U
1,4-Dioxane	8260B SIM	µg/L	2	U
1-Chlorohexane	8260B	µg/L	5	U
1-Methylnaphthalene	8270D	µg/L	0.5	U
1-Methylnaphthalene	8270D SIM	µg/L	0.019	J
2,2-Dichloropropane	8260B	µg/L	5	U
2,2-Dichlor-Propionic Acid	8151A	µg/L	1.2	U
2,3,4,6,7,8-HXCDF	1613B	pg/L	9.76	U
2,3,4,7,8-PECDF	1613B	pg/L	9.76	U
2,3,7,8-TCDD	1613B	pg/L	1.95	U
2,3,7,8-Tetrachlorodibenzofuran	1613B	pg/L	1.95	U
2,4,5-T	8151A	µg/L	0.049	U
2,4,5-Trichlorophenol	8270D	µg/L	1	U
2,4,6-Trichlorophenol	8270D	µg/L	1	U
2,4,6-Trinitrotoluene	8330A	µg/L	0.6	UJ
2,4-D	8151A	µg/L	0.49	U
2,4-DB	8151A	µg/L	0.98	U
2,4-Diamino-6-nitrotoluene	8330A	µg/L	0.6	U
2,4-Dichlorophenol	8270D	µg/L	1	U
2,4-Dimethylphenol	8270D	µg/L	1	U
2,4-Dinitrophenol	8270D	µg/L	31	U
2,4-Dinitrotoluene	8330A	µg/L	0.6	UJ
2,6-Diamino-4-nitrotoluene	8330A	µg/L	0.6	U
2,6-Dichlorophenol	8270D	µg/L	1	U
2,6-Dinitrotoluene	8330A	µg/L	0.6	U
2-Amino-4,6-Dinitrotoluene	8330A	µg/L	0.6	UJ
2-Butanone (MEK)	8260B	µg/L	10	U
2-Chloro-1,1,1-trifluoroethane	8260B	µg/L	5	U
2-Chloroethyl Vinyl Ether	8260B	µg/L	10	U
2-Chloronaphthalene	8270D	µg/L	1	U
2-Chlorophenol	8270D	µg/L	1	U
2-Chlorotoluene	8260B	µg/L	5	U
2-Hexanone	8260B	µg/L	10	U
2-Methylnaphthalene	8270D	µg/L	0.5	U
2-Methylnaphthalene	8270D SIM	µg/L	0.024	J
2-Methylphenol	8270D	µg/L	1	U
2-Nitroaniline	8270D	µg/L	1	U
2-Nitrophenol	8270D	µg/L	1	U
2-Nitrotoluene	8330A	µg/L	0.6	UJ
2-Phenylbutane	8260B	µg/L	5	U
2-Propanol	8015C	µg/L	1000	UJ
3,3'-Dichlorobenzidine	8270D	µg/L	5	U
3,5-Dimethylphenol	8270D	µg/L	10	U
3-Nitroaniline	8270D	µg/L	1	U
3-Nitrotoluene	8330A	µg/L	1.2	UJ
4,4'-DDD	8081B	µg/L	0.016	U
4,4'-DDE	8081B	µg/L	0.016	U
4,4'-DDT	8081B	µg/L	0.016	U
4,6-Dinitro-2-methylphenol	8270D	µg/L	15	U
4-Amino-2,6-Dinitrotoluene	8330A	µg/L	0.6	U
4-Bromophenyl-phenylether	8270D	µg/L	1	U
4-Chloro-3-methylphenol	8270D	µg/L	1	U
4-Chloroaniline	8270D	µg/L	1	U
4-Chlorophenyl-phenylether	8270D	µg/L	1	U
4-Chlorotoluene	8260B	µg/L	5	U
4-Methyl-2-pentanone (MIBK)	8260B	µg/L	10	U
4-Methylphenol	8270D	µg/L	1	U
4-Nitroaniline	8270D	µg/L	1	U
4-Nitrophenol	8270D	µg/L	31	U

Table C-5 - Subarea 8 Field Blank Samples

Sample Name: Location: Sample Date: Sample Type: Lab:		FB-041113 FIELD BLANK 04/11/2013 FB LL	
Analyte	Analytic Method	Units	Concentration Final Qualifer
4-Nitrotoluene	8330A	µg/L	1.2 UJ
Acenaphthene	8270D	µg/L	0.5 U
Acenaphthene	8270D SIM	µg/L	0.051 U
Acenaphthylene	8270D	µg/L	0.5 U
Acenaphthylene	8270D SIM	µg/L	0.051 U
Acetone	8260B	µg/L	20 U
Acrolein	8260B	µg/L	100 U
Acrylonitrile	8260B	µg/L	20 U
Aldrin	8081B	µg/L	0.0081 U
Alpha-Bhc	8081B	µg/L	0.0081 U
Aluminum	6010C	mg/L	0.4 U
Aniline	8270D	µg/L	1 U
Anthracene	8270D	µg/L	0.5 U
Anthracene	8270D SIM	µg/L	0.051 U
Antimony	6010C	mg/L	0.04 U
Aroclor 1016	8082A	µg/L	0.4 U
Aroclor 1221	8082A	µg/L	0.4 U
Aroclor 1232	8082A	µg/L	0.4 U
Aroclor 1242	8082A	µg/L	0.4 U
Aroclor 1248	8082A	µg/L	0.4 U
Aroclor 1254	8082A	µg/L	0.4 U
Aroclor 1260	8082A	µg/L	0.4 U
Aroclor 1262	8082A	µg/L	0.4 U
Aroclor 1268	8082A	µg/L	0.4 U
Aroclor 5432	8082A	µg/L	0.4 U
Aroclor 5442	8082A	µg/L	0.4 U
Aroclor 5460	8082A	µg/L	0.4 U
Arsenic	6010C	mg/L	0.04 U
Barium	6010C	mg/L	0.01 U
Benzene	8260B	µg/L	5 U
Benzidine	8270D	µg/L	61 U
Benzo(a)anthracene	8270D	µg/L	0.5 U
Benzo(a)anthracene	8270D SIM	µg/L	0.051 U
Benzo(a)pyrene	8270D	µg/L	0.5 U
Benzo(a)pyrene	8270D SIM	µg/L	0.051 U
Benzo(b)fluoranthene	8270D	µg/L	0.5 U
Benzo(b)fluoranthene	8270D SIM	µg/L	0.051 U
Benzo(e)pyrene	8270D SIM	µg/L	0.051 U
Benzo(g,h,i)perylene	8270D	µg/L	0.5 U
Benzo(g,h,i)perylene	8270D SIM	µg/L	0.051 U
Benzo(k)fluoranthene	8270D	µg/L	0.5 U
Benzo(k)fluoranthene	8270D SIM	µg/L	0.051 U
Benzoic Acid	8270D	µg/L	15 UJ
Benzyl Alcohol	8270D	µg/L	15 U
Beryllium	6010C	mg/L	0.01 U
Beta-Bhc	8081B	µg/L	0.0081 U
bis(2-chloroethoxy)methane	8270D	µg/L	1 U
bis(2-chloroethyl) ether	8270D	µg/L	1 U
bis(2-chloroisopropyl) ether	8270D	µg/L	1 U
Bis(2-ethylhexyl)phthalate	8270D	µg/L	5 U
Bis(2-ethylhexyl)phthalate	8270D SIM	µg/L	1 U
Boron	6010C	mg/L	0.1 U
Bromobenzene	8260B	µg/L	5 U
Bromochloromethane	8260B	µg/L	5 U
Bromodichloromethane	8260B	µg/L	5 U
Bromoform	8260B	µg/L	5 U
Bromomethane	8260B	µg/L	5 U
Butylbenzylphthalate	8270D	µg/L	5 U
Butylbenzylphthalate	8270D SIM	µg/L	1 U
Cadmium	6010C	mg/L	0.01 U
Calcium	6010C	mg/L	0.4 U
Carbazole	8270D	µg/L	1 U
Carbon Disulfide	8260B	µg/L	5 U
Carbon Tetrachloride	8260B	µg/L	5 U
Chlordane	8081B	µg/L	0.4 U
Chlorobenzene	8260B	µg/L	5 U
Chloroethane	8260B	µg/L	5 U
Chloroform	8260B	µg/L	5 U
Chloromethane	8260B	µg/L	5 U
Chlorotrifluoroethylene	8260B	µg/L	5 U
Chromium	6010C	mg/L	0.03 U
Chromium (Hexavalent Compounds)	7199	µg/L	10 U
Chrysene	8270D	µg/L	0.5 U
Chrysene	8270D SIM	µg/L	0.051 U
cis-1,2-Dichloroethene	8260B	µg/L	5 U
cis-1,3-Dichloropropene	8260B	µg/L	5 U
Cobalt	6010C	mg/L	0.01 U
Copper	6010C	mg/L	0.02 U
Cyanide	9012B	mg/L	0.01 U
Cymene	8260B	µg/L	5 U
Delta-Bhc	8081B	µg/L	0.0081 U
Di isopropyl Ether	8260B	µg/L	5 U
Dibenzo(a,h)anthracene	8270D	µg/L	0.5 U
Dibenzo(a,h)anthracene	8270D SIM	µg/L	0.051 U
Dibenzofuran	8270D	µg/L	1 U
Dibromochloromethane	8260B	µg/L	5 U
Dibromomethane	8260B	µg/L	5 U
Dicamba	8151A	µg/L	0.29 U
Dichlorodifluoromethane	8260B	µg/L	5 U
Dichlorprop	8151A	µg/L	0.49 U
Dieldrin	8081B	µg/L	0.016 U
Diethylene Glycol	8015C	mg/L	10 UJ
Diethylphthalate	8270D	µg/L	5 U
Diethylphthalate	8270D SIM	µg/L	0.18 J
Dimethylphthalate	8270D	µg/L	5 U
Dimethylphthalate	8270D SIM	µg/L	1 U
Di-n-butylphthalate	8270D	µg/L	5 U

Table C-5 - Subarea 8 Field Blank Samples

Sample Name: Location: Sample Date: Sample Type: Lab:		FB-041113 FIELD BLANK 04/11/2013 FB LL		
Analyte	Analytic Method	Units	Concentration	Final Qualifier
Di-n-butylphthalate	8270D SIM	µg/L	0.17	J
Dinitrobutyl Phenol	8151A	µg/L	0.49	U
Di-n-octylphthalate	8270D	µg/L	5	U
Di-n-octylphthalate	8270D SIM	µg/L	1	UJ
Diphenylamine	8270D	µg/L	5	U
EFH (C12-C14)	8015M	mg/L	0.57	U
EFH (C15-C20)	8015M	mg/L	0.57	U
EFH (C21-C30)	8015M	mg/L	0.57	U
EFH (C30-C40)	8015M	mg/L	0.57	U
EFH (C8-C11)	8015M	mg/L	0.57	UJ
Endosulfan I	8081B	µg/L	0.0081	U
Endosulfan II	8081B	µg/L	0.016	U
Endosulfan Sulfate	8081B	µg/L	0.016	U
Endrin	8081B	µg/L	0.016	U
Endrin Aldehyde	8081B	µg/L	0.081	U
Endrin Ketone	8081B	µg/L	0.016	U
Ethanol	8015C	µg/L	1000	UJ
Ethylbenzene	8260B	µg/L	5	U
Ethylene Glycol	8015C	mg/L	10	UJ
Fluoranthene	8270D	µg/L	0.5	U
Fluoranthene	8270D SIM	µg/L	0.051	U
Fluorene	8270D	µg/L	0.5	U
Fluorene	8270D SIM	µg/L	0.051	U
Fluoride	300.0	mg/L	0.1	U
Formaldehyde	8315A	µg/L	50	U
Gamma-Bhc (Lindane)	8081B	µg/L	0.0081	U
Gasoline Range Organics (C5-C12)	8015M	µg/L	50	U
Heptachlor	8081B	µg/L	0.0081	U
Heptachlor Epoxide	8081B	µg/L	0.0081	U
Hexachloro-1,3-butadiene	8260B	µg/L	5	U
Hexachlorobenzene	8270D	µg/L	0.5	U
Hexachlorobutadiene	8270D	µg/L	1	U
Hexachlorocyclopentadiene	8270D	µg/L	15	U
Hexachloroethane	8270D	µg/L	5	U
HMX	8330A	µg/L	2	UJ
Indeno(1,2,3-cd)pyrene	8270D	µg/L	0.5	U
Indeno(1,2,3-cd)pyrene	8270D SIM	µg/L	0.051	U
Iron	6010C	mg/L	0.4	U
Isophorone	8270D	µg/L	1	U
Isopropylbenzene	8260B	µg/L	5	U
Lead	6010C	mg/L	0.03	U
Lithium	6010C	mg/L	0.04	U
m,p-Xylene	8260B	µg/L	5	U
Magnesium	6010C	mg/L	0.2	U
Manganese	6010C	mg/L	0.01	U
MCPA	8151A	µg/L	200	U
MCPP	8151A	µg/L	200	U
M-Dinitrobenzene	8330A	µg/L	0.6	UJ
Mercury	7470A	mg/L	0.0002	U
Methanol	8015C	µg/L	1000	UJ
Methoxychlor	8081B	µg/L	0.081	U
Methyl Iodide	8260B	µg/L	5	U
Methyl Tert-Butyl Ether	8260B	µg/L	5	U
Methylene Chloride	8260B	µg/L	2	J
Mirex	8081B	µg/L	0.2	U
Molybdenum	6010C	mg/L	0.02	U
m-Terphenyl	8015B	mg/L	0.0048	U
Naphthalene	8270D	µg/L	0.2	J
Naphthalene	8270D SIM	µg/L	0.17	
n-Butylbenzene	8260B	µg/L	5	U
Nickel	6010C	mg/L	0.02	U
Nitrate	300.0	mg/L	0.1	U
Nitrite-NO2	300.0	mg/L	0.1	U
Nitrobenzene	8270D	µg/L	1	U
Nitrobenzene	8330A	µg/L	0.6	U
Nitroglycerin	8330A	µg/kg	100000000	UJ
N-Nitrosodimethylamine	8270D	µg/L	5	U
N-Nitrosodimethylamine	8270D SIM	µg/L	0.051	U
N-Nitroso-di-n-propylamine	8270D	µg/L	1	U
N-Nitrosodiphenylamine	8270D	µg/L	1	U
n-Propylbenzene	8260B	µg/L	5	U
OCDD	1613B	pg/L	19.5	U
OCDF	1613B	pg/L	19.5	U
o-Terphenyl	8015B	mg/L	0.0048	U
o-Xylene	8260B	µg/L	5	U
Pentachlorophenol	8270D	µg/L	5	U
Perchlorate	6850	µg/L	1	U
PETN	8330A	µg/kg	100000000	UJ
pH	9040C	pH	7.5	
Phenanthrene	8270D	µg/L	0.5	U
Phenanthrene	8270D SIM	µg/L	0.051	U
Phenol	8270D	µg/L	1	U
Phosphorus	6010C	mg/L	0.2	U
Potassium	6010C	mg/L	1	U
Propylene Glycol	8015C	mg/L	10	UJ
p-Terphenyl	8015B	mg/L	0.0048	U
Pyrene	8270D	µg/L	0.5	U
Pyrene	8270D SIM	µg/L	0.051	U
Pyridine	8270D	µg/L	5	U
RDX	8330A	µg/L	0.6	UJ
Selenium	6020A	mg/L	0.004	U
Silver	6020A	mg/L	0.001	U
Silvex (2,4,5-TP)	8151A	µg/L	0.049	U
Sodium	6010C	mg/L	2	U
Strontium	6020A	mg/L	0.002	U
Styrene	8260B	µg/L	5	U
TCDD TEQ	1613B	pg/L	0.082	

Table C-5 - Subarea 8 Field Blank Samples

Sample Name: Location: Sample Date: Sample Type: Lab:		FB-041113 FIELD BLANK 04/11/2013 FB LL		
Analyte	Analytic Method	Units	Concentration	Final Qualifer
Technical Toxaphene	8081B	µg/L	2.4	U
tert-Butyl ethyl ether	8260B	µg/L	5	U
tert-Butylbenzene	8260B	µg/L	5	U
Tertiary amyl methyl ether	8260B	µg/L	5	U
Tertiary butyl alcohol	8260B	µg/L	50	U
Tetrachloroethene	8260B	µg/L	5	U
Tetryl	8330A	µg/L	0.6	U
Thallium	6020A	mg/L	0.001	U
Tin	6010C	mg/L	0.04	U
Titanium	6010C	mg/L	0.02	U
Toluene	8260B	µg/L	5	U
trans-1,2-Dichloroethene	8260B	µg/L	5	U
trans-1,3-Dichloropropene	8260B	µg/L	5	U
Trichloroethene	8260B	µg/L	5	U
Trichlorofluoromethane	8260B	µg/L	5	U
Triethylene Glycol	8015C	mg/L	10	UJ
Vanadium	6010C	mg/L	0.01	U
Vinyl Acetate	8260B	µg/L	10	U
Vinyl Chloride	8260B	µg/L	5	U
Zinc	6010C	mg/L	0.04	U
Zirconium	6010C	mg/L	0.1	U

Notes:

ug/L - microgram per liter

mg/L - milligram per liter

ng/L - nanogram per liter

pg/L - picogram per liter

U - Compound not detected above the reporting limit

Table C-6 - Subarea 5D Trip Blank Samples

Sample Name: Location: Sample Date: Sample Type: Lab:			TB-082613 5D_DG_TB 08/26/2013 TB LL	TB-082913 5D_DG_TB 08/29/2013 TB LL	TB-083013 5D_DG_TB 08/30/2013 TB LL	TB-090313 5D_DG_TB 09/03/2013 TB LL	TB-090413 5D_DG_TB 09/04/2013 TB LL	TB-090513 5D_DG_TB 09/05/2013 TB LL	TB-090613 5D_DG_TB 09/06/2013 TB LL	TB-090913 5D_DG_TB 09/09/2013 TB LL
Analyte	Analytic Method	Units	Concentration Final Qualifer							
Gasoline Range Organics (C5-C12)	8015M	µg/L	50 U							

Notes:
 ug/L - microgram per liter
 U - Compound not detected above the reporting limit

Table C-6 - Subarea 5D Trip Blank Samples

Sample Name: Location: Sample Date: Sample Type: Lab:			TB-091013 5D_DG_TB 09/10/2013 TB LL	TB-091113 5D_DG_TB 09/11/2013 TB LL	TB-091213 5D_DG_TB 09/12/2013 TB LL	TB-091613 5D_DG_TB 09/16/2013 TB LL	TB-091713 5D_DG_TB 09/17/2013 TB LL	TB-091813 5D_DG_TB 09/18/2013 TB LL	TB-091913 5D_DG_TB 09/19/2013 TB LL	TB-092313 5D_DG_TB 09/23/2013 TB LL
Analyte	Analytic Method	Units	Concentration Final Qualifer							
Gasoline Range Organics (C5-C12)	8015M	µg/L	50 U							

Notes:
 ug/L - microgram per liter
 U - Compound not detected above the reporting limit

Table C-6 - Subarea 5D Trip Blank Samples

Sample Name: Location: Sample Date: Sample Type: Lab:			TB-092413 5D_DG_TB 09/24/2013 TB LL	TB-092513 5D_DG_TB 09/25/2013 TB LL	TB-093013 5D_DG_TB 09/30/2013 TB LL	TB-100113 5D_DG_TB 10/01/2013 TB LL	TB-100313 5D_DG_TB 10/03/2013 TB LL	TB-100713 5D_DG_TB 10/07/2013 TB LL	TB-100813 5D_DG_TB 10/08/2013 TB LL	TB1-092613 5D_DG_TB 09/26/2013 TB LL
Analyte	Analytic Method	Units	Concentration Final Qualifer							
Gasoline Range Organics (C5-C12)	8015M	µg/L	50 U							

Notes:
 ug/L - microgram per liter
 U - Compound not detected above the reporting limit

Table C-6 - Subarea 5D Trip Blank Samples

Sample Name:			TB1-100213	TB1-111213	TB-111513	TB2-082813
Location:			5D_DG_TB	5D_DG_TB	5D_DG_TB	5D_DG_TB
Sample Date:			10/02/2013	11/12/2013	11/15/2013	08/28/2013
Sample Type:			TB	TB	TB	TB
Lab:			LL	LL	LL	LL
Analyte	Analytic Method	Units	Concentration	Final Qualifer	Concentration	Final Qualifer
Gasoline Range Organics (C5-C12)	8015M	µg/L	50	U	50	U

Notes:

ug/L - microgram per liter

U - Compound not detected above the reporting limit

Table C-7 - Subarea 8 Trip Blank Samples

Sample Name: Location: Sample Date: Sample Type: Lab:			TB-070813 8_DG_TB 07/08/2013 TB LL		TB-070913 8_DG_TB 07/09/2013 TB LL		TB-071013 8_DG_TB 07/10/2013 TB LL		TB-071113 8_DG_TB 07/11/2013 TB LL	
Analyte	Analytic Method	Units	Concentration	Final Qualifer						
1,1,1,2-Tetrachloroethane	8260B	µg/L					5 U		5 U	
1,1,1-Trichloroethane	8260B	µg/L					5 U		5 U	
1,1,2,2-Tetrachloroethane	8260B	µg/L					5 U		5 U	
1,1,2-Trichloro-1,2,2-trifluoroethane	8260B	µg/L					5 U		5 U	
1,1,2-Trichloroethane	8260B	µg/L					5 U		5 U	
1,1-Dichloroethane	8260B	µg/L					5 U		5 U	
1,1-Dichloroethene	8260B	µg/L					5 U		5 U	
1,1-Dichloropropene	8260B	µg/L					5 U		5 U	
1,2,3-Trichlorobenzene	8260B	µg/L					5 U		5 U	
1,2,3-Trichloropropane	8260B	µg/L					5 U		5 U	
1,2,4-Trichlorobenzene	8260B	µg/L					5 U		5 U	
1,2,4-Trimethylbenzene	8260B	µg/L					5 U		5 U	
1,2-Dibromo-3-chloropropane	8260B	µg/L					5 U		5 U	
1,2-Dibromoethane	8260B	µg/L					5 U		5 U	
1,2-Dichlorobenzene	8260B	µg/L					5 U		5 U	
1,2-Dichloroethane	8260B	µg/L					5 U		5 U	
1,2-Dichloropropane	8260B	µg/L					5 U		5 U	
1,3,5-Trimethylbenzene	8260B	µg/L					5 U		5 U	
1,3-Dichlorobenzene	8260B	µg/L					5 U		5 U	
1,3-Dichloropropane	8260B	µg/L					5 U		5 U	
1,4-Dichlorobenzene	8260B	µg/L					5 U		5 U	
1-Chlorohexane	8260B	µg/L					5 U		5 U	
2,2-Dichloropropane	8260B	µg/L					5 U		5 U	
2-Butanone (MEK)	8260B	µg/L					10 U		10 U	
2-Chloro-1,1,1-trifluoroethane	8260B	µg/L					5 U		5 U	
2-Chloroethyl Vinyl Ether	8260B	µg/L					10 U		10 U	
2-Chlorotoluene	8260B	µg/L					5 U		5 U	
2-Hexanone	8260B	µg/L					10 U		10 U	
2-Phenylbutane	8260B	µg/L					5 U		5 U	
4-Chlorotoluene	8260B	µg/L					5 U		5 U	
4-Methyl-2-pentanone (MIBK)	8260B	µg/L					10 U		10 U	
Acetone	8260B	µg/L					20 U		20 U	
Acrolein	8260B	µg/L					100 U		100 U	
Acrylonitrile	8260B	µg/L					20 U		20 U	
Benzene	8260B	µg/L					5 U		5 U	
Bromobenzene	8260B	µg/L					5 U		5 U	
Bromochloromethane	8260B	µg/L					5 U		5 U	
Bromodichloromethane	8260B	µg/L					5 U		5 U	
Bromoform	8260B	µg/L					5 U		5 U	
Bromomethane	8260B	µg/L					5 U		5 U	
Carbon Disulfide	8260B	µg/L					5 U		5 U	
Carbon Tetrachloride	8260B	µg/L					5 U		5 U	
Chlorobenzene	8260B	µg/L					5 U		5 U	
Chloroethane	8260B	µg/L					5 U		5 U	
Chloroform	8260B	µg/L					5 U		5 U	
Chloromethane	8260B	µg/L					5 U		5 U	
Chlorotrifluoroethylene	8260B	µg/L					5 U		5 U	
cis-1,2-Dichloroethene	8260B	µg/L					5 U		5 U	
cis-1,3-Dichloropropene	8260B	µg/L					5 U		5 U	
Cymene	8260B	µg/L					5 U		5 U	
Di isopropyl Ether	8260B	µg/L					5 U		5 U	
Dibromochloromethane	8260B	µg/L					5 U		5 U	
Dibromomethane	8260B	µg/L					5 U		5 U	
Dichlorodifluoromethane	8260B	µg/L					5 U		5 U	
Ethylbenzene	8260B	µg/L					5 U		5 U	
Gasoline Range Organics (C5-C12)	8015M	µg/L	50 U		50 U		50 U		50 U	
Hexachloro-1,3-butadiene	8260B	µg/L					5 U		5 U	
Isopropylbenzene	8260B	µg/L					5 U		5 U	
m,p-Xylene	8260B	µg/L					5 U		5 U	
Methyl Iodide	8260B	µg/L					5 U		5 U	
Methyl Tert-Butyl Ether	8260B	µg/L					5 U		5 U	
Methylene Chloride	8260B	µg/L					5 U		5 U	
n-Butylbenzene	8260B	µg/L					5 U		5 U	
n-Propylbenzene	8260B	µg/L					5 U		5 U	
o-Xylene	8260B	µg/L					5 U		5 U	
Styrene	8260B	µg/L					5 U		5 U	
tert-Butyl ethyl ether	8260B	µg/L					5 U		5 U	
tert-Butylbenzene	8260B	µg/L					5 U		5 U	
Tertiary amyl methyl ether	8260B	µg/L					5 U		5 U	
Tertiary butyl alcohol	8260B	µg/L					50 U		50 U	
Tetrachloroethene	8260B	µg/L					5 U		5 U	
Toluene	8260B	µg/L					5 U		5 U	
trans-1,2-Dichloroethene	8260B	µg/L					5 U		5 U	
trans-1,3-Dichloropropene	8260B	µg/L					5 U		5 U	
Trichloroethene	8260B	µg/L					5 U		5 U	
Trichlorofluoromethane	8260B	µg/L					5 U		5 U	
Vinyl Acetate	8260B	µg/L					10 U		10 U	
Vinyl Chloride	8260B	µg/L					5 U		5 U	

Notes:

ug/L - microgram per liter

mg/L - milligram per liter

ng/L - nanogram per liter

pg/L - picogram per liter

U - Compound not detected above the reporting limit

Table C-7 - Subarea 8 Trip Blank Samples

Sample Name: Location: Sample Date: Sample Type: Lab:			TB-071213 8_DG_TB 07/12/2013 TB LL		TB-071513 8_DG_TB 07/15/2013 TB LL		TB-071613 8_DG_TB 07/16/2013 TB LL		TB-071713 8_DG_TB 07/17/2013 TB LL	
Analyte	Analytic Method	Units	Concentration	Final Qualifer						
1,1,1,2-Tetrachloroethane	8260B	µg/L					5	U	5	U
1,1,1-Trichloroethane	8260B	µg/L					5	U	5	U
1,1,2,2-Tetrachloroethane	8260B	µg/L					5	U	5	U
1,1,2-Trichloro-1,2,2-trifluoroethane	8260B	µg/L					5	U	5	U
1,1,2-Trichloroethane	8260B	µg/L					5	U	5	U
1,1-Dichloroethane	8260B	µg/L					5	U	5	U
1,1-Dichloroethene	8260B	µg/L					5	U	5	U
1,1-Dichloropropene	8260B	µg/L					5	U	5	U
1,2,3-Trichlorobenzene	8260B	µg/L					5	U	5	U
1,2,3-Trichloropropane	8260B	µg/L					5	U	5	U
1,2,4-Trichlorobenzene	8260B	µg/L					5	U	5	U
1,2,4-Trimethylbenzene	8260B	µg/L					5	U	5	U
1,2-Dibromo-3-chloropropane	8260B	µg/L					5	U	5	U
1,2-Dibromoethane	8260B	µg/L					5	U	5	U
1,2-Dichlorobenzene	8260B	µg/L					5	U	5	U
1,2-Dichloroethane	8260B	µg/L					5	U	5	U
1,2-Dichloropropane	8260B	µg/L					5	U	5	U
1,3,5-Trimethylbenzene	8260B	µg/L					5	U	5	U
1,3-Dichlorobenzene	8260B	µg/L					5	U	5	U
1,3-Dichloropropane	8260B	µg/L					5	U	5	U
1,4-Dichlorobenzene	8260B	µg/L					5	U	5	U
1-Chlorohexane	8260B	µg/L					5	U	5	U
2,2-Dichloropropane	8260B	µg/L					5	U	5	U
2-Butanone (MEK)	8260B	µg/L					10	U	10	U
2-Chloro-1,1,1-trifluoroethane	8260B	µg/L					5	U	5	U
2-Chloroethyl Vinyl Ether	8260B	µg/L					10	U	10	U
2-Chlorotoluene	8260B	µg/L					5	U	5	U
2-Hexanone	8260B	µg/L					10	U	10	U
2-Phenylbutane	8260B	µg/L					5	U	5	U
4-Chlorotoluene	8260B	µg/L					5	U	5	U
4-Methyl-2-pentanone (MIBK)	8260B	µg/L					10	U	10	U
Acetone	8260B	µg/L					20	U	20	U
Acrolein	8260B	µg/L					100	U	100	U
Acrylonitrile	8260B	µg/L					20	U	20	U
Benzene	8260B	µg/L					5	U	5	U
Bromobenzene	8260B	µg/L					5	U	5	U
Bromochloromethane	8260B	µg/L					5	U	5	U
Bromodichloromethane	8260B	µg/L					5	U	5	U
Bromoform	8260B	µg/L					5	U	5	U
Bromomethane	8260B	µg/L					5	U	5	U
Carbon Disulfide	8260B	µg/L					5	U	5	U
Carbon Tetrachloride	8260B	µg/L					5	U	5	U
Chlorobenzene	8260B	µg/L					5	U	5	U
Chloroethane	8260B	µg/L					5	U	5	U
Chloroform	8260B	µg/L					5	U	5	U
Chloromethane	8260B	µg/L					5	U	5	U
Chlorotrifluoroethylene	8260B	µg/L					5	U	5	U
cis-1,2-Dichloroethene	8260B	µg/L					5	U	5	U
cis-1,3-Dichloropropene	8260B	µg/L					5	U	5	U
Cymene	8260B	µg/L					5	U	5	U
Di isopropyl Ether	8260B	µg/L					5	U	5	U
Dibromochloromethane	8260B	µg/L					5	U	5	U
Dibromomethane	8260B	µg/L					5	U	5	U
Dichlorodifluoromethane	8260B	µg/L					5	U	5	U
Ethylbenzene	8260B	µg/L					5	U	5	U
Gasoline Range Organics (C5-C12)	8015M	µg/L	50	U	50	U	50	U	50	U
Hexachloro-1,3-butadiene	8260B	µg/L					5	U	5	U
Isopropylbenzene	8260B	µg/L					5	U	5	U
m,p-Xylene	8260B	µg/L					5	U	5	U
Methyl Iodide	8260B	µg/L					5	U	5	U
Methyl Tert-Butyl Ether	8260B	µg/L					5	U	5	U
Methylene Chloride	8260B	µg/L					5	U	5	U
n-Butylbenzene	8260B	µg/L					5	U	5	U
n-Propylbenzene	8260B	µg/L					5	U	5	U
o-Xylene	8260B	µg/L					5	U	5	U
Styrene	8260B	µg/L					5	U	5	U
tert-Butyl ethyl ether	8260B	µg/L					5	U	5	U
tert-Butylbenzene	8260B	µg/L					5	U	5	U
Tertiary amyl methyl ether	8260B	µg/L					5	U	5	U
Tertiary butyl alcohol	8260B	µg/L					50	U	50	U
Tetrachloroethene	8260B	µg/L					5	U	5	U
Toluene	8260B	µg/L					5	U	5	U
trans-1,2-Dichloroethene	8260B	µg/L					5	U	5	U
trans-1,3-Dichloropropene	8260B	µg/L					5	U	5	U
Trichloroethene	8260B	µg/L					5	U	5	U
Trichlorofluoromethane	8260B	µg/L					5	U	5	U
Vinyl Acetate	8260B	µg/L					10	U	10	U
Vinyl Chloride	8260B	µg/L					5	U	5	U

Notes:

ug/L - microgram per liter

mg/L - milligram per liter

ng/L - nanogram per liter

pg/L - picogram per liter

U - Compound not detected above the reporting limit

Table C-7 - Subarea 8 Trip Blank Samples

Sample Name: Location: Sample Date: Sample Type: Lab:			TB-071813 8_DG_TB 07/18/2013 TB LL	TB-071913 8_DG_TB 07/19/2013 TB LL	TB-072213 8_DG_TB 07/22/2013 TB LL	TB-072313 8_DG_TB 07/23/2013 TB LL				
Analyte	Analytic Method	Units	Concentration	Final Qualifer	Concentration	Final Qualifer	Concentration	Final Qualifer	Concentration	Final Qualifer
1,1,1,2-Tetrachloroethane	8260B	µg/L	5	U						
1,1,1-Trichloroethane	8260B	µg/L	5	U						
1,1,2,2-Tetrachloroethane	8260B	µg/L	5	U						
1,1,2-Trichloro-1,2,2-trifluoroethane	8260B	µg/L	5	U						
1,1,2-Trichloroethane	8260B	µg/L	5	U						
1,1-Dichloroethane	8260B	µg/L	5	U						
1,1-Dichloroethene	8260B	µg/L	5	U						
1,1-Dichloropropene	8260B	µg/L	5	U						
1,2,3-Trichlorobenzene	8260B	µg/L	5	U						
1,2,3-Trichloropropane	8260B	µg/L	5	U						
1,2,4-Trichlorobenzene	8260B	µg/L	5	U						
1,2,4-Trimethylbenzene	8260B	µg/L	5	U						
1,2-Dibromo-3-chloropropane	8260B	µg/L	5	U						
1,2-Dibromoethane	8260B	µg/L	5	U						
1,2-Dichlorobenzene	8260B	µg/L	5	U						
1,2-Dichloroethane	8260B	µg/L	5	U						
1,2-Dichloropropane	8260B	µg/L	5	U						
1,3,5-Trimethylbenzene	8260B	µg/L	5	U						
1,3-Dichlorobenzene	8260B	µg/L	5	U						
1,3-Dichloropropane	8260B	µg/L	5	U						
1,4-Dichlorobenzene	8260B	µg/L	5	U						
1-Chlorohexane	8260B	µg/L	5	U						
2,2-Dichloropropane	8260B	µg/L	5	U						
2-Butanone (MEK)	8260B	µg/L	10	U						
2-Chloro-1,1,1-trifluoroethane	8260B	µg/L	5	U						
2-Chloroethyl Vinyl Ether	8260B	µg/L	10	U						
2-Chlorotoluene	8260B	µg/L	5	U						
2-Hexanone	8260B	µg/L	10	U						
2-Phenylbutane	8260B	µg/L	5	U						
4-Chlorotoluene	8260B	µg/L	5	U						
4-Methyl-2-pentanone (MIBK)	8260B	µg/L	10	U						
Acetone	8260B	µg/L	20	U						
Acrolein	8260B	µg/L	100	U						
Acrylonitrile	8260B	µg/L	20	U						
Benzene	8260B	µg/L	5	U						
Bromobenzene	8260B	µg/L	5	U						
Bromochloromethane	8260B	µg/L	5	U						
Bromodichloromethane	8260B	µg/L	5	U						
Bromoform	8260B	µg/L	5	U						
Bromomethane	8260B	µg/L	5	U						
Carbon Disulfide	8260B	µg/L	5	U						
Carbon Tetrachloride	8260B	µg/L	5	U						
Chlorobenzene	8260B	µg/L	5	U						
Chloroethane	8260B	µg/L	5	U						
Chloroform	8260B	µg/L	5	U						
Chloromethane	8260B	µg/L	5	U						
Chlorotrifluoroethylene	8260B	µg/L	5	U						
cis-1,2-Dichloroethene	8260B	µg/L	5	U						
cis-1,3-Dichloropropene	8260B	µg/L	5	U						
Cymene	8260B	µg/L	5	U						
Di isopropyl Ether	8260B	µg/L	5	U						
Dibromochloromethane	8260B	µg/L	5	U						
Dibromomethane	8260B	µg/L	5	U						
Dichlorodifluoromethane	8260B	µg/L	5	U						
Ethylbenzene	8260B	µg/L	5	U						
Gasoline Range Organics (C5-C12)	8015M	µg/L	50	U	50	U	50	U	50	U
Hexachloro-1,3-butadiene	8260B	µg/L	5	U						
Isopropylbenzene	8260B	µg/L	5	U						
m,p-Xylene	8260B	µg/L	5	U						
Methyl Iodide	8260B	µg/L	5	U						
Methyl Tert-Butyl Ether	8260B	µg/L	5	U						
Methylene Chloride	8260B	µg/L	5	U						
n-Butylbenzene	8260B	µg/L	5	U						
n-Propylbenzene	8260B	µg/L	5	U						
o-Xylene	8260B	µg/L	5	U						
Styrene	8260B	µg/L	5	U						
tert-Butyl ethyl ether	8260B	µg/L	5	U						
tert-Butylbenzene	8260B	µg/L	5	U						
Tertiary amyl methyl ether	8260B	µg/L	5	U						
Tertiary butyl alcohol	8260B	µg/L	50	U						
Tetrachloroethene	8260B	µg/L	5	U						
Toluene	8260B	µg/L	5	U						
trans-1,2-Dichloroethene	8260B	µg/L	5	U						
trans-1,3-Dichloropropene	8260B	µg/L	5	U						
Trichloroethene	8260B	µg/L	5	U						
Trichlorofluoromethane	8260B	µg/L	5	U						
Vinyl Acetate	8260B	µg/L	10	U						
Vinyl Chloride	8260B	µg/L	5	U						

Notes:

ug/L - microgram per liter

mg/L - milligram per liter

ng/L - nanogram per liter

pg/L - picogram per liter

U - Compound not detected above the reporting limit

Table C-7 - Subarea 8 Trip Blank Samples

Sample Name: Location: Sample Date: Sample Type: Lab:			TB-072413 8_DG_TB 07/24/2013 TB LL	TB-072513 8_DG_TB 07/25/2013 TB LL	TB-072613 8_DG_TB 07/26/2013 TB LL	TB-073013 8_DG_TB 07/30/2013 TB LL				
Analyte	Analytic Method	Units	Concentration	Final Qualifer	Concentration	Final Qualifer	Concentration	Final Qualifer	Concentration	Final Qualifer
1,1,1,2-Tetrachloroethane	8260B	µg/L								
1,1,1-Trichloroethane	8260B	µg/L								
1,1,2,2-Tetrachloroethane	8260B	µg/L								
1,1,2-Trichloro-1,2,2-trifluoroethane	8260B	µg/L								
1,1,2-Trichloroethane	8260B	µg/L								
1,1-Dichloroethane	8260B	µg/L								
1,1-Dichloroethene	8260B	µg/L								
1,1-Dichloropropene	8260B	µg/L								
1,2,3-Trichlorobenzene	8260B	µg/L								
1,2,3-Trichloropropane	8260B	µg/L								
1,2,4-Trichlorobenzene	8260B	µg/L								
1,2,4-Trimethylbenzene	8260B	µg/L								
1,2-Dibromo-3-chloropropane	8260B	µg/L								
1,2-Dibromoethane	8260B	µg/L								
1,2-Dichlorobenzene	8260B	µg/L								
1,2-Dichloroethane	8260B	µg/L								
1,2-Dichloropropane	8260B	µg/L								
1,3,5-Trimethylbenzene	8260B	µg/L								
1,3-Dichlorobenzene	8260B	µg/L								
1,3-Dichloropropane	8260B	µg/L								
1,4-Dichlorobenzene	8260B	µg/L								
1-Chlorohexane	8260B	µg/L								
2,2-Dichloropropane	8260B	µg/L								
2-Butanone (MEK)	8260B	µg/L								
2-Chloro-1,1,1-trifluoroethane	8260B	µg/L								
2-Chloroethyl Vinyl Ether	8260B	µg/L								
2-Chlorotoluene	8260B	µg/L								
2-Hexanone	8260B	µg/L								
2-Phenylbutane	8260B	µg/L								
4-Chlorotoluene	8260B	µg/L								
4-Methyl-2-pentanone (MIBK)	8260B	µg/L								
Acetone	8260B	µg/L								
Acrolein	8260B	µg/L								
Acrylonitrile	8260B	µg/L								
Benzene	8260B	µg/L								
Bromobenzene	8260B	µg/L								
Bromochloromethane	8260B	µg/L								
Bromodichloromethane	8260B	µg/L								
Bromoform	8260B	µg/L								
Bromomethane	8260B	µg/L								
Carbon Disulfide	8260B	µg/L								
Carbon Tetrachloride	8260B	µg/L								
Chlorobenzene	8260B	µg/L								
Chloroethane	8260B	µg/L								
Chloroform	8260B	µg/L								
Chloromethane	8260B	µg/L								
Chlorotrifluoroethylene	8260B	µg/L								
cis-1,2-Dichloroethene	8260B	µg/L								
cis-1,3-Dichloropropene	8260B	µg/L								
Cymene	8260B	µg/L								
Di isopropyl Ether	8260B	µg/L								
Dibromochloromethane	8260B	µg/L								
Dibromomethane	8260B	µg/L								
Dichlorodifluoromethane	8260B	µg/L								
Ethylbenzene	8260B	µg/L								
Gasoline Range Organics (C5-C12)	8015M	µg/L	50	U	50	U	50	U	50	U
Hexachloro-1,3-butadiene	8260B	µg/L								
Isopropylbenzene	8260B	µg/L								
m,p-Xylene	8260B	µg/L								
Methyl Iodide	8260B	µg/L								
Methyl Tert-Butyl Ether	8260B	µg/L								
Methylene Chloride	8260B	µg/L								
n-Butylbenzene	8260B	µg/L								
n-Propylbenzene	8260B	µg/L								
o-Xylene	8260B	µg/L								
Styrene	8260B	µg/L								
tert-Butyl ethyl ether	8260B	µg/L								
tert-Butylbenzene	8260B	µg/L								
Tertiary amyl methyl ether	8260B	µg/L								
Tertiary butyl alcohol	8260B	µg/L								
Tetrachloroethene	8260B	µg/L								
Toluene	8260B	µg/L								
trans-1,2-Dichloroethene	8260B	µg/L								
trans-1,3-Dichloropropene	8260B	µg/L								
Trichloroethene	8260B	µg/L								
Trichlorofluoromethane	8260B	µg/L								
Vinyl Acetate	8260B	µg/L								
Vinyl Chloride	8260B	µg/L								

Notes:
 ug/L - microgram per liter
 mg/L - milligram per liter
 ng/L - nanogram per liter
 pg/L - picogram per liter
 U - Compound not detected above the reporting limit

Table C-7 - Subarea 8 Trip Blank Samples

Sample Name: Location: Sample Date: Sample Type: Lab:			TB-073113 8_DG_TB 07/31/2013 TB LL		TB-080113 8_DG_TB 08/01/2013 TB LL		TB-080213 8_DG_TB 08/02/2013 TB LL		TB-080513 8_DG_TB 08/05/2013 TB LL	
Analyte	Analytic Method	Units	Concentration	Final Qualifer						
1,1,1,2-Tetrachloroethane	8260B	µg/L								
1,1,1-Trichloroethane	8260B	µg/L								
1,1,2,2-Tetrachloroethane	8260B	µg/L								
1,1,2-Trichloro-1,2,2-trifluoroethane	8260B	µg/L								
1,1,2-Trichloroethane	8260B	µg/L								
1,1-Dichloroethane	8260B	µg/L								
1,1-Dichloroethene	8260B	µg/L								
1,1-Dichloropropene	8260B	µg/L								
1,2,3-Trichlorobenzene	8260B	µg/L								
1,2,3-Trichloropropane	8260B	µg/L								
1,2,4-Trichlorobenzene	8260B	µg/L								
1,2,4-Trimethylbenzene	8260B	µg/L								
1,2-Dibromo-3-chloropropane	8260B	µg/L								
1,2-Dibromoethane	8260B	µg/L								
1,2-Dichlorobenzene	8260B	µg/L								
1,2-Dichloroethane	8260B	µg/L								
1,2-Dichloropropane	8260B	µg/L								
1,3,5-Trimethylbenzene	8260B	µg/L								
1,3-Dichlorobenzene	8260B	µg/L								
1,3-Dichloropropane	8260B	µg/L								
1,4-Dichlorobenzene	8260B	µg/L								
1-Chlorohexane	8260B	µg/L								
2,2-Dichloropropane	8260B	µg/L								
2-Butanone (MEK)	8260B	µg/L								
2-Chloro-1,1,1-trifluoroethane	8260B	µg/L								
2-Chloroethyl Vinyl Ether	8260B	µg/L								
2-Chlorotoluene	8260B	µg/L								
2-Hexanone	8260B	µg/L								
2-Phenylbutane	8260B	µg/L								
4-Chlorotoluene	8260B	µg/L								
4-Methyl-2-pentanone (MIBK)	8260B	µg/L								
Acetone	8260B	µg/L								
Acrolein	8260B	µg/L								
Acrylonitrile	8260B	µg/L								
Benzene	8260B	µg/L								
Bromobenzene	8260B	µg/L								
Bromochloromethane	8260B	µg/L								
Bromodichloromethane	8260B	µg/L								
Bromoform	8260B	µg/L								
Bromomethane	8260B	µg/L								
Carbon Disulfide	8260B	µg/L								
Carbon Tetrachloride	8260B	µg/L								
Chlorobenzene	8260B	µg/L								
Chloroethane	8260B	µg/L								
Chloroform	8260B	µg/L								
Chloromethane	8260B	µg/L								
Chlorotrifluoroethylene	8260B	µg/L								
cis-1,2-Dichloroethene	8260B	µg/L								
cis-1,3-Dichloropropene	8260B	µg/L								
Cymene	8260B	µg/L								
Di isopropyl Ether	8260B	µg/L								
Dibromochloromethane	8260B	µg/L								
Dibromomethane	8260B	µg/L								
Dichlorodifluoromethane	8260B	µg/L								
Ethylbenzene	8260B	µg/L								
Gasoline Range Organics (C5-C12)	8015M	µg/L	50	U	50	U	50	U	50	U
Hexachloro-1,3-butadiene	8260B	µg/L								
Isopropylbenzene	8260B	µg/L								
m,p-Xylene	8260B	µg/L								
Methyl Iodide	8260B	µg/L								
Methyl Tert-Butyl Ether	8260B	µg/L								
Methylene Chloride	8260B	µg/L								
n-Butylbenzene	8260B	µg/L								
n-Propylbenzene	8260B	µg/L								
o-Xylene	8260B	µg/L								
Styrene	8260B	µg/L								
tert-Butyl ethyl ether	8260B	µg/L								
tert-Butylbenzene	8260B	µg/L								
Tertiary amyl methyl ether	8260B	µg/L								
Tertiary butyl alcohol	8260B	µg/L								
Tetrachloroethene	8260B	µg/L								
Toluene	8260B	µg/L								
trans-1,2-Dichloroethene	8260B	µg/L								
trans-1,3-Dichloropropene	8260B	µg/L								
Trichloroethene	8260B	µg/L								
Trichlorofluoromethane	8260B	µg/L								
Vinyl Acetate	8260B	µg/L								
Vinyl Chloride	8260B	µg/L								

Notes:

ug/L - microgram per liter

mg/L - milligram per liter

ng/L - nanogram per liter

pg/L - picogram per liter

U - Compound not detected above the reporting limit

Table C-7 - Subarea 8 Trip Blank Samples

Sample Name: Location: Sample Date: Sample Type: Lab:			TB-080613 8_DG_TB 08/06/2013 TB LL	TB-080713 8_DG_TB 08/07/2013 TB LL	TB-080813 8_DG_TB 08/08/2013 TB LL	TB-080913 8_DG_TB 08/09/2013 TB LL				
Analyte	Analytic Method	Units	Concentration	Final Qualifer	Concentration	Final Qualifer	Concentration	Final Qualifer	Concentration	Final Qualifer
1,1,1,2-Tetrachloroethane	8260B	µg/L	5	U						
1,1,1-Trichloroethane	8260B	µg/L	5	U						
1,1,2,2-Tetrachloroethane	8260B	µg/L	5	U						
1,1,2-Trichloro-1,2,2-trifluoroethane	8260B	µg/L	5	U						
1,1,2-Trichloroethane	8260B	µg/L	5	U						
1,1-Dichloroethane	8260B	µg/L	5	U						
1,1-Dichloroethene	8260B	µg/L	5	U						
1,1-Dichloropropene	8260B	µg/L	5	U						
1,2,3-Trichlorobenzene	8260B	µg/L	5	U						
1,2,3-Trichloropropane	8260B	µg/L	5	U						
1,2,4-Trichlorobenzene	8260B	µg/L	5	U						
1,2,4-Trimethylbenzene	8260B	µg/L	5	U						
1,2-Dibromo-3-chloropropane	8260B	µg/L	5	U						
1,2-Dibromoethane	8260B	µg/L	5	U						
1,2-Dichlorobenzene	8260B	µg/L	5	U						
1,2-Dichloroethane	8260B	µg/L	5	U						
1,2-Dichloropropane	8260B	µg/L	5	U						
1,3,5-Trimethylbenzene	8260B	µg/L	5	U						
1,3-Dichlorobenzene	8260B	µg/L	5	U						
1,3-Dichloropropane	8260B	µg/L	5	U						
1,4-Dichlorobenzene	8260B	µg/L	5	U						
1-Chlorohexane	8260B	µg/L	5	U						
2,2-Dichloropropane	8260B	µg/L	5	U						
2-Butanone (MEK)	8260B	µg/L	10	U						
2-Chloro-1,1,1-trifluoroethane	8260B	µg/L	5	U						
2-Chloroethyl Vinyl Ether	8260B	µg/L	10	U						
2-Chlorotoluene	8260B	µg/L	5	U						
2-Hexanone	8260B	µg/L	10	U						
2-Phenylbutane	8260B	µg/L	5	U						
4-Chlorotoluene	8260B	µg/L	5	U						
4-Methyl-2-pentanone (MIBK)	8260B	µg/L	10	U						
Acetone	8260B	µg/L	20	U						
Acrolein	8260B	µg/L	100	U						
Acrylonitrile	8260B	µg/L	20	U						
Benzene	8260B	µg/L	5	U						
Bromobenzene	8260B	µg/L	5	U						
Bromochloromethane	8260B	µg/L	5	U						
Bromodichloromethane	8260B	µg/L	5	U						
Bromoform	8260B	µg/L	5	U						
Bromomethane	8260B	µg/L	5	U						
Carbon Disulfide	8260B	µg/L	5	U						
Carbon Tetrachloride	8260B	µg/L	5	U						
Chlorobenzene	8260B	µg/L	5	U						
Chloroethane	8260B	µg/L	5	U						
Chloroform	8260B	µg/L	5	U						
Chloromethane	8260B	µg/L	5	U						
Chlorotrifluoroethylene	8260B	µg/L	5	U						
cis-1,2-Dichloroethene	8260B	µg/L	5	U						
cis-1,3-Dichloropropene	8260B	µg/L	5	U						
Cymene	8260B	µg/L	5	U						
Di isopropyl Ether	8260B	µg/L	5	U						
Dibromochloromethane	8260B	µg/L	5	U						
Dibromomethane	8260B	µg/L	5	U						
Dichlorodifluoromethane	8260B	µg/L	5	U						
Ethylbenzene	8260B	µg/L	5	U						
Gasoline Range Organics (C5-C12)	8015M	µg/L	50	U	50	U	50	U	50	U
Hexachloro-1,3-butadiene	8260B	µg/L	5	U						
Isopropylbenzene	8260B	µg/L	5	U						
m,p-Xylene	8260B	µg/L	5	U						
Methyl Iodide	8260B	µg/L	5	U						
Methyl Tert-Butyl Ether	8260B	µg/L	5	U						
Methylene Chloride	8260B	µg/L	5	U						
n-Butylbenzene	8260B	µg/L	5	U						
n-Propylbenzene	8260B	µg/L	5	U						
o-Xylene	8260B	µg/L	5	U						
Styrene	8260B	µg/L	5	U						
tert-Butyl ethyl ether	8260B	µg/L	5	U						
tert-Butylbenzene	8260B	µg/L	5	U						
Tertiary amyl methyl ether	8260B	µg/L	5	U						
Tertiary butyl alcohol	8260B	µg/L	50	U						
Tetrachloroethene	8260B	µg/L	5	U						
Toluene	8260B	µg/L	5	U						
trans-1,2-Dichloroethene	8260B	µg/L	5	U						
trans-1,3-Dichloropropene	8260B	µg/L	5	U						
Trichloroethene	8260B	µg/L	5	U						
Trichlorofluoromethane	8260B	µg/L	5	U						
Vinyl Acetate	8260B	µg/L	10	U						
Vinyl Chloride	8260B	µg/L	5	U						

Notes:

ug/L - microgram per liter

mg/L - milligram per liter

ng/L - nanogram per liter

pg/L - picogram per liter

U - Compound not detected above the reporting limit

Table C-7 - Subarea 8 Trip Blank Samples

Sample Name: Location: Sample Date: Sample Type: Lab:			TB-081213 8_DG_TB 08/12/2013 TB LL	TB-081313 8_DG_TB 08/13/2013 TB LL	TB-081413 8_DG_TB 08/14/2013 TB LL	TB-082713 8_DG_TB 08/27/2013 TB LL				
Analyte	Analytic Method	Units	Concentration	Final Qualifer	Concentration	Final Qualifer	Concentration	Final Qualifer	Concentration	Final Qualifer
1,1,1,2-Tetrachloroethane	8260B	µg/L								
1,1,1-Trichloroethane	8260B	µg/L								
1,1,2,2-Tetrachloroethane	8260B	µg/L								
1,1,2-Trichloro-1,2,2-trifluoroethane	8260B	µg/L								
1,1,2-Trichloroethane	8260B	µg/L								
1,1-Dichloroethane	8260B	µg/L								
1,1-Dichloroethene	8260B	µg/L								
1,1-Dichloropropene	8260B	µg/L								
1,2,3-Trichlorobenzene	8260B	µg/L								
1,2,3-Trichloropropane	8260B	µg/L								
1,2,4-Trichlorobenzene	8260B	µg/L								
1,2,4-Trimethylbenzene	8260B	µg/L								
1,2-Dibromo-3-chloropropane	8260B	µg/L								
1,2-Dibromoethane	8260B	µg/L								
1,2-Dichlorobenzene	8260B	µg/L								
1,2-Dichloroethane	8260B	µg/L								
1,2-Dichloropropane	8260B	µg/L								
1,3,5-Trimethylbenzene	8260B	µg/L								
1,3-Dichlorobenzene	8260B	µg/L								
1,3-Dichloropropane	8260B	µg/L								
1,4-Dichlorobenzene	8260B	µg/L								
1-Chlorohexane	8260B	µg/L								
2,2-Dichloropropane	8260B	µg/L								
2-Butanone (MEK)	8260B	µg/L								
2-Chloro-1,1,1-trifluoroethane	8260B	µg/L								
2-Chloroethyl Vinyl Ether	8260B	µg/L								
2-Chlorotoluene	8260B	µg/L								
2-Hexanone	8260B	µg/L								
2-Phenylbutane	8260B	µg/L								
4-Chlorotoluene	8260B	µg/L								
4-Methyl-2-pentanone (MIBK)	8260B	µg/L								
Acetone	8260B	µg/L								
Acrolein	8260B	µg/L								
Acrylonitrile	8260B	µg/L								
Benzene	8260B	µg/L								
Bromobenzene	8260B	µg/L								
Bromochloromethane	8260B	µg/L								
Bromodichloromethane	8260B	µg/L								
Bromoform	8260B	µg/L								
Bromomethane	8260B	µg/L								
Carbon Disulfide	8260B	µg/L								
Carbon Tetrachloride	8260B	µg/L								
Chlorobenzene	8260B	µg/L								
Chloroethane	8260B	µg/L								
Chloroform	8260B	µg/L								
Chloromethane	8260B	µg/L								
Chlorotrifluoroethylene	8260B	µg/L								
cis-1,2-Dichloroethene	8260B	µg/L								
cis-1,3-Dichloropropene	8260B	µg/L								
Cymene	8260B	µg/L								
Di isopropyl Ether	8260B	µg/L								
Dibromochloromethane	8260B	µg/L								
Dibromomethane	8260B	µg/L								
Dichlorodifluoromethane	8260B	µg/L								
Ethylbenzene	8260B	µg/L								
Gasoline Range Organics (C5-C12)	8015M	µg/L	50	U	50	U	50	U	50	U
Hexachloro-1,3-butadiene	8260B	µg/L								
Isopropylbenzene	8260B	µg/L								
m,p-Xylene	8260B	µg/L								
Methyl Iodide	8260B	µg/L								
Methyl Tert-Butyl Ether	8260B	µg/L								
Methylene Chloride	8260B	µg/L								
n-Butylbenzene	8260B	µg/L								
n-Propylbenzene	8260B	µg/L								
o-Xylene	8260B	µg/L								
Styrene	8260B	µg/L								
tert-Butyl ethyl ether	8260B	µg/L								
tert-Butylbenzene	8260B	µg/L								
Tertiary amyl methyl ether	8260B	µg/L								
Tertiary butyl alcohol	8260B	µg/L								
Tetrachloroethene	8260B	µg/L								
Toluene	8260B	µg/L								
trans-1,2-Dichloroethene	8260B	µg/L								
trans-1,3-Dichloropropene	8260B	µg/L								
Trichloroethene	8260B	µg/L								
Trichlorofluoromethane	8260B	µg/L								
Vinyl Acetate	8260B	µg/L								
Vinyl Chloride	8260B	µg/L								

Notes:

ug/L - microgram per liter

mg/L - milligram per liter

ng/L - nanogram per liter

pg/L - picogram per liter

U - Compound not detected above the reporting limit

Table C-7 - Subarea 8 Trip Blank Samples

Sample Name: Location: Sample Date: Sample Type: Lab:			TB1-072913 8_DG_TB 07/29/2013 TB LL	TB1-082813 8_DG_TB 08/28/2013 TB LL	TB2-092613 8_DG_TB 09/26/2013 TB LL			
Analyte	Analytic Method	Units	Concentration	Final Qualifer	Concentration	Final Qualifer	Concentration	Final Qualifer
1,1,1,2-Tetrachloroethane	8260B	µg/L						
1,1,1-Trichloroethane	8260B	µg/L						
1,1,2,2-Tetrachloroethane	8260B	µg/L						
1,1,2-Trichloro-1,2,2-trifluoroethane	8260B	µg/L						
1,1,2-Trichloroethane	8260B	µg/L						
1,1-Dichloroethane	8260B	µg/L						
1,1-Dichloroethene	8260B	µg/L						
1,1-Dichloropropene	8260B	µg/L						
1,2,3-Trichlorobenzene	8260B	µg/L						
1,2,3-Trichloropropane	8260B	µg/L						
1,2,4-Trichlorobenzene	8260B	µg/L						
1,2,4-Trimethylbenzene	8260B	µg/L						
1,2-Dibromo-3-chloropropane	8260B	µg/L						
1,2-Dibromoethane	8260B	µg/L						
1,2-Dichlorobenzene	8260B	µg/L						
1,2-Dichloroethane	8260B	µg/L						
1,2-Dichloropropane	8260B	µg/L						
1,3,5-Trimethylbenzene	8260B	µg/L						
1,3-Dichlorobenzene	8260B	µg/L						
1,3-Dichloropropane	8260B	µg/L						
1,4-Dichlorobenzene	8260B	µg/L						
1-Chlorohexane	8260B	µg/L						
2,2-Dichloropropane	8260B	µg/L						
2-Butanone (MEK)	8260B	µg/L						
2-Chloro-1,1,1-trifluoroethane	8260B	µg/L						
2-Chloroethyl Vinyl Ether	8260B	µg/L						
2-Chlorotoluene	8260B	µg/L						
2-Hexanone	8260B	µg/L						
2-Phenylbutane	8260B	µg/L						
4-Chlorotoluene	8260B	µg/L						
4-Methyl-2-pentanone (MIBK)	8260B	µg/L						
Acetone	8260B	µg/L						
Acrolein	8260B	µg/L						
Acrylonitrile	8260B	µg/L						
Benzene	8260B	µg/L						
Bromobenzene	8260B	µg/L						
Bromochloromethane	8260B	µg/L						
Bromodichloromethane	8260B	µg/L						
Bromoform	8260B	µg/L						
Bromomethane	8260B	µg/L						
Carbon Disulfide	8260B	µg/L						
Carbon Tetrachloride	8260B	µg/L						
Chlorobenzene	8260B	µg/L						
Chloroethane	8260B	µg/L						
Chloroform	8260B	µg/L						
Chloromethane	8260B	µg/L						
Chlorotrifluoroethylene	8260B	µg/L						
cis-1,2-Dichloroethene	8260B	µg/L						
cis-1,3-Dichloropropene	8260B	µg/L						
Cymene	8260B	µg/L						
Di isopropyl Ether	8260B	µg/L						
Dibromochloromethane	8260B	µg/L						
Dibromomethane	8260B	µg/L						
Dichlorodifluoromethane	8260B	µg/L						
Ethylbenzene	8260B	µg/L						
Gasoline Range Organics (C5-C12)	8015M	µg/L	50	U	50	U	50	U
Hexachloro-1,3-butadiene	8260B	µg/L						
Isopropylbenzene	8260B	µg/L						
m,p-Xylene	8260B	µg/L						
Methyl Iodide	8260B	µg/L						
Methyl Tert-Butyl Ether	8260B	µg/L						
Methylene Chloride	8260B	µg/L						
n-Butylbenzene	8260B	µg/L						
n-Propylbenzene	8260B	µg/L						
o-Xylene	8260B	µg/L						
Styrene	8260B	µg/L						
tert-Butyl ethyl ether	8260B	µg/L						
tert-Butylbenzene	8260B	µg/L						
Tertiary amyl methyl ether	8260B	µg/L						
Tertiary butyl alcohol	8260B	µg/L						
Tetrachloroethene	8260B	µg/L						
Toluene	8260B	µg/L						
trans-1,2-Dichloroethene	8260B	µg/L						
trans-1,3-Dichloropropene	8260B	µg/L						
Trichloroethene	8260B	µg/L						
Trichlorofluoromethane	8260B	µg/L						
Vinyl Acetate	8260B	µg/L						
Vinyl Chloride	8260B	µg/L						

Notes:

ug/L - microgram per liter

mg/L - milligram per liter

ng/L - nanogram per liter

pg/L - picogram per liter

U - Compound not detected above the reporting limit

Table C-8 - Subarea 5D Field Duplicate Samples

				Location	5D_DG-504	5D_DG-504	
				Sample Name:	SL-804-SA5D-SB-4.0-5.0	SL-504-SA5D-SB-4.0-5.0	
				Sample Date:	09/17/2013	09/17/2013	
				Start Depth:	4	4	
				End Depth:	5	5	RPD
				Area:	5D_DG	5D_DG	
				Matrix:	SO	SO	
				Sample Type:	FD	N	
MAG:	Chemical Name:	CAS No.:	Lab Method:	Result Unit			
Dioxins	1,2,3,4,6,7,8-Heptachlorodibenzo-p-Dioxin	35822-46-9	1613B	ng/kg			--
Dioxins	1,2,3,4,6,7,8-HPCDF	67562-39-4	1613B	ng/kg			--
Dioxins	1,2,3,4,7,8,9-HPCDF	55673-89-7	1613B	ng/kg			--
Dioxins	1,2,3,4,7,8-Hexachlorodibenzo-p-Dioxin	39227-28-6	1613B	ng/kg			--
Dioxins	1,2,3,4,7,8-HXCDF	70648-26-9	1613B	ng/kg			--
Dioxins	1,2,3,6,7,8-Hexachlorodibenzo-p-Dioxin	57653-85-7	1613B	ng/kg			--
Dioxins	1,2,3,6,7,8-HXCDF	57117-44-9	1613B	ng/kg			--
Dioxins	1,2,3,7,8,9-Hexachlorodibenzo-p-Dioxin	19408-74-3	1613B	ng/kg			--
Dioxins	1,2,3,7,8,9-HXCDF	72918-21-9	1613B	ng/kg			--
Dioxins	1,2,3,7,8-Pentachlorodibenzofuran	57117-41-6	1613B	ng/kg			--
Dioxins	1,2,3,7,8-Pentachlorodibenzo-p-Dioxin	40321-76-4	1613B	ng/kg			--
Dioxins	2,3,4,6,7,8-HXCDF	60851-34-5	1613B	ng/kg			--
Dioxins	2,3,4,7,8-PECDF	57117-31-4	1613B	ng/kg			--
Dioxins	2,3,7,8-TCDD	1746-01-6	1613B	ng/kg			--
Dioxins	2,3,7,8-Tetrachlorodibenzofuran	51207-31-9	1613B	ng/kg			--
Dioxins	OCDD	3268-87-9	1613B	ng/kg			--
Dioxins	OCDF	39001-02-0	1613B	ng/kg			--
Dioxins	TCDD TEQ	TCDD TEQ	1613B	ng/kg			--
Fluoride	Fluoride	16984-48-8	300.0	mg/kg			--
Herbicides	2,2-Dichlor-Propionic Acid	75-99-0	8151A	µg/kg			--
Herbicides	2,4,5-T	93-76-5	8151A	µg/kg			--
Herbicides	2,4-D	94-75-7	8151A	µg/kg			--
Herbicides	2,4-DB	94-82-6	8151A	µg/kg			--
Herbicides	Dicamba	1918-00-9	8151A	µg/kg			--
Herbicides	Dichlorprop	120-36-5	8151A	µg/kg			--
Herbicides	Dinitrobutyl Phenol	88-85-7	8151A	µg/kg			--
Herbicides	MCPA	94-74-6	8151A	µg/kg			--
Herbicides	MCPP	93-65-2	8151A	µg/kg			--
Herbicides	Silvex (2,4,5-TP)	93-72-1	8151A	µg/kg			--
Hexavalent Chromium	Chromium (Hexavalent Compounds)	18540-29-9	7199	mg/kg			--
Mercury	Mercury	7439-97-6	7471B	mg/kg	0.018 UJ	0.0133 J	200.00
Metals	Aluminum	7429-90-5	6010C	mg/kg	28600 J	32000 J	11.22
Metals	Antimony	7440-36-0	6010C	mg/kg	4.46 UJ	4.45 UJ	--
Metals	Arsenic	7440-38-2	6010C	mg/kg	7.15	7.48	4.51
Metals	Barium	7440-39-3	6010C	mg/kg	127 J	111 J	13.45
Metals	Beryllium	7440-41-7	6010C	mg/kg	0.862 J	1.04 J	18.72
Metals	Boron	7440-42-8	6010C	mg/kg	10.5 J	8.9 J	16.49
Metals	Cadmium	7440-43-9	6010C	mg/kg	1.11 U	1.11 U	--
Metals	Calcium	7440-70-2	6010C	mg/kg	65200 J	36200 J	57.20
Metals	Chromium	7440-47-3	6010C	mg/kg	33.4 J	35.6 J	6.38
Metals	Cobalt	7440-48-4	6010C	mg/kg	8.27 J	8.09 J	2.20
Metals	Copper	7440-50-8	6010C	mg/kg	16.5	16	3.08
Metals	Iron	7439-89-6	6010C	mg/kg	29400 J	32700 J	10.63
Metals	Lead	7439-92-1	6010C	mg/kg	9.49	9.51	0.21
Metals	Lithium	7439-93-2	6010C	mg/kg	25.9	26.7	3.04
Metals	Magnesium	7439-95-4	6010C	mg/kg	6460 J	6260 J	3.14
Metals	Manganese	7439-96-5	6010C	mg/kg	368 J	291 J	23.37
Metals	Molybdenum	7439-98-7	6010C	mg/kg	2.23 UJ	2.22 UJ	--
Metals	Nickel	7440-02-0	6010C	mg/kg	16.8 J	20.8 J	21.28
Metals	Phosphorus	7723-14-0	6010C	mg/kg	271	176	42.51
Metals	Potassium	7440-09-7	6010C	mg/kg	3190 J	2780 J	13.74
Metals	Selenium	7782-49-2	6020A	mg/kg	0.127 J	0.445 UJ	200.00
Metals	Silver	7440-22-4	6020A	mg/kg	0.0665 J	0.0832 J	22.31
Metals	Sodium	7440-23-5	6010C	mg/kg	610	700	13.74
Metals	Strontium	7440-24-6	6020A	mg/kg	83.7	55.8	40.00
Metals	Thallium	7440-28-0	6020A	mg/kg	0.467 J	0.333 J	33.50
Metals	Tin	7440-31-5	6010C	mg/kg	11.1 U	11.1 U	--
Metals	Titanium	7440-32-6	6010C	mg/kg	1360	1260	7.63
Metals	Vanadium	7440-62-2	6010C	mg/kg	63.6	65	2.18
Metals	Zinc	7440-66-6	6010C	mg/kg	60.8	59.2	2.67
Metals	Zirconium	7440-67-7	6010C	mg/kg	3.33 J	3.53 J	5.83
Moisture Content	Moisture	MOIST	160.3M	%	12	12.7	5.67
PAHs	1-Methylnaphthalene	90-12-0	8270D SIM	µg/kg	1.9 U	1.9 U	--
PAHs	2-Methylnaphthalene	91-57-6	8270D SIM	µg/kg	1.9 U	1.9 U	--
PAHs	Acenaphthene	83-32-9	8270D SIM	µg/kg	1.9 U	1.9 U	--
PAHs	Acenaphthylene	208-96-8	8270D SIM	µg/kg	1.9 U	1.9 U	--
PAHs	Anthracene	120-12-7	8270D SIM	µg/kg	1.9 U	1.9 U	--
PAHs	Benzo(a)anthracene	56-55-3	8270D SIM	µg/kg	1.9 U	1.9 U	--
PAHs	Benzo(a)pyrene	50-32-8	8270D SIM	µg/kg	1.9 U	1.9 U	--
PAHs	Benzo(b)fluoranthene	205-99-2	8270D SIM	µg/kg	1.9 U	1.9 U	--
PAHs	Benzo(e)pyrene	192-97-2	8270D SIM	µg/kg	19 U	19 UJ	--
PAHs	Benzo(g,h,i)perylene	191-24-2	8270D SIM	µg/kg	1.9 U	1.9 U	--
PAHs	Benzo(k)fluoranthene	207-08-9	8270D SIM	µg/kg	1.9 U	1.9 U	--
PAHs	Bis(2-ethylhexyl)phthalate	117-81-7	8270D SIM	µg/kg	20 U	20 U	--
PAHs	Butylbenzylphthalate	85-68-7	8270D SIM	µg/kg	20 U	20 U	--
PAHs	Chrysene	218-01-9	8270D SIM	µg/kg	1.9 U	1.9 U	--
PAHs	Dibenzo(a,h)anthracene	53-70-3	8270D SIM	µg/kg	1.9 U	1.9 U	--
PAHs	Diethylphthalate	84-66-2	8270D SIM	µg/kg	20 U	20 U	--
PAHs	Dimethylphthalate	131-11-3	8270D SIM	µg/kg	20 U	20 U	--
PAHs	Di-n-butylphthalate	84-74-2	8270D SIM	µg/kg	20 U	20 U	--
PAHs	Di-n-octylphthalate	117-84-0	8270D SIM	µg/kg	20 U	20 U	--
PAHs	Fluoranthene	206-44-0	8270D SIM	µg/kg	1.9 U	1.9 U	--
PAHs	Fluorene	86-73-7	8270D SIM	µg/kg	1.9 U	1.9 U	--
PAHs	Indeno(1,2,3-cd)pyrene	193-39-5	8270D SIM	µg/kg	1.9 U	1.9 U	--
PAHs	Naphthalene	91-20-3	8270D SIM	µg/kg	1.9 U	1.9 U	--
PAHs	N-Nitrosodimethylamine	62-75-9	8270D SIM	µg/kg	1.9 U	1.9 U	--
PAHs	Phenanthrene	85-01-8	8270D SIM	µg/kg	1.9 U	1.9 U	--
PAHs	Pyrene	129-00-0	8270D SIM	µg/kg	1.9 U	1.9 U	--
PCBPCTs	Aroclor 1016	12674-11-2	8082A	µg/kg	19 U	19 U	--
PCBPCTs	Aroclor 1221	11104-28-2	8082A	µg/kg	19 U	19 U	--
PCBPCTs	Aroclor 1232	11141-16-5	8082A	µg/kg	19 U	19 U	--
PCBPCTs	Aroclor 1242	53469-21-9	8082A	µg/kg	19 U	19 U	--
PCBPCTs	Aroclor 1248	12672-29-6	8082A	µg/kg	19 U	19 U	--
PCBPCTs	Aroclor 1254	11097-69-1	8082A	µg/kg	19 U	19 U	--
PCBPCTs	Aroclor 1260	11096-82-5	8082A	µg/kg	19 U	19 U	--
PCBPCTs	Aroclor 1262	37324-23-5	8082A	µg/kg	19 U	19 U	--
PCBPCTs	Aroclor 1268	11100-14-4	8082A	µg/kg	19 U	19 U	--
PCBPCTs	Aroclor 5432	63496-31-1	8082A	µg/kg	37 U	38 U	--
PCBPCTs	Aroclor 5442	12642-23-8	8082A	µg/kg	37 U	38 U	--
PCBPCTs	Aroclor 5460	11126-42-4	8082A	µg/kg	37 U	38 U	--

Table C-8 - Subarea 5D Field Duplicate Samples

				Location	5D_DG-504	5D_DG-504		
				Sample Name:	SL-804-SA5D-SB-4.0-5.0	SL-504-SA5D-SB-4.0-5.0		
				Sample Date:	09/17/2013	09/17/2013		
				Start Depth:	4	4		
				End Depth:	5	5	RPD	
				Area:	5D_DG	5D_DG		
				Matrix:	SO	SO		
				Sample Type:	FD	N		
Perchlorate	Perchlorate	14797-73-0	6850	µg/kg				--
Pesticides	4,4'-DDD	72-54-8	8081B	µg/kg				--
Pesticides	4,4'-DDE	72-55-9	8081B	µg/kg				--
Pesticides	4,4'-DDT	50-29-3	8081B	µg/kg				--
Pesticides	Aldrin	309-00-2	8081B	µg/kg				--
Pesticides	Alpha-Bhc	319-84-6	8081B	µg/kg				--
Pesticides	Beta-Bhc	319-85-7	8081B	µg/kg				--
Pesticides	Chlordane	57-74-9	8081B	µg/kg				--
Pesticides	Delta-Bhc	319-86-8	8081B	µg/kg				--
Pesticides	Dieldrin	60-57-1	8081B	µg/kg				--
Pesticides	Endosulfan I	959-98-8	8081B	µg/kg				--
Pesticides	Endosulfan II	33213-65-9	8081B	µg/kg				--
Pesticides	Endosulfan Sulfate	1031-07-8	8081B	µg/kg				--
Pesticides	Endrin	72-20-8	8081B	µg/kg				--
Pesticides	Endrin Aldehyde	7421-93-4	8081B	µg/kg				--
Pesticides	Endrin Ketone	53494-70-5	8081B	µg/kg				--
Pesticides	Gamma-Bhc (Lindane)	58-89-9	8081B	µg/kg				--
Pesticides	Heptachlor	76-44-8	8081B	µg/kg				--
Pesticides	Heptachlor Epoxide	1024-57-3	8081B	µg/kg				--
Pesticides	Methoxychlor	72-43-5	8081B	µg/kg				--
Pesticides	Mirex	2385-85-5	8081B	µg/kg				--
Pesticides	Technical Toxaphene	8001-35-2	8081B	µg/kg				--
pH	pH	pH	9045M	pH	8.38	8.17		2.54
SVOC	1,1'-Biphenyl	92-52-4	8270D	µg/kg				--
SVOC	1,2,4-Trichlorobenzene	120-82-1	8270D	µg/kg				--
SVOC	1,2-Dichlorobenzene	95-50-1	8270D	µg/kg				--
SVOC	1,2-Diphenylhydrazine	122-66-7	8270D	µg/kg				--
SVOC	1,3-Dichlorobenzene	541-73-1	8270D	µg/kg				--
SVOC	1,4-Dichlorobenzene	106-46-7	8270D	µg/kg				--
SVOC	2,4,5-Trichlorophenol	95-95-4	8270D	µg/kg				--
SVOC	2,4,6-Trichlorophenol	88-06-2	8270D	µg/kg				--
SVOC	2,4-Dichlorophenol	120-83-2	8270D	µg/kg				--
SVOC	2,4-Dimethylphenol	105-67-9	8270D	µg/kg				--
SVOC	2,4-Dinitrophenol	51-28-5	8270D	µg/kg				--
SVOC	2,6-Dichlorophenol	87-65-0	8270D	µg/kg				--
SVOC	2-Chloronaphthalene	91-58-7	8270D	µg/kg				--
SVOC	2-Chlorophenol	95-57-8	8270D	µg/kg				--
SVOC	2-Methylphenol	95-48-7	8270D	µg/kg				--
SVOC	2-Nitroaniline	88-74-4	8270D	µg/kg				--
SVOC	2-Nitrophenol	88-75-5	8270D	µg/kg				--
SVOC	3,3'-Dichlorobenzidine	91-94-1	8270D	µg/kg				--
SVOC	3,5-Dimethylphenol	108-68-9	8270D	µg/kg				--
SVOC	3-Nitroaniline	99-09-2	8270D	µg/kg				--
SVOC	4,6-Dinitro-2-methylphenol	534-52-1	8270D	µg/kg				--
SVOC	4-Bromophenyl-phenylether	101-55-3	8270D	µg/kg				--
SVOC	4-Chloro-3-methylphenol	59-50-7	8270D	µg/kg				--
SVOC	4-Chloroaniline	106-47-8	8270D	µg/kg				--
SVOC	4-Chlorophenyl-phenylether	7005-72-3	8270D	µg/kg				--
SVOC	4-Methylphenol	106-44-5	8270D	µg/kg				--
SVOC	4-Nitroaniline	100-01-6	8270D	µg/kg				--
SVOC	4-Nitrophenol	100-02-7	8270D	µg/kg				--
SVOC	Aniline	62-53-3	8270D	µg/kg				--
SVOC	Benzidine	92-87-5	8270D	µg/kg				--
SVOC	Benzoic Acid	65-85-0	8270D	µg/kg				--
SVOC	Benzyl Alcohol	100-51-6	8270D	µg/kg				--
SVOC	bis(2-chloroethoxy)methane	111-91-1	8270D	µg/kg				--
SVOC	bis(2-chloroethyl) ether	111-44-4	8270D	µg/kg				--
SVOC	bis(2-chloroisopropyl) ether	39638-32-9	8270D	µg/kg				--
SVOC	Carbazole	86-74-8	8270D	µg/kg				--
SVOC	Dibenzofuran	132-64-9	8270D	µg/kg				--
SVOC	Diphenylamine	NDPA122-39-4	8270D	µg/kg				--
SVOC	Hexachlorobenzene	118-74-1	8270D	µg/kg				--
SVOC	Hexachlorobutadiene	87-68-3	8270D	µg/kg				--
SVOC	Hexachlorocyclopentadiene	77-47-4	8270D	µg/kg				--
SVOC	Hexachloroethane	67-72-1	8270D	µg/kg				--
SVOC	Isophorone	78-59-1	8270D	µg/kg				--
SVOC	Nitrobenzene	98-95-3	8270D	µg/kg				--
SVOC	N-Nitroso-di-n-propylamine	621-64-7	8270D	µg/kg				--
SVOC	N-Nitrosodiphenylamine	86-30-6	8270D	µg/kg				--
SVOC	Pentachlorophenol	87-86-5	8270D	µg/kg				--
SVOC	Phenol	108-95-2	8270D	µg/kg				--
SVOC	Pyridine	110-86-1	8270D	µg/kg				--
TPH-EFH	EFH (C8-C11)	PHCC8C11	8015M	mg/kg	5.6 U	5.7 U		--
TPH-EFH	EFH (C12-C14)	PHCC12C14	8015M	mg/kg	5.6 U	5.7 U		--
TPH-EFH	EFH (C15-C20)	PHCC15C20	8015M	mg/kg	5.6 U	5.7 U		--
TPH-EFH	EFH (C21-C30)	PHCC21C30	8015M	mg/kg	5.6 U	5.7 U		--
TPH-EFH	EFH (C30-C40)	PHCC30C40	8015M	mg/kg	11 U	11 U		--
TPH-GRO	Gasoline Range Organics (C5-C12)	GROC5C12	8015M	mg/kg	1 U	1 U		--

Notes:

ug/kg - microgram per kilogram

mg/kg - milligram per kilogram

ng/g - nanogram per kilogram

FD - field duplicate sample

N - normal sample

RPD - relative percent difference

SO - soil

-- - RPD not calculated when both field duplicate and normal samples were nondetect or only one sample result is reported

200* - When one result is nondetect a 200% RPD is given and sample results are qualified as estimated "J" or "UJ" in the field duplicate samples only

Limit - 50% - If RPD is above 50% detected field duplicate results only were estimated "J"

Table C-8 - Subarea 5D Field Duplicate Samples

				Location	5D_DG-516	5D_DG-516		
				Sample Name:	SL-816-SA5D-SB-4.0-5.0	SL-516-SA5D-SB-4.0-5.0		
				Sample Date:	11/15/2013	11/15/2013		
				Start Depth:	4	4		
				End Depth:	5	5		
				Area:	5D_DG	5D_DG		
				Matrix:	SO	SO		
				Sample Type:	FD	N		
							RPD	
Perchlorate	Perchlorate	14797-73-0	6850	µg/kg				--
Pesticides	4,4'-DDD	72-54-8	8081B	µg/kg				--
Pesticides	4,4'-DDE	72-55-9	8081B	µg/kg				--
Pesticides	4,4'-DDT	50-29-3	8081B	µg/kg				--
Pesticides	Aldrin	309-00-2	8081B	µg/kg				--
Pesticides	Alpha-Bhc	319-84-6	8081B	µg/kg				--
Pesticides	Beta-Bhc	319-85-7	8081B	µg/kg				--
Pesticides	Chlordane	57-74-9	8081B	µg/kg				--
Pesticides	Delta-Bhc	319-86-8	8081B	µg/kg				--
Pesticides	Dieldrin	60-57-1	8081B	µg/kg				--
Pesticides	Endosulfan I	959-98-8	8081B	µg/kg				--
Pesticides	Endosulfan II	33213-65-9	8081B	µg/kg				--
Pesticides	Endosulfan Sulfate	1031-07-8	8081B	µg/kg				--
Pesticides	Endrin	72-20-8	8081B	µg/kg				--
Pesticides	Endrin Aldehyde	7421-93-4	8081B	µg/kg				--
Pesticides	Endrin Ketone	53494-70-5	8081B	µg/kg				--
Pesticides	Gamma-Bhc (Lindane)	58-89-9	8081B	µg/kg				--
Pesticides	Heptachlor	76-44-8	8081B	µg/kg				--
Pesticides	Heptachlor Epoxide	1024-57-3	8081B	µg/kg				--
Pesticides	Methoxychlor	72-43-5	8081B	µg/kg				--
Pesticides	Mirex	2385-85-5	8081B	µg/kg				--
Pesticides	Technical Toxaphene	8001-35-2	8081B	µg/kg				--
pH	pH	pH	9045M	pH	8.32	7.79		6.58
SVOC	1,1'-Biphenyl	92-52-4	8270D	µg/kg				--
SVOC	1,2,4-Trichlorobenzene	120-82-1	8270D	µg/kg				--
SVOC	1,2-Dichlorobenzene	95-50-1	8270D	µg/kg				--
SVOC	1,2-Diphenylhydrazine	122-66-7	8270D	µg/kg				--
SVOC	1,3-Dichlorobenzene	541-73-1	8270D	µg/kg				--
SVOC	1,4-Dichlorobenzene	106-46-7	8270D	µg/kg				--
SVOC	2,4,5-Trichlorophenol	95-95-4	8270D	µg/kg				--
SVOC	2,4,6-Trichlorophenol	88-06-2	8270D	µg/kg				--
SVOC	2,4-Dichlorophenol	120-83-2	8270D	µg/kg				--
SVOC	2,4-Dimethylphenol	105-67-9	8270D	µg/kg				--
SVOC	2,4-Dinitrophenol	51-28-5	8270D	µg/kg				--
SVOC	2,6-Dichlorophenol	87-65-0	8270D	µg/kg				--
SVOC	2-Chloronaphthalene	91-58-7	8270D	µg/kg				--
SVOC	2-Chlorophenol	95-57-8	8270D	µg/kg				--
SVOC	2-Methylphenol	95-48-7	8270D	µg/kg				--
SVOC	2-Nitroaniline	88-74-4	8270D	µg/kg				--
SVOC	2-Nitrophenol	88-75-5	8270D	µg/kg				--
SVOC	3,3'-Dichlorobenzidine	91-94-1	8270D	µg/kg				--
SVOC	3,5-Dimethylphenol	108-68-9	8270D	µg/kg				--
SVOC	3-Nitroaniline	99-09-2	8270D	µg/kg				--
SVOC	4,6-Dinitro-2-methylphenol	534-52-1	8270D	µg/kg				--
SVOC	4-Bromophenyl-phenylether	101-55-3	8270D	µg/kg				--
SVOC	4-Chloro-3-methylphenol	59-50-7	8270D	µg/kg				--
SVOC	4-Chloroaniline	106-47-8	8270D	µg/kg				--
SVOC	4-Chlorophenyl-phenylether	7005-72-3	8270D	µg/kg				--
SVOC	4-Methylphenol	106-44-5	8270D	µg/kg				--
SVOC	4-Nitroaniline	100-01-6	8270D	µg/kg				--
SVOC	4-Nitrophenol	100-02-7	8270D	µg/kg				--
SVOC	Aniline	62-53-3	8270D	µg/kg				--
SVOC	Benzidine	92-87-5	8270D	µg/kg				--
SVOC	Benzoic Acid	65-85-0	8270D	µg/kg				--
SVOC	Benzyl Alcohol	100-51-6	8270D	µg/kg				--
SVOC	bis(2-chloroethoxy)methane	111-91-1	8270D	µg/kg				--
SVOC	bis(2-chloroethyl) ether	111-44-4	8270D	µg/kg				--
SVOC	bis(2-chloroisopropyl) ether	39638-32-9	8270D	µg/kg				--
SVOC	Carbazole	86-74-8	8270D	µg/kg				--
SVOC	Dibenzofuran	132-64-9	8270D	µg/kg				--
SVOC	Diphenylamine	NDPA122-39-4	8270D	µg/kg				--
SVOC	Hexachlorobenzene	118-74-1	8270D	µg/kg				--
SVOC	Hexachlorobutadiene	87-68-3	8270D	µg/kg				--
SVOC	Hexachlorocyclopentadiene	77-47-4	8270D	µg/kg				--
SVOC	Hexachloroethane	67-72-1	8270D	µg/kg				--
SVOC	Isophorone	78-59-1	8270D	µg/kg				--
SVOC	Nitrobenzene	98-95-3	8270D	µg/kg				--
SVOC	N-Nitroso-di-n-propylamine	621-64-7	8270D	µg/kg				--
SVOC	N-Nitrosodiphenylamine	86-30-6	8270D	µg/kg				--
SVOC	Pentachlorophenol	87-86-5	8270D	µg/kg				--
SVOC	Phenol	108-95-2	8270D	µg/kg				--
SVOC	Pyridine	110-86-1	8270D	µg/kg				--
TPH-EFH	EFH (C8-C11)	PHCC8C11	8015M	mg/kg	5.5 U	5.5 U		--
TPH-EFH	EFH (C12-C14)	PHCC12C14	8015M	mg/kg	5.5 U	5.5 U		--
TPH-EFH	EFH (C15-C20)	PHCC15C20	8015M	mg/kg	5.5 U	5.5 U		--
TPH-EFH	EFH (C21-C30)	PHCC21C30	8015M	mg/kg	5.5 U	5.5 U		--
TPH-EFH	EFH (C30-C40)	PHCC30C40	8015M	mg/kg	11 U	11 U		--
TPH-GRO	Gasoline Range Organics (C5-C12)	GROC5C12	8015M	mg/kg	1.2 UJ	1.2 UJ		--

Notes:

ug/kg - microgram per kilogram

mg/kg - milligram per kilogram

ng/g - nanogram per kilogram

FD - field duplicate sample

N - normal sample

RPD - relative percent difference

SO - soil

-- - RPD not calculated when both field duplicate and normal samples were nondetect or only one sample result is reported

200* - When one result is nondetect a 200% RPD is given and sample results are qualified as estimated "J" or "UJ" in the field duplicate samples only

Limit - 50% - If RPD is above 50% detected field duplicate results only were estimated "J"

Table C-8 - Subarea 5D Field Duplicate Samples

				Location	5D_DG-565	5D_DG-565	
				Sample Name:	SL-865-SA5D-SB-0.0-0.5	SL-565-SA5D-SB-0.0-0.5	
				Sample Date:	09/24/2013	09/24/2013	
				Start Depth:	0	0	
				End Depth:	0.5	0.5	RPD
				Area:	5D_DG	5D_DG	
				Matrix:	SO	SO	
				Sample Type:	FD	N	
Perchlorate	Perchlorate	14797-73-0	6850	µg/kg			--
Pesticides	4,4'-DDD	72-54-8	8081B	µg/kg			--
Pesticides	4,4'-DDE	72-55-9	8081B	µg/kg			--
Pesticides	4,4'-DDT	50-29-3	8081B	µg/kg			--
Pesticides	Aldrin	309-00-2	8081B	µg/kg			--
Pesticides	Alpha-Bhc	319-84-6	8081B	µg/kg			--
Pesticides	Beta-Bhc	319-85-7	8081B	µg/kg			--
Pesticides	Chlordane	57-74-9	8081B	µg/kg			--
Pesticides	Delta-Bhc	319-86-8	8081B	µg/kg			--
Pesticides	Dieldrin	60-57-1	8081B	µg/kg			--
Pesticides	Endosulfan I	959-98-8	8081B	µg/kg			--
Pesticides	Endosulfan II	33213-65-9	8081B	µg/kg			--
Pesticides	Endosulfan Sulfate	1031-07-8	8081B	µg/kg			--
Pesticides	Endrin	72-20-8	8081B	µg/kg			--
Pesticides	Endrin Aldehyde	7421-93-4	8081B	µg/kg			--
Pesticides	Endrin Ketone	53494-70-5	8081B	µg/kg			--
Pesticides	Gamma-Bhc (Lindane)	58-89-9	8081B	µg/kg			--
Pesticides	Heptachlor	76-44-8	8081B	µg/kg			--
Pesticides	Heptachlor Epoxide	1024-57-3	8081B	µg/kg			--
Pesticides	Methoxychlor	72-43-5	8081B	µg/kg			--
Pesticides	Mirex	2385-85-5	8081B	µg/kg			--
Pesticides	Technical Toxaphene	8001-35-2	8081B	µg/kg			--
pH	pH	pH	9045M	pH	7.72	7.54	2.36
SVOC	1,1'-Biphenyl	92-52-4	8270D	µg/kg			--
SVOC	1,2,4-Trichlorobenzene	120-82-1	8270D	µg/kg			--
SVOC	1,2-Dichlorobenzene	95-50-1	8270D	µg/kg			--
SVOC	1,2-Diphenylhydrazine	122-66-7	8270D	µg/kg			--
SVOC	1,3-Dichlorobenzene	541-73-1	8270D	µg/kg			--
SVOC	1,4-Dichlorobenzene	106-46-7	8270D	µg/kg			--
SVOC	2,4,5-Trichlorophenol	95-95-4	8270D	µg/kg			--
SVOC	2,4,6-Trichlorophenol	88-06-2	8270D	µg/kg			--
SVOC	2,4-Dichlorophenol	120-83-2	8270D	µg/kg			--
SVOC	2,4-Dimethylphenol	105-67-9	8270D	µg/kg			--
SVOC	2,4-Dinitrophenol	51-28-5	8270D	µg/kg			--
SVOC	2,6-Dichlorophenol	87-65-0	8270D	µg/kg			--
SVOC	2-Chloronaphthalene	91-58-7	8270D	µg/kg			--
SVOC	2-Chlorophenol	95-57-8	8270D	µg/kg			--
SVOC	2-Methylphenol	95-48-7	8270D	µg/kg			--
SVOC	2-Nitroaniline	88-74-4	8270D	µg/kg			--
SVOC	2-Nitrophenol	88-75-5	8270D	µg/kg			--
SVOC	3,3'-Dichlorobenzidine	91-94-1	8270D	µg/kg			--
SVOC	3,5-Dimethylphenol	108-68-9	8270D	µg/kg			--
SVOC	3-Nitroaniline	99-09-2	8270D	µg/kg			--
SVOC	4,6-Dinitro-2-methylphenol	534-52-1	8270D	µg/kg			--
SVOC	4-Bromophenyl-phenylether	101-55-3	8270D	µg/kg			--
SVOC	4-Chloro-3-methylphenol	59-50-7	8270D	µg/kg			--
SVOC	4-Chloroaniline	106-47-8	8270D	µg/kg			--
SVOC	4-Chlorophenyl-phenylether	7005-72-3	8270D	µg/kg			--
SVOC	4-Methylphenol	106-44-5	8270D	µg/kg			--
SVOC	4-Nitroaniline	100-01-6	8270D	µg/kg			--
SVOC	4-Nitrophenol	100-02-7	8270D	µg/kg			--
SVOC	Aniline	62-53-3	8270D	µg/kg			--
SVOC	Benzidine	92-87-5	8270D	µg/kg			--
SVOC	Benzoic Acid	65-85-0	8270D	µg/kg			--
SVOC	Benzyl Alcohol	100-51-6	8270D	µg/kg			--
SVOC	bis(2-chloroethoxy)methane	111-91-1	8270D	µg/kg			--
SVOC	bis(2-chloroethyl) ether	111-44-4	8270D	µg/kg			--
SVOC	bis(2-chloroisopropyl) ether	39638-32-9	8270D	µg/kg			--
SVOC	Carbazole	86-74-8	8270D	µg/kg			--
SVOC	Dibenzofuran	132-64-9	8270D	µg/kg			--
SVOC	Diphenylamine	NDPA122-39-4	8270D	µg/kg			--
SVOC	Hexachlorobenzene	118-74-1	8270D	µg/kg			--
SVOC	Hexachlorobutadiene	87-68-3	8270D	µg/kg			--
SVOC	Hexachlorocyclopentadiene	77-47-4	8270D	µg/kg			--
SVOC	Hexachloroethane	67-72-1	8270D	µg/kg			--
SVOC	Isophorone	78-59-1	8270D	µg/kg			--
SVOC	Nitrobenzene	98-95-3	8270D	µg/kg			--
SVOC	N-Nitroso-di-n-propylamine	621-64-7	8270D	µg/kg			--
SVOC	N-Nitrosodiphenylamine	86-30-6	8270D	µg/kg			--
SVOC	Pentachlorophenol	87-86-5	8270D	µg/kg			--
SVOC	Phenol	108-95-2	8270D	µg/kg			--
SVOC	Pyridine	110-86-1	8270D	µg/kg			--
TPH-EFH	EFH (C8-C11)	PHCC8C11	8015M	mg/kg	5.2 U	5.3 U	--
TPH-EFH	EFH (C12-C14)	PHCC12C14	8015M	mg/kg	5.2 U	5.3 U	--
TPH-EFH	EFH (C15-C20)	PHCC15C20	8015M	mg/kg	5.2 U	5.3 U	--
TPH-EFH	EFH (C21-C30)	PHCC21C30	8015M	mg/kg	8.7 J	4.3 J	67.69
TPH-EFH	EFH (C30-C40)	PHCC30C40	8015M	mg/kg	29 J	13 J	76.19
TPH-GRO	Gasoline Range Organics (C5-C12)	GROC5C12	8015M	mg/kg			--

Notes:

ug/kg - microgram per kilogram

mg/kg - milligram per kilogram

ng/g - nanogram per kilogram

FD - field duplicate sample

N - normal sample

RPD - relative percent difference

SO - soil

-- - RPD not calculated when both field duplicate and normal samples were nondetect or only one sample result is reported

200* - When one result is nondetect a 200% RPD is given and sample results are qualified as estimated "J" or "UJ" in the field duplicate samples only

Limit - 50% - If RPD is above 50% detected field duplicate results only were estimated "J"

Table C-8 - Subarea 5D Field Duplicate Samples

				Location				
				Sample Name:	5D_DG-579	5D_DG-579		
				Sample Date:	SL-879-SA5D-SB-0.0-0.5	SL-579-SA5D-SB-0.0-0.5		
				Start Depth:	09/19/2013	09/19/2013		
				End Depth:	0	0		
				Area:	0.5	0.5		
				Matrix:	5D_DG	5D_DG		
				Sample Type:	SO	SO		
					FD	N	RPD	
Perchlorate	Perchlorate	14797-73-0	6850	µg/kg	5.1 U	5.1 U		--
Pesticides	4,4'-DDD	72-54-8	8081B	µg/kg	1.7 U	1.7 U		--
Pesticides	4,4'-DDE	72-55-9	8081B	µg/kg	0.82 J	0.86 J		4.76
Pesticides	4,4'-DDT	50-29-3	8081B	µg/kg	1 J	0.98 J		2.02
Pesticides	Aldrin	309-00-2	8081B	µg/kg	0.84 U	0.84 U		--
Pesticides	Alpha-Bhc	319-84-6	8081B	µg/kg	0.84 U	0.84 U		--
Pesticides	Beta-Bhc	319-85-7	8081B	µg/kg	1.9 U	1.9 U		--
Pesticides	Chlordane	57-74-9	8081B	µg/kg	17 U	17 U		--
Pesticides	Delta-Bhc	319-86-8	8081B	µg/kg	0.84 U	0.84 U		--
Pesticides	Dieldrin	60-57-1	8081B	µg/kg	1.7 U	1.7 U		--
Pesticides	Endosulfan I	959-98-8	8081B	µg/kg	0.84 U	0.84 U		--
Pesticides	Endosulfan II	33213-65-9	8081B	µg/kg	1.7 U	1.7 U		--
Pesticides	Endosulfan Sulfate	1031-07-8	8081B	µg/kg	1.7 U	1.7 U		--
Pesticides	Endrin	72-20-8	8081B	µg/kg	1.7 U	1.7 U		--
Pesticides	Endrin Aldehyde	7421-93-4	8081B	µg/kg	1.7 U	1.7 U		--
Pesticides	Endrin Ketone	53494-70-5	8081B	µg/kg	1.8 U	1.8 U		--
Pesticides	Gamma-Bhc (Lindane)	58-89-9	8081B	µg/kg	0.84 U	0.84 U		--
Pesticides	Heptachlor	76-44-8	8081B	µg/kg	0.84 U	0.84 U		--
Pesticides	Heptachlor Epoxide	1024-57-3	8081B	µg/kg	0.84 U	0.84 U		--
Pesticides	Methoxychlor	72-43-5	8081B	µg/kg	6.8 U	6.8 U		--
Pesticides	Mirex	2385-85-5	8081B	µg/kg	1.7 U	1.7 U		--
Pesticides	Technical Toxaphene	8001-35-2	8081B	µg/kg	33 U	34 U		--
pH	pH	pH	9045M	pH				--
SVOC	1,1'-Biphenyl	92-52-4	8270D	µg/kg				--
SVOC	1,2,4-Trichlorobenzene	120-82-1	8270D	µg/kg				--
SVOC	1,2-Dichlorobenzene	95-50-1	8270D	µg/kg				--
SVOC	1,2-Diphenylhydrazine	122-66-7	8270D	µg/kg				--
SVOC	1,3-Dichlorobenzene	541-73-1	8270D	µg/kg				--
SVOC	1,4-Dichlorobenzene	106-46-7	8270D	µg/kg				--
SVOC	2,4,5-Trichlorophenol	95-95-4	8270D	µg/kg				--
SVOC	2,4,6-Trichlorophenol	88-06-2	8270D	µg/kg				--
SVOC	2,4-Dichlorophenol	120-83-2	8270D	µg/kg				--
SVOC	2,4-Dimethylphenol	105-67-9	8270D	µg/kg				--
SVOC	2,4-Dinitrophenol	51-28-5	8270D	µg/kg				--
SVOC	2,6-Dichlorophenol	87-65-0	8270D	µg/kg				--
SVOC	2-Chloronaphthalene	91-58-7	8270D	µg/kg				--
SVOC	2-Chlorophenol	95-57-8	8270D	µg/kg				--
SVOC	2-Methylphenol	95-48-7	8270D	µg/kg				--
SVOC	2-Nitroaniline	88-74-4	8270D	µg/kg				--
SVOC	2-Nitrophenol	88-75-5	8270D	µg/kg				--
SVOC	3,3'-Dichlorobenzidine	91-94-1	8270D	µg/kg				--
SVOC	3,5-Dimethylphenol	108-68-9	8270D	µg/kg				--
SVOC	3-Nitroaniline	99-09-2	8270D	µg/kg				--
SVOC	4,6-Dinitro-2-methylphenol	534-52-1	8270D	µg/kg				--
SVOC	4-Bromophenyl-phenylether	101-55-3	8270D	µg/kg				--
SVOC	4-Chloro-3-methylphenol	59-50-7	8270D	µg/kg				--
SVOC	4-Chloroaniline	106-47-8	8270D	µg/kg				--
SVOC	4-Chlorophenyl-phenylether	7005-72-3	8270D	µg/kg				--
SVOC	4-Methylphenol	106-44-5	8270D	µg/kg				--
SVOC	4-Nitroaniline	100-01-6	8270D	µg/kg				--
SVOC	4-Nitrophenol	100-02-7	8270D	µg/kg				--
SVOC	Aniline	62-53-3	8270D	µg/kg				--
SVOC	Benzidine	92-87-5	8270D	µg/kg				--
SVOC	Benzoic Acid	65-85-0	8270D	µg/kg				--
SVOC	Benzyl Alcohol	100-51-6	8270D	µg/kg				--
SVOC	bis(2-chloroethoxy)methane	111-91-1	8270D	µg/kg				--
SVOC	bis(2-chloroethyl) ether	111-44-4	8270D	µg/kg				--
SVOC	bis(2-chloroisopropyl) ether	39638-32-9	8270D	µg/kg				--
SVOC	Carbazole	86-74-8	8270D	µg/kg				--
SVOC	Dibenzofuran	132-64-9	8270D	µg/kg				--
SVOC	Diphenylamine	NDPA122-39-4	8270D	µg/kg				--
SVOC	Hexachlorobenzene	118-74-1	8270D	µg/kg				--
SVOC	Hexachlorobutadiene	87-68-3	8270D	µg/kg				--
SVOC	Hexachlorocyclopentadiene	77-47-4	8270D	µg/kg				--
SVOC	Hexachloroethane	67-72-1	8270D	µg/kg				--
SVOC	Isophorone	78-59-1	8270D	µg/kg				--
SVOC	Nitrobenzene	98-95-3	8270D	µg/kg				--
SVOC	N-Nitroso-di-n-propylamine	621-64-7	8270D	µg/kg				--
SVOC	N-Nitrosodiphenylamine	86-30-6	8270D	µg/kg				--
SVOC	Pentachlorophenol	87-86-5	8270D	µg/kg				--
SVOC	Phenol	108-95-2	8270D	µg/kg				--
SVOC	Pyridine	110-86-1	8270D	µg/kg				--
TPH-EFH	EFH (C8-C11)	PHCC8C11	8015M	mg/kg				--
TPH-EFH	EFH (C12-C14)	PHCC12C14	8015M	mg/kg				--
TPH-EFH	EFH (C15-C20)	PHCC15C20	8015M	mg/kg				--
TPH-EFH	EFH (C21-C30)	PHCC21C30	8015M	mg/kg				--
TPH-EFH	EFH (C30-C40)	PHCC30C40	8015M	mg/kg				--
TPH-GRO	Gasoline Range Organics (C5-C12)	GROC5C12	8015M	mg/kg				--

Notes:

ug/kg - microgram per kilogram

mg/kg - milligram per kilogram

ng/g - nanogram per kilogram

FD - field duplicate sample

N - normal sample

RPD - relative percent difference

SO - soil

-- - RPD not calculated when both field duplicate and normal samples were nondetect or only one sample result is reported

200* - When one result is nondetect a 200% RPD is given and sample results are qualified as estimated "J" or "UJ" in the field duplicate samples only

Limit - 50% - If RPD is above 50% detected field duplicate results only were estimated "J"

Table C-8 - Subarea 5D Field Duplicate Samples

		Location		5D_DG-582		5D_DG-582		RPD
		Sample Name:		SL-882-SA5D-SB-4.0-5.0		SL-582-SA5D-SB-4.0-5.0		
		Sample Date:		09/30/2013		09/30/2013		
		Start Depth:		4		4		
		End Depth:		5		5		
		Area:		5D_DG		5D_DG		
		Matrix:		SO		SO		
		Sample Type:		FD		N		
Perchlorate	Perchlorate	14797-73-0	6850	µg/kg				--
Pesticides	4,4'-DDD	72-54-8	8081B	µg/kg				--
Pesticides	4,4'-DDE	72-55-9	8081B	µg/kg				--
Pesticides	4,4'-DDT	50-29-3	8081B	µg/kg				--
Pesticides	Aldrin	309-00-2	8081B	µg/kg				--
Pesticides	Alpha-Bhc	319-84-6	8081B	µg/kg				--
Pesticides	Beta-Bhc	319-85-7	8081B	µg/kg				--
Pesticides	Chlordane	57-74-9	8081B	µg/kg				--
Pesticides	Delta-Bhc	319-86-8	8081B	µg/kg				--
Pesticides	Dieldrin	60-57-1	8081B	µg/kg				--
Pesticides	Endosulfan I	959-98-8	8081B	µg/kg				--
Pesticides	Endosulfan II	33213-65-9	8081B	µg/kg				--
Pesticides	Endosulfan Sulfate	1031-07-8	8081B	µg/kg				--
Pesticides	Endrin	72-20-8	8081B	µg/kg				--
Pesticides	Endrin Aldehyde	7421-93-4	8081B	µg/kg				--
Pesticides	Endrin Ketone	53494-70-5	8081B	µg/kg				--
Pesticides	Gamma-Bhc (Lindane)	58-89-9	8081B	µg/kg				--
Pesticides	Heptachlor	76-44-8	8081B	µg/kg				--
Pesticides	Heptachlor Epoxide	1024-57-3	8081B	µg/kg				--
Pesticides	Methoxychlor	72-43-5	8081B	µg/kg				--
Pesticides	Mirex	2385-85-5	8081B	µg/kg				--
Pesticides	Technical Toxaphene	8001-35-2	8081B	µg/kg				--
pH	pH	pH	9045M	pH	8.26		8.18	0.97
SVOC	1,1'-Biphenyl	92-52-4	8270D	µg/kg				--
SVOC	1,2,4-Trichlorobenzene	120-82-1	8270D	µg/kg				--
SVOC	1,2-Dichlorobenzene	95-50-1	8270D	µg/kg				--
SVOC	1,2-Diphenylhydrazine	122-66-7	8270D	µg/kg				--
SVOC	1,3-Dichlorobenzene	541-73-1	8270D	µg/kg				--
SVOC	1,4-Dichlorobenzene	106-46-7	8270D	µg/kg				--
SVOC	2,4,5-Trichlorophenol	95-95-4	8270D	µg/kg				--
SVOC	2,4,6-Trichlorophenol	88-06-2	8270D	µg/kg				--
SVOC	2,4-Dichlorophenol	120-83-2	8270D	µg/kg				--
SVOC	2,4-Dimethylphenol	105-67-9	8270D	µg/kg				--
SVOC	2,4-Dinitrophenol	51-28-5	8270D	µg/kg				--
SVOC	2,6-Dichlorophenol	87-65-0	8270D	µg/kg				--
SVOC	2-Chloronaphthalene	91-58-7	8270D	µg/kg				--
SVOC	2-Chlorophenol	95-57-8	8270D	µg/kg				--
SVOC	2-Methylphenol	95-48-7	8270D	µg/kg				--
SVOC	2-Nitroaniline	88-74-4	8270D	µg/kg				--
SVOC	2-Nitrophenol	88-75-5	8270D	µg/kg				--
SVOC	3,3'-Dichlorobenzidine	91-94-1	8270D	µg/kg				--
SVOC	3,5-Dimethylphenol	108-68-9	8270D	µg/kg				--
SVOC	3-Nitroaniline	99-09-2	8270D	µg/kg				--
SVOC	4,6-Dinitro-2-methylphenol	534-52-1	8270D	µg/kg				--
SVOC	4-Bromophenyl-phenylether	101-55-3	8270D	µg/kg				--
SVOC	4-Chloro-3-methylphenol	59-50-7	8270D	µg/kg				--
SVOC	4-Chloroaniline	106-47-8	8270D	µg/kg				--
SVOC	4-Chlorophenyl-phenylether	7005-72-3	8270D	µg/kg				--
SVOC	4-Methylphenol	106-44-5	8270D	µg/kg				--
SVOC	4-Nitroaniline	100-01-6	8270D	µg/kg				--
SVOC	4-Nitrophenol	100-02-7	8270D	µg/kg				--
SVOC	Aniline	62-53-3	8270D	µg/kg				--
SVOC	Benzidine	92-87-5	8270D	µg/kg				--
SVOC	Benzoic Acid	65-85-0	8270D	µg/kg				--
SVOC	Benzyl Alcohol	100-51-6	8270D	µg/kg				--
SVOC	bis(2-chloroethoxy)methane	111-91-1	8270D	µg/kg				--
SVOC	bis(2-chloroethyl) ether	111-44-4	8270D	µg/kg				--
SVOC	bis(2-chloroisopropyl) ether	39638-32-9	8270D	µg/kg				--
SVOC	Carbazole	86-74-8	8270D	µg/kg				--
SVOC	Dibenzofuran	132-64-9	8270D	µg/kg				--
SVOC	Diphenylamine	NDPA122-39-4	8270D	µg/kg				--
SVOC	Hexachlorobenzene	118-74-1	8270D	µg/kg				--
SVOC	Hexachlorobutadiene	87-68-3	8270D	µg/kg				--
SVOC	Hexachlorocyclopentadiene	77-47-4	8270D	µg/kg				--
SVOC	Hexachloroethane	67-72-1	8270D	µg/kg				--
SVOC	Isophorone	78-59-1	8270D	µg/kg				--
SVOC	Nitrobenzene	98-95-3	8270D	µg/kg				--
SVOC	N-Nitroso-di-n-propylamine	621-64-7	8270D	µg/kg				--
SVOC	N-Nitrosodiphenylamine	86-30-6	8270D	µg/kg				--
SVOC	Pentachlorophenol	87-86-5	8270D	µg/kg				--
SVOC	Phenol	108-95-2	8270D	µg/kg				--
SVOC	Pyridine	110-86-1	8270D	µg/kg				--
TPH-EFH	EFH (C8-C11)	PHCC8C11	8015M	mg/kg	5.6 U		5.6 U	--
TPH-EFH	EFH (C12-C14)	PHCC12C14	8015M	mg/kg	5.6 U		5.6 U	--
TPH-EFH	EFH (C15-C20)	PHCC15C20	8015M	mg/kg	5.6 U		5.6 U	--
TPH-EFH	EFH (C21-C30)	PHCC21C30	8015M	mg/kg	5.6 U		5.6 U	--
TPH-EFH	EFH (C30-C40)	PHCC30C40	8015M	mg/kg	11 U		11 U	--
TPH-GRO	Gasoline Range Organics (C5-C12)	GROC5C12	8015M	mg/kg	1.1 U		1.1 U	--

Notes:

ug/kg - microgram per kilogram

mg/kg - milligram per kilogram

ng/g - nanogram per kilogram

FD - field duplicate sample

N - normal sample

RPD - relative percent difference

SO - soil

-- - RPD not calculated when both field duplicate and normal samples were nondetect or only one sample result is reported

200* - When one result is nondetect a 200% RPD is given and sample results are qualified as estimated "J" or "UJ" in the field duplicate samples only

Limit - 50% - If RPD is above 50% detected field duplicate results only were estimated "J"

Table C-8 - Subarea 5D Field Duplicate Samples

				Location	5D_DG-590	5D_DG-590	
				Sample Name:	SL-890-SA5D-SB-4.0-5.0	SL-590-SA5D-SB-4.0-5.0	
				Sample Date:	09/06/2013	09/06/2013	
				Start Depth:	4	4	
				End Depth:	5	5	RPD
				Area:	5D_DG	5D_DG	
				Matrix:	SO	SO	
				Sample Type:	FD	N	
Perchlorate	Perchlorate	14797-73-0	6850	µg/kg	7.5	8.2 J	8.92
Pesticides	4,4'-DDD	72-54-8	8081B	µg/kg			--
Pesticides	4,4'-DDE	72-55-9	8081B	µg/kg			--
Pesticides	4,4'-DDT	50-29-3	8081B	µg/kg			--
Pesticides	Aldrin	309-00-2	8081B	µg/kg			--
Pesticides	Alpha-Bhc	319-84-6	8081B	µg/kg			--
Pesticides	Beta-Bhc	319-85-7	8081B	µg/kg			--
Pesticides	Chlordane	57-74-9	8081B	µg/kg			--
Pesticides	Delta-Bhc	319-86-8	8081B	µg/kg			--
Pesticides	Dieldrin	60-57-1	8081B	µg/kg			--
Pesticides	Endosulfan I	959-98-8	8081B	µg/kg			--
Pesticides	Endosulfan II	33213-65-9	8081B	µg/kg			--
Pesticides	Endosulfan Sulfate	1031-07-8	8081B	µg/kg			--
Pesticides	Endrin	72-20-8	8081B	µg/kg			--
Pesticides	Endrin Aldehyde	7421-93-4	8081B	µg/kg			--
Pesticides	Endrin Ketone	53494-70-5	8081B	µg/kg			--
Pesticides	Gamma-Bhc (Lindane)	58-89-9	8081B	µg/kg			--
Pesticides	Heptachlor	76-44-8	8081B	µg/kg			--
Pesticides	Heptachlor Epoxide	1024-57-3	8081B	µg/kg			--
Pesticides	Methoxychlor	72-43-5	8081B	µg/kg			--
Pesticides	Mirex	2385-85-5	8081B	µg/kg			--
Pesticides	Technical Toxaphene	8001-35-2	8081B	µg/kg			--
pH	pH	pH	9045M	pH	7.27	7.23	0.55
SVOC	1,1'-Biphenyl	92-52-4	8270D	µg/kg			--
SVOC	1,2,4-Trichlorobenzene	120-82-1	8270D	µg/kg			--
SVOC	1,2-Dichlorobenzene	95-50-1	8270D	µg/kg			--
SVOC	1,2-Diphenylhydrazine	122-66-7	8270D	µg/kg			--
SVOC	1,3-Dichlorobenzene	541-73-1	8270D	µg/kg			--
SVOC	1,4-Dichlorobenzene	106-46-7	8270D	µg/kg			--
SVOC	2,4,5-Trichlorophenol	95-95-4	8270D	µg/kg			--
SVOC	2,4,6-Trichlorophenol	88-06-2	8270D	µg/kg			--
SVOC	2,4-Dichlorophenol	120-83-2	8270D	µg/kg			--
SVOC	2,4-Dimethylphenol	105-67-9	8270D	µg/kg			--
SVOC	2,4-Dinitrophenol	51-28-5	8270D	µg/kg			--
SVOC	2,6-Dichlorophenol	87-65-0	8270D	µg/kg			--
SVOC	2-Chloronaphthalene	91-58-7	8270D	µg/kg			--
SVOC	2-Chlorophenol	95-57-8	8270D	µg/kg			--
SVOC	2-Methylphenol	95-48-7	8270D	µg/kg			--
SVOC	2-Nitroaniline	88-74-4	8270D	µg/kg			--
SVOC	2-Nitrophenol	88-75-5	8270D	µg/kg			--
SVOC	3,3'-Dichlorobenzidine	91-94-1	8270D	µg/kg			--
SVOC	3,5-Dimethylphenol	108-68-9	8270D	µg/kg			--
SVOC	3-Nitroaniline	99-09-2	8270D	µg/kg			--
SVOC	4,6-Dinitro-2-methylphenol	534-52-1	8270D	µg/kg			--
SVOC	4-Bromophenyl-phenylether	101-55-3	8270D	µg/kg			--
SVOC	4-Chloro-3-methylphenol	59-50-7	8270D	µg/kg			--
SVOC	4-Chloroaniline	106-47-8	8270D	µg/kg			--
SVOC	4-Chlorophenyl-phenylether	7005-72-3	8270D	µg/kg			--
SVOC	4-Methylphenol	106-44-5	8270D	µg/kg			--
SVOC	4-Nitroaniline	100-01-6	8270D	µg/kg			--
SVOC	4-Nitrophenol	100-02-7	8270D	µg/kg			--
SVOC	Aniline	62-53-3	8270D	µg/kg			--
SVOC	Benzidine	92-87-5	8270D	µg/kg			--
SVOC	Benzoic Acid	65-85-0	8270D	µg/kg			--
SVOC	Benzyl Alcohol	100-51-6	8270D	µg/kg			--
SVOC	bis(2-chloroethoxy)methane	111-91-1	8270D	µg/kg			--
SVOC	bis(2-chloroethyl) ether	111-44-4	8270D	µg/kg			--
SVOC	bis(2-chloroisopropyl) ether	39638-32-9	8270D	µg/kg			--
SVOC	Carbazole	86-74-8	8270D	µg/kg			--
SVOC	Dibenzofuran	132-64-9	8270D	µg/kg			--
SVOC	Diphenylamine	NDPA122-39-4	8270D	µg/kg			--
SVOC	Hexachlorobenzene	118-74-1	8270D	µg/kg			--
SVOC	Hexachlorobutadiene	87-68-3	8270D	µg/kg			--
SVOC	Hexachlorocyclopentadiene	77-47-4	8270D	µg/kg			--
SVOC	Hexachloroethane	67-72-1	8270D	µg/kg			--
SVOC	Isophorone	78-59-1	8270D	µg/kg			--
SVOC	Nitrobenzene	98-95-3	8270D	µg/kg			--
SVOC	N-Nitroso-di-n-propylamine	621-64-7	8270D	µg/kg			--
SVOC	N-Nitrosodiphenylamine	86-30-6	8270D	µg/kg			--
SVOC	Pentachlorophenol	87-86-5	8270D	µg/kg			--
SVOC	Phenol	108-95-2	8270D	µg/kg			--
SVOC	Pyridine	110-86-1	8270D	µg/kg			--
TPH-EFH	EFH (C8-C11)	PHCC8C11	8015M	mg/kg			--
TPH-EFH	EFH (C12-C14)	PHCC12C14	8015M	mg/kg			--
TPH-EFH	EFH (C15-C20)	PHCC15C20	8015M	mg/kg			--
TPH-EFH	EFH (C21-C30)	PHCC21C30	8015M	mg/kg			--
TPH-EFH	EFH (C30-C40)	PHCC30C40	8015M	mg/kg			--
TPH-GRO	Gasoline Range Organics (C5-C12)	GROC5C12	8015M	mg/kg			--

Notes:

ug/kg - microgram per kilogram

mg/kg - milligram per kilogram

ng/g - nanogram per kilogram

FD - field duplicate sample

N - normal sample

RPD - relative percent difference

SO - soil

-- - RPD not calculated when both field duplicate and normal samples were nondetect or only one sample result is reported

200* - When one result is nondetect a 200% RPD is given and sample results are qualified as estimated "J" or "UJ" in the field duplicate samples only

Limit - 50% - If RPD is above 50% detected field duplicate results only were estimated "J"

Table C-8 - Subarea 5D Field Duplicate Samples

				Location	5D_DG-600	5D_DG-600		
				Sample Name:	SL-900-SA5D-SB-0.0-0.5	SL-600-SA5D-SB-0.0-0.5		
				Sample Date	10/02/2013	10/02/2013		
				Start Depth:	0	0		
				End Depth:	0.5	0.5	RPD	
				Area:	5D_DG	5D_DG		
				Matrix:	SO	SO		
				Sample Type:	FD	N		
MAG:	Chemical Name:	CAS No.:	Lab Method:	Result Unit				
Dioxins	1,2,3,4,6,7,8-Heptachlorodibenzo-p-Dioxin	35822-46-9	1613B	ng/kg				--
Dioxins	1,2,3,4,6,7,8-HPCDF	67562-39-4	1613B	ng/kg				--
Dioxins	1,2,3,4,7,8,9-HPCDF	55673-89-7	1613B	ng/kg				--
Dioxins	1,2,3,4,7,8-Hexachlorodibenzo-p-Dioxin	39227-28-6	1613B	ng/kg				--
Dioxins	1,2,3,4,7,8-HXCDF	70648-26-9	1613B	ng/kg				--
Dioxins	1,2,3,6,7,8-Hexachlorodibenzo-p-Dioxin	57653-85-7	1613B	ng/kg				--
Dioxins	1,2,3,6,7,8-HXCDF	57117-44-9	1613B	ng/kg				--
Dioxins	1,2,3,7,8,9-Hexachlorodibenzo-p-Dioxin	19408-74-3	1613B	ng/kg				--
Dioxins	1,2,3,7,8,9-HXCDF	72918-21-9	1613B	ng/kg				--
Dioxins	1,2,3,7,8-Pentachlorodibenzofuran	57117-41-6	1613B	ng/kg				--
Dioxins	1,2,3,7,8-Pentachlorodibenzo-p-Dioxin	40321-76-4	1613B	ng/kg				--
Dioxins	2,3,4,6,7,8-HXCDF	60851-34-5	1613B	ng/kg				--
Dioxins	2,3,4,7,8-PECDF	57117-31-4	1613B	ng/kg				--
Dioxins	2,3,7,8-TCDD	1746-01-6	1613B	ng/kg				--
Dioxins	2,3,7,8-Tetrachlorodibenzofuran	51207-31-9	1613B	ng/kg				--
Dioxins	OCDD	3268-87-9	1613B	ng/kg				--
Dioxins	OCDF	39001-02-0	1613B	ng/kg				--
Dioxins	TCDD TEQ	TCDD TEQ	1613B	ng/kg				--
Fluoride	Fluoride	16984-48-8	300.0	mg/kg	2.5 J	0.93 J		91.55
Herbicides	2,2-Dichlor-Propionic Acid	75-99-0	8151A	µg/kg				--
Herbicides	2,4,5-T	93-76-5	8151A	µg/kg				--
Herbicides	2,4-D	94-75-7	8151A	µg/kg				--
Herbicides	2,4-DB	94-82-6	8151A	µg/kg				--
Herbicides	Dicamba	1918-00-9	8151A	µg/kg				--
Herbicides	Dichlorprop	120-36-5	8151A	µg/kg				--
Herbicides	Dinitrobutyl Phenol	88-85-7	8151A	µg/kg				--
Herbicides	MCPA	94-74-6	8151A	µg/kg				--
Herbicides	MCPP	93-65-2	8151A	µg/kg				--
Herbicides	Silvex (2,4,5-TP)	93-72-1	8151A	µg/kg				--
Hexavalent Chromium	Chromium (Hexavalent Compounds)	18540-29-9	7199	mg/kg				--
Mercury	Mercury	7439-97-6	7471B	mg/kg				--
Metals	Aluminum	7429-90-5	6010C	mg/kg				--
Metals	Antimony	7440-36-0	6010C	mg/kg				--
Metals	Arsenic	7440-38-2	6010C	mg/kg				--
Metals	Barium	7440-39-3	6010C	mg/kg				--
Metals	Beryllium	7440-41-7	6010C	mg/kg				--
Metals	Boron	7440-42-8	6010C	mg/kg				--
Metals	Cadmium	7440-43-9	6010C	mg/kg				--
Metals	Calcium	7440-70-2	6010C	mg/kg				--
Metals	Chromium	7440-47-3	6010C	mg/kg				--
Metals	Cobalt	7440-48-4	6010C	mg/kg				--
Metals	Copper	7440-50-8	6010C	mg/kg				--
Metals	Iron	7439-89-6	6010C	mg/kg				--
Metals	Lead	7439-92-1	6010C	mg/kg				--
Metals	Lithium	7439-93-2	6010C	mg/kg				--
Metals	Magnesium	7439-95-4	6010C	mg/kg				--
Metals	Manganese	7439-96-5	6010C	mg/kg				--
Metals	Molybdenum	7439-98-7	6010C	mg/kg				--
Metals	Nickel	7440-02-0	6010C	mg/kg				--
Metals	Phosphorus	7723-14-0	6010C	mg/kg				--
Metals	Potassium	7440-09-7	6010C	mg/kg				--
Metals	Selenium	7782-49-2	6020A	mg/kg				--
Metals	Silver	7440-22-4	6020A	mg/kg				--
Metals	Sodium	7440-23-5	6010C	mg/kg				--
Metals	Strontium	7440-24-6	6020A	mg/kg				--
Metals	Thallium	7440-28-0	6020A	mg/kg				--
Metals	Tin	7440-31-5	6010C	mg/kg				--
Metals	Titanium	7440-32-6	6010C	mg/kg				--
Metals	Vanadium	7440-62-2	6010C	mg/kg				--
Metals	Zinc	7440-66-6	6010C	mg/kg				--
Metals	Zirconium	7440-67-7	6010C	mg/kg				--
Moisture Content	Moisture	MOIST	160.3M	%	8.6	5		52.94
PAHs	1-Methylnaphthalene	90-12-0	8270D SIM	µg/kg				--
PAHs	2-Methylnaphthalene	91-57-6	8270D SIM	µg/kg				--
PAHs	Acenaphthene	83-32-9	8270D SIM	µg/kg				--
PAHs	Acenaphthylene	208-96-8	8270D SIM	µg/kg				--
PAHs	Anthracene	120-12-7	8270D SIM	µg/kg				--
PAHs	Benzo(a)anthracene	56-55-3	8270D SIM	µg/kg				--
PAHs	Benzo(a)pyrene	50-32-8	8270D SIM	µg/kg				--
PAHs	Benzo(b)fluoranthene	205-99-2	8270D SIM	µg/kg				--
PAHs	Benzo(e)pyrene	192-97-2	8270D SIM	µg/kg				--
PAHs	Benzo(g,h,i)perylene	191-24-2	8270D SIM	µg/kg				--
PAHs	Benzo(k)fluoranthene	207-08-9	8270D SIM	µg/kg				--
PAHs	Bis(2-ethylhexyl)phthalate	117-81-7	8270D SIM	µg/kg				--
PAHs	Butylbenzylphthalate	85-68-7	8270D SIM	µg/kg				--
PAHs	Chrysene	218-01-9	8270D SIM	µg/kg				--
PAHs	Dibenzo(a,h)anthracene	53-70-3	8270D SIM	µg/kg				--
PAHs	Diethylphthalate	84-66-2	8270D SIM	µg/kg				--
PAHs	Dimethylphthalate	131-11-3	8270D SIM	µg/kg				--
PAHs	Di-n-butylphthalate	84-74-2	8270D SIM	µg/kg				--
PAHs	Di-n-octylphthalate	117-84-0	8270D SIM	µg/kg				--
PAHs	Fluoranthene	206-44-0	8270D SIM	µg/kg				--
PAHs	Fluorene	86-73-7	8270D SIM	µg/kg				--
PAHs	Indeno(1,2,3-cd)pyrene	193-39-5	8270D SIM	µg/kg				--
PAHs	Naphthalene	91-20-3	8270D SIM	µg/kg				--
PAHs	N-Nitrosodimethylamine	62-75-9	8270D SIM	µg/kg				--
PAHs	Phenanthrene	85-01-8	8270D SIM	µg/kg				--
PAHs	Pyrene	129-00-0	8270D SIM	µg/kg				--
PCBPCTs	Aroclor 1016	12674-11-2	8082A	µg/kg				--
PCBPCTs	Aroclor 1221	11104-28-2	8082A	µg/kg				--
PCBPCTs	Aroclor 1232	11141-16-5	8082A	µg/kg				--
PCBPCTs	Aroclor 1242	53469-21-9	8082A	µg/kg				--
PCBPCTs	Aroclor 1248	12672-29-6	8082A	µg/kg				--
PCBPCTs	Aroclor 1254	11097-69-1	8082A	µg/kg				--
PCBPCTs	Aroclor 1260	11096-82-5	8082A	µg/kg				--
PCBPCTs	Aroclor 1262	37324-23-5	8082A	µg/kg				--
PCBPCTs	Aroclor 1268	11100-14-4	8082A	µg/kg				--
PCBPCTs	Aroclor 5432	63496-31-1	8082A	µg/kg				--
PCBPCTs	Aroclor 5442	12642-23-8	8082A	µg/kg				--
PCBPCTs	Aroclor 5460	11126-42-4	8082A	µg/kg				--

Table C-8 - Subarea 5D Field Duplicate Samples

					Location	5D_DG-600	5D_DG-600		
					Sample Name:	SL-900-SA5D-SB-0.0-0.5	SL-600-SA5D-SB-0.0-0.5		
					Sample Date:	10/02/2013	10/02/2013		
					Start Depth:	0	0		
					End Depth:	0.5	0.5		
					Area:	5D_DG	5D_DG		
					Matrix:	SO	SO		
					Sample Type:	FD	N		
					RPD				
Perchlorate	Perchlorate	14797-73-0	6850	µg/kg					--
Pesticides	4,4'-DDD	72-54-8	8081B	µg/kg					--
Pesticides	4,4'-DDE	72-55-9	8081B	µg/kg					--
Pesticides	4,4'-DDT	50-29-3	8081B	µg/kg					--
Pesticides	Aldrin	309-00-2	8081B	µg/kg					--
Pesticides	Alpha-Bhc	319-84-6	8081B	µg/kg					--
Pesticides	Beta-Bhc	319-85-7	8081B	µg/kg					--
Pesticides	Chlordane	57-74-9	8081B	µg/kg					--
Pesticides	Delta-Bhc	319-86-8	8081B	µg/kg					--
Pesticides	Dieldrin	60-57-1	8081B	µg/kg					--
Pesticides	Endosulfan I	959-98-8	8081B	µg/kg					--
Pesticides	Endosulfan II	33213-65-9	8081B	µg/kg					--
Pesticides	Endosulfan Sulfate	1031-07-8	8081B	µg/kg					--
Pesticides	Endrin	72-20-8	8081B	µg/kg					--
Pesticides	Endrin Aldehyde	7421-93-4	8081B	µg/kg					--
Pesticides	Endrin Ketone	53494-70-5	8081B	µg/kg					--
Pesticides	Gamma-Bhc (Lindane)	58-89-9	8081B	µg/kg					--
Pesticides	Heptachlor	76-44-8	8081B	µg/kg					--
Pesticides	Heptachlor Epoxide	1024-57-3	8081B	µg/kg					--
Pesticides	Methoxychlor	72-43-5	8081B	µg/kg					--
Pesticides	Mirex	2385-85-5	8081B	µg/kg					--
Pesticides	Technical Toxaphene	8001-35-2	8081B	µg/kg					--
pH	pH	pH	9045M	pH	7.26		6.83		6.10
SVOC	1,1'-Biphenyl	92-52-4	8270D	µg/kg					--
SVOC	1,2,4-Trichlorobenzene	120-82-1	8270D	µg/kg					--
SVOC	1,2-Dichlorobenzene	95-50-1	8270D	µg/kg					--
SVOC	1,2-Diphenylhydrazine	122-66-7	8270D	µg/kg					--
SVOC	1,3-Dichlorobenzene	541-73-1	8270D	µg/kg					--
SVOC	1,4-Dichlorobenzene	106-46-7	8270D	µg/kg					--
SVOC	2,4,5-Trichlorophenol	95-95-4	8270D	µg/kg					--
SVOC	2,4,6-Trichlorophenol	88-06-2	8270D	µg/kg					--
SVOC	2,4-Dichlorophenol	120-83-2	8270D	µg/kg					--
SVOC	2,4-Dimethylphenol	105-67-9	8270D	µg/kg					--
SVOC	2,4-Dinitrophenol	51-28-5	8270D	µg/kg					--
SVOC	2,6-Dichlorophenol	87-65-0	8270D	µg/kg					--
SVOC	2-Chloronaphthalene	91-58-7	8270D	µg/kg					--
SVOC	2-Chlorophenol	95-57-8	8270D	µg/kg					--
SVOC	2-Methylphenol	95-48-7	8270D	µg/kg					--
SVOC	2-Nitroaniline	88-74-4	8270D	µg/kg					--
SVOC	2-Nitrophenol	88-75-5	8270D	µg/kg					--
SVOC	3,3'-Dichlorobenzidine	91-94-1	8270D	µg/kg					--
SVOC	3,5-Dimethylphenol	108-68-9	8270D	µg/kg					--
SVOC	3-Nitroaniline	99-09-2	8270D	µg/kg					--
SVOC	4,6-Dinitro-2-methylphenol	534-52-1	8270D	µg/kg					--
SVOC	4-Bromophenyl-phenylether	101-55-3	8270D	µg/kg					--
SVOC	4-Chloro-3-methylphenol	59-50-7	8270D	µg/kg					--
SVOC	4-Chloroaniline	106-47-8	8270D	µg/kg					--
SVOC	4-Chlorophenyl-phenylether	7005-72-3	8270D	µg/kg					--
SVOC	4-Methylphenol	106-44-5	8270D	µg/kg					--
SVOC	4-Nitroaniline	100-01-6	8270D	µg/kg					--
SVOC	4-Nitrophenol	100-02-7	8270D	µg/kg					--
SVOC	Aniline	62-53-3	8270D	µg/kg					--
SVOC	Benzidine	92-87-5	8270D	µg/kg					--
SVOC	Benzoic Acid	65-85-0	8270D	µg/kg					--
SVOC	Benzyl Alcohol	100-51-6	8270D	µg/kg					--
SVOC	bis(2-chloroethoxy)methane	111-91-1	8270D	µg/kg					--
SVOC	bis(2-chloroethyl) ether	111-44-4	8270D	µg/kg					--
SVOC	bis(2-chloroisopropyl) ether	39638-32-9	8270D	µg/kg					--
SVOC	Carbazole	86-74-8	8270D	µg/kg					--
SVOC	Dibenzofuran	132-64-9	8270D	µg/kg					--
SVOC	Diphenylamine	NDPA122-39-4	8270D	µg/kg					--
SVOC	Hexachlorobenzene	118-74-1	8270D	µg/kg					--
SVOC	Hexachlorobutadiene	87-68-3	8270D	µg/kg					--
SVOC	Hexachlorocyclopentadiene	77-47-4	8270D	µg/kg					--
SVOC	Hexachloroethane	67-72-1	8270D	µg/kg					--
SVOC	Isophorone	78-59-1	8270D	µg/kg					--
SVOC	Nitrobenzene	98-95-3	8270D	µg/kg					--
SVOC	N-Nitroso-di-n-propylamine	621-64-7	8270D	µg/kg					--
SVOC	N-Nitrosodiphenylamine	86-30-6	8270D	µg/kg					--
SVOC	Pentachlorophenol	87-86-5	8270D	µg/kg					--
SVOC	Phenol	108-95-2	8270D	µg/kg					--
SVOC	Pyridine	110-86-1	8270D	µg/kg					--
TPH-EFH	EFH (C8-C11)	PHCC8C11	8015M	mg/kg					--
TPH-EFH	EFH (C12-C14)	PHCC12C14	8015M	mg/kg					--
TPH-EFH	EFH (C15-C20)	PHCC15C20	8015M	mg/kg					--
TPH-EFH	EFH (C21-C30)	PHCC21C30	8015M	mg/kg					--
TPH-EFH	EFH (C30-C40)	PHCC30C40	8015M	mg/kg					--
TPH-GRO	Gasoline Range Organics (C5-C12)	GROC5C12	8015M	mg/kg					--

Notes:

ug/kg - microgram per kilogram

mg/kg - milligram per kilogram

ng/g - nanogram per kilogram

FD - field duplicate sample

N - normal sample

RPD - relative percent difference

SO - soil

-- - RPD not calculated when both field duplicate and normal samples were nondetect or only one sample result is reported

200* - When one result is nondetect a 200% RPD is given and sample results are qualified as estimated "J" or "UJ" in the field duplicate samples only

Limit - 50% - If RPD is above 50% detected field duplicate results only were estimated "J"

Table C-8 - Subarea 5D Field Duplicate Samples

					Location	5D_DG-605	5D_DG-605		
					Sample Name:	SL-905-SA5D-SB-4.0-5.0	SL-605-SA5D-SB-4.0-5.0		
					Sample Date	09/10/2013	09/10/2013		
					Start Depth:	4	4		
					End Depth:	5	5		
					Area:	5D_DG	5D_DG		
					Matrix:	SO	SO		
					Sample Type:	FD	N		
MAG:	Chemical Name:	CAS No.:	Lab Method:	Result Unit					RPD
Dioxins	1,2,3,4,6,7,8-Heptachlorodibenzo-p-Dioxin	35822-46-9	1613B	ng/kg					--
Dioxins	1,2,3,4,6,7,8-HPCDF	67562-39-4	1613B	ng/kg					--
Dioxins	1,2,3,4,7,8,9-HPCDF	55673-89-7	1613B	ng/kg					--
Dioxins	1,2,3,4,7,8-Hexachlorodibenzo-p-Dioxin	39227-28-6	1613B	ng/kg					--
Dioxins	1,2,3,4,7,8-HXCDF	70648-26-9	1613B	ng/kg					--
Dioxins	1,2,3,6,7,8-Hexachlorodibenzo-p-Dioxin	57653-85-7	1613B	ng/kg					--
Dioxins	1,2,3,6,7,8-HXCDF	57117-44-9	1613B	ng/kg					--
Dioxins	1,2,3,7,8,9-Hexachlorodibenzo-p-Dioxin	19408-74-3	1613B	ng/kg					--
Dioxins	1,2,3,7,8,9-HXCDF	72918-21-9	1613B	ng/kg					--
Dioxins	1,2,3,7,8-Pentachlorodibenzofuran	57117-41-6	1613B	ng/kg					--
Dioxins	1,2,3,7,8-Pentachlorodibenzo-p-Dioxin	40321-76-4	1613B	ng/kg					--
Dioxins	2,3,4,6,7,8-HXCDF	60851-34-5	1613B	ng/kg					--
Dioxins	2,3,4,7,8-PCDF	57117-31-4	1613B	ng/kg					--
Dioxins	2,3,7,8-TCDD	1746-01-6	1613B	ng/kg					--
Dioxins	2,3,7,8-Tetrachlorodibenzofuran	51207-31-9	1613B	ng/kg					--
Dioxins	OCDD	3268-87-9	1613B	ng/kg					--
Dioxins	OCDF	39001-02-0	1613B	ng/kg					--
Dioxins	TCDD TEQ	TCDD TEQ	1613B	ng/kg					--
Fluoride	Fluoride	16984-48-8	300.0	mg/kg	1.5 J		3.2 J		72.34
Herbicides	2,2-Dichlor-Propionic Acid	75-99-0	8151A	µg/kg					--
Herbicides	2,4,5-T	93-76-5	8151A	µg/kg					--
Herbicides	2,4-D	94-75-7	8151A	µg/kg					--
Herbicides	2,4-DB	94-82-6	8151A	µg/kg					--
Herbicides	Dicamba	1918-00-9	8151A	µg/kg					--
Herbicides	Dichlorprop	120-36-5	8151A	µg/kg					--
Herbicides	Dinitrobutyl Phenol	88-85-7	8151A	µg/kg					--
Herbicides	MCPA	94-74-6	8151A	µg/kg					--
Herbicides	MCPP	93-65-2	8151A	µg/kg					--
Herbicides	Silvex (2,4,5-TP)	93-72-1	8151A	µg/kg					--
Hexavalent Chromium	Chromium (Hexavalent Compounds)	18540-29-9	7199	mg/kg					--
Mercury	Mercury	7439-97-6	7471B	mg/kg					--
Metals	Aluminum	7429-90-5	6010C	mg/kg					--
Metals	Antimony	7440-36-0	6010C	mg/kg					--
Metals	Arsenic	7440-38-2	6010C	mg/kg					--
Metals	Barium	7440-39-3	6010C	mg/kg					--
Metals	Beryllium	7440-41-7	6010C	mg/kg					--
Metals	Boron	7440-42-8	6010C	mg/kg					--
Metals	Cadmium	7440-43-9	6010C	mg/kg					--
Metals	Calcium	7440-70-2	6010C	mg/kg					--
Metals	Chromium	7440-47-3	6010C	mg/kg					--
Metals	Cobalt	7440-48-4	6010C	mg/kg					--
Metals	Copper	7440-50-8	6010C	mg/kg					--
Metals	Iron	7439-89-6	6010C	mg/kg					--
Metals	Lead	7439-92-1	6010C	mg/kg					--
Metals	Lithium	7439-93-2	6010C	mg/kg					--
Metals	Magnesium	7439-95-4	6010C	mg/kg					--
Metals	Manganese	7439-96-5	6010C	mg/kg					--
Metals	Molybdenum	7439-98-7	6010C	mg/kg					--
Metals	Nickel	7440-02-0	6010C	mg/kg					--
Metals	Phosphorus	7723-14-0	6010C	mg/kg					--
Metals	Potassium	7440-09-7	6010C	mg/kg					--
Metals	Selenium	7782-49-2	6020A	mg/kg					--
Metals	Silver	7440-22-4	6020A	mg/kg					--
Metals	Sodium	7440-23-5	6010C	mg/kg					--
Metals	Strontium	7440-24-6	6020A	mg/kg					--
Metals	Thallium	7440-28-0	6020A	mg/kg					--
Metals	Tin	7440-31-5	6010C	mg/kg					--
Metals	Titanium	7440-32-6	6010C	mg/kg					--
Metals	Vanadium	7440-62-2	6010C	mg/kg					--
Metals	Zinc	7440-66-6	6010C	mg/kg					--
Metals	Zirconium	7440-67-7	6010C	mg/kg					--
Moisture Content	Moisture	MOIST	160.3M	%	14.5		13.9		4.23
PAHs	1-Methylnaphthalene	90-12-0	8270D SIM	µg/kg					--
PAHs	2-Methylnaphthalene	91-57-6	8270D SIM	µg/kg					--
PAHs	Acenaphthene	83-32-9	8270D SIM	µg/kg					--
PAHs	Acenaphthylene	208-96-8	8270D SIM	µg/kg					--
PAHs	Anthracene	120-12-7	8270D SIM	µg/kg					--
PAHs	Benzo(a)anthracene	56-55-3	8270D SIM	µg/kg					--
PAHs	Benzo(a)pyrene	50-32-8	8270D SIM	µg/kg					--
PAHs	Benzo(b)fluoranthene	205-99-2	8270D SIM	µg/kg					--
PAHs	Benzo(e)pyrene	192-97-2	8270D SIM	µg/kg					--
PAHs	Benzo(g,h,i)perylene	191-24-2	8270D SIM	µg/kg					--
PAHs	Benzo(k)fluoranthene	207-08-9	8270D SIM	µg/kg					--
PAHs	Bis(2-ethylhexyl)phthalate	117-81-7	8270D SIM	µg/kg					--
PAHs	Butylbenzylphthalate	85-68-7	8270D SIM	µg/kg					--
PAHs	Chrysene	218-01-9	8270D SIM	µg/kg					--
PAHs	Dibenzo(a,h)anthracene	53-70-3	8270D SIM	µg/kg					--
PAHs	Diethylphthalate	84-66-2	8270D SIM	µg/kg					--
PAHs	Dimethylphthalate	131-11-3	8270D SIM	µg/kg					--
PAHs	Di-n-butylphthalate	84-74-2	8270D SIM	µg/kg					--
PAHs	Di-n-octylphthalate	117-84-0	8270D SIM	µg/kg					--
PAHs	Fluoranthene	206-44-0	8270D SIM	µg/kg					--
PAHs	Fluorene	86-73-7	8270D SIM	µg/kg					--
PAHs	Indeno(1,2,3-cd)pyrene	193-39-5	8270D SIM	µg/kg					--
PAHs	Naphthalene	91-20-3	8270D SIM	µg/kg					--
PAHs	N-Nitrosodimethylamine	62-75-9	8270D SIM	µg/kg					--
PAHs	Phenanthrene	85-01-8	8270D SIM	µg/kg					--
PAHs	Pyrene	129-00-0	8270D SIM	µg/kg					--
PCBPCTs	Aroclor 1016	12674-11-2	8082A	µg/kg					--
PCBPCTs	Aroclor 1221	11104-28-2	8082A	µg/kg					--
PCBPCTs	Aroclor 1232	11141-16-5	8082A	µg/kg					--
PCBPCTs	Aroclor 1242	53469-21-9	8082A	µg/kg					--
PCBPCTs	Aroclor 1248	12672-29-6	8082A	µg/kg					--
PCBPCTs	Aroclor 1254	11097-69-1	8082A	µg/kg					--
PCBPCTs	Aroclor 1260	11096-82-5	8082A	µg/kg					--
PCBPCTs	Aroclor 1262	37324-23-5	8082A	µg/kg					--
PCBPCTs	Aroclor 1268	11100-14-4	8082A	µg/kg					--
PCBPCTs	Aroclor 5432	63496-31-1	8082A	µg/kg					--
PCBPCTs	Aroclor 5442	12642-23-8	8082A	µg/kg					--
PCBPCTs	Aroclor 5460	11126-42-4	8082A	µg/kg					--

Table C-8 - Subarea 5D Field Duplicate Samples

		Location			5D_DG-605		5D_DG-605		RPD
		Sample Name:			SL-905-SA5D-SB-4.0-5.0		SL-605-SA5D-SB-4.0-5.0		
		Sample Date			09/10/2013		09/10/2013		
		Start Depth:			4		4		
		End Depth:			5		5		
		Area:			5D_DG		5D_DG		
		Matrix:			SO		SO		
		Sample Type:			FD		N		
Perchlorate	Perchlorate	14797-73-0	6850	µg/kg				--	
Pesticides	4,4'-DDD	72-54-8	8081B	µg/kg				--	
Pesticides	4,4'-DDE	72-55-9	8081B	µg/kg				--	
Pesticides	4,4'-DDT	50-29-3	8081B	µg/kg				--	
Pesticides	Aldrin	309-00-2	8081B	µg/kg				--	
Pesticides	Alpha-Bhc	319-84-6	8081B	µg/kg				--	
Pesticides	Beta-Bhc	319-85-7	8081B	µg/kg				--	
Pesticides	Chlordane	57-74-9	8081B	µg/kg				--	
Pesticides	Delta-Bhc	319-86-8	8081B	µg/kg				--	
Pesticides	Dieldrin	60-57-1	8081B	µg/kg				--	
Pesticides	Endosulfan I	959-98-8	8081B	µg/kg				--	
Pesticides	Endosulfan II	33213-65-9	8081B	µg/kg				--	
Pesticides	Endosulfan Sulfate	1031-07-8	8081B	µg/kg				--	
Pesticides	Endrin	72-20-8	8081B	µg/kg				--	
Pesticides	Endrin Aldehyde	7421-93-4	8081B	µg/kg				--	
Pesticides	Endrin Ketone	53494-70-5	8081B	µg/kg				--	
Pesticides	Gamma-Bhc (Lindane)	58-89-9	8081B	µg/kg				--	
Pesticides	Heptachlor	76-44-8	8081B	µg/kg				--	
Pesticides	Heptachlor Epoxide	1024-57-3	8081B	µg/kg				--	
Pesticides	Methoxychlor	72-43-5	8081B	µg/kg				--	
Pesticides	Mirex	2385-85-5	8081B	µg/kg				--	
Pesticides	Technical Toxaphene	8001-35-2	8081B	µg/kg				--	
pH	pH	pH	9045M	pH				--	
SVOC	1,1'-Biphenyl	92-52-4	8270D	µg/kg				--	
SVOC	1,2,4-Trichlorobenzene	120-82-1	8270D	µg/kg				--	
SVOC	1,2-Dichlorobenzene	95-50-1	8270D	µg/kg				--	
SVOC	1,2-Diphenylhydrazine	122-66-7	8270D	µg/kg				--	
SVOC	1,3-Dichlorobenzene	541-73-1	8270D	µg/kg				--	
SVOC	1,4-Dichlorobenzene	106-46-7	8270D	µg/kg				--	
SVOC	2,4,5-Trichlorophenol	95-95-4	8270D	µg/kg				--	
SVOC	2,4,6-Trichlorophenol	88-06-2	8270D	µg/kg				--	
SVOC	2,4-Dichlorophenol	120-83-2	8270D	µg/kg				--	
SVOC	2,4-Dimethylphenol	105-67-9	8270D	µg/kg				--	
SVOC	2,4-Dinitrophenol	51-28-5	8270D	µg/kg				--	
SVOC	2,6-Dichlorophenol	87-65-0	8270D	µg/kg				--	
SVOC	2-Chloronaphthalene	91-58-7	8270D	µg/kg				--	
SVOC	2-Chlorophenol	95-57-8	8270D	µg/kg				--	
SVOC	2-Methylphenol	95-48-7	8270D	µg/kg				--	
SVOC	2-Nitroaniline	88-74-4	8270D	µg/kg				--	
SVOC	2-Nitrophenol	88-75-5	8270D	µg/kg				--	
SVOC	3,3'-Dichlorobenzidine	91-94-1	8270D	µg/kg				--	
SVOC	3,5-Dimethylphenol	108-68-9	8270D	µg/kg				--	
SVOC	3-Nitroaniline	99-09-2	8270D	µg/kg				--	
SVOC	4,6-Dinitro-2-methylphenol	534-52-1	8270D	µg/kg				--	
SVOC	4-Bromophenyl-phenylether	101-55-3	8270D	µg/kg				--	
SVOC	4-Chloro-3-methylphenol	59-50-7	8270D	µg/kg				--	
SVOC	4-Chloroaniline	106-47-8	8270D	µg/kg				--	
SVOC	4-Chlorophenyl-phenylether	7005-72-3	8270D	µg/kg				--	
SVOC	4-Methylphenol	106-44-5	8270D	µg/kg				--	
SVOC	4-Nitroaniline	100-01-6	8270D	µg/kg				--	
SVOC	4-Nitrophenol	100-02-7	8270D	µg/kg				--	
SVOC	Aniline	62-53-3	8270D	µg/kg				--	
SVOC	Benzidine	92-87-5	8270D	µg/kg				--	
SVOC	Benzoic Acid	65-85-0	8270D	µg/kg				--	
SVOC	Benzyl Alcohol	100-51-6	8270D	µg/kg				--	
SVOC	bis(2-chloroethoxy)methane	111-91-1	8270D	µg/kg				--	
SVOC	bis(2-chloroethyl) ether	111-44-4	8270D	µg/kg				--	
SVOC	bis(2-chloroisopropyl) ether	39638-32-9	8270D	µg/kg				--	
SVOC	Carbazole	86-74-8	8270D	µg/kg				--	
SVOC	Dibenzofuran	132-64-9	8270D	µg/kg				--	
SVOC	Diphenylamine	NDPA122-39-4	8270D	µg/kg				--	
SVOC	Hexachlorobenzene	118-74-1	8270D	µg/kg				--	
SVOC	Hexachlorobutadiene	87-68-3	8270D	µg/kg				--	
SVOC	Hexachlorocyclopentadiene	77-47-4	8270D	µg/kg				--	
SVOC	Hexachloroethane	67-72-1	8270D	µg/kg				--	
SVOC	Isophorone	78-59-1	8270D	µg/kg				--	
SVOC	Nitrobenzene	98-95-3	8270D	µg/kg				--	
SVOC	N-Nitroso-di-n-propylamine	621-64-7	8270D	µg/kg				--	
SVOC	N-Nitrosodiphenylamine	86-30-6	8270D	µg/kg				--	
SVOC	Pentachlorophenol	87-86-5	8270D	µg/kg				--	
SVOC	Phenol	108-95-2	8270D	µg/kg				--	
SVOC	Pyridine	110-86-1	8270D	µg/kg				--	
TPH-EFH	EFH (C8-C11)	PHCC8C11	8015M	mg/kg				--	
TPH-EFH	EFH (C12-C14)	PHCC12C14	8015M	mg/kg				--	
TPH-EFH	EFH (C15-C20)	PHCC15C20	8015M	mg/kg				--	
TPH-EFH	EFH (C21-C30)	PHCC21C30	8015M	mg/kg				--	
TPH-EFH	EFH (C30-C40)	PHCC30C40	8015M	mg/kg				--	
TPH-GRO	Gasoline Range Organics (C5-C12)	GROC5C12	8015M	mg/kg				--	

Notes:

ug/kg - microgram per kilogram

mg/kg - milligram per kilogram

ng/g - nanogram per kilogram

FD - field duplicate sample

N - normal sample

RPD - relative percent difference

SO - soil

-- - RPD not calculated when both field duplicate and normal samples were nondetect or only one sample result is reported

200* - When one result is nondetect a 200% RPD is given and sample results are qualified as estimated "J" or "UJ" in the field duplicate samples only

Limit - 50% - If RPD is above 50% detected field duplicate results only were estimated "J"

Table C-9 - Subarea 8 Field Duplicate Samples

				Location	8_DG-501	8_DG-501	
				Sample Name:	SL-801-SA8-SB-0.0-0.5	SL-501-SA8-SB-0.0-0.5	
				Sample Date:	07/15/2013	07/15/2013	
				Start Depth:	0	0	
				End Depth:	0.5	0.5	RPD
				Area:	8_DG	8_DG	
				Matrix:	SO	SO	
				Sample Type:	FD	N	
PAHs	Pyrene	129-00-0	8270D SIM	µg/kg	2.1 J	6.9 J	106.67
PCBPCTs	Aroclor 1016	12674-11-2	8082A	µg/kg	18 U	18 U	--
PCBPCTs	Aroclor 1221	11104-28-2	8082A	µg/kg	18 U	18 U	--
PCBPCTs	Aroclor 1232	11141-16-5	8082A	µg/kg	18 U	18 U	--
PCBPCTs	Aroclor 1242	53469-21-9	8082A	µg/kg	18 U	18 U	--
PCBPCTs	Aroclor 1248	12672-29-6	8082A	µg/kg	18 U	18 U	--
PCBPCTs	Aroclor 1254	11097-69-1	8082A	µg/kg	13 J	8.1 J	46.45
PCBPCTs	Aroclor 1260	11096-82-5	8082A	µg/kg	18 U	18 U	--
PCBPCTs	Aroclor 1262	37324-23-5	8082A	µg/kg	18 U	18 U	--
PCBPCTs	Aroclor 1268	11100-14-4	8082A	µg/kg	18 U	18 U	--
PCBPCTs	Aroclor 5432	63496-31-1	8082A	µg/kg	35 U	35 U	--
PCBPCTs	Aroclor 5442	12642-23-8	8082A	µg/kg	35 U	35 U	--
PCBPCTs	Aroclor 5460	11126-42-4	8082A	µg/kg	35 U	35 U	--
Perchlorate	Perchlorate	14797-73-0	6850	µg/kg			--
Pesticides	4,4'-DDD	72-54-8	8081B	µg/kg	1.8 U	1.8 U	--
Pesticides	4,4'-DDE	72-55-9	8081B	µg/kg	1.3 J	2.7 J	70.00
Pesticides	4,4'-DDT	50-29-3	8081B	µg/kg	1.8	2	10.53
Pesticides	Aldrin	309-00-2	8081B	µg/kg	0.87 U	0.86 U	--
Pesticides	Alpha-Bhc	319-84-6	8081B	µg/kg	0.87 U	0.86 U	--
Pesticides	Beta-Bhc	319-85-7	8081B	µg/kg	2 U	2 U	--
Pesticides	Chlordane	57-74-9	8081B	µg/kg	18 U	18 U	--
Pesticides	Delta-Bhc	319-86-8	8081B	µg/kg	0.87 U	0.86 U	--
Pesticides	Dieldrin	60-57-1	8081B	µg/kg	1.8 U	1.8 U	--
Pesticides	Endosulfan I	959-98-8	8081B	µg/kg	0.87 U	0.86 U	--
Pesticides	Endosulfan II	33213-65-9	8081B	µg/kg	1.8 U	1.8 U	--
Pesticides	Endosulfan Sulfate	1031-07-8	8081B	µg/kg	1.8 U	1.8 U	--
Pesticides	Endrin	72-20-8	8081B	µg/kg	1.8 U	1.8 U	--
Pesticides	Endrin Aldehyde	7421-93-4	8081B	µg/kg	1.8 U	1.8 U	--
Pesticides	Endrin Ketone	53494-70-5	8081B	µg/kg	1.9 U	1.9 U	--
Pesticides	Gamma-Bhc (Lindane)	58-89-9	8081B	µg/kg	0.87 U	0.86 U	--
Pesticides	Heptachlor	76-44-8	8081B	µg/kg	0.87 U	0.86 U	--
Pesticides	Heptachlor Epoxide	1024-57-3	8081B	µg/kg	0.87 U	0.86 U	--
Pesticides	Methoxychlor	72-43-5	8081B	µg/kg	7 U	6.9 U	--
Pesticides	Mirex	2385-85-5	8081B	µg/kg	1.8 U	1.8 U	--
Pesticides	Technical Toxaphene	8001-35-2	8081B	µg/kg	34 U	34 U	--
pH	pH	pH	9045M	pH	7.77	6.26	21.53
SVOC	1,1'-Biphenyl	92-52-4	8270D	µg/kg			--
SVOC	1,2,4-Trichlorobenzene	120-82-1	8270D	µg/kg			--
SVOC	1,2-Dichlorobenzene	95-50-1	8270D	µg/kg			--
SVOC	1,2-Diphenylhydrazine	122-66-7	8270D	µg/kg			--
SVOC	1,3-Dichlorobenzene	541-73-1	8270D	µg/kg			--
SVOC	1,4-Dichlorobenzene	106-46-7	8270D	µg/kg			--
SVOC	2,4,5-Trichlorophenol	95-95-4	8270D	µg/kg			--
SVOC	2,4,6-Trichlorophenol	88-06-2	8270D	µg/kg			--
SVOC	2,4-Dichlorophenol	120-83-2	8270D	µg/kg			--
SVOC	2,4-Dimethylphenol	105-67-9	8270D	µg/kg			--
SVOC	2,4-Dinitrophenol	51-28-5	8270D	µg/kg			--
SVOC	2,6-Dichlorophenol	87-65-0	8270D	µg/kg			--
SVOC	2-Chloronaphthalene	91-58-7	8270D	µg/kg			--
SVOC	2-Chlorophenol	95-57-8	8270D	µg/kg			--
SVOC	2-Methylphenol	95-48-7	8270D	µg/kg			--
SVOC	2-Nitroaniline	88-74-4	8270D	µg/kg			--
SVOC	2-Nitrophenol	88-75-5	8270D	µg/kg			--
SVOC	3,3'-Dichlorobenzidine	91-94-1	8270D	µg/kg			--
SVOC	3,5-Dimethylphenol	108-68-9	8270D	µg/kg			--
SVOC	3-Nitroaniline	99-09-2	8270D	µg/kg			--
SVOC	4,6-Dinitro-2-methylphenol	534-52-1	8270D	µg/kg			--
SVOC	4-Bromophenyl-phenylether	101-55-3	8270D	µg/kg			--
SVOC	4-Chloro-3-methylphenol	59-50-7	8270D	µg/kg			--
SVOC	4-Chloroaniline	106-47-8	8270D	µg/kg			--
SVOC	4-Chlorophenyl-phenylether	7005-72-3	8270D	µg/kg			--
SVOC	4-Methylphenol	106-44-5	8270D	µg/kg			--
SVOC	4-Nitroaniline	100-01-6	8270D	µg/kg			--
SVOC	4-Nitrophenol	100-02-7	8270D	µg/kg			--
SVOC	Aniline	62-53-3	8270D	µg/kg			--
SVOC	Anthracene	120-12-7	8270D	µg/kg			--
SVOC	Benzidine	92-87-5	8270D	µg/kg			--
SVOC	Benzo(a)anthracene	56-55-3	8270D	µg/kg			--
SVOC	Benzo(a)pyrene	50-32-8	8270D	µg/kg			--
SVOC	Benzo(b)fluoranthene	205-99-2	8270D	µg/kg			--
SVOC	Benzo(g,h,i)perylene	191-24-2	8270D	µg/kg			--
SVOC	Benzo(k)fluoranthene	207-08-9	8270D	µg/kg			--
SVOC	Benzoic Acid	65-85-0	8270D	µg/kg			--
SVOC	Benzyl Alcohol	100-51-6	8270D	µg/kg			--
SVOC	bis(2-chloroethoxy)methane	111-91-1	8270D	µg/kg			--
SVOC	bis(2-chloroethyl) ether	111-44-4	8270D	µg/kg			--
SVOC	bis(2-chloroisopropyl) ether	39638-32-9	8270D	µg/kg			--
SVOC	Carbazole	86-74-8	8270D	µg/kg			--
SVOC	Chrysene	218-01-9	8270D	µg/kg			--
SVOC	Dibenzofuran	132-64-9	8270D	µg/kg			--
SVOC	Diphenylamine	NDPA122-39-4	8270D	µg/kg			--
SVOC	Fluoranthene	206-44-0	8270D	µg/kg			--
SVOC	Hexachlorobenzene	118-74-1	8270D	µg/kg			--
SVOC	Hexachlorobutadiene	87-68-3	8270D	µg/kg			--
SVOC	Hexachlorocyclopentadiene	77-47-4	8270D	µg/kg			--
SVOC	Hexachloroethane	67-72-1	8270D	µg/kg			--
SVOC	Indeno(1,2,3-cd)pyrene	193-39-5	8270D	µg/kg			--
SVOC	Isophorone	78-59-1	8270D	µg/kg			--
SVOC	Nitrobenzene	98-95-3	8270D	µg/kg			--
SVOC	N-Nitroso-di-n-propylamine	621-64-7	8270D	µg/kg			--
SVOC	N-Nitrosodiphenylamine	86-30-6	8270D	µg/kg			--
SVOC	Pentachlorophenol	87-86-5	8270D	µg/kg			--
SVOC	Phenanthrene	85-01-8	8270D	µg/kg			--
SVOC	Phenol	108-95-2	8270D	µg/kg			--
SVOC	Pyrene	129-00-0	8270D	µg/kg			--
SVOC	Pyridine	110-86-1	8270D	µg/kg			--
TPH-EFH	EFH (C8-C11)	PHCC8C11	8015M	mg/kg	5.2 U	5.2 U	--
TPH-EFH	EFH (C12-C14)	PHCC12C14	8015M	mg/kg	5.2 U	5.2 U	--
TPH-EFH	EFH (C15-C20)	PHCC15C20	8015M	mg/kg	2.4 J	2.6 J	8.00
TPH-EFH	EFH (C21-C30)	PHCC21C30	8015M	mg/kg	20	24	18.18
TPH-EFH	EFH (C30-C40)	PHCC30C40	8015M	mg/kg	41	51	21.74

Table C-9 - Subarea 8 Field Duplicate Samples

					Location	8_DG-501	8_DG-501		
					Sample Name:	SL-801-SA8-SB-0.0-0.5	SL-501-SA8-SB-0.0-0.5		
					Sample Date:	07/15/2013	07/15/2013		
					Start Depth:	0	0		
					End Depth:	0.5	0.5	RPD	
					Area:	8_DG	8_DG		
					Matrix:	SO	SO		
					Sample Type:	FD	N		
TPH-GRO	Gasoline Range Organics (C5-C12)	GROC5C12	8015M	mg/kg					--
VOC	1,1,1,2-Tetrachloroethane	630-20-6	8260B	µg/kg					--
VOC	1,1,1-Trichloroethane	71-55-6	8260B	µg/kg					--
VOC	1,1,2-Tetrachloroethane	79-34-5	8260B	µg/kg					--
VOC	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	8260B	µg/kg					--
VOC	1,1,2-Trichloroethane	79-00-5	8260B	µg/kg					--
VOC	1,1-Dichloroethane	75-34-3	8260B	µg/kg					--
VOC	1,1-Dichloroethene	75-35-4	8260B	µg/kg					--
VOC	1,1-Dichloropropene	563-58-6	8260B	µg/kg					--
VOC	1,2,3-Trichlorobenzene	87-61-6	8260B	µg/kg					--
VOC	1,2,3-Trichloropropane	96-18-4	8260B	µg/kg					--
VOC	1,2,4-Trichlorobenzene	120-82-1	8260B	µg/kg					--
VOC	1,2,4-Trimethylbenzene	95-63-6	8260B	µg/kg					--
VOC	1,2-Dibromo-3-chloropropane	96-12-8	8260B	µg/kg					--
VOC	1,2-Dibromoethane	106-93-4	8260B	µg/kg					--
VOC	1,2-Dichlorobenzene	95-50-1	8260B	µg/kg					--
VOC	1,2-Dichloroethane	107-06-2	8260B	µg/kg					--
VOC	1,2-Dichloropropane	78-87-5	8260B	µg/kg					--
VOC	1,3,5-Trimethylbenzene	108-67-8	8260B	µg/kg					--
VOC	1,3-Dichlorobenzene	541-73-1	8260B	µg/kg					--
VOC	1,3-Dichloropropane	142-28-9	8260B	µg/kg					--
VOC	1,4-Dichlorobenzene	106-46-7	8260B	µg/kg					--
VOC	1-Chlorohexane	544-10-5	8260B	µg/kg					--
VOC	2,2-Dichloropropane	594-20-7	8260B	µg/kg					--
VOC	2-Butanone (MEK)	78-93-3	8260B	µg/kg					--
VOC	2-Chloro-1,1,1-trifluoroethane	75-88-7	8260B	µg/kg					--
VOC	2-Chloroethyl Vinyl Ether	110-75-8	8260B	µg/kg					--
VOC	2-Chlorotoluene	95-49-8	8260B	µg/kg					--
VOC	2-Hexanone	591-78-6	8260B	µg/kg					--
VOC	2-Phenylbutane	135-98-8	8260B	µg/kg					--
VOC	4-Chlorotoluene	106-43-4	8260B	µg/kg					--
VOC	4-Methyl-2-pentanone (MIBK)	108-10-1	8260B	µg/kg					--
VOC	Acetone	67-64-1	8260B	µg/kg					--
VOC	Acrolein	107-02-8	8260B	µg/kg					--
VOC	Acrylonitrile	107-13-1	8260B	µg/kg					--
VOC	Benzene	71-43-2	8260B	µg/kg					--
VOC	Bromobenzene	108-86-1	8260B	µg/kg					--
VOC	Bromochloromethane	74-97-5	8260B	µg/kg					--
VOC	Bromodichloromethane	75-27-4	8260B	µg/kg					--
VOC	Bromoform	75-25-2	8260B	µg/kg					--
VOC	Bromomethane	74-83-9	8260B	µg/kg					--
VOC	Carbon Disulfide	75-15-0	8260B	µg/kg					--
VOC	Carbon Tetrachloride	56-23-5	8260B	µg/kg					--
VOC	Chlorobenzene	108-90-7	8260B	µg/kg					--
VOC	Chloroethane	75-00-3	8260B	µg/kg					--
VOC	Chloroform	67-66-3	8260B	µg/kg					--
VOC	Chloromethane	74-87-3	8260B	µg/kg					--
VOC	Chlorotrifluoroethylene	79-38-9	8260B	µg/kg					--
VOC	cis-1,2-Dichloroethene	156-59-2	8260B	µg/kg					--
VOC	cis-1,3-Dichloropropene	10061-01-5	8260B	µg/kg					--
VOC	Cymene	99-87-6	8260B	µg/kg					--
VOC	Di isopropyl Ether	108-20-3	8260B	µg/kg					--
VOC	Dibromochloromethane	124-48-1	8260B	µg/kg					--
VOC	Dibromomethane	74-95-3	8260B	µg/kg					--
VOC	Dichlorodifluoromethane	75-71-8	8260B	µg/kg					--
VOC	Ethylbenzene	100-41-4	8260B	µg/kg					--
VOC	Hexachloro-1,3-butadiene	87-68-3	8260B	µg/kg					--
VOC	Isopropylbenzene	98-82-8	8260B	µg/kg					--
VOC	m,p-Xylene	179601-23-1	8260B	µg/kg					--
VOC	Methyl Iodide	74-88-4	8260B	µg/kg					--
VOC	Methyl Tert-Butyl Ether	1634-04-4	8260B	µg/kg					--
VOC	Methylene Chloride	75-09-2	8260B	µg/kg					--
VOC	n-Butylbenzene	104-51-8	8260B	µg/kg					--
VOC	n-Propylbenzene	103-65-1	8260B	µg/kg					--
VOC	o-Xylene	95-47-6	8260B	µg/kg					--
VOC	Styrene	100-42-5	8260B	µg/kg					--
VOC	tert-Butyl ethyl ether	637-92-3	8260B	µg/kg					--
VOC	tert-Butylbenzene	98-06-6	8260B	µg/kg					--
VOC	Tertiary amyl methyl ether	994-05-8	8260B	µg/kg					--
VOC	Tertiary butyl alcohol	75-65-0	8260B	µg/kg					--
VOC	Tetrachloroethene	127-18-4	8260B	µg/kg					--
VOC	Toluene	108-88-3	8260B	µg/kg					--
VOC	trans-1,2-Dichloroethene	156-60-5	8260B	µg/kg					--
VOC	trans-1,3-Dichloropropene	10061-02-6	8260B	µg/kg					--
VOC	Trichloroethene	79-01-6	8260B	µg/kg					--
VOC	Trichlorofluoromethane	75-69-4	8260B	µg/kg					--
VOC	Vinyl Acetate	108-05-4	8260B	µg/kg					--
VOC	Vinyl Chloride	75-01-4	8260B	µg/kg					--

Notes:

ug/kg - microgram per kilogram

mg/kg - milligram per kilogram

ng/g - nanogram per kilogram

FD - field duplicate sample

N - normal sample

RPD - relative percent difference

SO - soil

-- - RPD not calculated when both field duplicate and normal samples were nondetect or only one sample result is reported

200* - When one result is nondetect a 200% RPD is given and sample results are qualified as estimated "J" or "UJ" in the field duplicate samples only

Limit - 50% - If RPD is above 50% detected field duplicate results only were estimated "J"

Table C-9 - Subarea 8 Field Duplicate Samples

					Location	8_DG-504	8_DG-504	
					Sample Name:	SL-804-SA8-SB-2.5-3.5	SL-504-SA8-SB-2.5-3.5	
					Sample Date:	07/16/2013	07/16/2013	
					Start Depth:	2.5	2.5	
					End Depth:	3.5	3.5	RPD
					Area:	8_DG	8_DG	
					Matrix:	SO	SO	
					Sample Type:	FD	N	
TPH-GRO	Gasoline Range Organics (C5-C12)	GROC5C12	8015M	mg/kg		1 U	1 U	--
VOC	1,1,1,2-Tetrachloroethane	630-20-6	8260B	µg/kg		5 U	5 U	--
VOC	1,1,1-Trichloroethane	71-55-6	8260B	µg/kg		5 U	5 U	--
VOC	1,1,2,2-Tetrachloroethane	79-34-5	8260B	µg/kg		5 U	5 U	--
VOC	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	8260B	µg/kg		5 U	5 U	--
VOC	1,1,2-Trichloroethane	79-00-5	8260B	µg/kg		5 U	5 U	--
VOC	1,1-Dichloroethane	75-34-3	8260B	µg/kg		5 U	5 U	--
VOC	1,1-Dichloroethene	75-35-4	8260B	µg/kg		5 U	5 U	--
VOC	1,1-Dichloropropene	563-58-6	8260B	µg/kg		5 U	5 U	--
VOC	1,2,3-Trichlorobenzene	87-61-6	8260B	µg/kg		5 U	5 U	--
VOC	1,2,3-Trichloropropane	96-18-4	8260B	µg/kg		5 U	5 U	--
VOC	1,2,4-Trichlorobenzene	120-82-1	8260B	µg/kg		5 U	5 U	--
VOC	1,2,4-Trimethylbenzene	95-63-6	8260B	µg/kg		5 U	5 U	--
VOC	1,2-Dibromo-3-chloropropane	96-12-8	8260B	µg/kg		5 U	5 U	--
VOC	1,2-Dibromoethane	106-93-4	8260B	µg/kg		5 U	5 U	--
VOC	1,2-Dichlorobenzene	95-50-1	8260B	µg/kg		5 U	5 U	--
VOC	1,2-Dichloroethane	107-06-2	8260B	µg/kg		5 U	5 U	--
VOC	1,2-Dichloropropane	78-87-5	8260B	µg/kg		5 U	5 U	--
VOC	1,3,5-Trimethylbenzene	108-67-8	8260B	µg/kg		5 U	5 U	--
VOC	1,3-Dichlorobenzene	541-73-1	8260B	µg/kg		5 U	5 U	--
VOC	1,3-Dichloropropane	142-28-9	8260B	µg/kg		5 U	5 U	--
VOC	1,4-Dichlorobenzene	106-46-7	8260B	µg/kg		5 U	5 U	--
VOC	1-Chlorohexane	544-10-5	8260B	µg/kg		5 U	5 U	--
VOC	2,2-Dichloropropane	594-20-7	8260B	µg/kg		5 U	5 U	--
VOC	2-Butanone (MEK)	78-93-3	8260B	µg/kg		10 U	10 U	--
VOC	2-Chloro-1,1,1-trifluoroethane	75-88-7	8260B	µg/kg		5 U	5 U	--
VOC	2-Chloroethyl Vinyl Ether	110-75-8	8260B	µg/kg		10 U	10 U	--
VOC	2-Chlorotoluene	95-49-8	8260B	µg/kg		5 U	5 U	--
VOC	2-Hexanone	591-78-6	8260B	µg/kg		10 U	10 U	--
VOC	2-Phenylbutane	135-98-8	8260B	µg/kg		5 U	5 U	--
VOC	4-Chlorotoluene	106-43-4	8260B	µg/kg		5 U	5 U	--
VOC	4-Methyl-2-pentanone (MIBK)	108-10-1	8260B	µg/kg		10 U	10 U	--
VOC	Acetone	67-64-1	8260B	µg/kg		21 U	20 U	--
VOC	Acrolein	107-02-8	8260B	µg/kg		100 U	100 U	--
VOC	Acrylonitrile	107-13-1	8260B	µg/kg		21 U	20 U	--
VOC	Benzene	71-43-2	8260B	µg/kg		5 U	5 U	--
VOC	Bromobenzene	108-86-1	8260B	µg/kg		5 U	5 U	--
VOC	Bromochloromethane	74-97-5	8260B	µg/kg		5 U	5 U	--
VOC	Bromodichloromethane	75-27-4	8260B	µg/kg		5 U	5 U	--
VOC	Bromoform	75-25-2	8260B	µg/kg		5 U	5 U	--
VOC	Bromomethane	74-83-9	8260B	µg/kg		5 U	5 U	--
VOC	Carbon Disulfide	75-15-0	8260B	µg/kg		5 U	5 U	--
VOC	Carbon Tetrachloride	56-23-5	8260B	µg/kg		5 U	5 U	--
VOC	Chlorobenzene	108-90-7	8260B	µg/kg		5 U	5 U	--
VOC	Chloroethane	75-00-3	8260B	µg/kg		5 U	5 U	--
VOC	Chloroform	67-66-3	8260B	µg/kg		5 U	5 U	--
VOC	Chloromethane	74-87-3	8260B	µg/kg		5 U	5 U	--
VOC	Chlorotrifluoroethylene	79-38-9	8260B	µg/kg		5 U	5 U	--
VOC	cis-1,2-Dichloroethene	156-59-2	8260B	µg/kg		5 U	5 U	--
VOC	cis-1,3-Dichloropropene	10061-01-5	8260B	µg/kg		5 U	5 U	--
VOC	Cymene	99-87-6	8260B	µg/kg		5 U	5 U	--
VOC	Di isopropyl Ether	108-20-3	8260B	µg/kg		5 U	5 U	--
VOC	Dibromochloromethane	124-48-1	8260B	µg/kg		5 U	5 U	--
VOC	Dibromomethane	74-95-3	8260B	µg/kg		5 U	5 U	--
VOC	Dichlorodifluoromethane	75-71-8	8260B	µg/kg		5 U	5 U	--
VOC	Ethylbenzene	100-41-4	8260B	µg/kg		5 U	5 U	--
VOC	Hexachloro-1,3-butadiene	87-68-3	8260B	µg/kg		5 U	5 U	--
VOC	Isopropylbenzene	98-82-8	8260B	µg/kg		5 U	5 U	--
VOC	m,p-Xylene	179601-23-1	8260B	µg/kg		5 U	5 U	--
VOC	Methyl Iodide	74-88-4	8260B	µg/kg		5 U	5 U	--
VOC	Methyl Tert-Butyl Ether	1634-04-4	8260B	µg/kg		5 U	5 U	--
VOC	Methylene Chloride	75-09-2	8260B	µg/kg		5 U	5 U	--
VOC	n-Butylbenzene	104-51-8	8260B	µg/kg		5 U	5 U	--
VOC	n-Propylbenzene	103-65-1	8260B	µg/kg		5 U	5 U	--
VOC	o-Xylene	95-47-6	8260B	µg/kg		5 U	5 U	--
VOC	Styrene	100-42-5	8260B	µg/kg		5 U	5 U	--
VOC	tert-Butyl ethyl ether	637-92-3	8260B	µg/kg		5 U	5 U	--
VOC	tert-Butylbenzene	98-06-6	8260B	µg/kg		5 U	5 U	--
VOC	Tertiary amyl methyl ether	994-05-8	8260B	µg/kg		5 U	5 U	--
VOC	Tertiary butyl alcohol	75-65-0	8260B	µg/kg		52 U	51 U	--
VOC	Tetrachloroethene	127-18-4	8260B	µg/kg		5 U	5 U	--
VOC	Toluene	108-88-3	8260B	µg/kg		5 U	5 U	--
VOC	trans-1,2-Dichloroethene	156-60-5	8260B	µg/kg		5 U	5 U	--
VOC	trans-1,3-Dichloropropene	10061-02-6	8260B	µg/kg		5 U	5 U	--
VOC	Trichloroethene	79-01-6	8260B	µg/kg		5 U	5 U	--
VOC	Trichlorofluoromethane	75-69-4	8260B	µg/kg		5 U	5 U	--
VOC	Vinyl Acetate	108-05-4	8260B	µg/kg		10 U	10 U	--
VOC	Vinyl Chloride	75-01-4	8260B	µg/kg		5 U	5 U	--

Notes:

ug/kg - microgram per kilogram

mg/kg - milligram per kilogram

ng/g - nanogram per kilogram

FD - field duplicate sample

N - normal sample

RPD - relative percent difference

SO - soil

-- - RPD not calculated when both field duplicate and normal samples were nondetect or only one sample result is reported

200* - When one result is nondetect a 200% RPD is given and sample results are qualified as estimated "J" or "UJ" in the field duplicate samples only

Limit - 50% - If RPD is above 50% detected field duplicate results only were estimated "J"

Table C-9 - Subarea 8 Field Duplicate Samples

				Location	8_DG-523	8_DG-523	RPD
				Sample Name:	SL-823-SA8-SB-4.0-5.0	SL-523-SA8-SB-4.0-5.0	
				Sample Date:	07/25/2013	07/25/2013	
				Start Depth:	4	4	
				End Depth:	5	5	
				Area:	8_DG	8_DG	
				Matrix:	SO	SO	
				Sample Type:	FD	N	
PAHs	Pyrene	129-00-0	8270D SIM	µg/kg	1.9 U	1.9 U	--
PCBPCTs	Aroclor 1016	12674-11-2	8082A	µg/kg	19 U	19 U	--
PCBPCTs	Aroclor 1221	11104-28-2	8082A	µg/kg	19 U	19 U	--
PCBPCTs	Aroclor 1232	11141-16-5	8082A	µg/kg	19 U	19 U	--
PCBPCTs	Aroclor 1242	53469-21-9	8082A	µg/kg	19 U	19 U	--
PCBPCTs	Aroclor 1248	12672-29-6	8082A	µg/kg	19 U	19 U	--
PCBPCTs	Aroclor 1254	11097-69-1	8082A	µg/kg	19 U	19 U	--
PCBPCTs	Aroclor 1260	11096-82-5	8082A	µg/kg	19 U	19 U	--
PCBPCTs	Aroclor 1262	37324-23-5	8082A	µg/kg	19 U	19 U	--
PCBPCTs	Aroclor 1268	11100-14-4	8082A	µg/kg	19 U	19 U	--
PCBPCTs	Aroclor 5432	63496-31-1	8082A	µg/kg	37 U	37 U	--
PCBPCTs	Aroclor 5442	12642-23-8	8082A	µg/kg	37 U	37 U	--
PCBPCTs	Aroclor 5460	11126-42-4	8082A	µg/kg	37 U	37 U	--
Perchlorate	Perchlorate	14797-73-0	6850	µg/kg			--
Pesticides	4,4'-DDD	72-54-8	8081B	µg/kg			--
Pesticides	4,4'-DDE	72-55-9	8081B	µg/kg			--
Pesticides	4,4'-DDT	50-29-3	8081B	µg/kg			--
Pesticides	Aldrin	309-00-2	8081B	µg/kg			--
Pesticides	Alpha-Bhc	319-84-6	8081B	µg/kg			--
Pesticides	Beta-Bhc	319-85-7	8081B	µg/kg			--
Pesticides	Chlordane	57-74-9	8081B	µg/kg			--
Pesticides	Delta-Bhc	319-86-8	8081B	µg/kg			--
Pesticides	Dieldrin	60-57-1	8081B	µg/kg			--
Pesticides	Endosulfan I	959-98-8	8081B	µg/kg			--
Pesticides	Endosulfan II	33213-65-9	8081B	µg/kg			--
Pesticides	Endosulfan Sulfate	1031-07-8	8081B	µg/kg			--
Pesticides	Endrin	72-20-8	8081B	µg/kg			--
Pesticides	Endrin Aldehyde	7421-93-4	8081B	µg/kg			--
Pesticides	Endrin Ketone	53494-70-5	8081B	µg/kg			--
Pesticides	Gamma-Bhc (Lindane)	58-89-9	8081B	µg/kg			--
Pesticides	Heptachlor	76-44-8	8081B	µg/kg			--
Pesticides	Heptachlor Epoxide	1024-57-3	8081B	µg/kg			--
Pesticides	Methoxychlor	72-43-5	8081B	µg/kg			--
Pesticides	Mirex	2385-85-5	8081B	µg/kg			--
Pesticides	Technical Toxaphene	8001-35-2	8081B	µg/kg			--
pH	pH	pH	9045M	pH	8.1	8.01	1.12
SVOC	1,1'-Biphenyl	92-52-4	8270D	µg/kg	38 U	38 U	--
SVOC	1,2,4-Trichlorobenzene	120-82-1	8270D	µg/kg	38 U	38 U	--
SVOC	1,2-Dichlorobenzene	95-50-1	8270D	µg/kg	38 U	38 U	--
SVOC	1,2-Diphenylhydrazine	122-66-7	8270D	µg/kg	38 U	38 U	--
SVOC	1,3-Dichlorobenzene	541-73-1	8270D	µg/kg	38 U	38 U	--
SVOC	1,4-Dichlorobenzene	106-46-7	8270D	µg/kg	38 U	38 U	--
SVOC	2,4,5-Trichlorophenol	95-95-4	8270D	µg/kg	38 U	38 U	--
SVOC	2,4,6-Trichlorophenol	88-06-2	8270D	µg/kg	38 U	38 U	--
SVOC	2,4-Dichlorophenol	120-83-2	8270D	µg/kg	38 U	38 U	--
SVOC	2,4-Dimethylphenol	105-67-9	8270D	µg/kg	38 U	38 U	--
SVOC	2,4-Dinitrophenol	51-28-5	8270D	µg/kg	750 U	760 U	--
SVOC	2,6-Dichlorophenol	87-65-0	8270D	µg/kg	38 U	38 U	--
SVOC	2-Chloronaphthalene	91-58-7	8270D	µg/kg	38 U	38 U	--
SVOC	2-Chlorophenol	95-57-8	8270D	µg/kg	38 U	38 U	--
SVOC	2-Methylphenol	95-48-7	8270D	µg/kg	38 U	38 U	--
SVOC	2-Nitroaniline	88-74-4	8270D	µg/kg	38 U	38 U	--
SVOC	2-Nitrophenol	88-75-5	8270D	µg/kg	38 U	38 U	--
SVOC	3,3'-Dichlorobenzidine	91-94-1	8270D	µg/kg	380 U	380 U	--
SVOC	3,5-Dimethylphenol	108-68-9	8270D	µg/kg	190 U	190 U	--
SVOC	3-Nitroaniline	99-09-2	8270D	µg/kg	190 U	190 U	--
SVOC	4,6-Dinitro-2-methylphenol	534-52-1	8270D	µg/kg	570 U	570 U	--
SVOC	4-Bromophenyl-phenylether	101-55-3	8270D	µg/kg	38 U	38 U	--
SVOC	4-Chloro-3-methylphenol	59-50-7	8270D	µg/kg	38 U	38 U	--
SVOC	4-Chloroaniline	106-47-8	8270D	µg/kg	38 U	38 U	--
SVOC	4-Chlorophenyl-phenylether	7005-72-3	8270D	µg/kg	38 U	38 U	--
SVOC	4-Methylphenol	106-44-5	8270D	µg/kg	38 U	38 U	--
SVOC	4-Nitroaniline	100-01-6	8270D	µg/kg	190 U	190 U	--
SVOC	4-Nitrophenol	100-02-7	8270D	µg/kg	570 U	570 U	--
SVOC	Aniline	62-53-3	8270D	µg/kg	380 U	380 U	--
SVOC	Anthracene	120-12-7	8270D	µg/kg			--
SVOC	Benzidine	92-87-5	8270D	µg/kg	1900 U		--
SVOC	Benzo(a)anthracene	56-55-3	8270D	µg/kg			--
SVOC	Benzo(a)pyrene	50-32-8	8270D	µg/kg			--
SVOC	Benzo(b)fluoranthene	205-99-2	8270D	µg/kg			--
SVOC	Benzo(g,h,i)perylene	191-24-2	8270D	µg/kg			--
SVOC	Benzo(k)fluoranthene	207-08-9	8270D	µg/kg			--
SVOC	Benzoic Acid	65-85-0	8270D	µg/kg	570 U	570 U	--
SVOC	Benzyl Alcohol	100-51-6	8270D	µg/kg	380 U	380 U	--
SVOC	bis(2-chloroethoxy)methane	111-91-1	8270D	µg/kg	38 U	38 U	--
SVOC	bis(2-chloroethyl) ether	111-44-4	8270D	µg/kg	38 U	38 U	--
SVOC	bis(2-chloroisopropyl) ether	39638-32-9	8270D	µg/kg	38 U	38 U	--
SVOC	Carbazole	86-74-8	8270D	µg/kg	38 U	38 U	--
SVOC	Chrysene	218-01-9	8270D	µg/kg			--
SVOC	Dibenzofuran	132-64-9	8270D	µg/kg	38 U	38 U	--
SVOC	Diphenylamine	NDPA122-39-4	8270D	µg/kg	190 U	190 U	--
SVOC	Fluoranthene	206-44-0	8270D	µg/kg			--
SVOC	Hexachlorobenzene	118-74-1	8270D	µg/kg	19 U	20 U	--
SVOC	Hexachlorobutadiene	87-68-3	8270D	µg/kg	38 U	38 U	--
SVOC	Hexachlorocyclopentadiene	77-47-4	8270D	µg/kg	570 U	570 U	--
SVOC	Hexachloroethane	67-72-1	8270D	µg/kg	190 U	190 U	--
SVOC	Indeno(1,2,3-cd)pyrene	193-39-5	8270D	µg/kg			--
SVOC	Isophorone	78-59-1	8270D	µg/kg	38 U	38 U	--
SVOC	Nitrobenzene	98-95-3	8270D	µg/kg	38 U	38 U	--
SVOC	N-Nitroso-di-n-propylamine	621-64-7	8270D	µg/kg	38 U	38 U	--
SVOC	N-Nitrosodiphenylamine	86-30-6	8270D	µg/kg	38 U	38 U	--
SVOC	Pentachlorophenol	87-86-5	8270D	µg/kg	190 U	200 U	--
SVOC	Phenanthrene	85-01-8	8270D	µg/kg			--
SVOC	Phenol	108-95-2	8270D	µg/kg	38 U	38 U	--
SVOC	Pyrene	129-00-0	8270D	µg/kg			--
SVOC	Pyridine	110-86-1	8270D	µg/kg	190 U	190 U	--
TPH-EFH	EFH (C8-C11)	PHCC8C11	8015M	mg/kg	5.7 U	5.7 U	--
TPH-EFH	EFH (C12-C14)	PHCC12C14	8015M	mg/kg	5.7 U	5.7 U	--
TPH-EFH	EFH (C15-C20)	PHCC15C20	8015M	mg/kg	5.7 U	5.7 U	--
TPH-EFH	EFH (C21-C30)	PHCC21C30	8015M	mg/kg	5.7 U	5.7 U	--
TPH-EFH	EFH (C30-C40)	PHCC30C40	8015M	mg/kg	11 U	11 U	--

Table C-9 - Subarea 8 Field Duplicate Samples

					Location	8_DG-523	8_DG-523		
					Sample Name:	SL-823-SA8-SB-4.0-5.0	SL-523-SA8-SB-4.0-5.0		
					Sample Date:	07/25/2013	07/25/2013		
					Start Depth:	4	4		
					End Depth:	5	5	RPD	
					Area:	8_DG	8_DG		
					Matrix:	SO	SO		
					Sample Type:	FD	N		
TPH-GRO	Gasoline Range Organics (C5-C12)	GROC5C12	8015M	mg/kg	1.1	U	1.2	U	--
VOC	1,1,1,2-Tetrachloroethane	630-20-6	8260B	µg/kg					--
VOC	1,1,1-Trichloroethane	71-55-6	8260B	µg/kg					--
VOC	1,1,2,2-Tetrachloroethane	79-34-5	8260B	µg/kg					--
VOC	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	8260B	µg/kg					--
VOC	1,1,2-Trichloroethane	79-00-5	8260B	µg/kg					--
VOC	1,1-Dichloroethane	75-34-3	8260B	µg/kg					--
VOC	1,1-Dichloroethene	75-35-4	8260B	µg/kg					--
VOC	1,1-Dichloropropene	563-58-6	8260B	µg/kg					--
VOC	1,2,3-Trichlorobenzene	87-61-6	8260B	µg/kg					--
VOC	1,2,3-Trichloropropane	96-18-4	8260B	µg/kg					--
VOC	1,2,4-Trichlorobenzene	120-82-1	8260B	µg/kg					--
VOC	1,2,4-Trimethylbenzene	95-63-6	8260B	µg/kg					--
VOC	1,2-Dibromo-3-chloropropane	96-12-8	8260B	µg/kg					--
VOC	1,2-Dibromoethane	106-93-4	8260B	µg/kg					--
VOC	1,2-Dichlorobenzene	95-50-1	8260B	µg/kg					--
VOC	1,2-Dichloroethane	107-06-2	8260B	µg/kg					--
VOC	1,2-Dichloropropane	78-87-5	8260B	µg/kg					--
VOC	1,3,5-Trimethylbenzene	108-67-8	8260B	µg/kg					--
VOC	1,3-Dichlorobenzene	541-73-1	8260B	µg/kg					--
VOC	1,3-Dichloropropane	142-28-9	8260B	µg/kg					--
VOC	1,4-Dichlorobenzene	106-46-7	8260B	µg/kg					--
VOC	1-Chlorohexane	544-10-5	8260B	µg/kg					--
VOC	2,2-Dichloropropane	594-20-7	8260B	µg/kg					--
VOC	2-Butanone (MEK)	78-93-3	8260B	µg/kg					--
VOC	2-Chloro-1,1,1-trifluoroethane	75-88-7	8260B	µg/kg					--
VOC	2-Chloroethyl Vinyl Ether	110-75-8	8260B	µg/kg					--
VOC	2-Chlorotoluene	95-49-8	8260B	µg/kg					--
VOC	2-Hexanone	591-78-6	8260B	µg/kg					--
VOC	2-Phenylbutane	135-98-8	8260B	µg/kg					--
VOC	4-Chlorotoluene	106-43-4	8260B	µg/kg					--
VOC	4-Methyl-2-pentanone (MIBK)	108-10-1	8260B	µg/kg					--
VOC	Acetone	67-64-1	8260B	µg/kg					--
VOC	Acrolein	107-02-8	8260B	µg/kg					--
VOC	Acrylonitrile	107-13-1	8260B	µg/kg					--
VOC	Benzene	71-43-2	8260B	µg/kg					--
VOC	Bromobenzene	108-86-1	8260B	µg/kg					--
VOC	Bromochloromethane	74-97-5	8260B	µg/kg					--
VOC	Bromodichloromethane	75-27-4	8260B	µg/kg					--
VOC	Bromoform	75-25-2	8260B	µg/kg					--
VOC	Bromomethane	74-83-9	8260B	µg/kg					--
VOC	Carbon Disulfide	75-15-0	8260B	µg/kg					--
VOC	Carbon Tetrachloride	56-23-5	8260B	µg/kg					--
VOC	Chlorobenzene	108-90-7	8260B	µg/kg					--
VOC	Chloroethane	75-00-3	8260B	µg/kg					--
VOC	Chloroform	67-66-3	8260B	µg/kg					--
VOC	Chloromethane	74-87-3	8260B	µg/kg					--
VOC	Chlorotrifluoroethylene	79-38-9	8260B	µg/kg					--
VOC	cis-1,2-Dichloroethene	156-59-2	8260B	µg/kg					--
VOC	cis-1,3-Dichloropropene	10061-01-5	8260B	µg/kg					--
VOC	Cymene	99-87-6	8260B	µg/kg					--
VOC	Di isopropyl Ether	108-20-3	8260B	µg/kg					--
VOC	Dibromochloromethane	124-48-1	8260B	µg/kg					--
VOC	Dibromomethane	74-95-3	8260B	µg/kg					--
VOC	Dichlorodifluoromethane	75-71-8	8260B	µg/kg					--
VOC	Ethylbenzene	100-41-4	8260B	µg/kg					--
VOC	Hexachloro-1,3-butadiene	87-68-3	8260B	µg/kg					--
VOC	Isopropylbenzene	98-82-8	8260B	µg/kg					--
VOC	m,p-Xylene	179601-23-1	8260B	µg/kg					--
VOC	Methyl Iodide	74-88-4	8260B	µg/kg					--
VOC	Methyl Tert-Butyl Ether	1634-04-4	8260B	µg/kg					--
VOC	Methylene Chloride	75-09-2	8260B	µg/kg					--
VOC	n-Butylbenzene	104-51-8	8260B	µg/kg					--
VOC	n-Propylbenzene	103-65-1	8260B	µg/kg					--
VOC	o-Xylene	95-47-6	8260B	µg/kg					--
VOC	Styrene	100-42-5	8260B	µg/kg					--
VOC	tert-Butyl ethyl ether	637-92-3	8260B	µg/kg					--
VOC	tert-Butylbenzene	98-06-6	8260B	µg/kg					--
VOC	Tertiary amyl methyl ether	994-05-8	8260B	µg/kg					--
VOC	Tertiary butyl alcohol	75-65-0	8260B	µg/kg					--
VOC	Tetrachloroethene	127-18-4	8260B	µg/kg					--
VOC	Toluene	108-88-3	8260B	µg/kg					--
VOC	trans-1,2-Dichloroethene	156-60-5	8260B	µg/kg					--
VOC	trans-1,3-Dichloropropene	10061-02-6	8260B	µg/kg					--
VOC	Trichloroethene	79-01-6	8260B	µg/kg					--
VOC	Trichlorofluoromethane	75-69-4	8260B	µg/kg					--
VOC	Vinyl Acetate	108-05-4	8260B	µg/kg					--
VOC	Vinyl Chloride	75-01-4	8260B	µg/kg					--

Notes:

ug/kg - microgram per kilogram

mg/kg - milligram per kilogram

ng/g - nanogram per kilogram

FD - field duplicate sample

N - normal sample

RPD - relative percent difference

SO - soil

-- - RPD not calculated when both field duplicate and normal samples were nondetect or only one sample result is reported

200* - When one result is nondetect a 200% RPD is given and sample results are qualified as estimated "J" or "UJ" in the field duplicate samples only

Limit - 50% - If RPD is above 50% detected field duplicate results only were estimated "J"

Table C-9 - Subarea 8 Field Duplicate Samples

					Location	8_DG-530	8_DG-530		
					Sample Name:	SL-830-SA8-SB-4.0-5.0	SL-530-SA8-SB-4.0-5.0		
					Sample Date:	08/09/2013	08/09/2013		
					Start Depth:	4	4		
					End Depth:	5	5	RPD	
					Area:	8_DG	8_DG		
					Matrix:	SO	SO		
					Sample Type:	FD	N		
TPH-GRO	Gasoline Range Organics (C5-C12)	GROC5C12	8015M	mg/kg	1.3	U	1	U	--
VOC	1,1,1,2-Tetrachloroethane	630-20-6	8260B	µg/kg					--
VOC	1,1,1-Trichloroethane	71-55-6	8260B	µg/kg					--
VOC	1,1,2,2-Tetrachloroethane	79-34-5	8260B	µg/kg					--
VOC	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	8260B	µg/kg					--
VOC	1,1,2-Trichloroethane	79-00-5	8260B	µg/kg					--
VOC	1,1-Dichloroethane	75-34-3	8260B	µg/kg					--
VOC	1,1-Dichloroethene	75-35-4	8260B	µg/kg					--
VOC	1,1-Dichloropropene	563-58-6	8260B	µg/kg					--
VOC	1,2,3-Trichlorobenzene	87-61-6	8260B	µg/kg					--
VOC	1,2,3-Trichloropropane	96-18-4	8260B	µg/kg					--
VOC	1,2,4-Trichlorobenzene	120-82-1	8260B	µg/kg					--
VOC	1,2,4-Trimethylbenzene	95-63-6	8260B	µg/kg					--
VOC	1,2-Dibromo-3-chloropropane	96-12-8	8260B	µg/kg					--
VOC	1,2-Dibromoethane	106-93-4	8260B	µg/kg					--
VOC	1,2-Dichlorobenzene	95-50-1	8260B	µg/kg					--
VOC	1,2-Dichloroethane	107-06-2	8260B	µg/kg					--
VOC	1,2-Dichloropropane	78-87-5	8260B	µg/kg					--
VOC	1,3,5-Trimethylbenzene	108-67-8	8260B	µg/kg					--
VOC	1,3-Dichlorobenzene	541-73-1	8260B	µg/kg					--
VOC	1,3-Dichloropropane	142-28-9	8260B	µg/kg					--
VOC	1,4-Dichlorobenzene	106-46-7	8260B	µg/kg					--
VOC	1-Chlorohexane	544-10-5	8260B	µg/kg					--
VOC	2,2-Dichloropropane	594-20-7	8260B	µg/kg					--
VOC	2-Butanone (MEK)	78-93-3	8260B	µg/kg					--
VOC	2-Chloro-1,1,1-trifluoroethane	75-88-7	8260B	µg/kg					--
VOC	2-Chloroethyl Vinyl Ether	110-75-8	8260B	µg/kg					--
VOC	2-Chlorotoluene	95-49-8	8260B	µg/kg					--
VOC	2-Hexanone	591-78-6	8260B	µg/kg					--
VOC	2-Phenylbutane	135-98-8	8260B	µg/kg					--
VOC	4-Chlorotoluene	106-43-4	8260B	µg/kg					--
VOC	4-Methyl-2-pentanone (MIBK)	108-10-1	8260B	µg/kg					--
VOC	Acetone	67-64-1	8260B	µg/kg					--
VOC	Acrolein	107-02-8	8260B	µg/kg					--
VOC	Acrylonitrile	107-13-1	8260B	µg/kg					--
VOC	Benzene	71-43-2	8260B	µg/kg					--
VOC	Bromobenzene	108-86-1	8260B	µg/kg					--
VOC	Bromochloromethane	74-97-5	8260B	µg/kg					--
VOC	Bromodichloromethane	75-27-4	8260B	µg/kg					--
VOC	Bromoform	75-25-2	8260B	µg/kg					--
VOC	Bromomethane	74-83-9	8260B	µg/kg					--
VOC	Carbon Disulfide	75-15-0	8260B	µg/kg					--
VOC	Carbon Tetrachloride	56-23-5	8260B	µg/kg					--
VOC	Chlorobenzene	108-90-7	8260B	µg/kg					--
VOC	Chloroethane	75-00-3	8260B	µg/kg					--
VOC	Chloroform	67-66-3	8260B	µg/kg					--
VOC	Chloromethane	74-87-3	8260B	µg/kg					--
VOC	Chlorotrifluoroethylene	79-38-9	8260B	µg/kg					--
VOC	cis-1,2-Dichloroethene	156-59-2	8260B	µg/kg					--
VOC	cis-1,3-Dichloropropene	10061-01-5	8260B	µg/kg					--
VOC	Cymene	99-87-6	8260B	µg/kg					--
VOC	Di isopropyl Ether	108-20-3	8260B	µg/kg					--
VOC	Dibromochloromethane	124-48-1	8260B	µg/kg					--
VOC	Dibromomethane	74-95-3	8260B	µg/kg					--
VOC	Dichlorodifluoromethane	75-71-8	8260B	µg/kg					--
VOC	Ethylbenzene	100-41-4	8260B	µg/kg					--
VOC	Hexachloro-1,3-butadiene	87-68-3	8260B	µg/kg					--
VOC	Isopropylbenzene	98-82-8	8260B	µg/kg					--
VOC	m,p-Xylene	179601-23-1	8260B	µg/kg					--
VOC	Methyl Iodide	74-88-4	8260B	µg/kg					--
VOC	Methyl Tert-Butyl Ether	1634-04-4	8260B	µg/kg					--
VOC	Methylene Chloride	75-09-2	8260B	µg/kg					--
VOC	n-Butylbenzene	104-51-8	8260B	µg/kg					--
VOC	n-Propylbenzene	103-65-1	8260B	µg/kg					--
VOC	o-Xylene	95-47-6	8260B	µg/kg					--
VOC	Styrene	100-42-5	8260B	µg/kg					--
VOC	tert-Butyl ethyl ether	637-92-3	8260B	µg/kg					--
VOC	tert-Butylbenzene	98-06-6	8260B	µg/kg					--
VOC	Tertiary amyl methyl ether	994-05-8	8260B	µg/kg					--
VOC	Tertiary butyl alcohol	75-65-0	8260B	µg/kg					--
VOC	Tetrachloroethene	127-18-4	8260B	µg/kg					--
VOC	Toluene	108-88-3	8260B	µg/kg					--
VOC	trans-1,2-Dichloroethene	156-60-5	8260B	µg/kg					--
VOC	trans-1,3-Dichloropropene	10061-02-6	8260B	µg/kg					--
VOC	Trichloroethene	79-01-6	8260B	µg/kg					--
VOC	Trichlorofluoromethane	75-69-4	8260B	µg/kg					--
VOC	Vinyl Acetate	108-05-4	8260B	µg/kg					--
VOC	Vinyl Chloride	75-01-4	8260B	µg/kg					--

Notes:

ug/kg - microgram per kilogram

mg/kg - milligram per kilogram

ng/g - nanogram per kilogram

FD - field duplicate sample

N - normal sample

RPD - relative percent difference

SO - soil

-- - RPD not calculated when both field duplicate and normal samples were nondetect or only one sample result is reported

200* - When one result is nondetect a 200% RPD is given and sample results are qualified as estimated "J" or "UJ" in the field duplicate samples only

Limit - 50% - If RPD is above 50% detected field duplicate results only were estimated "J"

Table C-9 - Subarea 8 Field Duplicate Samples

				Location	8_DG-538	8_DG-538	
				Sample Name:	SL-838-SA8-SB-4.0-5.0	SL-538-SA8-SB-4.0-5.0	
				Sample Date:	08/09/2013	08/09/2013	
				Start Depth:	4	4	
				End Depth:	5	5	RPD
				Area:	8_DG	8_DG	
				Matrix:	SO	SO	
				Sample Type:	FD	N	
PAHs	Pyrene	129-00-0	8270D SIM	µg/kg	1.9 U	1.9 U	--
PCBPCTs	Aroclor 1016	12674-11-2	8082A	µg/kg	20 U	20 U	--
PCBPCTs	Aroclor 1221	11104-28-2	8082A	µg/kg	20 U	20 U	--
PCBPCTs	Aroclor 1232	11141-16-5	8082A	µg/kg	20 U	20 U	--
PCBPCTs	Aroclor 1242	53469-21-9	8082A	µg/kg	20 U	20 U	--
PCBPCTs	Aroclor 1248	12672-29-6	8082A	µg/kg	20 U	20 U	--
PCBPCTs	Aroclor 1254	11097-69-1	8082A	µg/kg	20 U	20 U	--
PCBPCTs	Aroclor 1260	11096-82-5	8082A	µg/kg	20 U	20 U	--
PCBPCTs	Aroclor 1262	37324-23-5	8082A	µg/kg	20 U	20 U	--
PCBPCTs	Aroclor 1268	11100-14-4	8082A	µg/kg	20 U	20 U	--
PCBPCTs	Aroclor 5432	63496-31-1	8082A	µg/kg	38 U	38 U	--
PCBPCTs	Aroclor 5442	12642-23-8	8082A	µg/kg	38 U	38 U	--
PCBPCTs	Aroclor 5460	11126-42-4	8082A	µg/kg	38 U	38 U	--
Perchlorate	Perchlorate	14797-73-0	6850	µg/kg			--
Pesticides	4,4'-DDD	72-54-8	8081B	µg/kg			--
Pesticides	4,4'-DDE	72-55-9	8081B	µg/kg			--
Pesticides	4,4'-DDT	50-29-3	8081B	µg/kg			--
Pesticides	Aldrin	309-00-2	8081B	µg/kg			--
Pesticides	Alpha-Bhc	319-84-6	8081B	µg/kg			--
Pesticides	Beta-Bhc	319-85-7	8081B	µg/kg			--
Pesticides	Chlordane	57-74-9	8081B	µg/kg			--
Pesticides	Delta-Bhc	319-86-8	8081B	µg/kg			--
Pesticides	Dieldrin	60-57-1	8081B	µg/kg			--
Pesticides	Endosulfan I	959-98-8	8081B	µg/kg			--
Pesticides	Endosulfan II	33213-65-9	8081B	µg/kg			--
Pesticides	Endosulfan Sulfate	1031-07-8	8081B	µg/kg			--
Pesticides	Endrin	72-20-8	8081B	µg/kg			--
Pesticides	Endrin Aldehyde	7421-93-4	8081B	µg/kg			--
Pesticides	Endrin Ketone	53494-70-5	8081B	µg/kg			--
Pesticides	Gamma-Bhc (Lindane)	58-89-9	8081B	µg/kg			--
Pesticides	Heptachlor	76-44-8	8081B	µg/kg			--
Pesticides	Heptachlor Epoxide	1024-57-3	8081B	µg/kg			--
Pesticides	Methoxychlor	72-43-5	8081B	µg/kg			--
Pesticides	Mirex	2385-85-5	8081B	µg/kg			--
Pesticides	Technical Toxaphene	8001-35-2	8081B	µg/kg			--
pH	pH	pH	9045M	pH	7.95	7.86	1.14
SVOC	1,1'-Biphenyl	92-52-4	8270D	µg/kg			--
SVOC	1,2,4-Trichlorobenzene	120-82-1	8270D	µg/kg			--
SVOC	1,2-Dichlorobenzene	95-50-1	8270D	µg/kg			--
SVOC	1,2-Diphenylhydrazine	122-66-7	8270D	µg/kg			--
SVOC	1,3-Dichlorobenzene	541-73-1	8270D	µg/kg			--
SVOC	1,4-Dichlorobenzene	106-46-7	8270D	µg/kg			--
SVOC	2,4,5-Trichlorophenol	95-95-4	8270D	µg/kg			--
SVOC	2,4,6-Trichlorophenol	88-06-2	8270D	µg/kg			--
SVOC	2,4-Dichlorophenol	120-83-2	8270D	µg/kg			--
SVOC	2,4-Dimethylphenol	105-67-9	8270D	µg/kg			--
SVOC	2,4-Dinitrophenol	51-28-5	8270D	µg/kg			--
SVOC	2,6-Dichlorophenol	87-65-0	8270D	µg/kg			--
SVOC	2-Chloronaphthalene	91-58-7	8270D	µg/kg			--
SVOC	2-Chlorophenol	95-57-8	8270D	µg/kg			--
SVOC	2-Methylphenol	95-48-7	8270D	µg/kg			--
SVOC	2-Nitroaniline	88-74-4	8270D	µg/kg			--
SVOC	2-Nitrophenol	88-75-5	8270D	µg/kg			--
SVOC	3,3'-Dichlorobenzidine	91-94-1	8270D	µg/kg			--
SVOC	3,5-Dimethylphenol	108-68-9	8270D	µg/kg			--
SVOC	3-Nitroaniline	99-09-2	8270D	µg/kg			--
SVOC	4,6-Dinitro-2-methylphenol	534-52-1	8270D	µg/kg			--
SVOC	4-Bromophenyl-phenylether	101-55-3	8270D	µg/kg			--
SVOC	4-Chloro-3-methylphenol	59-50-7	8270D	µg/kg			--
SVOC	4-Chloroaniline	106-47-8	8270D	µg/kg			--
SVOC	4-Chlorophenyl-phenylether	7005-72-3	8270D	µg/kg			--
SVOC	4-Methylphenol	106-44-5	8270D	µg/kg			--
SVOC	4-Nitroaniline	100-01-6	8270D	µg/kg			--
SVOC	4-Nitrophenol	100-02-7	8270D	µg/kg			--
SVOC	Aniline	62-53-3	8270D	µg/kg			--
SVOC	Anthracene	120-12-7	8270D	µg/kg			--
SVOC	Benzidine	92-87-5	8270D	µg/kg			--
SVOC	Benzo(a)anthracene	56-55-3	8270D	µg/kg			--
SVOC	Benzo(a)pyrene	50-32-8	8270D	µg/kg			--
SVOC	Benzo(b)fluoranthene	205-99-2	8270D	µg/kg			--
SVOC	Benzo(g,h,i)perylene	191-24-2	8270D	µg/kg			--
SVOC	Benzo(k)fluoranthene	207-08-9	8270D	µg/kg			--
SVOC	Benzoic Acid	65-85-0	8270D	µg/kg			--
SVOC	Benzyl Alcohol	100-51-6	8270D	µg/kg			--
SVOC	bis(2-chloroethoxy)methane	111-91-1	8270D	µg/kg			--
SVOC	bis(2-chloroethyl) ether	111-44-4	8270D	µg/kg			--
SVOC	bis(2-chloroisopropyl) ether	39638-32-9	8270D	µg/kg			--
SVOC	Carbazole	86-74-8	8270D	µg/kg			--
SVOC	Chrysene	218-01-9	8270D	µg/kg			--
SVOC	Dibenzofuran	132-64-9	8270D	µg/kg			--
SVOC	Diphenylamine	NDPA122-39-4	8270D	µg/kg			--
SVOC	Fluoranthene	206-44-0	8270D	µg/kg			--
SVOC	Hexachlorobenzene	118-74-1	8270D	µg/kg			--
SVOC	Hexachlorobutadiene	87-68-3	8270D	µg/kg			--
SVOC	Hexachlorocyclopentadiene	77-47-4	8270D	µg/kg			--
SVOC	Hexachloroethane	67-72-1	8270D	µg/kg			--
SVOC	Indeno(1,2,3-cd)pyrene	193-39-5	8270D	µg/kg			--
SVOC	Isophorone	78-59-1	8270D	µg/kg			--
SVOC	Nitrobenzene	98-95-3	8270D	µg/kg			--
SVOC	N-Nitroso-di-n-propylamine	621-64-7	8270D	µg/kg			--
SVOC	N-Nitrosodiphenylamine	86-30-6	8270D	µg/kg			--
SVOC	Pentachlorophenol	87-86-5	8270D	µg/kg			--
SVOC	Phenanthrene	85-01-8	8270D	µg/kg			--
SVOC	Phenol	108-95-2	8270D	µg/kg			--
SVOC	Pyrene	129-00-0	8270D	µg/kg			--
SVOC	Pyridine	110-86-1	8270D	µg/kg			--
TPH-EFH	EFH (C8-C11)	PHCC8C11	8015M	mg/kg	5.8 U	5.8 U	--
TPH-EFH	EFH (C12-C14)	PHCC12C14	8015M	mg/kg	5.8 U	5.8 U	--
TPH-EFH	EFH (C15-C20)	PHCC15C20	8015M	mg/kg	5.8 U	5.8 U	--
TPH-EFH	EFH (C21-C30)	PHCC21C30	8015M	mg/kg	3.3 J	5.8 UJ	200.00
TPH-EFH	EFH (C30-C40)	PHCC30C40	8015M	mg/kg	5.6 J	12 UJ	200.00

Table C-9 - Subarea 8 Field Duplicate Samples

					Location	8_DG-538	8_DG-538	
					Sample Name:	SL-838-SA8-SB-4.0-5.0	SL-538-SA8-SB-4.0-5.0	
					Sample Date:	08/09/2013	08/09/2013	
					Start Depth:	4	4	
					End Depth:	5	5	RPD
					Area:	8_DG	8_DG	
					Matrix:	SO	SO	
					Sample Type:	FD	N	
TPH-GRO	Gasoline Range Organics (C5-C12)	GROC5C12	8015M	mg/kg		1.4 U	1.2 U	--
VOC	1,1,1,2-Tetrachloroethane	630-20-6	8260B	µg/kg				--
VOC	1,1,1-Trichloroethane	71-55-6	8260B	µg/kg				--
VOC	1,1,2,2-Tetrachloroethane	79-34-5	8260B	µg/kg				--
VOC	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	8260B	µg/kg				--
VOC	1,1,2-Trichloroethane	79-00-5	8260B	µg/kg				--
VOC	1,1-Dichloroethane	75-34-3	8260B	µg/kg				--
VOC	1,1-Dichloroethene	75-35-4	8260B	µg/kg				--
VOC	1,1-Dichloropropene	563-58-6	8260B	µg/kg				--
VOC	1,2,3-Trichlorobenzene	87-61-6	8260B	µg/kg				--
VOC	1,2,3-Trichloropropane	96-18-4	8260B	µg/kg				--
VOC	1,2,4-Trichlorobenzene	120-82-1	8260B	µg/kg				--
VOC	1,2,4-Trimethylbenzene	95-63-6	8260B	µg/kg				--
VOC	1,2-Dibromo-3-chloropropane	96-12-8	8260B	µg/kg				--
VOC	1,2-Dibromoethane	106-93-4	8260B	µg/kg				--
VOC	1,2-Dichlorobenzene	95-50-1	8260B	µg/kg				--
VOC	1,2-Dichloroethane	107-06-2	8260B	µg/kg				--
VOC	1,2-Dichloropropane	78-87-5	8260B	µg/kg				--
VOC	1,3,5-Trimethylbenzene	108-67-8	8260B	µg/kg				--
VOC	1,3-Dichlorobenzene	541-73-1	8260B	µg/kg				--
VOC	1,3-Dichloropropane	142-28-9	8260B	µg/kg				--
VOC	1,4-Dichlorobenzene	106-46-7	8260B	µg/kg				--
VOC	1-Chlorohexane	544-10-5	8260B	µg/kg				--
VOC	2,2-Dichloropropane	594-20-7	8260B	µg/kg				--
VOC	2-Butanone (MEK)	78-93-3	8260B	µg/kg				--
VOC	2-Chloro-1,1,1-trifluoroethane	75-88-7	8260B	µg/kg				--
VOC	2-Chloroethyl Vinyl Ether	110-75-8	8260B	µg/kg				--
VOC	2-Chlorotoluene	95-49-8	8260B	µg/kg				--
VOC	2-Hexanone	591-78-6	8260B	µg/kg				--
VOC	2-Phenylbutane	135-98-8	8260B	µg/kg				--
VOC	4-Chlorotoluene	106-43-4	8260B	µg/kg				--
VOC	4-Methyl-2-pentanone (MIBK)	108-10-1	8260B	µg/kg				--
VOC	Acetone	67-64-1	8260B	µg/kg				--
VOC	Acrolein	107-02-8	8260B	µg/kg				--
VOC	Acrylonitrile	107-13-1	8260B	µg/kg				--
VOC	Benzene	71-43-2	8260B	µg/kg				--
VOC	Bromobenzene	108-86-1	8260B	µg/kg				--
VOC	Bromochloromethane	74-97-5	8260B	µg/kg				--
VOC	Bromodichloromethane	75-27-4	8260B	µg/kg				--
VOC	Bromoform	75-25-2	8260B	µg/kg				--
VOC	Bromomethane	74-83-9	8260B	µg/kg				--
VOC	Carbon Disulfide	75-15-0	8260B	µg/kg				--
VOC	Carbon Tetrachloride	56-23-5	8260B	µg/kg				--
VOC	Chlorobenzene	108-90-7	8260B	µg/kg				--
VOC	Chloroethane	75-00-3	8260B	µg/kg				--
VOC	Chloroform	67-66-3	8260B	µg/kg				--
VOC	Chloromethane	74-87-3	8260B	µg/kg				--
VOC	Chlorotrifluoroethylene	79-38-9	8260B	µg/kg				--
VOC	cis-1,2-Dichloroethene	156-59-2	8260B	µg/kg				--
VOC	cis-1,3-Dichloropropene	10061-01-5	8260B	µg/kg				--
VOC	Cymene	99-87-6	8260B	µg/kg				--
VOC	Di isopropyl Ether	108-20-3	8260B	µg/kg				--
VOC	Dibromochloromethane	124-48-1	8260B	µg/kg				--
VOC	Dibromomethane	74-95-3	8260B	µg/kg				--
VOC	Dichlorodifluoromethane	75-71-8	8260B	µg/kg				--
VOC	Ethylbenzene	100-41-4	8260B	µg/kg				--
VOC	Hexachloro-1,3-butadiene	87-68-3	8260B	µg/kg				--
VOC	Isopropylbenzene	98-82-8	8260B	µg/kg				--
VOC	m,p-Xylene	179601-23-1	8260B	µg/kg				--
VOC	Methyl Iodide	74-88-4	8260B	µg/kg				--
VOC	Methyl Tert-Butyl Ether	1634-04-4	8260B	µg/kg				--
VOC	Methylene Chloride	75-09-2	8260B	µg/kg				--
VOC	n-Butylbenzene	104-51-8	8260B	µg/kg				--
VOC	n-Propylbenzene	103-65-1	8260B	µg/kg				--
VOC	o-Xylene	95-47-6	8260B	µg/kg				--
VOC	Styrene	100-42-5	8260B	µg/kg				--
VOC	tert-Butyl ethyl ether	637-92-3	8260B	µg/kg				--
VOC	tert-Butylbenzene	98-06-6	8260B	µg/kg				--
VOC	Tertiary amyl methyl ether	994-05-8	8260B	µg/kg				--
VOC	Tertiary butyl alcohol	75-65-0	8260B	µg/kg				--
VOC	Tetrachloroethene	127-18-4	8260B	µg/kg				--
VOC	Toluene	108-88-3	8260B	µg/kg				--
VOC	trans-1,2-Dichloroethene	156-60-5	8260B	µg/kg				--
VOC	trans-1,3-Dichloropropene	10061-02-6	8260B	µg/kg				--
VOC	Trichloroethene	79-01-6	8260B	µg/kg				--
VOC	Trichlorofluoromethane	75-69-4	8260B	µg/kg				--
VOC	Vinyl Acetate	108-05-4	8260B	µg/kg				--
VOC	Vinyl Chloride	75-01-4	8260B	µg/kg				--

Notes:

ug/kg - microgram per kilogram

mg/kg - milligram per kilogram

ng/g - nanogram per kilogram

FD - field duplicate sample

N - normal sample

RPD - relative percent difference

SO - soil

-- - RPD not calculated when both field duplicate and normal samples were nondetect or only one sample result is reported

200* - When one result is nondetect a 200% RPD is given and sample results are qualified as estimated "J" or "UJ" in the field duplicate samples only

Limit - 50% - If RPD is above 50% detected field duplicate results only were estimated "J"

Table C-9 - Subarea 8 Field Duplicate Samples

				Location	8_DG-543	8_DG-543	
				Sample Name:	SL-843-SA8-SB-4.0-5.0	SL-543-SA8-SB-4.0-5.0	
				Sample Date	08/13/2013	08/13/2013	
				Start Depth:	4	4	
				End Depth:	5	5	RPD
				Area:	8_DG	8_DG	
				Matrix:	SO	SO	
				Sample Type:	FD	N	
PAHs	Pyrene	129-00-0	8270D SIM	µg/kg	1.9 U	1.9 U	--
PCBPCTs	Aroclor 1016	12674-11-2	8082A	µg/kg	19 U	19 U	--
PCBPCTs	Aroclor 1221	11104-28-2	8082A	µg/kg	19 U	19 U	--
PCBPCTs	Aroclor 1232	11141-16-5	8082A	µg/kg	19 U	19 U	--
PCBPCTs	Aroclor 1242	53469-21-9	8082A	µg/kg	19 U	19 U	--
PCBPCTs	Aroclor 1248	12672-29-6	8082A	µg/kg	19 U	19 U	--
PCBPCTs	Aroclor 1254	11097-69-1	8082A	µg/kg	19 U	19 U	--
PCBPCTs	Aroclor 1260	11096-82-5	8082A	µg/kg	19 U	19 U	--
PCBPCTs	Aroclor 1262	37324-23-5	8082A	µg/kg	19 U	19 U	--
PCBPCTs	Aroclor 1268	11100-14-4	8082A	µg/kg	19 U	19 U	--
PCBPCTs	Aroclor 5432	63496-31-1	8082A	µg/kg	37 U	37 U	--
PCBPCTs	Aroclor 5442	12642-23-8	8082A	µg/kg	37 U	37 U	--
PCBPCTs	Aroclor 5460	11126-42-4	8082A	µg/kg	37 U	37 U	--
Perchlorate	Perchlorate	14797-73-0	6850	µg/kg			--
Pesticides	4,4'-DDD	72-54-8	8081B	µg/kg			--
Pesticides	4,4'-DDE	72-55-9	8081B	µg/kg			--
Pesticides	4,4'-DDT	50-29-3	8081B	µg/kg			--
Pesticides	Aldrin	309-00-2	8081B	µg/kg			--
Pesticides	Alpha-Bhc	319-84-6	8081B	µg/kg			--
Pesticides	Beta-Bhc	319-85-7	8081B	µg/kg			--
Pesticides	Chlordane	57-74-9	8081B	µg/kg			--
Pesticides	Delta-Bhc	319-86-8	8081B	µg/kg			--
Pesticides	Dieldrin	60-57-1	8081B	µg/kg			--
Pesticides	Endosulfan I	959-98-8	8081B	µg/kg			--
Pesticides	Endosulfan II	33213-65-9	8081B	µg/kg			--
Pesticides	Endosulfan Sulfate	1031-07-8	8081B	µg/kg			--
Pesticides	Endrin	72-20-8	8081B	µg/kg			--
Pesticides	Endrin Aldehyde	7421-93-4	8081B	µg/kg			--
Pesticides	Endrin Ketone	53494-70-5	8081B	µg/kg			--
Pesticides	Gamma-Bhc (Lindane)	58-89-9	8081B	µg/kg			--
Pesticides	Heptachlor	76-44-8	8081B	µg/kg			--
Pesticides	Heptachlor Epoxide	1024-57-3	8081B	µg/kg			--
Pesticides	Methoxychlor	72-43-5	8081B	µg/kg			--
Pesticides	Mirex	2385-85-5	8081B	µg/kg			--
Pesticides	Technical Toxaphene	8001-35-2	8081B	µg/kg			--
pH	pH	pH	9045M	pH	8.09	7.63	5.85
SVOC	1,1'-Biphenyl	92-52-4	8270D	µg/kg			--
SVOC	1,2,4-Trichlorobenzene	120-82-1	8270D	µg/kg			--
SVOC	1,2-Dichlorobenzene	95-50-1	8270D	µg/kg			--
SVOC	1,2-Diphenylhydrazine	122-66-7	8270D	µg/kg			--
SVOC	1,3-Dichlorobenzene	541-73-1	8270D	µg/kg			--
SVOC	1,4-Dichlorobenzene	106-46-7	8270D	µg/kg			--
SVOC	2,4,5-Trichlorophenol	95-95-4	8270D	µg/kg			--
SVOC	2,4,6-Trichlorophenol	88-06-2	8270D	µg/kg			--
SVOC	2,4-Dichlorophenol	120-83-2	8270D	µg/kg			--
SVOC	2,4-Dimethylphenol	105-67-9	8270D	µg/kg			--
SVOC	2,4-Dinitrophenol	51-28-5	8270D	µg/kg			--
SVOC	2,6-Dichlorophenol	87-65-0	8270D	µg/kg			--
SVOC	2-Chloronaphthalene	91-58-7	8270D	µg/kg			--
SVOC	2-Chlorophenol	95-57-8	8270D	µg/kg			--
SVOC	2-Methylphenol	95-48-7	8270D	µg/kg			--
SVOC	2-Nitroaniline	88-74-4	8270D	µg/kg			--
SVOC	2-Nitrophenol	88-75-5	8270D	µg/kg			--
SVOC	3,3'-Dichlorobenzidine	91-94-1	8270D	µg/kg			--
SVOC	3,5-Dimethylphenol	108-68-9	8270D	µg/kg			--
SVOC	3-Nitroaniline	99-09-2	8270D	µg/kg			--
SVOC	4,6-Dinitro-2-methylphenol	534-52-1	8270D	µg/kg			--
SVOC	4-Bromophenyl-phenylether	101-55-3	8270D	µg/kg			--
SVOC	4-Chloro-3-methylphenol	59-50-7	8270D	µg/kg			--
SVOC	4-Chloroaniline	106-47-8	8270D	µg/kg			--
SVOC	4-Chlorophenyl-phenylether	7005-72-3	8270D	µg/kg			--
SVOC	4-Methylphenol	106-44-5	8270D	µg/kg			--
SVOC	4-Nitroaniline	100-01-6	8270D	µg/kg			--
SVOC	4-Nitrophenol	100-02-7	8270D	µg/kg			--
SVOC	Aniline	62-53-3	8270D	µg/kg			--
SVOC	Anthracene	120-12-7	8270D	µg/kg			--
SVOC	Benzidine	92-87-5	8270D	µg/kg			--
SVOC	Benzo(a)anthracene	56-55-3	8270D	µg/kg			--
SVOC	Benzo(a)pyrene	50-32-8	8270D	µg/kg			--
SVOC	Benzo(b)fluoranthene	205-99-2	8270D	µg/kg			--
SVOC	Benzo(g,h,i)perylene	191-24-2	8270D	µg/kg			--
SVOC	Benzo(k)fluoranthene	207-08-9	8270D	µg/kg			--
SVOC	Benzoic Acid	65-85-0	8270D	µg/kg			--
SVOC	Benzyl Alcohol	100-51-6	8270D	µg/kg			--
SVOC	bis(2-chloroethoxy)methane	111-91-1	8270D	µg/kg			--
SVOC	bis(2-chloroethyl) ether	111-44-4	8270D	µg/kg			--
SVOC	bis(2-chloroisopropyl) ether	39638-32-9	8270D	µg/kg			--
SVOC	Carbazole	86-74-8	8270D	µg/kg			--
SVOC	Chrysene	218-01-9	8270D	µg/kg			--
SVOC	Dibenzofuran	132-64-9	8270D	µg/kg			--
SVOC	Diphenylamine	NDPA122-39-4	8270D	µg/kg			--
SVOC	Fluoranthene	206-44-0	8270D	µg/kg			--
SVOC	Hexachlorobenzene	118-74-1	8270D	µg/kg			--
SVOC	Hexachlorobutadiene	87-68-3	8270D	µg/kg			--
SVOC	Hexachlorocyclopentadiene	77-47-4	8270D	µg/kg			--
SVOC	Hexachloroethane	67-72-1	8270D	µg/kg			--
SVOC	Indeno(1,2,3-cd)pyrene	193-39-5	8270D	µg/kg			--
SVOC	Isophorone	78-59-1	8270D	µg/kg			--
SVOC	Nitrobenzene	98-95-3	8270D	µg/kg			--
SVOC	N-Nitroso-di-n-propylamine	621-64-7	8270D	µg/kg			--
SVOC	N-Nitrosodiphenylamine	86-30-6	8270D	µg/kg			--
SVOC	Pentachlorophenol	87-86-5	8270D	µg/kg			--
SVOC	Phenanthrene	85-01-8	8270D	µg/kg			--
SVOC	Phenol	108-95-2	8270D	µg/kg			--
SVOC	Pyrene	129-00-0	8270D	µg/kg			--
SVOC	Pyridine	110-86-1	8270D	µg/kg			--
TPH-EFH	EFH (C8-C11)	PHCC8C11	8015M	mg/kg	5.6 U	5.6 U	--
TPH-EFH	EFH (C12-C14)	PHCC12C14	8015M	mg/kg	5.6 U	5.6 U	--
TPH-EFH	EFH (C15-C20)	PHCC15C20	8015M	mg/kg	5.6 U	5.6 U	--
TPH-EFH	EFH (C21-C30)	PHCC21C30	8015M	mg/kg	5.6 U	5.6 U	--
TPH-EFH	EFH (C30-C40)	PHCC30C40	8015M	mg/kg	11 U	11 U	--

Table C-9 - Subarea 8 Field Duplicate Samples

					Location	8_DG-543	8_DG-543		
					Sample Name:	SL-843-SA8-SB-4.0-5.0	SL-543-SA8-SB-4.0-5.0		
					Sample Date:	08/13/2013	08/13/2013		
					Start Depth:	4	4		
					End Depth:	5	5	RPD	
					Area:	8_DG	8_DG		
					Matrix:	SO	SO		
					Sample Type:	FD	N		
TPH-GRO	Gasoline Range Organics (C5-C12)	GROC5C12	8015M	mg/kg	1.1	U	1.1	U	--
VOC	1,1,1,2-Tetrachloroethane	630-20-6	8260B	µg/kg					--
VOC	1,1,1-Trichloroethane	71-55-6	8260B	µg/kg					--
VOC	1,1,2,2-Tetrachloroethane	79-34-5	8260B	µg/kg					--
VOC	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	8260B	µg/kg					--
VOC	1,1,2-Trichloroethane	79-00-5	8260B	µg/kg					--
VOC	1,1-Dichloroethane	75-34-3	8260B	µg/kg					--
VOC	1,1-Dichloroethene	75-35-4	8260B	µg/kg					--
VOC	1,1-Dichloropropene	563-58-6	8260B	µg/kg					--
VOC	1,2,3-Trichlorobenzene	87-61-6	8260B	µg/kg					--
VOC	1,2,3-Trichloropropane	96-18-4	8260B	µg/kg					--
VOC	1,2,4-Trichlorobenzene	120-82-1	8260B	µg/kg					--
VOC	1,2,4-Trimethylbenzene	95-63-6	8260B	µg/kg					--
VOC	1,2-Dibromo-3-chloropropane	96-12-8	8260B	µg/kg					--
VOC	1,2-Dibromoethane	106-93-4	8260B	µg/kg					--
VOC	1,2-Dichlorobenzene	95-50-1	8260B	µg/kg					--
VOC	1,2-Dichloroethane	107-06-2	8260B	µg/kg					--
VOC	1,2-Dichloropropane	78-87-5	8260B	µg/kg					--
VOC	1,3,5-Trimethylbenzene	108-67-8	8260B	µg/kg					--
VOC	1,3-Dichlorobenzene	541-73-1	8260B	µg/kg					--
VOC	1,3-Dichloropropane	142-28-9	8260B	µg/kg					--
VOC	1,4-Dichlorobenzene	106-46-7	8260B	µg/kg					--
VOC	1-Chlorohexane	544-10-5	8260B	µg/kg					--
VOC	2,2-Dichloropropane	594-20-7	8260B	µg/kg					--
VOC	2-Butanone (MEK)	78-93-3	8260B	µg/kg					--
VOC	2-Chloro-1,1,1-trifluoroethane	75-88-7	8260B	µg/kg					--
VOC	2-Chloroethyl Vinyl Ether	110-75-8	8260B	µg/kg					--
VOC	2-Chlorotoluene	95-49-8	8260B	µg/kg					--
VOC	2-Hexanone	591-78-6	8260B	µg/kg					--
VOC	2-Phenylbutane	135-98-8	8260B	µg/kg					--
VOC	4-Chlorotoluene	106-43-4	8260B	µg/kg					--
VOC	4-Methyl-2-pentanone (MIBK)	108-10-1	8260B	µg/kg					--
VOC	Acetone	67-64-1	8260B	µg/kg					--
VOC	Acrolein	107-02-8	8260B	µg/kg					--
VOC	Acrylonitrile	107-13-1	8260B	µg/kg					--
VOC	Benzene	71-43-2	8260B	µg/kg					--
VOC	Bromobenzene	108-86-1	8260B	µg/kg					--
VOC	Bromochloromethane	74-97-5	8260B	µg/kg					--
VOC	Bromodichloromethane	75-27-4	8260B	µg/kg					--
VOC	Bromoform	75-25-2	8260B	µg/kg					--
VOC	Bromomethane	74-83-9	8260B	µg/kg					--
VOC	Carbon Disulfide	75-15-0	8260B	µg/kg					--
VOC	Carbon Tetrachloride	56-23-5	8260B	µg/kg					--
VOC	Chlorobenzene	108-90-7	8260B	µg/kg					--
VOC	Chloroethane	75-00-3	8260B	µg/kg					--
VOC	Chloroform	67-66-3	8260B	µg/kg					--
VOC	Chloromethane	74-87-3	8260B	µg/kg					--
VOC	Chlorotrifluoroethylene	79-38-9	8260B	µg/kg					--
VOC	cis-1,2-Dichloroethene	156-59-2	8260B	µg/kg					--
VOC	cis-1,3-Dichloropropene	10061-01-5	8260B	µg/kg					--
VOC	Cymene	99-87-6	8260B	µg/kg					--
VOC	Di isopropyl Ether	108-20-3	8260B	µg/kg					--
VOC	Dibromochloromethane	124-48-1	8260B	µg/kg					--
VOC	Dibromomethane	74-95-3	8260B	µg/kg					--
VOC	Dichlorodifluoromethane	75-71-8	8260B	µg/kg					--
VOC	Ethylbenzene	100-41-4	8260B	µg/kg					--
VOC	Hexachloro-1,3-butadiene	87-68-3	8260B	µg/kg					--
VOC	Isopropylbenzene	98-82-8	8260B	µg/kg					--
VOC	m,p-Xylene	179601-23-1	8260B	µg/kg					--
VOC	Methyl Iodide	74-88-4	8260B	µg/kg					--
VOC	Methyl Tert-Butyl Ether	1634-04-4	8260B	µg/kg					--
VOC	Methylene Chloride	75-09-2	8260B	µg/kg					--
VOC	n-Butylbenzene	104-51-8	8260B	µg/kg					--
VOC	n-Propylbenzene	103-65-1	8260B	µg/kg					--
VOC	o-Xylene	95-47-6	8260B	µg/kg					--
VOC	Styrene	100-42-5	8260B	µg/kg					--
VOC	tert-Butyl ethyl ether	637-92-3	8260B	µg/kg					--
VOC	tert-Butylbenzene	98-06-6	8260B	µg/kg					--
VOC	Tertiary amyl methyl ether	994-05-8	8260B	µg/kg					--
VOC	Tertiary butyl alcohol	75-65-0	8260B	µg/kg					--
VOC	Tetrachloroethene	127-18-4	8260B	µg/kg					--
VOC	Toluene	108-88-3	8260B	µg/kg					--
VOC	trans-1,2-Dichloroethene	156-60-5	8260B	µg/kg					--
VOC	trans-1,3-Dichloropropene	10061-02-6	8260B	µg/kg					--
VOC	Trichloroethene	79-01-6	8260B	µg/kg					--
VOC	Trichlorofluoromethane	75-69-4	8260B	µg/kg					--
VOC	Vinyl Acetate	108-05-4	8260B	µg/kg					--
VOC	Vinyl Chloride	75-01-4	8260B	µg/kg					--

Notes:

ug/kg - microgram per kilogram

mg/kg - milligram per kilogram

ng/g - nanogram per kilogram

FD - field duplicate sample

N - normal sample

RPD - relative percent difference

SO - soil

-- - RPD not calculated when both field duplicate and normal samples were nondetect or only one sample result is reported

200* - When one result is nondetect a 200% RPD is given and sample results are qualified as estimated "J" or "UJ" in the field duplicate samples only

Limit - 50% - If RPD is above 50% detected field duplicate results only were estimated "J"

Table C-9 - Subarea 8 Field Duplicate Samples

					Location	8_DG-551	8_DG-551	
					Sample Name:	SL-851-SA8-SB-4.0-5.0	SL-551-SA8-SB-4.0-5.0	
					Sample Date:	07/23/2013	07/23/2013	
					Start Depth:	4	4	
					End Depth:	5	5	RPD
					Area:	8_DG	8_DG	
					Matrix:	SO	SO	
					Sample Type:	FD	N	
PAHs	Pyrene	129-00-0	8270D SIM	µg/kg	1.9 U	1.7 U	--	
PCBPCTs	Aroclor 1016	12674-11-2	8082A	µg/kg	20 U	18 U	--	
PCBPCTs	Aroclor 1221	11104-28-2	8082A	µg/kg	20 U	18 U	--	
PCBPCTs	Aroclor 1232	11141-16-5	8082A	µg/kg	20 U	18 U	--	
PCBPCTs	Aroclor 1242	53469-21-9	8082A	µg/kg	20 U	18 U	--	
PCBPCTs	Aroclor 1248	12672-29-6	8082A	µg/kg	20 U	18 U	--	
PCBPCTs	Aroclor 1254	11097-69-1	8082A	µg/kg	20 U	18 U	--	
PCBPCTs	Aroclor 1260	11096-82-5	8082A	µg/kg	20 U	18 U	--	
PCBPCTs	Aroclor 1262	37324-23-5	8082A	µg/kg	20 U	18 U	--	
PCBPCTs	Aroclor 1268	11100-14-4	8082A	µg/kg	20 U	18 U	--	
PCBPCTs	Aroclor 5432	63496-31-1	8082A	µg/kg	38 U	35 U	--	
PCBPCTs	Aroclor 5442	12642-23-8	8082A	µg/kg	38 U	35 U	--	
PCBPCTs	Aroclor 5460	11126-42-4	8082A	µg/kg	38 U	35 U	--	
Perchlorate	Perchlorate	14797-73-0	6850	µg/kg			--	
Pesticides	4,4'-DDD	72-54-8	8081B	µg/kg			--	
Pesticides	4,4'-DDE	72-55-9	8081B	µg/kg			--	
Pesticides	4,4'-DDT	50-29-3	8081B	µg/kg			--	
Pesticides	Aldrin	309-00-2	8081B	µg/kg			--	
Pesticides	Alpha-Bhc	319-84-6	8081B	µg/kg			--	
Pesticides	Beta-Bhc	319-85-7	8081B	µg/kg			--	
Pesticides	Chlordane	57-74-9	8081B	µg/kg			--	
Pesticides	Delta-Bhc	319-86-8	8081B	µg/kg			--	
Pesticides	Dieldrin	60-57-1	8081B	µg/kg			--	
Pesticides	Endosulfan I	959-98-8	8081B	µg/kg			--	
Pesticides	Endosulfan II	33213-65-9	8081B	µg/kg			--	
Pesticides	Endosulfan Sulfate	1031-07-8	8081B	µg/kg			--	
Pesticides	Endrin	72-20-8	8081B	µg/kg			--	
Pesticides	Endrin Aldehyde	7421-93-4	8081B	µg/kg			--	
Pesticides	Endrin Ketone	53494-70-5	8081B	µg/kg			--	
Pesticides	Gamma-Bhc (Lindane)	58-89-9	8081B	µg/kg			--	
Pesticides	Heptachlor	76-44-8	8081B	µg/kg			--	
Pesticides	Heptachlor Epoxide	1024-57-3	8081B	µg/kg			--	
Pesticides	Methoxychlor	72-43-5	8081B	µg/kg			--	
Pesticides	Mirex	2385-85-5	8081B	µg/kg			--	
Pesticides	Technical Toxaphene	8001-35-2	8081B	µg/kg			--	
pH	pH	pH	9045M	pH	7.97	7.42	7.15	
SVOC	1,1'-Biphenyl	92-52-4	8270D	µg/kg			--	
SVOC	1,2,4-Trichlorobenzene	120-82-1	8270D	µg/kg			--	
SVOC	1,2-Dichlorobenzene	95-50-1	8270D	µg/kg			--	
SVOC	1,2-Diphenylhydrazine	122-66-7	8270D	µg/kg			--	
SVOC	1,3-Dichlorobenzene	541-73-1	8270D	µg/kg			--	
SVOC	1,4-Dichlorobenzene	106-46-7	8270D	µg/kg			--	
SVOC	2,4,5-Trichlorophenol	95-95-4	8270D	µg/kg			--	
SVOC	2,4,6-Trichlorophenol	88-06-2	8270D	µg/kg			--	
SVOC	2,4-Dichlorophenol	120-83-2	8270D	µg/kg			--	
SVOC	2,4-Dimethylphenol	105-67-9	8270D	µg/kg			--	
SVOC	2,4-Dinitrophenol	51-28-5	8270D	µg/kg			--	
SVOC	2,6-Dichlorophenol	87-65-0	8270D	µg/kg			--	
SVOC	2-Chloronaphthalene	91-58-7	8270D	µg/kg			--	
SVOC	2-Chlorophenol	95-57-8	8270D	µg/kg			--	
SVOC	2-Methylphenol	95-48-7	8270D	µg/kg			--	
SVOC	2-Nitroaniline	88-74-4	8270D	µg/kg			--	
SVOC	2-Nitrophenol	88-75-5	8270D	µg/kg			--	
SVOC	3,3'-Dichlorobenzidine	91-94-1	8270D	µg/kg			--	
SVOC	3,5-Dimethylphenol	108-68-9	8270D	µg/kg			--	
SVOC	3-Nitroaniline	99-09-2	8270D	µg/kg			--	
SVOC	4,6-Dinitro-2-methylphenol	534-52-1	8270D	µg/kg			--	
SVOC	4-Bromophenyl-phenylether	101-55-3	8270D	µg/kg			--	
SVOC	4-Chloro-3-methylphenol	59-50-7	8270D	µg/kg			--	
SVOC	4-Chloroaniline	106-47-8	8270D	µg/kg			--	
SVOC	4-Chlorophenyl-phenylether	7005-72-3	8270D	µg/kg			--	
SVOC	4-Methylphenol	106-44-5	8270D	µg/kg			--	
SVOC	4-Nitroaniline	100-01-6	8270D	µg/kg			--	
SVOC	4-Nitrophenol	100-02-7	8270D	µg/kg			--	
SVOC	Aniline	62-53-3	8270D	µg/kg			--	
SVOC	Anthracene	120-12-7	8270D	µg/kg			--	
SVOC	Benzidine	92-87-5	8270D	µg/kg			--	
SVOC	Benzo(a)anthracene	56-55-3	8270D	µg/kg			--	
SVOC	Benzo(a)pyrene	50-32-8	8270D	µg/kg			--	
SVOC	Benzo(b)fluoranthene	205-99-2	8270D	µg/kg			--	
SVOC	Benzo(g,h,i)perylene	191-24-2	8270D	µg/kg			--	
SVOC	Benzo(k)fluoranthene	207-08-9	8270D	µg/kg			--	
SVOC	Benzoic Acid	65-85-0	8270D	µg/kg			--	
SVOC	Benzyl Alcohol	100-51-6	8270D	µg/kg			--	
SVOC	bis(2-chloroethoxy)methane	111-91-1	8270D	µg/kg			--	
SVOC	bis(2-chloroethyl) ether	111-44-4	8270D	µg/kg			--	
SVOC	bis(2-chloroisopropyl) ether	39638-32-9	8270D	µg/kg			--	
SVOC	Carbazole	86-74-8	8270D	µg/kg			--	
SVOC	Chrysene	218-01-9	8270D	µg/kg			--	
SVOC	Dibenzofuran	132-64-9	8270D	µg/kg			--	
SVOC	Diphenylamine	NDPA122-39-4	8270D	µg/kg			--	
SVOC	Fluoranthene	206-44-0	8270D	µg/kg			--	
SVOC	Hexachlorobenzene	118-74-1	8270D	µg/kg			--	
SVOC	Hexachlorobutadiene	87-68-3	8270D	µg/kg			--	
SVOC	Hexachlorocyclopentadiene	77-47-4	8270D	µg/kg			--	
SVOC	Hexachloroethane	67-72-1	8270D	µg/kg			--	
SVOC	Indeno(1,2,3-cd)pyrene	193-39-5	8270D	µg/kg			--	
SVOC	Isophorone	78-59-1	8270D	µg/kg			--	
SVOC	Nitrobenzene	98-95-3	8270D	µg/kg			--	
SVOC	N-Nitroso-di-n-propylamine	621-64-7	8270D	µg/kg			--	
SVOC	N-Nitrosodiphenylamine	86-30-6	8270D	µg/kg			--	
SVOC	Pentachlorophenol	87-86-5	8270D	µg/kg			--	
SVOC	Phenanthrene	85-01-8	8270D	µg/kg			--	
SVOC	Phenol	108-95-2	8270D	µg/kg			--	
SVOC	Pyrene	129-00-0	8270D	µg/kg			--	
SVOC	Pyridine	110-86-1	8270D	µg/kg			--	
TPH-EFH	EFH (C8-C11)	PHCC8C11	8015M	mg/kg	5.7 U	5.2 U	--	
TPH-EFH	EFH (C12-C14)	PHCC12C14	8015M	mg/kg	5.7 U	5.2 U	--	
TPH-EFH	EFH (C15-C20)	PHCC15C20	8015M	mg/kg	5.7 U	5.2 U	--	
TPH-EFH	EFH (C21-C30)	PHCC21C30	8015M	mg/kg	5.7 U	5.2 U	--	
TPH-EFH	EFH (C30-C40)	PHCC30C40	8015M	mg/kg	11 U	10 U	--	

Table C-9 - Subarea 8 Field Duplicate Samples

					Location	8_DG-551	8_DG-551		
					Sample Name:	SL-851-SA8-SB-4.0-5.0	SL-551-SA8-SB-4.0-5.0		
					Sample Date:	07/23/2013	07/23/2013		
					Start Depth:	4	4		
					End Depth:	5	5	RPD	
					Area:	8_DG	8_DG		
					Matrix:	SO	SO		
					Sample Type:	FD	N		
TPH-GRO	Gasoline Range Organics (C5-C12)	GROC5C12	8015M	mg/kg		0.9 U	0.9 U		
VOC	1,1,1,2-Tetrachloroethane	630-20-6	8260B	µg/kg					--
VOC	1,1,1-Trichloroethane	71-55-6	8260B	µg/kg					--
VOC	1,1,2,2-Tetrachloroethane	79-34-5	8260B	µg/kg					--
VOC	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	8260B	µg/kg					--
VOC	1,1,2-Trichloroethane	79-00-5	8260B	µg/kg					--
VOC	1,1-Dichloroethane	75-34-3	8260B	µg/kg					--
VOC	1,1-Dichloroethene	75-35-4	8260B	µg/kg					--
VOC	1,1-Dichloropropene	563-58-6	8260B	µg/kg					--
VOC	1,2,3-Trichlorobenzene	87-61-6	8260B	µg/kg					--
VOC	1,2,3-Trichloropropane	96-18-4	8260B	µg/kg					--
VOC	1,2,4-Trichlorobenzene	120-82-1	8260B	µg/kg					--
VOC	1,2,4-Trimethylbenzene	95-63-6	8260B	µg/kg					--
VOC	1,2-Dibromo-3-chloropropane	96-12-8	8260B	µg/kg					--
VOC	1,2-Dibromoethane	106-93-4	8260B	µg/kg					--
VOC	1,2-Dichlorobenzene	95-50-1	8260B	µg/kg					--
VOC	1,2-Dichloroethane	107-06-2	8260B	µg/kg					--
VOC	1,2-Dichloropropane	78-87-5	8260B	µg/kg					--
VOC	1,3,5-Trimethylbenzene	108-67-8	8260B	µg/kg					--
VOC	1,3-Dichlorobenzene	541-73-1	8260B	µg/kg					--
VOC	1,3-Dichloropropane	142-28-9	8260B	µg/kg					--
VOC	1,4-Dichlorobenzene	106-46-7	8260B	µg/kg					--
VOC	1-Chlorohexane	544-10-5	8260B	µg/kg					--
VOC	2,2-Dichloropropane	594-20-7	8260B	µg/kg					--
VOC	2-Butanone (MEK)	78-93-3	8260B	µg/kg					--
VOC	2-Chloro-1,1,1-trifluoroethane	75-88-7	8260B	µg/kg					--
VOC	2-Chloroethyl Vinyl Ether	110-75-8	8260B	µg/kg					--
VOC	2-Chlorotoluene	95-49-8	8260B	µg/kg					--
VOC	2-Hexanone	591-78-6	8260B	µg/kg					--
VOC	2-Phenylbutane	135-98-8	8260B	µg/kg					--
VOC	4-Chlorotoluene	106-43-4	8260B	µg/kg					--
VOC	4-Methyl-2-pentanone (MIBK)	108-10-1	8260B	µg/kg					--
VOC	Acetone	67-64-1	8260B	µg/kg					--
VOC	Acrolein	107-02-8	8260B	µg/kg					--
VOC	Acrylonitrile	107-13-1	8260B	µg/kg					--
VOC	Benzene	71-43-2	8260B	µg/kg					--
VOC	Bromobenzene	108-86-1	8260B	µg/kg					--
VOC	Bromochloromethane	74-97-5	8260B	µg/kg					--
VOC	Bromodichloromethane	75-27-4	8260B	µg/kg					--
VOC	Bromoform	75-25-2	8260B	µg/kg					--
VOC	Bromomethane	74-83-9	8260B	µg/kg					--
VOC	Carbon Disulfide	75-15-0	8260B	µg/kg					--
VOC	Carbon Tetrachloride	56-23-5	8260B	µg/kg					--
VOC	Chlorobenzene	108-90-7	8260B	µg/kg					--
VOC	Chloroethane	75-00-3	8260B	µg/kg					--
VOC	Chloroform	67-66-3	8260B	µg/kg					--
VOC	Chloromethane	74-87-3	8260B	µg/kg					--
VOC	Chlorotrifluoroethylene	79-38-9	8260B	µg/kg					--
VOC	cis-1,2-Dichloroethene	156-59-2	8260B	µg/kg					--
VOC	cis-1,3-Dichloropropene	10061-01-5	8260B	µg/kg					--
VOC	Cymene	99-87-6	8260B	µg/kg					--
VOC	Di isopropyl Ether	108-20-3	8260B	µg/kg					--
VOC	Dibromochloromethane	124-48-1	8260B	µg/kg					--
VOC	Dibromomethane	74-95-3	8260B	µg/kg					--
VOC	Dichlorodifluoromethane	75-71-8	8260B	µg/kg					--
VOC	Ethylbenzene	100-41-4	8260B	µg/kg					--
VOC	Hexachloro-1,3-butadiene	87-68-3	8260B	µg/kg					--
VOC	Isopropylbenzene	98-82-8	8260B	µg/kg					--
VOC	m,p-Xylene	179601-23-1	8260B	µg/kg					--
VOC	Methyl Iodide	74-88-4	8260B	µg/kg					--
VOC	Methyl Tert-Butyl Ether	1634-04-4	8260B	µg/kg					--
VOC	Methylene Chloride	75-09-2	8260B	µg/kg					--
VOC	n-Butylbenzene	104-51-8	8260B	µg/kg					--
VOC	n-Propylbenzene	103-65-1	8260B	µg/kg					--
VOC	o-Xylene	95-47-6	8260B	µg/kg					--
VOC	Styrene	100-42-5	8260B	µg/kg					--
VOC	tert-Butyl ethyl ether	637-92-3	8260B	µg/kg					--
VOC	tert-Butylbenzene	98-06-6	8260B	µg/kg					--
VOC	Tertiary amyl methyl ether	994-05-8	8260B	µg/kg					--
VOC	Tertiary butyl alcohol	75-65-0	8260B	µg/kg					--
VOC	Tetrachloroethene	127-18-4	8260B	µg/kg					--
VOC	Toluene	108-88-3	8260B	µg/kg					--
VOC	trans-1,2-Dichloroethene	156-60-5	8260B	µg/kg					--
VOC	trans-1,3-Dichloropropene	10061-02-6	8260B	µg/kg					--
VOC	Trichloroethene	79-01-6	8260B	µg/kg					--
VOC	Trichlorofluoromethane	75-69-4	8260B	µg/kg					--
VOC	Vinyl Acetate	108-05-4	8260B	µg/kg					--
VOC	Vinyl Chloride	75-01-4	8260B	µg/kg					--

Notes:

ug/kg - microgram per kilogram

mg/kg - milligram per kilogram

ng/g - nanogram per kilogram

FD - field duplicate sample

N - normal sample

RPD - relative percent difference

SO - soil

-- - RPD not calculated when both field duplicate and normal samples were nondetect or only one sample result is reported

200* - When one result is nondetect a 200% RPD is given and sample results are qualified as estimated "J" or "UJ" in the field duplicate samples only

Limit - 50% - If RPD is above 50% detected field duplicate results only were estimated "J"

Table C-9 - Subarea 8 Field Duplicate Samples

					Location	8_DG-553	8_DG-553	
					Sample Name:	SL-853-SA8-SB-4.0-5.0	SL-553-SA8-SB-4.0-5.0	
					Sample Date:	08/27/2013	08/27/2013	
					Start Depth:	4	4	
					End Depth:	5	5	RPD
					Area:	8_DG	8_DG	
					Matrix:	SO	SO	
					Sample Type:	FD	N	
TPH-GRO	Gasoline Range Organics (C5-C12)	GROC5C12	8015M	mg/kg		1 U	1 U	--
VOC	1,1,1,2-Tetrachloroethane	630-20-6	8260B	µg/kg				--
VOC	1,1,1-Trichloroethane	71-55-6	8260B	µg/kg				--
VOC	1,1,2,2-Tetrachloroethane	79-34-5	8260B	µg/kg				--
VOC	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	8260B	µg/kg				--
VOC	1,1,2-Trichloroethane	79-00-5	8260B	µg/kg				--
VOC	1,1-Dichloroethane	75-34-3	8260B	µg/kg				--
VOC	1,1-Dichloroethene	75-35-4	8260B	µg/kg				--
VOC	1,1-Dichloropropene	563-58-6	8260B	µg/kg				--
VOC	1,2,3-Trichlorobenzene	87-61-6	8260B	µg/kg				--
VOC	1,2,3-Trichloropropane	96-18-4	8260B	µg/kg				--
VOC	1,2,4-Trichlorobenzene	120-82-1	8260B	µg/kg				--
VOC	1,2,4-Trimethylbenzene	95-63-6	8260B	µg/kg				--
VOC	1,2-Dibromo-3-chloropropane	96-12-8	8260B	µg/kg				--
VOC	1,2-Dibromoethane	106-93-4	8260B	µg/kg				--
VOC	1,2-Dichlorobenzene	95-50-1	8260B	µg/kg				--
VOC	1,2-Dichloroethane	107-06-2	8260B	µg/kg				--
VOC	1,2-Dichloropropane	78-87-5	8260B	µg/kg				--
VOC	1,3,5-Trimethylbenzene	108-67-8	8260B	µg/kg				--
VOC	1,3-Dichlorobenzene	541-73-1	8260B	µg/kg				--
VOC	1,3-Dichloropropane	142-28-9	8260B	µg/kg				--
VOC	1,4-Dichlorobenzene	106-46-7	8260B	µg/kg				--
VOC	1-Chlorohexane	544-10-5	8260B	µg/kg				--
VOC	2,2-Dichloropropane	594-20-7	8260B	µg/kg				--
VOC	2-Butanone (MEK)	78-93-3	8260B	µg/kg				--
VOC	2-Chloro-1,1,1-trifluoroethane	75-88-7	8260B	µg/kg				--
VOC	2-Chloroethyl Vinyl Ether	110-75-8	8260B	µg/kg				--
VOC	2-Chlorotoluene	95-49-8	8260B	µg/kg				--
VOC	2-Hexanone	591-78-6	8260B	µg/kg				--
VOC	2-Phenylbutane	135-98-8	8260B	µg/kg				--
VOC	4-Chlorotoluene	106-43-4	8260B	µg/kg				--
VOC	4-Methyl-2-pentanone (MIBK)	108-10-1	8260B	µg/kg				--
VOC	Acetone	67-64-1	8260B	µg/kg				--
VOC	Acrolein	107-02-8	8260B	µg/kg				--
VOC	Acrylonitrile	107-13-1	8260B	µg/kg				--
VOC	Benzene	71-43-2	8260B	µg/kg				--
VOC	Bromobenzene	108-86-1	8260B	µg/kg				--
VOC	Bromochloromethane	74-97-5	8260B	µg/kg				--
VOC	Bromodichloromethane	75-27-4	8260B	µg/kg				--
VOC	Bromoform	75-25-2	8260B	µg/kg				--
VOC	Bromomethane	74-83-9	8260B	µg/kg				--
VOC	Carbon Disulfide	75-15-0	8260B	µg/kg				--
VOC	Carbon Tetrachloride	56-23-5	8260B	µg/kg				--
VOC	Chlorobenzene	108-90-7	8260B	µg/kg				--
VOC	Chloroethane	75-00-3	8260B	µg/kg				--
VOC	Chloroform	67-66-3	8260B	µg/kg				--
VOC	Chloromethane	74-87-3	8260B	µg/kg				--
VOC	Chlorotrifluoroethylene	79-38-9	8260B	µg/kg				--
VOC	cis-1,2-Dichloroethene	156-59-2	8260B	µg/kg				--
VOC	cis-1,3-Dichloropropene	10061-01-5	8260B	µg/kg				--
VOC	Cymene	99-87-6	8260B	µg/kg				--
VOC	Di isopropyl Ether	108-20-3	8260B	µg/kg				--
VOC	Dibromochloromethane	124-48-1	8260B	µg/kg				--
VOC	Dibromomethane	74-95-3	8260B	µg/kg				--
VOC	Dichlorodifluoromethane	75-71-8	8260B	µg/kg				--
VOC	Ethylbenzene	100-41-4	8260B	µg/kg				--
VOC	Hexachloro-1,3-butadiene	87-68-3	8260B	µg/kg				--
VOC	Isopropylbenzene	98-82-8	8260B	µg/kg				--
VOC	m,p-Xylene	179601-23-1	8260B	µg/kg				--
VOC	Methyl Iodide	74-88-4	8260B	µg/kg				--
VOC	Methyl Tert-Butyl Ether	1634-04-4	8260B	µg/kg				--
VOC	Methylene Chloride	75-09-2	8260B	µg/kg				--
VOC	n-Butylbenzene	104-51-8	8260B	µg/kg				--
VOC	n-Propylbenzene	103-65-1	8260B	µg/kg				--
VOC	o-Xylene	95-47-6	8260B	µg/kg				--
VOC	Styrene	100-42-5	8260B	µg/kg				--
VOC	tert-Butyl ethyl ether	637-92-3	8260B	µg/kg				--
VOC	tert-Butylbenzene	98-06-6	8260B	µg/kg				--
VOC	Tertiary amyl methyl ether	994-05-8	8260B	µg/kg				--
VOC	Tertiary butyl alcohol	75-65-0	8260B	µg/kg				--
VOC	Tetrachloroethene	127-18-4	8260B	µg/kg				--
VOC	Toluene	108-88-3	8260B	µg/kg				--
VOC	trans-1,2-Dichloroethene	156-60-5	8260B	µg/kg				--
VOC	trans-1,3-Dichloropropene	10061-02-6	8260B	µg/kg				--
VOC	Trichloroethene	79-01-6	8260B	µg/kg				--
VOC	Trichlorofluoromethane	75-69-4	8260B	µg/kg				--
VOC	Vinyl Acetate	108-05-4	8260B	µg/kg				--
VOC	Vinyl Chloride	75-01-4	8260B	µg/kg				--

Notes:

ug/kg - microgram per kilogram

mg/kg - milligram per kilogram

ng/g - nanogram per kilogram

FD - field duplicate sample

N - normal sample

RPD - relative percent difference

SO - soil

-- - RPD not calculated when both field duplicate and normal samples were nondetect or only one sample result is reported

200* - When one result is nondetect a 200% RPD is given and sample results are qualified as estimated "J" or "UJ" in the field duplicate samples only

Limit - 50% - If RPD is above 50% detected field duplicate results only were estimated "J"

Table C-9 - Subarea 8 Field Duplicate Samples

				Location	8_DG-574	8_DG-574	
				Sample Name:	SL-874-SA8-SB-14.0-15.0	SL-574-SA8-SB-14.0-15.0	
				Sample Date:	07/11/2013	07/11/2013	
				Start Depth:	14	14	
				End Depth:	15	15	RPD
				Area:	8_DG	8_DG	
				Matrix:	SO	SO	
				Sample Type:	FD	N	
MAG:	Chemical Name:	CAS No.:	Lab Method:	Result Unit			
	Cyanide	57-12-5	9012B	mg/kg			--
	Dioxins	1,2,3,4,6,7,8-Heptachlorodibenzo-p-Dioxin	35822-46-9	1613B	ng/kg		--
	Dioxins	1,2,3,4,6,7,8-HPCDF	67562-39-4	1613B	ng/kg		--
	Dioxins	1,2,3,4,7,8,9-HPCDF	55673-89-7	1613B	ng/kg		--
	Dioxins	1,2,3,4,7,8-Hexachlorodibenzo-p-Dioxin	39227-28-6	1613B	ng/kg		--
	Dioxins	1,2,3,4,7,8-HXCDF	70648-26-9	1613B	ng/kg		--
	Dioxins	1,2,3,6,7,8-Hexachlorodibenzo-p-Dioxin	57653-85-7	1613B	ng/kg		--
	Dioxins	1,2,3,6,7,8-HXCDF	57117-44-9	1613B	ng/kg		--
	Dioxins	1,2,3,7,8,9-Hexachlorodibenzo-p-Dioxin	19408-74-3	1613B	ng/kg		--
	Dioxins	1,2,3,7,8,9-HXCDF	72918-21-9	1613B	ng/kg		--
	Dioxins	1,2,3,7,8-Pentachlorodibenzofuran	57117-41-6	1613B	ng/kg		--
	Dioxins	1,2,3,7,8-Pentachlorodibenzo-p-Dioxin	40321-76-4	1613B	ng/kg		--
	Dioxins	2,3,4,6,7,8-HXCDF	60851-34-5	1613B	ng/kg		--
	Dioxins	2,3,4,7,8-PCDF	57117-31-4	1613B	ng/kg		--
	Dioxins	2,3,7,8-TCDD	1746-01-6	1613B	ng/kg		--
	Dioxins	2,3,7,8-Tetrachlorodibenzofuran	51207-31-9	1613B	ng/kg		--
	Dioxins	OCDD	3268-87-9	1613B	ng/kg		--
	Dioxins	OCDF	39001-02-0	1613B	ng/kg		--
	Dioxins	TCDD TEQ	TCDD TEQ	1613B	ng/kg		--
	Fluoride	Fluoride	16984-48-8	300.0	mg/kg		--
	Herbicides	2,2-Dichlor-Propionic Acid	75-99-0	8151A	µg/kg		--
	Herbicides	2,4,5-T	93-76-5	8151A	µg/kg		--
	Herbicides	2,4-D	94-75-7	8151A	µg/kg		--
	Herbicides	2,4-DB	94-82-6	8151A	µg/kg		--
	Herbicides	Dicamba	1918-00-9	8151A	µg/kg		--
	Herbicides	Dichlorprop	120-36-5	8151A	µg/kg		--
	Herbicides	Dinitrobutyl Phenol	88-85-7	8151A	µg/kg		--
	Herbicides	MCPA	94-74-6	8151A	µg/kg		--
	Herbicides	MCPP	93-65-2	8151A	µg/kg		--
	Herbicides	Silvex (2,4,5-TP)	93-72-1	8151A	µg/kg		--
	Hexavalent Chromium	Chromium (Hexavalent Compounds)	18540-29-9	7199	mg/kg		--
	Mercury	Mercury	7439-97-6	7471B	mg/kg	0.017 U	--
	Metals	Aluminum	7429-90-5	6010C	mg/kg	13600	28.93
	Metals	Antimony	7440-36-0	6010C	mg/kg	4.17 UJ	--
	Metals	Arsenic	7440-38-2	6010C	mg/kg	5.89	15.22
	Metals	Barium	7440-39-3	6010C	mg/kg	65.5	30.53
	Metals	Beryllium	7440-41-7	6010C	mg/kg	0.493 J	32.03
	Metals	Boron	7440-42-8	6010C	mg/kg	4 J	26.46
	Metals	Cadmium	7440-43-9	6010C	mg/kg	0.447 J	12.77
	Metals	Calcium	7440-70-2	6010C	mg/kg	5690 J	52.40
	Metals	Chromium	7440-47-3	6010C	mg/kg	19.4 J	48.73
	Metals	Cobalt	7440-48-4	6010C	mg/kg	6.2	37.38
	Metals	Copper	7440-50-8	6010C	mg/kg	11	41.73
	Metals	Iron	7439-89-6	6010C	mg/kg	21200 J	26.23
	Metals	Lead	7439-92-1	6010C	mg/kg	4.56	29.37
	Metals	Lithium	7439-93-2	6010C	mg/kg	19.6 J	28.45
	Metals	Magnesium	7439-95-4	6010C	mg/kg	4510	36.89
	Metals	Manganese	7439-96-5	6010C	mg/kg	267 J	20.50
	Metals	Molybdenum	7439-98-7	6010C	mg/kg	2.08 U	--
	Metals	Nickel	7440-02-0	6010C	mg/kg	10.2	47.19
	Metals	Phosphorus	7723-14-0	6010C	mg/kg	417	48.36
	Metals	Potassium	7440-09-7	6010C	mg/kg	2590 J	4.90
	Metals	Selenium	7782-49-2	6020A	mg/kg	0.417 U	--
	Metals	Silver	7440-22-4	6020A	mg/kg	0.208 U	--
	Metals	Sodium	7440-23-5	6010C	mg/kg	300	39.57
	Metals	Strontium	7440-24-6	6020A	mg/kg	24.5	44.94
	Metals	Thallium	7440-28-0	6020A	mg/kg	0.303	29.54
	Metals	Tin	7440-31-5	6010C	mg/kg	10.4 U	--
	Metals	Titanium	7440-32-6	6010C	mg/kg	1390	18.30
	Metals	Vanadium	7440-62-2	6010C	mg/kg	41.4	27.14
	Metals	Zinc	7440-66-6	6010C	mg/kg	52.6 J	35.24
	Metals	Zirconium	7440-67-7	6010C	mg/kg	1.5 J	200.00
	Moisture Content	Moisture	MOIST	160.3M	%	6.8	34.15
	Nitrates	Nitrite-NO2	14797-65-0	300.0	mg/kg		--
	PAHs	1-Methylnaphthalene	90-12-0	8270D SIM	µg/kg	1.8 U	--
	PAHs	2-Methylnaphthalene	91-57-6	8270D SIM	µg/kg	1.8 U	--
	PAHs	Acenaphthene	83-32-9	8270D SIM	µg/kg	1.8 U	--
	PAHs	Acenaphthylene	208-96-8	8270D SIM	µg/kg	1.8 U	--
	PAHs	Anthracene	120-12-7	8270D	µg/kg		--
	PAHs	Anthracene	120-12-7	8270D SIM	µg/kg	1.8 U	--
	PAHs	Benzo(a)anthracene	56-55-3	8270D	µg/kg		--
	PAHs	Benzo(a)anthracene	56-55-3	8270D SIM	µg/kg	1.8 U	--
	PAHs	Benzo(a)pyrene	50-32-8	8270D	µg/kg		--
	PAHs	Benzo(a)pyrene	50-32-8	8270D SIM	µg/kg	1.8 U	--
	PAHs	Benzo(b)fluoranthene	205-99-2	8270D	µg/kg		--
	PAHs	Benzo(b)fluoranthene	205-99-2	8270D SIM	µg/kg	1.8 U	--
	PAHs	Benzo(e)pyrene	192-97-2	8270D SIM	µg/kg	18 U	--
	PAHs	Benzo(g,h,i)perylene	191-24-2	8270D	µg/kg		--
	PAHs	Benzo(g,h,i)perylene	191-24-2	8270D SIM	µg/kg	1.8 U	--
	PAHs	Benzo(k)fluoranthene	207-08-9	8270D	µg/kg		--
	PAHs	Benzo(k)fluoranthene	207-08-9	8270D SIM	µg/kg	1.8 U	--
	PAHs	Bis(2-ethylhexyl)phthalate	117-81-7	8270D SIM	µg/kg	19 U	--
	PAHs	Butylbenzylphthalate	85-68-7	8270D SIM	µg/kg	19 U	--
	PAHs	Chrysene	218-01-9	8270D	µg/kg		--
	PAHs	Chrysene	218-01-9	8270D SIM	µg/kg	1.8 U	--
	PAHs	Dibenzo(a,h)anthracene	53-70-3	8270D SIM	µg/kg	1.8 U	--
	PAHs	Diethylphthalate	84-66-2	8270D SIM	µg/kg	19 U	--
	PAHs	Dimethylphthalate	131-11-3	8270D SIM	µg/kg	19 U	--
	PAHs	Di-n-butylphthalate	84-74-2	8270D SIM	µg/kg	19 U	--
	PAHs	Di-n-octylphthalate	117-84-0	8270D SIM	µg/kg	19 U	--
	PAHs	Fluoranthene	206-44-0	8270D	µg/kg		--
	PAHs	Fluoranthene	206-44-0	8270D SIM	µg/kg	1.8 U	--
	PAHs	Fluorene	86-73-7	8270D SIM	µg/kg	1.8 U	--
	PAHs	Indeno(1,2,3-cd)pyrene	193-39-5	8270D	µg/kg		--
	PAHs	Indeno(1,2,3-cd)pyrene	193-39-5	8270D SIM	µg/kg	1.8 U	--
	PAHs	Naphthalene	91-20-3	8270D SIM	µg/kg	1.8 U	--
	PAHs	N-Nitrosodimethylamine	62-75-9	8270D SIM	µg/kg	1.8 U	--
	PAHs	Phenanthrene	85-01-8	8270D	µg/kg		--
	PAHs	Phenanthrene	85-01-8	8270D SIM	µg/kg	1.8 U	--
	PAHs	Pyrene	129-00-0	8270D	µg/kg		--

Table C-9 - Subarea 8 Field Duplicate Samples

				Location	8_DG-574	8_DG-574	
				Sample Name:	SL-874-SA8-SB-14.0-15.0	SL-574-SA8-SB-14.0-15.0	
				Sample Date:	07/11/2013	07/11/2013	
				Start Depth:	14	14	
				End Depth:	15	15	RPD
				Area:	8_DG	8_DG	
				Matrix:	SO	SO	
				Sample Type:	FD	N	
TPH-GRO	Gasoline Range Organics (C5-C12)	GROC5C12	8015M	mg/kg	1 U	1 U	--
VOC	1,1,1,2-Tetrachloroethane	630-20-6	8260B	µg/kg	6 U	5 U	--
VOC	1,1,1-Trichloroethane	71-55-6	8260B	µg/kg	6 U	5 U	--
VOC	1,1,2-Tetrachloroethane	79-34-5	8260B	µg/kg	6 U	5 U	--
VOC	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	8260B	µg/kg	6 U	5 U	--
VOC	1,1,2-Trichloroethane	79-00-5	8260B	µg/kg	6 U	5 U	--
VOC	1,1-Dichloroethane	75-34-3	8260B	µg/kg	6 U	5 U	--
VOC	1,1-Dichloroethene	75-35-4	8260B	µg/kg	6 U	5 U	--
VOC	1,1-Dichloropropene	563-58-6	8260B	µg/kg	6 U	5 U	--
VOC	1,2,3-Trichlorobenzene	87-61-6	8260B	µg/kg	6 U	5 U	--
VOC	1,2,3-Trichloropropane	96-18-4	8260B	µg/kg	6 U	5 U	--
VOC	1,2,4-Trichlorobenzene	120-82-1	8260B	µg/kg	6 U	5 U	--
VOC	1,2,4-Trimethylbenzene	95-63-6	8260B	µg/kg	6 U	5 U	--
VOC	1,2-Dibromo-3-chloropropane	96-12-8	8260B	µg/kg	6 U	5 U	--
VOC	1,2-Dibromoethane	106-93-4	8260B	µg/kg	6 U	5 U	--
VOC	1,2-Dichlorobenzene	95-50-1	8260B	µg/kg	6 U	5 U	--
VOC	1,2-Dichloroethane	107-06-2	8260B	µg/kg	6 U	5 U	--
VOC	1,2-Dichloropropane	78-87-5	8260B	µg/kg	6 U	5 U	--
VOC	1,3,5-Trimethylbenzene	108-67-8	8260B	µg/kg	6 U	5 U	--
VOC	1,3-Dichlorobenzene	541-73-1	8260B	µg/kg	6 U	5 U	--
VOC	1,3-Dichloropropane	142-28-9	8260B	µg/kg	6 U	5 U	--
VOC	1,4-Dichlorobenzene	106-46-7	8260B	µg/kg	6 U	5 U	--
VOC	1-Chlorohexane	544-10-5	8260B	µg/kg	6 U	5 U	--
VOC	2,2-Dichloropropane	594-20-7	8260B	µg/kg	6 U	5 U	--
VOC	2-Butanone (MEK)	78-93-3	8260B	µg/kg	11 U	10 U	--
VOC	2-Chloro-1,1,1-trifluoroethane	75-88-7	8260B	µg/kg	6 U	5 U	--
VOC	2-Chloroethyl Vinyl Ether	110-75-8	8260B	µg/kg	11 U	10 U	--
VOC	2-Chlorotoluene	95-49-8	8260B	µg/kg	6 U	5 U	--
VOC	2-Hexanone	591-78-6	8260B	µg/kg	11 U	10 U	--
VOC	2-Phenylbutane	135-98-8	8260B	µg/kg	6 U	5 U	--
VOC	4-Chlorotoluene	106-43-4	8260B	µg/kg	6 U	5 U	--
VOC	4-Methyl-2-pentanone (MIBK)	108-10-1	8260B	µg/kg	11 U	10 U	--
VOC	Acetone	67-64-1	8260B	µg/kg	23 U	20 U	--
VOC	Acrolein	107-02-8	8260B	µg/kg	110 U	100 U	--
VOC	Acrylonitrile	107-13-1	8260B	µg/kg	23 U	20 U	--
VOC	Benzene	71-43-2	8260B	µg/kg	6 U	5 U	--
VOC	Bromobenzene	108-86-1	8260B	µg/kg	6 U	5 U	--
VOC	Bromochloromethane	74-97-5	8260B	µg/kg	6 U	5 U	--
VOC	Bromodichloromethane	75-27-4	8260B	µg/kg	6 U	5 U	--
VOC	Bromoform	75-25-2	8260B	µg/kg	6 U	5 U	--
VOC	Bromomethane	74-83-9	8260B	µg/kg	6 U	5 U	--
VOC	Carbon Disulfide	75-15-0	8260B	µg/kg	6 U	5 U	--
VOC	Carbon Tetrachloride	56-23-5	8260B	µg/kg	6 U	5 U	--
VOC	Chlorobenzene	108-90-7	8260B	µg/kg	6 U	5 U	--
VOC	Chloroethane	75-00-3	8260B	µg/kg	6 U	5 U	--
VOC	Chloroform	67-66-3	8260B	µg/kg	6 U	5 U	--
VOC	Chloromethane	74-87-3	8260B	µg/kg	6 U	5 U	--
VOC	Chlorotrifluoroethylene	79-38-9	8260B	µg/kg	6 U	5 U	--
VOC	cis-1,2-Dichloroethene	156-59-2	8260B	µg/kg	6 U	5 U	--
VOC	cis-1,3-Dichloropropene	10061-01-5	8260B	µg/kg	6 U	5 U	--
VOC	Cymene	99-87-6	8260B	µg/kg	6 U	5 U	--
VOC	Di isopropyl Ether	108-20-3	8260B	µg/kg	6 U	5 U	--
VOC	Dibromochloromethane	124-48-1	8260B	µg/kg	6 U	5 U	--
VOC	Dibromomethane	74-95-3	8260B	µg/kg	6 U	5 U	--
VOC	Dichlorodifluoromethane	75-71-8	8260B	µg/kg	6 U	5 U	--
VOC	Ethylbenzene	100-41-4	8260B	µg/kg	6 U	5 U	--
VOC	Hexachloro-1,3-butadiene	87-68-3	8260B	µg/kg	6 U	5 U	--
VOC	Isopropylbenzene	98-82-8	8260B	µg/kg	6 U	5 U	--
VOC	m,p-Xylene	179601-23-1	8260B	µg/kg	6 U	5 U	--
VOC	Methyl Iodide	74-88-4	8260B	µg/kg	6 U	5 U	--
VOC	Methyl Tert-Butyl Ether	1634-04-4	8260B	µg/kg	6 U	5 U	--
VOC	Methylene Chloride	75-09-2	8260B	µg/kg	6 U	5 U	--
VOC	n-Butylbenzene	104-51-8	8260B	µg/kg	6 U	5 U	--
VOC	n-Propylbenzene	103-65-1	8260B	µg/kg	6 U	5 U	--
VOC	o-Xylene	95-47-6	8260B	µg/kg	6 U	5 U	--
VOC	Styrene	100-42-5	8260B	µg/kg	6 U	5 U	--
VOC	tert-Butyl ethyl ether	637-92-3	8260B	µg/kg	6 U	5 U	--
VOC	tert-Butylbenzene	98-06-6	8260B	µg/kg	6 U	5 U	--
VOC	Tertiary amyl methyl ether	994-05-8	8260B	µg/kg	6 U	5 U	--
VOC	Tertiary butyl alcohol	75-65-0	8260B	µg/kg	57 U	51 U	--
VOC	Tetrachloroethene	127-18-4	8260B	µg/kg	6 U	5 U	--
VOC	Toluene	108-88-3	8260B	µg/kg	6 U	5 U	--
VOC	trans-1,2-Dichloroethene	156-60-5	8260B	µg/kg	6 U	5 U	--
VOC	trans-1,3-Dichloropropene	10061-02-6	8260B	µg/kg	6 U	5 U	--
VOC	Trichloroethene	79-01-6	8260B	µg/kg	6 U	5 U	--
VOC	Trichlorofluoromethane	75-69-4	8260B	µg/kg	6 U	5 U	--
VOC	Vinyl Acetate	108-05-4	8260B	µg/kg	11 U	10 U	--
VOC	Vinyl Chloride	75-01-4	8260B	µg/kg	6 U	5 U	--

Notes:

ug/kg - microgram per kilogram

mg/kg - milligram per kilogram

ng/g - nanogram per kilogram

FD - field duplicate sample

N - normal sample

RPD - relative percent difference

SO - soil

-- - RPD not calculated when both field duplicate and normal samples were nondetect or only one sample result is reported

200* - When one result is nondetect a 200% RPD is given and sample results are qualified as estimated "J" or "UJ" in the field duplicate samples only

Limit - 50% - If RPD is above 50% detected field duplicate results only were estimated "J"

Table C-9 - Subarea 8 Field Duplicate Samples

					Location	8_DG-578	8_DG-578		
					Sample Name:	SL-878-SA8-SB-4.0-5.0	SL-578-SA8-SB-4.0-5.0		
					Sample Date:	07/12/2013	07/12/2013		
					Start Depth:	4	4		
					End Depth:	5	5	RPD	
					Area:	8_DG	8_DG		
					Matrix:	SO	SO		
					Sample Type:	FD	N		
TPH-GRO	Gasoline Range Organics (C5-C12)	GROC5C12	8015M	mg/kg	1.1	U	1.1	U	--
VOC	1,1,1,2-Tetrachloroethane	630-20-6	8260B	µg/kg					--
VOC	1,1,1-Trichloroethane	71-55-6	8260B	µg/kg					--
VOC	1,1,2,2-Tetrachloroethane	79-34-5	8260B	µg/kg					--
VOC	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	8260B	µg/kg					--
VOC	1,1,2-Trichloroethane	79-00-5	8260B	µg/kg					--
VOC	1,1-Dichloroethane	75-34-3	8260B	µg/kg					--
VOC	1,1-Dichloroethene	75-35-4	8260B	µg/kg					--
VOC	1,1-Dichloropropene	563-58-6	8260B	µg/kg					--
VOC	1,2,3-Trichlorobenzene	87-61-6	8260B	µg/kg					--
VOC	1,2,3-Trichloropropane	96-18-4	8260B	µg/kg					--
VOC	1,2,4-Trichlorobenzene	120-82-1	8260B	µg/kg					--
VOC	1,2,4-Trimethylbenzene	95-63-6	8260B	µg/kg					--
VOC	1,2-Dibromo-3-chloropropane	96-12-8	8260B	µg/kg					--
VOC	1,2-Dibromoethane	106-93-4	8260B	µg/kg					--
VOC	1,2-Dichlorobenzene	95-50-1	8260B	µg/kg					--
VOC	1,2-Dichloroethane	107-06-2	8260B	µg/kg					--
VOC	1,2-Dichloropropane	78-87-5	8260B	µg/kg					--
VOC	1,3,5-Trimethylbenzene	108-67-8	8260B	µg/kg					--
VOC	1,3-Dichlorobenzene	541-73-1	8260B	µg/kg					--
VOC	1,3-Dichloropropane	142-28-9	8260B	µg/kg					--
VOC	1,4-Dichlorobenzene	106-46-7	8260B	µg/kg					--
VOC	1-Chlorohexane	544-10-5	8260B	µg/kg					--
VOC	2,2-Dichloropropane	594-20-7	8260B	µg/kg					--
VOC	2-Butanone (MEK)	78-93-3	8260B	µg/kg					--
VOC	2-Chloro-1,1,1-trifluoroethane	75-88-7	8260B	µg/kg					--
VOC	2-Chloroethyl Vinyl Ether	110-75-8	8260B	µg/kg					--
VOC	2-Chlorotoluene	95-49-8	8260B	µg/kg					--
VOC	2-Hexanone	591-78-6	8260B	µg/kg					--
VOC	2-Phenylbutane	135-98-8	8260B	µg/kg					--
VOC	4-Chlorotoluene	106-43-4	8260B	µg/kg					--
VOC	4-Methyl-2-pentanone (MIBK)	108-10-1	8260B	µg/kg					--
VOC	Acetone	67-64-1	8260B	µg/kg					--
VOC	Acrolein	107-02-8	8260B	µg/kg					--
VOC	Acrylonitrile	107-13-1	8260B	µg/kg					--
VOC	Benzene	71-43-2	8260B	µg/kg					--
VOC	Bromobenzene	108-86-1	8260B	µg/kg					--
VOC	Bromochloromethane	74-97-5	8260B	µg/kg					--
VOC	Bromodichloromethane	75-27-4	8260B	µg/kg					--
VOC	Bromoform	75-25-2	8260B	µg/kg					--
VOC	Bromomethane	74-83-9	8260B	µg/kg					--
VOC	Carbon Disulfide	75-15-0	8260B	µg/kg					--
VOC	Carbon Tetrachloride	56-23-5	8260B	µg/kg					--
VOC	Chlorobenzene	108-90-7	8260B	µg/kg					--
VOC	Chloroethane	75-00-3	8260B	µg/kg					--
VOC	Chloroform	67-66-3	8260B	µg/kg					--
VOC	Chloromethane	74-87-3	8260B	µg/kg					--
VOC	Chlorotrifluoroethylene	79-38-9	8260B	µg/kg					--
VOC	cis-1,2-Dichloroethene	156-59-2	8260B	µg/kg					--
VOC	cis-1,3-Dichloropropene	10061-01-5	8260B	µg/kg					--
VOC	Cymene	99-87-6	8260B	µg/kg					--
VOC	Di isopropyl Ether	108-20-3	8260B	µg/kg					--
VOC	Dibromochloromethane	124-48-1	8260B	µg/kg					--
VOC	Dibromomethane	74-95-3	8260B	µg/kg					--
VOC	Dichlorodifluoromethane	75-71-8	8260B	µg/kg					--
VOC	Ethylbenzene	100-41-4	8260B	µg/kg					--
VOC	Hexachloro-1,3-butadiene	87-68-3	8260B	µg/kg					--
VOC	Isopropylbenzene	98-82-8	8260B	µg/kg					--
VOC	m,p-Xylene	179601-23-1	8260B	µg/kg					--
VOC	Methyl Iodide	74-88-4	8260B	µg/kg					--
VOC	Methyl Tert-Butyl Ether	1634-04-4	8260B	µg/kg					--
VOC	Methylene Chloride	75-09-2	8260B	µg/kg					--
VOC	n-Butylbenzene	104-51-8	8260B	µg/kg					--
VOC	n-Propylbenzene	103-65-1	8260B	µg/kg					--
VOC	o-Xylene	95-47-6	8260B	µg/kg					--
VOC	Styrene	100-42-5	8260B	µg/kg					--
VOC	tert-Butyl ethyl ether	637-92-3	8260B	µg/kg					--
VOC	tert-Butylbenzene	98-06-6	8260B	µg/kg					--
VOC	Tertiary amyl methyl ether	994-05-8	8260B	µg/kg					--
VOC	Tertiary butyl alcohol	75-65-0	8260B	µg/kg					--
VOC	Tetrachloroethene	127-18-4	8260B	µg/kg					--
VOC	Toluene	108-88-3	8260B	µg/kg					--
VOC	trans-1,2-Dichloroethene	156-60-5	8260B	µg/kg					--
VOC	trans-1,3-Dichloropropene	10061-02-6	8260B	µg/kg					--
VOC	Trichloroethene	79-01-6	8260B	µg/kg					--
VOC	Trichlorofluoromethane	75-69-4	8260B	µg/kg					--
VOC	Vinyl Acetate	108-05-4	8260B	µg/kg					--
VOC	Vinyl Chloride	75-01-4	8260B	µg/kg					--

Notes:

ug/kg - microgram per kilogram

mg/kg - milligram per kilogram

ng/g - nanogram per kilogram

FD - field duplicate sample

N - normal sample

RPD - relative percent difference

SO - soil

-- - RPD not calculated when both field duplicate and normal samples were nondetect or only one sample result is reported

200* - When one result is nondetect a 200% RPD is given and sample results are qualified as estimated "J" or "UJ" in the field duplicate samples only

Limit - 50% - If RPD is above 50% detected field duplicate results only were estimated "J"

Table C-9 - Subarea 8 Field Duplicate Samples

					Location	8_DG-583	8_DG-583		
					Sample Name:	SL-883-SA8-SB-0.0-0.5	SL-583-SA8-SB-0.0-0.5		
					Sample Date:	08/06/2013	08/06/2013		
					Start Depth:	0	0		
					End Depth:	0.5	0.5	RPD	
					Area:	8_DG	8_DG		
					Matrix:	SO	SO		
					Sample Type:	FD	N		
TPH-GRO	Gasoline Range Organics (C5-C12)	GROC5C12	8015M	mg/kg					--
VOC	1,1,1,2-Tetrachloroethane	630-20-6	8260B	µg/kg					--
VOC	1,1,1-Trichloroethane	71-55-6	8260B	µg/kg					--
VOC	1,1,2-Tetrachloroethane	79-34-5	8260B	µg/kg					--
VOC	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	8260B	µg/kg					--
VOC	1,1,2-Trichloroethane	79-00-5	8260B	µg/kg					--
VOC	1,1-Dichloroethane	75-34-3	8260B	µg/kg					--
VOC	1,1-Dichloroethene	75-35-4	8260B	µg/kg					--
VOC	1,1-Dichloropropene	563-58-6	8260B	µg/kg					--
VOC	1,2,3-Trichlorobenzene	87-61-6	8260B	µg/kg					--
VOC	1,2,3-Trichloropropane	96-18-4	8260B	µg/kg					--
VOC	1,2,4-Trichlorobenzene	120-82-1	8260B	µg/kg					--
VOC	1,2,4-Trimethylbenzene	95-63-6	8260B	µg/kg					--
VOC	1,2-Dibromo-3-chloropropane	96-12-8	8260B	µg/kg					--
VOC	1,2-Dibromoethane	106-93-4	8260B	µg/kg					--
VOC	1,2-Dichlorobenzene	95-50-1	8260B	µg/kg					--
VOC	1,2-Dichloroethane	107-06-2	8260B	µg/kg					--
VOC	1,2-Dichloropropane	78-87-5	8260B	µg/kg					--
VOC	1,3,5-Trimethylbenzene	108-67-8	8260B	µg/kg					--
VOC	1,3-Dichlorobenzene	541-73-1	8260B	µg/kg					--
VOC	1,3-Dichloropropane	142-28-9	8260B	µg/kg					--
VOC	1,4-Dichlorobenzene	106-46-7	8260B	µg/kg					--
VOC	1-Chlorohexane	544-10-5	8260B	µg/kg					--
VOC	2,2-Dichloropropane	594-20-7	8260B	µg/kg					--
VOC	2-Butanone (MEK)	78-93-3	8260B	µg/kg					--
VOC	2-Chloro-1,1,1-trifluoroethane	75-88-7	8260B	µg/kg					--
VOC	2-Chloroethyl Vinyl Ether	110-75-8	8260B	µg/kg					--
VOC	2-Chlorotoluene	95-49-8	8260B	µg/kg					--
VOC	2-Hexanone	591-78-6	8260B	µg/kg					--
VOC	2-Phenylbutane	135-98-8	8260B	µg/kg					--
VOC	4-Chlorotoluene	106-43-4	8260B	µg/kg					--
VOC	4-Methyl-2-pentanone (MIBK)	108-10-1	8260B	µg/kg					--
VOC	Acetone	67-64-1	8260B	µg/kg					--
VOC	Acrolein	107-02-8	8260B	µg/kg					--
VOC	Acrylonitrile	107-13-1	8260B	µg/kg					--
VOC	Benzene	71-43-2	8260B	µg/kg					--
VOC	Bromobenzene	108-86-1	8260B	µg/kg					--
VOC	Bromochloromethane	74-97-5	8260B	µg/kg					--
VOC	Bromodichloromethane	75-27-4	8260B	µg/kg					--
VOC	Bromoform	75-25-2	8260B	µg/kg					--
VOC	Bromomethane	74-83-9	8260B	µg/kg					--
VOC	Carbon Disulfide	75-15-0	8260B	µg/kg					--
VOC	Carbon Tetrachloride	56-23-5	8260B	µg/kg					--
VOC	Chlorobenzene	108-90-7	8260B	µg/kg					--
VOC	Chloroethane	75-00-3	8260B	µg/kg					--
VOC	Chloroform	67-66-3	8260B	µg/kg					--
VOC	Chloromethane	74-87-3	8260B	µg/kg					--
VOC	Chlorotrifluoroethylene	79-38-9	8260B	µg/kg					--
VOC	cis-1,2-Dichloroethene	156-59-2	8260B	µg/kg					--
VOC	cis-1,3-Dichloropropene	10061-01-5	8260B	µg/kg					--
VOC	Cymene	99-87-6	8260B	µg/kg					--
VOC	Di isopropyl Ether	108-20-3	8260B	µg/kg					--
VOC	Dibromochloromethane	124-48-1	8260B	µg/kg					--
VOC	Dibromomethane	74-95-3	8260B	µg/kg					--
VOC	Dichlorodifluoromethane	75-71-8	8260B	µg/kg					--
VOC	Ethylbenzene	100-41-4	8260B	µg/kg					--
VOC	Hexachloro-1,3-butadiene	87-68-3	8260B	µg/kg					--
VOC	Isopropylbenzene	98-82-8	8260B	µg/kg					--
VOC	m,p-Xylene	179601-23-1	8260B	µg/kg					--
VOC	Methyl Iodide	74-88-4	8260B	µg/kg					--
VOC	Methyl Tert-Butyl Ether	1634-04-4	8260B	µg/kg					--
VOC	Methylene Chloride	75-09-2	8260B	µg/kg					--
VOC	n-Butylbenzene	104-51-8	8260B	µg/kg					--
VOC	n-Propylbenzene	103-65-1	8260B	µg/kg					--
VOC	o-Xylene	95-47-6	8260B	µg/kg					--
VOC	Styrene	100-42-5	8260B	µg/kg					--
VOC	tert-Butyl ethyl ether	637-92-3	8260B	µg/kg					--
VOC	tert-Butylbenzene	98-06-6	8260B	µg/kg					--
VOC	Tertiary amyl methyl ether	994-05-8	8260B	µg/kg					--
VOC	Tertiary butyl alcohol	75-65-0	8260B	µg/kg					--
VOC	Tetrachloroethene	127-18-4	8260B	µg/kg					--
VOC	Toluene	108-88-3	8260B	µg/kg					--
VOC	trans-1,2-Dichloroethene	156-60-5	8260B	µg/kg					--
VOC	trans-1,3-Dichloropropene	10061-02-6	8260B	µg/kg					--
VOC	Trichloroethene	79-01-6	8260B	µg/kg					--
VOC	Trichlorofluoromethane	75-69-4	8260B	µg/kg					--
VOC	Vinyl Acetate	108-05-4	8260B	µg/kg					--
VOC	Vinyl Chloride	75-01-4	8260B	µg/kg					--

Notes:

ug/kg - microgram per kilogram

mg/kg - milligram per kilogram

ng/g - nanogram per kilogram

FD - field duplicate sample

N - normal sample

RPD - relative percent difference

SO - soil

-- - RPD not calculated when both field duplicate and normal samples were nondetect or only one sample result is reported

200* - When one result is nondetect a 200% RPD is given and sample results are qualified as estimated "J" or "UJ" in the field duplicate samples only

Limit - 50% - If RPD is above 50% detected field duplicate results only were estimated "J"

Table C-9 - Subarea 8 Field Duplicate Samples

				Location	8_DG-588	8_DG-588	
				Sample Name:	SL-888-SA8-SB-0.0-0.5	SL-588-SA8-SB-0.0-0.5	
				Sample Date:	07/08/2013	07/08/2013	
				Start Depth:	0	0	
				End Depth:	0.5	0.5	RPD
				Area:	8_DG	8_DG	
				Matrix:	SO	SO	
				Sample Type:	FD	N	
PAHs	Pyrene	129-00-0	8270D SIM	µg/kg	0.67 J	0.73 J	8.57
PCBPCTs	Aroclor 1016	12674-11-2	8082A	µg/kg	17 U	17 U	--
PCBPCTs	Aroclor 1221	11104-28-2	8082A	µg/kg	17 U	17 U	--
PCBPCTs	Aroclor 1232	11141-16-5	8082A	µg/kg	17 U	17 U	--
PCBPCTs	Aroclor 1242	53469-21-9	8082A	µg/kg	17 U	17 U	--
PCBPCTs	Aroclor 1248	12672-29-6	8082A	µg/kg	17 U	17 U	--
PCBPCTs	Aroclor 1254	11097-69-1	8082A	µg/kg	17 U	17 U	--
PCBPCTs	Aroclor 1260	11096-82-5	8082A	µg/kg	17 U	17 U	--
PCBPCTs	Aroclor 1262	37324-23-5	8082A	µg/kg	17 U	17 U	--
PCBPCTs	Aroclor 1268	11100-14-4	8082A	µg/kg	17 U	17 U	--
PCBPCTs	Aroclor 5432	63496-31-1	8082A	µg/kg	33 U	33 U	--
PCBPCTs	Aroclor 5442	12642-23-8	8082A	µg/kg	33 U	33 U	--
PCBPCTs	Aroclor 5460	11126-42-4	8082A	µg/kg	33 U	33 U	--
Perchlorate	Perchlorate	14797-73-0	6850	µg/kg	5 UJ	3 J	200.00
Pesticides	4,4'-DDD	72-54-8	8081B	µg/kg			--
Pesticides	4,4'-DDE	72-55-9	8081B	µg/kg			--
Pesticides	4,4'-DDT	50-29-3	8081B	µg/kg			--
Pesticides	Aldrin	309-00-2	8081B	µg/kg			--
Pesticides	Alpha-Bhc	319-84-6	8081B	µg/kg			--
Pesticides	Beta-Bhc	319-85-7	8081B	µg/kg			--
Pesticides	Chlordane	57-74-9	8081B	µg/kg			--
Pesticides	Delta-Bhc	319-86-8	8081B	µg/kg			--
Pesticides	Dieldrin	60-57-1	8081B	µg/kg			--
Pesticides	Endosulfan I	959-98-8	8081B	µg/kg			--
Pesticides	Endosulfan II	33213-65-9	8081B	µg/kg			--
Pesticides	Endosulfan Sulfate	1031-07-8	8081B	µg/kg			--
Pesticides	Endrin	72-20-8	8081B	µg/kg			--
Pesticides	Endrin Aldehyde	7421-93-4	8081B	µg/kg			--
Pesticides	Endrin Ketone	53494-70-5	8081B	µg/kg			--
Pesticides	Gamma-Bhc (Lindane)	58-89-9	8081B	µg/kg			--
Pesticides	Heptachlor	76-44-8	8081B	µg/kg			--
Pesticides	Heptachlor Epoxide	1024-57-3	8081B	µg/kg			--
Pesticides	Methoxychlor	72-43-5	8081B	µg/kg			--
Pesticides	Mirex	2385-85-5	8081B	µg/kg			--
Pesticides	Technical Toxaphene	8001-35-2	8081B	µg/kg			--
pH	pH	pH	9045M	pH	6.42	6.56	2.16
SVOC	1,1'-Biphenyl	92-52-4	8270D	µg/kg			--
SVOC	1,2,4-Trichlorobenzene	120-82-1	8270D	µg/kg			--
SVOC	1,2-Dichlorobenzene	95-50-1	8270D	µg/kg			--
SVOC	1,2-Diphenylhydrazine	122-66-7	8270D	µg/kg			--
SVOC	1,3-Dichlorobenzene	541-73-1	8270D	µg/kg			--
SVOC	1,4-Dichlorobenzene	106-46-7	8270D	µg/kg			--
SVOC	2,4,5-Trichlorophenol	95-95-4	8270D	µg/kg			--
SVOC	2,4,6-Trichlorophenol	88-06-2	8270D	µg/kg			--
SVOC	2,4-Dichlorophenol	120-83-2	8270D	µg/kg			--
SVOC	2,4-Dimethylphenol	105-67-9	8270D	µg/kg			--
SVOC	2,4-Dinitrophenol	51-28-5	8270D	µg/kg			--
SVOC	2,6-Dichlorophenol	87-65-0	8270D	µg/kg			--
SVOC	2-Chloronaphthalene	91-58-7	8270D	µg/kg			--
SVOC	2-Chlorophenol	95-57-8	8270D	µg/kg			--
SVOC	2-Methylphenol	95-48-7	8270D	µg/kg			--
SVOC	2-Nitroaniline	88-74-4	8270D	µg/kg			--
SVOC	2-Nitrophenol	88-75-5	8270D	µg/kg			--
SVOC	3,3'-Dichlorobenzidine	91-94-1	8270D	µg/kg			--
SVOC	3,5-Dimethylphenol	108-68-9	8270D	µg/kg			--
SVOC	3-Nitroaniline	99-09-2	8270D	µg/kg			--
SVOC	4,6-Dinitro-2-methylphenol	534-52-1	8270D	µg/kg			--
SVOC	4-Bromophenyl-phenylether	101-55-3	8270D	µg/kg			--
SVOC	4-Chloro-3-methylphenol	59-50-7	8270D	µg/kg			--
SVOC	4-Chloroaniline	106-47-8	8270D	µg/kg			--
SVOC	4-Chlorophenyl-phenylether	7005-72-3	8270D	µg/kg			--
SVOC	4-Methylphenol	106-44-5	8270D	µg/kg			--
SVOC	4-Nitroaniline	100-01-6	8270D	µg/kg			--
SVOC	4-Nitrophenol	100-02-7	8270D	µg/kg			--
SVOC	Aniline	62-53-3	8270D	µg/kg			--
SVOC	Anthracene	120-12-7	8270D	µg/kg			--
SVOC	Benzidine	92-87-5	8270D	µg/kg			--
SVOC	Benzo(a)anthracene	56-55-3	8270D	µg/kg			--
SVOC	Benzo(a)pyrene	50-32-8	8270D	µg/kg			--
SVOC	Benzo(b)fluoranthene	205-99-2	8270D	µg/kg			--
SVOC	Benzo(g,h,i)perylene	191-24-2	8270D	µg/kg			--
SVOC	Benzo(k)fluoranthene	207-08-9	8270D	µg/kg			--
SVOC	Benzoic Acid	65-85-0	8270D	µg/kg			--
SVOC	Benzyl Alcohol	100-51-6	8270D	µg/kg			--
SVOC	bis(2-chloroethoxy)methane	111-91-1	8270D	µg/kg			--
SVOC	bis(2-chloroethyl) ether	111-44-4	8270D	µg/kg			--
SVOC	bis(2-chloroisopropyl) ether	39638-32-9	8270D	µg/kg			--
SVOC	Carbazole	86-74-8	8270D	µg/kg			--
SVOC	Chrysene	218-01-9	8270D	µg/kg			--
SVOC	Dibenzofuran	132-64-9	8270D	µg/kg			--
SVOC	Diphenylamine	NDPA122-39-4	8270D	µg/kg			--
SVOC	Fluoranthene	206-44-0	8270D	µg/kg			--
SVOC	Hexachlorobenzene	118-74-1	8270D	µg/kg			--
SVOC	Hexachlorobutadiene	87-68-3	8270D	µg/kg			--
SVOC	Hexachlorocyclopentadiene	77-47-4	8270D	µg/kg			--
SVOC	Hexachloroethane	67-72-1	8270D	µg/kg			--
SVOC	Indeno(1,2,3-cd)pyrene	193-39-5	8270D	µg/kg			--
SVOC	Isophorone	78-59-1	8270D	µg/kg			--
SVOC	Nitrobenzene	98-95-3	8270D	µg/kg			--
SVOC	N-Nitroso-di-n-propylamine	621-64-7	8270D	µg/kg			--
SVOC	N-Nitrosodiphenylamine	86-30-6	8270D	µg/kg			--
SVOC	Pentachlorophenol	87-86-5	8270D	µg/kg			--
SVOC	Phenanthrene	85-01-8	8270D	µg/kg			--
SVOC	Phenol	108-95-2	8270D	µg/kg			--
SVOC	Pyrene	129-00-0	8270D	µg/kg			--
SVOC	Pyridine	110-86-1	8270D	µg/kg			--
TPH-EFH	EFH (C8-C11)	PHCC8C11	8015M	mg/kg	5 U	5 U	--
TPH-EFH	EFH (C12-C14)	PHCC12C14	8015M	mg/kg	5 U	5 U	--
TPH-EFH	EFH (C15-C20)	PHCC15C20	8015M	mg/kg	5 U	5 U	--
TPH-EFH	EFH (C21-C30)	PHCC21C30	8015M	mg/kg	10	9.3 J	7.25
TPH-EFH	EFH (C30-C40)	PHCC30C40	8015M	mg/kg	27	25	7.69

Table C-9 - Subarea 8 Field Duplicate Samples

					Location	8_DG-588	8_DG-588		
					Sample Name:	SL-888-SA8-SB-0.0-0.5	SL-588-SA8-SB-0.0-0.5		
					Sample Date:	07/08/2013	07/08/2013		
					Start Depth:	0	0		
					End Depth:	0.5	0.5	RPD	
					Area:	8_DG	8_DG		
					Matrix:	SO	SO		
					Sample Type:	FD	N		
TPH-GRO	Gasoline Range Organics (C5-C12)	GROC5C12	8015M	mg/kg					--
VOC	1,1,1,2-Tetrachloroethane	630-20-6	8260B	µg/kg					--
VOC	1,1,1-Trichloroethane	71-55-6	8260B	µg/kg					--
VOC	1,1,2,2-Tetrachloroethane	79-34-5	8260B	µg/kg					--
VOC	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	8260B	µg/kg					--
VOC	1,1,2-Trichloroethane	79-00-5	8260B	µg/kg					--
VOC	1,1-Dichloroethane	75-34-3	8260B	µg/kg					--
VOC	1,1-Dichloroethene	75-35-4	8260B	µg/kg					--
VOC	1,1-Dichloropropene	563-58-6	8260B	µg/kg					--
VOC	1,2,3-Trichlorobenzene	87-61-6	8260B	µg/kg					--
VOC	1,2,3-Trichloropropane	96-18-4	8260B	µg/kg					--
VOC	1,2,4-Trichlorobenzene	120-82-1	8260B	µg/kg					--
VOC	1,2,4-Trimethylbenzene	95-63-6	8260B	µg/kg					--
VOC	1,2-Dibromo-3-chloropropane	96-12-8	8260B	µg/kg					--
VOC	1,2-Dibromoethane	106-93-4	8260B	µg/kg					--
VOC	1,2-Dichlorobenzene	95-50-1	8260B	µg/kg					--
VOC	1,2-Dichloroethane	107-06-2	8260B	µg/kg					--
VOC	1,2-Dichloropropane	78-87-5	8260B	µg/kg					--
VOC	1,3,5-Trimethylbenzene	108-67-8	8260B	µg/kg					--
VOC	1,3-Dichlorobenzene	541-73-1	8260B	µg/kg					--
VOC	1,3-Dichloropropane	142-28-9	8260B	µg/kg					--
VOC	1,4-Dichlorobenzene	106-46-7	8260B	µg/kg					--
VOC	1-Chlorohexane	544-10-5	8260B	µg/kg					--
VOC	2,2-Dichloropropane	594-20-7	8260B	µg/kg					--
VOC	2-Butanone (MEK)	78-93-3	8260B	µg/kg					--
VOC	2-Chloro-1,1,1-trifluoroethane	75-88-7	8260B	µg/kg					--
VOC	2-Chloroethyl Vinyl Ether	110-75-8	8260B	µg/kg					--
VOC	2-Chlorotoluene	95-49-8	8260B	µg/kg					--
VOC	2-Hexanone	591-78-6	8260B	µg/kg					--
VOC	2-Phenylbutane	135-98-8	8260B	µg/kg					--
VOC	4-Chlorotoluene	106-43-4	8260B	µg/kg					--
VOC	4-Methyl-2-pentanone (MIBK)	108-10-1	8260B	µg/kg					--
VOC	Acetone	67-64-1	8260B	µg/kg					--
VOC	Acrolein	107-02-8	8260B	µg/kg					--
VOC	Acrylonitrile	107-13-1	8260B	µg/kg					--
VOC	Benzene	71-43-2	8260B	µg/kg					--
VOC	Bromobenzene	108-86-1	8260B	µg/kg					--
VOC	Bromochloromethane	74-97-5	8260B	µg/kg					--
VOC	Bromodichloromethane	75-27-4	8260B	µg/kg					--
VOC	Bromoform	75-25-2	8260B	µg/kg					--
VOC	Bromomethane	74-83-9	8260B	µg/kg					--
VOC	Carbon Disulfide	75-15-0	8260B	µg/kg					--
VOC	Carbon Tetrachloride	56-23-5	8260B	µg/kg					--
VOC	Chlorobenzene	108-90-7	8260B	µg/kg					--
VOC	Chloroethane	75-00-3	8260B	µg/kg					--
VOC	Chloroform	67-66-3	8260B	µg/kg					--
VOC	Chloromethane	74-87-3	8260B	µg/kg					--
VOC	Chlorotrifluoroethylene	79-38-9	8260B	µg/kg					--
VOC	cis-1,2-Dichloroethene	156-59-2	8260B	µg/kg					--
VOC	cis-1,3-Dichloropropene	10061-01-5	8260B	µg/kg					--
VOC	Cymene	99-87-6	8260B	µg/kg					--
VOC	Di isopropyl Ether	108-20-3	8260B	µg/kg					--
VOC	Dibromochloromethane	124-48-1	8260B	µg/kg					--
VOC	Dibromomethane	74-95-3	8260B	µg/kg					--
VOC	Dichlorodifluoromethane	75-71-8	8260B	µg/kg					--
VOC	Ethylbenzene	100-41-4	8260B	µg/kg					--
VOC	Hexachloro-1,3-butadiene	87-68-3	8260B	µg/kg					--
VOC	Isopropylbenzene	98-82-8	8260B	µg/kg					--
VOC	m,p-Xylene	179601-23-1	8260B	µg/kg					--
VOC	Methyl Iodide	74-88-4	8260B	µg/kg					--
VOC	Methyl Tert-Butyl Ether	1634-04-4	8260B	µg/kg					--
VOC	Methylene Chloride	75-09-2	8260B	µg/kg					--
VOC	n-Butylbenzene	104-51-8	8260B	µg/kg					--
VOC	n-Propylbenzene	103-65-1	8260B	µg/kg					--
VOC	o-Xylene	95-47-6	8260B	µg/kg					--
VOC	Styrene	100-42-5	8260B	µg/kg					--
VOC	tert-Butyl ethyl ether	637-92-3	8260B	µg/kg					--
VOC	tert-Butylbenzene	98-06-6	8260B	µg/kg					--
VOC	Tertiary amyl methyl ether	994-05-8	8260B	µg/kg					--
VOC	Tertiary butyl alcohol	75-65-0	8260B	µg/kg					--
VOC	Tetrachloroethene	127-18-4	8260B	µg/kg					--
VOC	Toluene	108-88-3	8260B	µg/kg					--
VOC	trans-1,2-Dichloroethene	156-60-5	8260B	µg/kg					--
VOC	trans-1,3-Dichloropropene	10061-02-6	8260B	µg/kg					--
VOC	Trichloroethene	79-01-6	8260B	µg/kg					--
VOC	Trichlorofluoromethane	75-69-4	8260B	µg/kg					--
VOC	Vinyl Acetate	108-05-4	8260B	µg/kg					--
VOC	Vinyl Chloride	75-01-4	8260B	µg/kg					--

Notes:

ug/kg - microgram per kilogram

mg/kg - milligram per kilogram

ng/g - nanogram per kilogram

FD - field duplicate sample

N - normal sample

RPD - relative percent difference

SO - soil

-- - RPD not calculated when both field duplicate and normal samples were nondetect or only one sample result is reported

200* - When one result is nondetect a 200% RPD is given and sample results are qualified as estimated "J" or "UJ" in the field duplicate samples only

Limit - 50% - If RPD is above 50% detected field duplicate results only were estimated "J"

Table C-9 - Subarea 8 Field Duplicate Samples

				Location	8_DG-604	8_DG-604		
				Sample Name:	SL-904-SA8-SB-0.0-0.5	SL-604-SA8-SB-0.0-0.5		
				Sample Date:	08/29/2013	08/29/2013		
				Start Depth:	0	0		
				End Depth:	0.5	0.5	RPD	
				Area:	8_DG	8_DG		
				Matrix:	SO	SO		
				Sample Type:	FD	N		
MAG:	Chemical Name:	CAS No.:	Lab Method:	Result Unit				
	Cyanide	57-12-5	9012B	mg/kg			--	
	Dioxins	1,2,3,4,6,7,8-Heptachlorodibenzo-p-Dioxin	35822-46-9	1613B	ng/kg		--	
	Dioxins	1,2,3,4,6,7,8-HPCDF	67562-39-4	1613B	ng/kg		--	
	Dioxins	1,2,3,4,7,8,9-HPCDF	55673-89-7	1613B	ng/kg		--	
	Dioxins	1,2,3,4,7,8-Hexachlorodibenzo-p-Dioxin	39227-28-6	1613B	ng/kg		--	
	Dioxins	1,2,3,4,7,8-HXCDF	70648-26-9	1613B	ng/kg		--	
	Dioxins	1,2,3,6,7,8-Hexachlorodibenzo-p-Dioxin	57653-85-7	1613B	ng/kg		--	
	Dioxins	1,2,3,6,7,8-HXCDF	57117-44-9	1613B	ng/kg		--	
	Dioxins	1,2,3,7,8,9-Hexachlorodibenzo-p-Dioxin	19408-74-3	1613B	ng/kg		--	
	Dioxins	1,2,3,7,8,9-HXCDF	72918-21-9	1613B	ng/kg		--	
	Dioxins	1,2,3,7,8-Pentachlorodibenzofuran	57117-41-6	1613B	ng/kg		--	
	Dioxins	1,2,3,7,8-Pentachlorodibenzo-p-Dioxin	40321-76-4	1613B	ng/kg		--	
	Dioxins	2,3,4,6,7,8-HXCDF	60851-34-5	1613B	ng/kg		--	
	Dioxins	2,3,4,7,8-PCDF	57117-31-4	1613B	ng/kg		--	
	Dioxins	2,3,7,8-TCDD	1746-01-6	1613B	ng/kg		--	
	Dioxins	2,3,7,8-Tetrachlorodibenzofuran	51207-31-9	1613B	ng/kg		--	
	Dioxins	OCDD	3268-87-9	1613B	ng/kg		--	
	Dioxins	OCDF	39001-02-0	1613B	ng/kg		--	
	Dioxins	TCDD TEQ	TCDD TEQ	1613B	ng/kg		--	
	Fluoride	Fluoride	16984-48-8	300.0	mg/kg	1.4 J	0.87 J	46.70
	Herbicides	2,2-Dichlor-Propionic Acid	75-99-0	8151A	µg/kg			--
	Herbicides	2,4,5-T	93-76-5	8151A	µg/kg			--
	Herbicides	2,4-D	94-75-7	8151A	µg/kg			--
	Herbicides	2,4-DB	94-82-6	8151A	µg/kg			--
	Herbicides	Dicamba	1918-00-9	8151A	µg/kg			--
	Herbicides	Dichlorprop	120-36-5	8151A	µg/kg			--
	Herbicides	Dinitrobutyl Phenol	88-85-7	8151A	µg/kg			--
	Herbicides	MCPA	94-74-6	8151A	µg/kg			--
	Herbicides	MCPP	93-65-2	8151A	µg/kg			--
	Herbicides	Silvex (2,4,5-TP)	93-72-1	8151A	µg/kg			--
	Hexavalent Chromium	Chromium (Hexavalent Compounds)	18540-29-9	7199	mg/kg			--
	Mercury	Mercury	7439-97-6	7471B	mg/kg	0.0164 U	0.0165 U	--
	Metals	Aluminum	7429-90-5	6010C	mg/kg	3310 J	1980 J	50.28
	Metals	Antimony	7440-36-0	6010C	mg/kg	3.91 U	3.98 U	--
	Metals	Arsenic	7440-38-2	6010C	mg/kg	2.78 J	3.98 U	200.00
	Metals	Barium	7440-39-3	6010C	mg/kg	58.6	59.4	1.36
	Metals	Beryllium	7440-41-7	6010C	mg/kg	0.978 U	0.996 U	--
	Metals	Boron	7440-42-8	6010C	mg/kg	5.52 J	4.65 J	17.11
	Metals	Cadmium	7440-43-9	6010C	mg/kg	0.174 J	0.11 J	45.07
	Metals	Calcium	7440-70-2	6010C	mg/kg	305000	358000	15.99
	Metals	Chromium	7440-47-3	6010C	mg/kg	4.73	2.89 J	48.29
	Metals	Cobalt	7440-48-4	6010C	mg/kg	1.43 J	0.584 J	84.01
	Metals	Copper	7440-50-8	6010C	mg/kg	3.39 J	2.11 J	46.55
	Metals	Iron	7439-89-6	6010C	mg/kg	3540 J	1750 J	67.67
	Metals	Lead	7439-92-1	6010C	mg/kg	2.97 J	3.47 J	15.53
	Metals	Lithium	7439-93-2	6010C	mg/kg	5.5 J	3.8 J	36.56
	Metals	Magnesium	7439-95-4	6010C	mg/kg	2160	1930	11.25
	Metals	Manganese	7439-96-5	6010C	mg/kg	59.1 J	31.9 J	59.78
	Metals	Molybdenum	7439-98-7	6010C	mg/kg	1.96 UJ	1.99 UJ	--
	Metals	Nickel	7440-02-0	6010C	mg/kg	3.83 J	2.14 J	56.62
	Metals	Phosphorus	7723-14-0	6010C	mg/kg	140	146	4.20
	Metals	Potassium	7440-09-7	6010C	mg/kg	480 J	325 J	38.51
	Metals	Selenium	7782-49-2	6020A	mg/kg	0.114 J	0.398 UJ	200.00
	Metals	Silver	7440-22-4	6020A	mg/kg	0.0382 J	0.199 UJ	200.00
	Metals	Sodium	7440-23-5	6010C	mg/kg	132	152	14.08
	Metals	Strontium	7440-24-6	6020A	mg/kg	185	189	2.14
	Metals	Thallium	7440-28-0	6020A	mg/kg	0.0378 J	0.199 UJ	200.00
	Metals	Tin	7440-31-5	6010C	mg/kg	9.78 U	9.96 U	--
	Metals	Titanium	7440-32-6	6010C	mg/kg	120 J	73 J	48.70
	Metals	Vanadium	7440-62-2	6010C	mg/kg	9.27 J	5.27 J	55.02
	Metals	Zinc	7440-66-6	6010C	mg/kg	11.8 J	6.43 J	58.91
	Metals	Zirconium	7440-67-7	6010C	mg/kg	0.963 J	1.26 J	26.72
	Moisture Content	Moisture	MOIST	160.3M	%	0.75	0.6	22.22
	Nitrates	Nitrite-NO2	14797-65-0	300.0	mg/kg	1 U	1 U	--
	PAHs	1-Methylnaphthalene	90-12-0	8270D SIM	µg/kg			--
	PAHs	2-Methylnaphthalene	91-57-6	8270D SIM	µg/kg			--
	PAHs	Acenaphthene	83-32-9	8270D SIM	µg/kg			--
	PAHs	Acenaphthylene	208-96-8	8270D SIM	µg/kg			--
	PAHs	Anthracene	120-12-7	8270D	µg/kg			--
	PAHs	Anthracene	120-12-7	8270D SIM	µg/kg			--
	PAHs	Benzo(a)anthracene	56-55-3	8270D	µg/kg			--
	PAHs	Benzo(a)anthracene	56-55-3	8270D SIM	µg/kg			--
	PAHs	Benzo(a)pyrene	50-32-8	8270D	µg/kg			--
	PAHs	Benzo(a)pyrene	50-32-8	8270D SIM	µg/kg			--
	PAHs	Benzo(b)fluoranthene	205-99-2	8270D	µg/kg			--
	PAHs	Benzo(b)fluoranthene	205-99-2	8270D SIM	µg/kg			--
	PAHs	Benzo(e)pyrene	192-97-2	8270D SIM	µg/kg			--
	PAHs	Benzo(g,h,i)perylene	191-24-2	8270D	µg/kg			--
	PAHs	Benzo(g,h,i)perylene	191-24-2	8270D SIM	µg/kg			--
	PAHs	Benzo(k)fluoranthene	207-08-9	8270D	µg/kg			--
	PAHs	Benzo(k)fluoranthene	207-08-9	8270D SIM	µg/kg			--
	PAHs	Bis(2-ethylhexyl)phthalate	117-81-7	8270D SIM	µg/kg			--
	PAHs	Butylbenzylphthalate	85-68-7	8270D SIM	µg/kg			--
	PAHs	Chrysene	218-01-9	8270D	µg/kg			--
	PAHs	Chrysene	218-01-9	8270D SIM	µg/kg			--
	PAHs	Dibenzo(a,h)anthracene	53-70-3	8270D SIM	µg/kg			--
	PAHs	Diethylphthalate	84-66-2	8270D SIM	µg/kg			--
	PAHs	Dimethylphthalate	131-11-3	8270D SIM	µg/kg			--
	PAHs	Di-n-butylphthalate	84-74-2	8270D SIM	µg/kg			--
	PAHs	Di-n-octylphthalate	117-84-0	8270D SIM	µg/kg			--
	PAHs	Fluoranthene	206-44-0	8270D	µg/kg			--
	PAHs	Fluoranthene	206-44-0	8270D SIM	µg/kg			--
	PAHs	Fluorene	86-73-7	8270D SIM	µg/kg			--
	PAHs	Indeno(1,2,3-cd)pyrene	193-39-5	8270D	µg/kg			--
	PAHs	Indeno(1,2,3-cd)pyrene	193-39-5	8270D SIM	µg/kg			--
	PAHs	Naphthalene	91-20-3	8270D SIM	µg/kg			--
	PAHs	N-Nitrosodimethylamine	62-75-9	8270D SIM	µg/kg			--
	PAHs	Phenanthrene	85-01-8	8270D	µg/kg			--
	PAHs	Phenanthrene	85-01-8	8270D SIM	µg/kg			--
	PAHs	Pyrene	129-00-0	8270D	µg/kg			--

Table C-9 - Subarea 8 Field Duplicate Samples

				Location		8_DG-604		8_DG-604		
				Sample Name:		SL-904-SA8-SB-0.0-0.5		SL-604-SA8-SB-0.0-0.5		
				Sample Date:		08/29/2013		08/29/2013		
				Start Depth:		0		0		RPD
				End Depth:		0.5		0.5		
				Area:		8_DG		8_DG		
				Matrix:		SO		SO		
				Sample Type:		FD		N		
PAHs	Pyrene	129-00-0	8270D SIM	µg/kg					--	
PCBPCTs	Aroclor 1016	12674-11-2	8082A	µg/kg					--	
PCBPCTs	Aroclor 1221	11104-28-2	8082A	µg/kg					--	
PCBPCTs	Aroclor 1232	11141-16-5	8082A	µg/kg					--	
PCBPCTs	Aroclor 1242	53469-21-9	8082A	µg/kg					--	
PCBPCTs	Aroclor 1248	12672-29-6	8082A	µg/kg					--	
PCBPCTs	Aroclor 1254	11097-69-1	8082A	µg/kg					--	
PCBPCTs	Aroclor 1260	11096-82-5	8082A	µg/kg					--	
PCBPCTs	Aroclor 1262	37324-23-5	8082A	µg/kg					--	
PCBPCTs	Aroclor 1268	11100-14-4	8082A	µg/kg					--	
PCBPCTs	Aroclor 5432	63496-31-1	8082A	µg/kg					--	
PCBPCTs	Aroclor 5442	12642-23-8	8082A	µg/kg					--	
PCBPCTs	Aroclor 5460	11126-42-4	8082A	µg/kg					--	
Perchlorate	Perchlorate	14797-73-0	6850	µg/kg					--	
Pesticides	4,4'-DDD	72-54-8	8081B	µg/kg					--	
Pesticides	4,4'-DDE	72-55-9	8081B	µg/kg					--	
Pesticides	4,4'-DDT	50-29-3	8081B	µg/kg					--	
Pesticides	Aldrin	309-00-2	8081B	µg/kg					--	
Pesticides	Alpha-Bhc	319-84-6	8081B	µg/kg					--	
Pesticides	Beta-Bhc	319-85-7	8081B	µg/kg					--	
Pesticides	Chlordane	57-74-9	8081B	µg/kg					--	
Pesticides	Delta-Bhc	319-86-8	8081B	µg/kg					--	
Pesticides	Dieldrin	60-57-1	8081B	µg/kg					--	
Pesticides	Endosulfan I	959-98-8	8081B	µg/kg					--	
Pesticides	Endosulfan II	33213-65-9	8081B	µg/kg					--	
Pesticides	Endosulfan Sulfate	1031-07-8	8081B	µg/kg					--	
Pesticides	Endrin	72-20-8	8081B	µg/kg					--	
Pesticides	Endrin Aldehyde	7421-93-4	8081B	µg/kg					--	
Pesticides	Endrin Ketone	53494-70-5	8081B	µg/kg					--	
Pesticides	Gamma-Bhc (Lindane)	58-89-9	8081B	µg/kg					--	
Pesticides	Heptachlor	76-44-8	8081B	µg/kg					--	
Pesticides	Heptachlor Epoxide	1024-57-3	8081B	µg/kg					--	
Pesticides	Methoxychlor	72-43-5	8081B	µg/kg					--	
Pesticides	Mirex	2385-85-5	8081B	µg/kg					--	
Pesticides	Technical Toxaphene	8001-35-2	8081B	µg/kg					--	
pH	pH	pH	9045M	pH	7.99		7.88		1.39	
SVOC	1,1'-Biphenyl	92-52-4	8270D	µg/kg					--	
SVOC	1,2,4-Trichlorobenzene	120-82-1	8270D	µg/kg					--	
SVOC	1,2-Dichlorobenzene	95-50-1	8270D	µg/kg					--	
SVOC	1,2-Diphenylhydrazine	122-66-7	8270D	µg/kg					--	
SVOC	1,3-Dichlorobenzene	541-73-1	8270D	µg/kg					--	
SVOC	1,4-Dichlorobenzene	106-46-7	8270D	µg/kg					--	
SVOC	2,4,5-Trichlorophenol	95-95-4	8270D	µg/kg					--	
SVOC	2,4,6-Trichlorophenol	88-06-2	8270D	µg/kg					--	
SVOC	2,4-Dichlorophenol	120-83-2	8270D	µg/kg					--	
SVOC	2,4-Dimethylphenol	105-67-9	8270D	µg/kg					--	
SVOC	2,4-Dinitrophenol	51-28-5	8270D	µg/kg					--	
SVOC	2,6-Dichlorophenol	87-65-0	8270D	µg/kg					--	
SVOC	2-Chloronaphthalene	91-58-7	8270D	µg/kg					--	
SVOC	2-Chlorophenol	95-57-8	8270D	µg/kg					--	
SVOC	2-Methylphenol	95-48-7	8270D	µg/kg					--	
SVOC	2-Nitroaniline	88-74-4	8270D	µg/kg					--	
SVOC	2-Nitrophenol	88-75-5	8270D	µg/kg					--	
SVOC	3,3'-Dichlorobenzidine	91-94-1	8270D	µg/kg					--	
SVOC	3,5-Dimethylphenol	108-68-9	8270D	µg/kg					--	
SVOC	3-Nitroaniline	99-09-2	8270D	µg/kg					--	
SVOC	4,6-Dinitro-2-methylphenol	534-52-1	8270D	µg/kg					--	
SVOC	4-Bromophenyl-phenylether	101-55-3	8270D	µg/kg					--	
SVOC	4-Chloro-3-methylphenol	59-50-7	8270D	µg/kg					--	
SVOC	4-Chloroaniline	106-47-8	8270D	µg/kg					--	
SVOC	4-Chlorophenyl-phenylether	7005-72-3	8270D	µg/kg					--	
SVOC	4-Methylphenol	106-44-5	8270D	µg/kg					--	
SVOC	4-Nitroaniline	100-01-6	8270D	µg/kg					--	
SVOC	4-Nitrophenol	100-02-7	8270D	µg/kg					--	
SVOC	Aniline	62-53-3	8270D	µg/kg					--	
SVOC	Anthracene	120-12-7	8270D	µg/kg					--	
SVOC	Benzidine	92-87-5	8270D	µg/kg					--	
SVOC	Benzo(a)anthracene	56-55-3	8270D	µg/kg					--	
SVOC	Benzo(a)pyrene	50-32-8	8270D	µg/kg					--	
SVOC	Benzo(b)fluoranthene	205-99-2	8270D	µg/kg					--	
SVOC	Benzo(g,h,i)perylene	191-24-2	8270D	µg/kg					--	
SVOC	Benzo(k)fluoranthene	207-08-9	8270D	µg/kg					--	
SVOC	Benzoic Acid	65-85-0	8270D	µg/kg					--	
SVOC	Benzyl Alcohol	100-51-6	8270D	µg/kg					--	
SVOC	bis(2-chloroethoxy)methane	111-91-1	8270D	µg/kg					--	
SVOC	bis(2-chloroethyl) ether	111-44-4	8270D	µg/kg					--	
SVOC	bis(2-chloroisopropyl) ether	39638-32-9	8270D	µg/kg					--	
SVOC	Carbazole	86-74-8	8270D	µg/kg					--	
SVOC	Chrysene	218-01-9	8270D	µg/kg					--	
SVOC	Dibenzofuran	132-64-9	8270D	µg/kg					--	
SVOC	Diphenylamine	NDPA122-39-4	8270D	µg/kg					--	
SVOC	Fluoranthene	206-44-0	8270D	µg/kg					--	
SVOC	Hexachlorobenzene	118-74-1	8270D	µg/kg					--	
SVOC	Hexachlorobutadiene	87-68-3	8270D	µg/kg					--	
SVOC	Hexachlorocyclopentadiene	77-47-4	8270D	µg/kg					--	
SVOC	Hexachloroethane	67-72-1	8270D	µg/kg					--	
SVOC	Indeno(1,2,3-cd)pyrene	193-39-5	8270D	µg/kg					--	
SVOC	Isophorone	78-59-1	8270D	µg/kg					--	
SVOC	Nitrobenzene	98-95-3	8270D	µg/kg					--	
SVOC	N-Nitroso-di-n-propylamine	621-64-7	8270D	µg/kg					--	
SVOC	N-Nitrosodiphenylamine	86-30-6	8270D	µg/kg					--	
SVOC	Pentachlorophenol	87-86-5	8270D	µg/kg					--	
SVOC	Phenanthrene	85-01-8	8270D	µg/kg					--	
SVOC	Phenol	108-95-2	8270D	µg/kg					--	
SVOC	Pyrene	129-00-0	8270D	µg/kg					--	
SVOC	Pyridine	110-86-1	8270D	µg/kg					--	
TPH-EFH	EFH (C8-C11)	PHCC8C11	8015M	mg/kg					--	
TPH-EFH	EFH (C12-C14)	PHCC12C14	8015M	mg/kg					--	
TPH-EFH	EFH (C15-C20)	PHCC15C20	8015M	mg/kg					--	
TPH-EFH	EFH (C21-C30)	PHCC21C30	8015M	mg/kg					--	
TPH-EFH	EFH (C30-C40)	PHCC30C40	8015M	mg/kg					--	

Table C-9 - Subarea 8 Field Duplicate Samples

				Location	8_DG-604	8_DG-604	
				Sample Name:	SL-904-SA8-SB-0.0-0.5	SL-604-SA8-SB-0.0-0.5	
				Sample Date:	08/29/2013	08/29/2013	
				Start Depth:	0	0	
				End Depth:	0.5	0.5	RPD
				Area:	8_DG	8_DG	
				Matrix:	SO	SO	
				Sample Type:	FD	N	
TPH-GRO	Gasoline Range Organics (C5-C12)	GROC5C12	8015M	mg/kg			
VOC	1,1,1,2-Tetrachloroethane	630-20-6	8260B	µg/kg			--
VOC	1,1,1-Trichloroethane	71-55-6	8260B	µg/kg			--
VOC	1,1,2,2-Tetrachloroethane	79-34-5	8260B	µg/kg			--
VOC	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	8260B	µg/kg			--
VOC	1,1,2-Trichloroethane	79-00-5	8260B	µg/kg			--
VOC	1,1-Dichloroethane	75-34-3	8260B	µg/kg			--
VOC	1,1-Dichloroethene	75-35-4	8260B	µg/kg			--
VOC	1,1-Dichloropropene	563-58-6	8260B	µg/kg			--
VOC	1,2,3-Trichlorobenzene	87-61-6	8260B	µg/kg			--
VOC	1,2,3-Trichloropropane	96-18-4	8260B	µg/kg			--
VOC	1,2,4-Trichlorobenzene	120-82-1	8260B	µg/kg			--
VOC	1,2,4-Trimethylbenzene	95-63-6	8260B	µg/kg			--
VOC	1,2-Dibromo-3-chloropropane	96-12-8	8260B	µg/kg			--
VOC	1,2-Dibromoethane	106-93-4	8260B	µg/kg			--
VOC	1,2-Dichlorobenzene	95-50-1	8260B	µg/kg			--
VOC	1,2-Dichloroethane	107-06-2	8260B	µg/kg			--
VOC	1,2-Dichloropropane	78-87-5	8260B	µg/kg			--
VOC	1,3,5-Trimethylbenzene	108-67-8	8260B	µg/kg			--
VOC	1,3-Dichlorobenzene	541-73-1	8260B	µg/kg			--
VOC	1,3-Dichloropropane	142-28-9	8260B	µg/kg			--
VOC	1,4-Dichlorobenzene	106-46-7	8260B	µg/kg			--
VOC	1-Chlorohexane	544-10-5	8260B	µg/kg			--
VOC	2,2-Dichloropropane	594-20-7	8260B	µg/kg			--
VOC	2-Butanone (MEK)	78-93-3	8260B	µg/kg			--
VOC	2-Chloro-1,1,1-trifluoroethane	75-88-7	8260B	µg/kg			--
VOC	2-Chloroethyl Vinyl Ether	110-75-8	8260B	µg/kg			--
VOC	2-Chlorotoluene	95-49-8	8260B	µg/kg			--
VOC	2-Hexanone	591-78-6	8260B	µg/kg			--
VOC	2-Phenylbutane	135-98-8	8260B	µg/kg			--
VOC	4-Chlorotoluene	106-43-4	8260B	µg/kg			--
VOC	4-Methyl-2-pentanone (MIBK)	108-10-1	8260B	µg/kg			--
VOC	Acetone	67-64-1	8260B	µg/kg			--
VOC	Acrolein	107-02-8	8260B	µg/kg			--
VOC	Acrylonitrile	107-13-1	8260B	µg/kg			--
VOC	Benzene	71-43-2	8260B	µg/kg			--
VOC	Bromobenzene	108-86-1	8260B	µg/kg			--
VOC	Bromochloromethane	74-97-5	8260B	µg/kg			--
VOC	Bromodichloromethane	75-27-4	8260B	µg/kg			--
VOC	Bromoform	75-25-2	8260B	µg/kg			--
VOC	Bromomethane	74-83-9	8260B	µg/kg			--
VOC	Carbon Disulfide	75-15-0	8260B	µg/kg			--
VOC	Carbon Tetrachloride	56-23-5	8260B	µg/kg			--
VOC	Chlorobenzene	108-90-7	8260B	µg/kg			--
VOC	Chloroethane	75-00-3	8260B	µg/kg			--
VOC	Chloroform	67-66-3	8260B	µg/kg			--
VOC	Chloromethane	74-87-3	8260B	µg/kg			--
VOC	Chlorotrifluoroethylene	79-38-9	8260B	µg/kg			--
VOC	cis-1,2-Dichloroethene	156-59-2	8260B	µg/kg			--
VOC	cis-1,3-Dichloropropene	10061-01-5	8260B	µg/kg			--
VOC	Cymene	99-87-6	8260B	µg/kg			--
VOC	Di isopropyl Ether	108-20-3	8260B	µg/kg			--
VOC	Dibromochloromethane	124-48-1	8260B	µg/kg			--
VOC	Dibromomethane	74-95-3	8260B	µg/kg			--
VOC	Dichlorodifluoromethane	75-71-8	8260B	µg/kg			--
VOC	Ethylbenzene	100-41-4	8260B	µg/kg			--
VOC	Hexachloro-1,3-butadiene	87-68-3	8260B	µg/kg			--
VOC	Isopropylbenzene	98-82-8	8260B	µg/kg			--
VOC	m,p-Xylene	179601-23-1	8260B	µg/kg			--
VOC	Methyl Iodide	74-88-4	8260B	µg/kg			--
VOC	Methyl Tert-Butyl Ether	1634-04-4	8260B	µg/kg			--
VOC	Methylene Chloride	75-09-2	8260B	µg/kg			--
VOC	n-Butylbenzene	104-51-8	8260B	µg/kg			--
VOC	n-Propylbenzene	103-65-1	8260B	µg/kg			--
VOC	o-Xylene	95-47-6	8260B	µg/kg			--
VOC	Styrene	100-42-5	8260B	µg/kg			--
VOC	tert-Butyl ethyl ether	637-92-3	8260B	µg/kg			--
VOC	tert-Butylbenzene	98-06-6	8260B	µg/kg			--
VOC	Tertiary amyl methyl ether	994-05-8	8260B	µg/kg			--
VOC	Tertiary butyl alcohol	75-65-0	8260B	µg/kg			--
VOC	Tetrachloroethene	127-18-4	8260B	µg/kg			--
VOC	Toluene	108-88-3	8260B	µg/kg			--
VOC	trans-1,2-Dichloroethene	156-60-5	8260B	µg/kg			--
VOC	trans-1,3-Dichloropropene	10061-02-6	8260B	µg/kg			--
VOC	Trichloroethene	79-01-6	8260B	µg/kg			--
VOC	Trichlorofluoromethane	75-69-4	8260B	µg/kg			--
VOC	Vinyl Acetate	108-05-4	8260B	µg/kg			--
VOC	Vinyl Chloride	75-01-4	8260B	µg/kg			--

Notes:

ug/kg - microgram per kilogram

mg/kg - milligram per kilogram

ng/g - nanogram per kilogram

FD - field duplicate sample

N - normal sample

RPD - relative percent difference

SO - soil

-- - RPD not calculated when both field duplicate and normal samples were nondetect or only one sample result is reported

200* - When one result is nondetect a 200% RPD is given and sample results are qualified as estimated "J" or "UJ" in the field duplicate samples only

Limit - 50% - If RPD is above 50% detected field duplicate results only were estimated "J"

Table C-10 Summary of Data Completeness Following Data Validation – Subarea 5D

	Number of Analyte Detections Without Qualifiers	Number of Estimated Results	Number of Rejected Results	Number of Nondetect Results	Number of Estimated Nondetect Results	Total Analytes Detect and Nondetect	Percent of Analyte Results Judged Valid Versus Total Analyte Results Collected
Dioxins – 1613B	169	621	--	867	35	1,692	100
Fluoride - 300	13	89	--	--	--	102	100
Metals - 6010C	2,853	1,204	--	433	112	4,602	100
Metals – 6020A	249	358	--	99	2	708	100
Perchlorate – 6850	--	2	--	20	--	22	100
Hexavalent Chromium – 7199	5	6	--	3	1	15	100
Mercury – 7471B	36	59	--	82	--	177	100
TPH-EFH/GRO – 8015M	101	70	--	818	13	1,002	100
Pesticides – 8081B	9	36	--	1,589	4	1,638	100
PCB/PCTs – 8082A	5	12	--	2,075	32	2,124	100
Herbicides – 8151A	--	--	7	378	5	390	98.21
SVOCs – 8270D	--	--	--	444	--	444	100
SVOC SIM – 8270C SIM	221	377	--	4,168	18	4,784	100
Completeness Total for Phase 3 Subarea 5D Samples Collected and Judged Valid							99.96

Table C-11 Summary of Data Completeness Following Data Validation – Subarea 8

	Number of Analyte Detections Without Qualifiers	Number of Estimated Results	Number of Rejected Results	Number of Nondetect Results	Number of Estimated Nondetect Results	Total Analytes Detect and Nondetect	Percent of Analyte Results Judged Valid Versus Total Analyte Results Collected
Dioxins – 1613B	354	1,353	--	1,579	62	3,348	100
Fluoride - 300	2	2	--	2	--	6	100
Sulfite – 377.1	--	--	--	--	2	2	100
Metals - 6010C	3,439	1,439	--	537	175	5,590	100
Metals – 6020A	270	483	--	100	7	860	100
Perchlorate - 6850	--	3	--	15	--	18	100
Hexavalent Chromium - 7199	1	9	--	5	1	16	100
Mercury– 7471B	55	54	--	106	--	215	100
TPH-EFH/GRO – 8015M	229	102	--	832	3	1,166	100
Pesticides – 8081B	4	18	--	671	--	693	100
PCB/PCTs – 8082A	23	38	--	2,530	1	2,592	100
Herbicides – 8151A	6	6	10	280	28	330	96.97
VOCs – 8260B	--	--	--	692	1	693	100
SVOCs – 8270D	1	22	4	1,043	13	1,083	99.63
SVOC SIM – 8270D SIM	379	601	--	4,482	17	5,479	100
Cyanide – 9012B	--	--	--	2	--	2	100
Completeness Total for Phase 3 Subarea 8 Samples Collected and Judged Valid							99.94

Subarea 5D Samples by SDG

Task Code	System Sample Code	Lab SDG	Matrix Code	Sample Date	Sample Source
	FB-041113	PH029	WQ	4/11/2013	FIELD
	FB-041613	PH032	WQ	4/16/2013	FIELD
5D_DG	SL-548-SA5D-SB-0.0-0.5	PH093	SO	8/26/2013	FIELD
5D_DG	SL-548-SA5D-SB-4.0-5.0	PH093	SO	8/26/2013	FIELD
	TB-082613	PH093	WQ	8/26/2013	FIELD
	EB1-082813	PH095	WQ	8/28/2013	FIELD
	EB2-082813	PH095	WQ	8/28/2013	FIELD
5D_DG	SL-536-SA5D-SB-0.0-0.5	PH095	SO	8/28/2013	FIELD
5D_DG	SL-536-SA5D-SB-3.5-4.5	PH095	SO	8/28/2013	FIELD
5D_DG	SL-537-SA5D-SB-0.0-0.5	PH095	SO	8/28/2013	FIELD
5D_DG	SL-537-SA5D-SB-2.5-3.5	PH095	SO	8/28/2013	FIELD
5D_DG	SL-538-SA5D-SB-0.0-0.5	PH095	SO	8/28/2013	FIELD
5D_DG	SL-538-SA5D-SB-3.0-4.0	PH095	SO	8/28/2013	FIELD
	TB2-082813	PH095	WQ	8/28/2013	FIELD
5D_DG	SL-526-SA5D-SB-0.0-0.5	PH098	SO	8/29/2013	FIELD
5D_DG	SL-526-SA5D-SB-3.0-4.0	PH098	SO	8/29/2013	FIELD
5D_DG	SL-539-SA5D-SB-0.0-0.5	PH098	SO	8/29/2013	FIELD
5D_DG	SL-539-SA5D-SB-3.0-4.0	PH098	SO	8/29/2013	FIELD
5D_DG	SL-542-SA5D-SB-0.0-0.5	PH098	SO	8/29/2013	FIELD
5D_DG	SL-542-SA5D-SB-4.0-5.0	PH098	SO	8/29/2013	FIELD
5D_DG	SL-543-SA5D-SB-0.0-0.5	PH098	SO	8/29/2013	FIELD
5D_DG	SL-543-SA5D-SB-4.0-5.0	PH098	SO	8/29/2013	FIELD
	TB-082913	PH098	WQ	8/29/2013	FIELD
5D_DG	SL-530-SA5D-SB-0.0-0.5	PH099	SO	8/30/2013	FIELD
5D_DG	SL-530-SA5D-SB-2.5-3.5	PH099	SO	8/30/2013	FIELD
5D_DG	SL-531-SA5D-SB-0.0-0.5	PH099	SO	8/30/2013	FIELD
5D_DG	SL-532-SA5D-SB-0.0-0.5	PH099	SO	8/30/2013	FIELD
5D_DG	SL-532-SA5D-SB-2.5-3.5	PH099	SO	8/30/2013	FIELD
5D_DG	SL-533-SA5D-SB-0.0-0.5	PH099	SO	8/30/2013	FIELD
5D_DG	SL-533-SA5D-SB-2.5-3.5	PH099	SO	8/30/2013	FIELD
5D_DG	SL-534-SA5D-SB-0.0-0.5	PH099	SO	8/30/2013	FIELD
5D_DG	SL-534-SA5D-SB-6.5-7.5	PH099	SO	8/30/2013	FIELD
5D_DG	SL-535-SA5D-SB-0.0-0.5	PH099	SO	8/30/2013	FIELD
5D_DG	SL-535-SA5D-SB-2.0-3.0	PH099	SO	8/30/2013	FIELD
5D_DG	SL-835-SA5D-SB-0.0-0.5	PH099	SO	8/30/2013	FIELD
	TB-083013	PH099	WQ	8/30/2013	FIELD
5D_DG	SL-525-SA5D-SB-0.0-0.5	PH100	SO	9/3/2013	FIELD
5D_DG	SL-525-SA5D-SB-2.5-3.5	PH100	SO	9/3/2013	FIELD
5D_DG	SL-527-SA5D-SB-0.0-0.5	PH100	SO	9/3/2013	FIELD
5D_DG	SL-527-SA5D-SB-4.0-5.0	PH100	SO	9/3/2013	FIELD
5D_DG	SL-528-SA5D-SB-0.0-0.5	PH100	SO	9/3/2013	FIELD
5D_DG	SL-528-SA5D-SB-2.5-3.5	PH100	SO	9/3/2013	FIELD
5D_DG	SL-540-SA5D-SB-0.0-0.5	PH100	SO	9/3/2013	FIELD
5D_DG	SL-540-SA5D-SB-5.0-6.0	PH100	SO	9/3/2013	FIELD
5D_DG	SL-541-SA5D-SB-0.0-0.5	PH100	SO	9/3/2013	FIELD
5D_DG	SL-541-SA5D-SB-2.5-3.5	PH100	SO	9/3/2013	FIELD
5D_DG	SL-545-SA5D-SB-0.0-0.5	PH100	SO	9/3/2013	FIELD
5D_DG	SL-545-SA5D-SB-6.0-7.0	PH100	SO	9/3/2013	FIELD
	TB-090313	PH100	WQ	9/3/2013	FIELD

Task Code	System Sample Code	Lab SDG	Matrix Code	Sample Date	Sample Source
	EB-090413	PH101	WQ	9/4/2013	FIELD
5D_DG	SL-524-SA5D-SB-0.0-0.5	PH101	SO	9/4/2013	FIELD
5D_DG	SL-524-SA5D-SB-5.5-6.5	PH101	SO	9/4/2013	FIELD
5D_DG	SL-544-SA5D-SB-0.0-0.5	PH101	SO	9/4/2013	FIELD
5D_DG	SL-544-SA5D-SB-6.5-7.5	PH101	SO	9/4/2013	FIELD
5D_DG	SL-546-SA5D-SB-0.0-0.5	PH101	SO	9/4/2013	FIELD
5D_DG	SL-546-SA5D-SB-4.0-5.0	PH101	SO	9/4/2013	FIELD
5D_DG	SL-547-SA5D-SB-0.0-0.5	PH101	SO	9/4/2013	FIELD
5D_DG	SL-547-SA5D-SB-4.0-5.0	PH101	SO	9/4/2013	FIELD
5D_DG	SL-824-SA5D-SB-5.5-6.5	PH101	SO	9/4/2013	FIELD
	TB-090413	PH101	WQ	9/4/2013	FIELD
5D_DG	SL-554-SA5D-SB-0.0-0.5	PH102	SO	9/5/2013	FIELD
5D_DG	SL-554-SA5D-SB-4.0-5.0	PH102	SO	9/5/2013	FIELD
5D_DG	SL-554-SA5D-SB-7.0-8.0	PH102	SO	9/5/2013	FIELD
5D_DG	SL-555-SA5D-SB-0.0-0.5	PH102	SO	9/5/2013	FIELD
5D_DG	SL-555-SA5D-SB-10.5-11.5	PH102	SO	9/5/2013	FIELD
5D_DG	SL-555-SA5D-SB-4.0-5.0	PH102	SO	9/5/2013	FIELD
5D_DG	SL-556-SA5D-SB-0.0-0.5	PH102	SO	9/5/2013	FIELD
5D_DG	SL-556-SA5D-SB-11.0-12.0	PH102	SO	9/5/2013	FIELD
5D_DG	SL-556-SA5D-SB-4.0-5.0	PH102	SO	9/5/2013	FIELD
5D_DG	SL-559-SA5D-SB-0.0-0.5	PH102	SO	9/5/2013	FIELD
5D_DG	SL-559-SA5D-SB-6.0-7.0	PH102	SO	9/5/2013	FIELD
	TB-090513	PH102	WQ	9/5/2013	FIELD
5D_DG	SL-550-SA5D-SB-0.0-0.5	PH103	SO	9/6/2013	FIELD
5D_DG	SL-550-SA5D-SB-4.0-5.0	PH103	SO	9/6/2013	FIELD
5D_DG	SL-552-SA5D-SB-0.0-0.5	PH103	SO	9/6/2013	FIELD
5D_DG	SL-552-SA5D-SB-4.0-5.0	PH103	SO	9/6/2013	FIELD
5D_DG	SL-590-SA5D-SB-0.0-0.5	PH103	SO	9/6/2013	FIELD
5D_DG	SL-590-SA5D-SB-11.0-12.0	PH103	SO	9/6/2013	FIELD
5D_DG	SL-590-SA5D-SB-4.0-5.0	PH103	SO	9/6/2013	FIELD
5D_DG	SL-850-SA5D-SB-4.0-5.0	PH103	SO	9/6/2013	FIELD
5D_DG	SL-890-SA5D-SB-4.0-5.0	PH103	SO	9/6/2013	FIELD
	TB-090613	PH103	WQ	9/6/2013	FIELD
5D_DG	SL-515-SA5D-SB-0.0-0.5	PH104	SO	9/9/2013	FIELD
5D_DG	SL-515-SA5D-SB-22.0-23.0	PH104	SO	9/9/2013	FIELD
5D_DG	SL-515-SA5D-SB-4.0-5.0	PH104	SO	9/9/2013	FIELD
5D_DG	SL-515-SA5D-SB-9.0-10.0	PH104	SO	9/9/2013	FIELD
5D_DG	SL-599-SA5D-SB-0.0-0.5	PH104	SO	9/9/2013	FIELD
5D_DG	SL-599-SA5D-SB-14.0-15.0	PH104	SO	9/9/2013	FIELD
5D_DG	SL-599-SA5D-SB-19.0-20.0	PH104	SO	9/9/2013	FIELD
5D_DG	SL-599-SA5D-SB-22.0-23.0	PH104	SO	9/9/2013	FIELD
5D_DG	SL-599-SA5D-SB-4.0-5.0	PH104	SO	9/9/2013	FIELD
5D_DG	SL-599-SA5D-SB-9.0-10.0	PH104	SO	9/9/2013	FIELD
5D_DG	SL-601-SA5D-SB-0.0-0.5	PH104	SO	9/9/2013	FIELD
5D_DG	SL-601-SA5D-SB-14.0-15.0	PH104	SO	9/9/2013	FIELD
5D_DG	SL-601-SA5D-SB-20.5-21.5	PH104	SO	9/9/2013	FIELD
5D_DG	SL-601-SA5D-SB-4.0-5.0	PH104	SO	9/9/2013	FIELD
5D_DG	SL-601-SA5D-SB-9.0-10.0	PH104	SO	9/9/2013	FIELD
5D_DG	SL-815-SA5D-SB-0.0-0.5	PH104	SO	9/9/2013	FIELD
	TB-090913	PH104	WQ	9/9/2013	FIELD

Task Code	System Sample Code	Lab SDG	Matrix Code	Sample Date	Sample Source
5D_DG	SL-518-SA5D-SB-0.0-0.5	PH105	SO	9/10/2013	FIELD
5D_DG	SL-518-SA5D-SB-15.0-16.0	PH105	SO	9/10/2013	FIELD
5D_DG	SL-518-SA5D-SB-4.0-5.0	PH105	SO	9/10/2013	FIELD
5D_DG	SL-518-SA5D-SB-9.0-10.0	PH105	SO	9/10/2013	FIELD
5D_DG	SL-603-SA5D-SB-0.0-0.5	PH105	SO	9/10/2013	FIELD
5D_DG	SL-603-SA5D-SB-13.0-14.0	PH105	SO	9/10/2013	FIELD
5D_DG	SL-603-SA5D-SB-4.0-5.0	PH105	SO	9/10/2013	FIELD
5D_DG	SL-603-SA5D-SB-9.0-10.0	PH105	SO	9/10/2013	FIELD
5D_DG	SL-604-SA5D-SB-0.0-0.5	PH105	SO	9/10/2013	FIELD
5D_DG	SL-604-SA5D-SB-16.5-17.5	PH105	SO	9/10/2013	FIELD
5D_DG	SL-604-SA5D-SB-4.0-5.0	PH105	SO	9/10/2013	FIELD
5D_DG	SL-604-SA5D-SB-9.0-10.0	PH105	SO	9/10/2013	FIELD
5D_DG	SL-605-SA5D-SB-0.0-0.5	PH105	SO	9/10/2013	FIELD
5D_DG	SL-605-SA5D-SB-14.5-15.5	PH105	SO	9/10/2013	FIELD
5D_DG	SL-605-SA5D-SB-4.0-5.0	PH105	SO	9/10/2013	FIELD
5D_DG	SL-605-SA5D-SB-9.0-10.0	PH105	SO	9/10/2013	FIELD
5D_DG	SL-905-SA5D-SB-4.0-5.0	PH105	SO	9/10/2013	FIELD
5D_DG	SL-606-SA5D-SB-0.0-0.5	PH105	SO	9/10/2013	FIELD
5D_DG	SL-606-SA5D-SB-13.0-14.0	PH105	SO	9/10/2013	FIELD
5D_DG	SL-606-SA5D-SB-4.0-5.0	PH105	SO	9/10/2013	FIELD
5D_DG	SL-606-SA5D-SB-9.0-10.0	PH105	SO	9/10/2013	FIELD
	TB-091013	PH105	WQ	9/10/2013	FIELD
	EB-091113	PH106	WQ	9/11/2013	FIELD
5D_DG	SL-506-SA5D-SB-0.0-0.5	PH106	SO	9/11/2013	FIELD
5D_DG	SL-506-SA5D-SB-4.0-5.0	PH106	SO	9/11/2013	FIELD
5D_DG	SL-519-SA5D-SB-0.0-0.5	PH106	SO	9/11/2013	FIELD
5D_DG	SL-519-SA5D-SB-4.0-5.0	PH106	SO	9/11/2013	FIELD
5D_DG	SL-520-SA5D-SB-0.0-0.5	PH106	SO	9/11/2013	FIELD
5D_DG	SL-520-SA5D-SB-4.0-5.0	PH106	SO	9/11/2013	FIELD
5D_DG	SL-520-SA5D-SB-8.0-9.0	PH106	SO	9/11/2013	FIELD
5D_DG	SL-521-SA5D-SB-0.0-0.5	PH106	SO	9/11/2013	FIELD
5D_DG	SL-521-SA5D-SB-5.5-6.5	PH106	SO	9/11/2013	FIELD
5D_DG	SL-522-SA5D-SB-0.0-0.5	PH106	SO	9/11/2013	FIELD
5D_DG	SL-522-SA5D-SB-6.0-7.0	PH106	SO	9/11/2013	FIELD
5D_DG	SL-523-SA5D-SB-0.0-0.5	PH106	SO	9/11/2013	FIELD
5D_DG	SL-529-SA5D-SB-0.0-0.5	PH106	SO	9/11/2013	FIELD
5D_DG	SL-529-SA5D-SB-3.0-4.0	PH106	SO	9/11/2013	FIELD
	TB-091113	PH106	WQ	9/11/2013	FIELD
	EB-091213	PH107	WQ	9/12/2013	FIELD
5D_DG	SL-551-SA5D-SB-0.0-0.5	PH107	SO	9/12/2013	FIELD
5D_DG	SL-551-SA5D-SB-14.0-15.0	PH107	SO	9/12/2013	FIELD
5D_DG	SL-551-SA5D-SB-17.5-18.5	PH107	SO	9/12/2013	FIELD
5D_DG	SL-551-SA5D-SB-4.0-5.0	PH107	SO	9/12/2013	FIELD
5D_DG	SL-551-SA5D-SB-9.0-10.0	PH107	SO	9/12/2013	FIELD
5D_DG	SL-553-SA5D-SB-0.0-0.5	PH107	SO	9/12/2013	FIELD
5D_DG	SL-553-SA5D-SB-4.5-5.5	PH107	SO	9/12/2013	FIELD
5D_DG	SL-591-SA5D-SB-0.0-0.5	PH107	SO	9/12/2013	FIELD
5D_DG	SL-591-SA5D-SB-6.5-7.5	PH107	SO	9/12/2013	FIELD
5D_DG	SL-592-SA5D-SB-0.0-0.5	PH107	SO	9/12/2013	FIELD
5D_DG	SL-592-SA5D-SB-10.5-11.5	PH107	SO	9/12/2013	FIELD
5D_DG	SL-592-SA5D-SB-4.0-5.0	PH107	SO	9/12/2013	FIELD
5D_DG	SL-853-SA5D-SB-0.0-0.5	PH107	SO	9/12/2013	FIELD
	TB-091213	PH107	WQ	9/12/2013	FIELD

Task Code	System Sample Code	Lab SDG	Matrix Code	Sample Date	Sample Source
5D_DG	SL-505-SA5D-SB-0.0-0.5	PH108	SO	9/16/2013	FIELD
5D_DG	SL-505-SA5D-SB-14.0-15.0	PH108	SO	9/16/2013	FIELD
5D_DG	SL-505-SA5D-SB-19.0-20.0	PH108	SO	9/16/2013	FIELD
5D_DG	SL-505-SA5D-SB-4.0-5.0	PH108	SO	9/16/2013	FIELD
5D_DG	SL-505-SA5D-SB-9.0-10.0	PH108	SO	9/16/2013	FIELD
	TB-091613	PH108	WQ	9/16/2013	FIELD
5D_DG	SL-501-SA5D-SB-0.0-0.5	PH109	SO	9/17/2013	FIELD
5D_DG	SL-501-SA5D-SB-14.0-15.0	PH109	SO	9/17/2013	FIELD
5D_DG	SL-501-SA5D-SB-19.0-20.0	PH109	SO	9/17/2013	FIELD
5D_DG	SL-501-SA5D-SB-24.0-25.0	PH109	SO	9/17/2013	FIELD
5D_DG	SL-501-SA5D-SB-28.0-29.0	PH109	SO	9/17/2013	FIELD
5D_DG	SL-501-SA5D-SB-4.0-5.0	PH109	SO	9/17/2013	FIELD
5D_DG	SL-501-SA5D-SB-9.0-10.0	PH109	SO	9/17/2013	FIELD
5D_DG	SL-503-SA5D-SB-0.0-0.5	PH109	SO	9/17/2013	FIELD
5D_DG	SL-503-SA5D-SB-4.0-5.0	PH109	SO	9/17/2013	FIELD
5D_DG	SL-504-SA5D-SB-0.0-0.5	PH109	SO	9/17/2013	FIELD
5D_DG	SL-504-SA5D-SB-16.0-17.0	PH109	SO	9/17/2013	FIELD
5D_DG	SL-504-SA5D-SB-4.0-5.0	PH109	SO	9/17/2013	FIELD
5D_DG	SL-504-SA5D-SB-9.0-10.0	PH109	SO	9/17/2013	FIELD
5D_DG	SL-804-SA5D-SB-4.0-5.0	PH109	SO	9/17/2013	FIELD
	TB-091713	PH109	WQ	9/17/2013	FIELD
	EB1-091813	PH110	WQ	9/18/2013	FIELD
	EB2-091813	PH110	WQ	9/18/2013	FIELD
5D_DG	SL-509-SA5D-SB-0.0-0.5	PH110	SO	9/18/2013	FIELD
5D_DG	SL-509-SA5D-SB-4.0-5.0	PH110	SO	9/18/2013	FIELD
5D_DG	SL-510-SA5D-SB-0.0-0.5	PH110	SO	9/18/2013	FIELD
5D_DG	SL-510-SA5D-SB-4.0-5.0	PH110	SO	9/18/2013	FIELD
5D_DG	SL-513-SA5D-SB-0.0-0.5	PH110	SO	9/18/2013	FIELD
5D_DG	SL-513-SA5D-SB-16.0-17.0	PH110	SO	9/18/2013	FIELD
5D_DG	SL-513-SA5D-SB-4.0-5.0	PH110	SO	9/18/2013	FIELD
5D_DG	SL-513-SA5D-SB-9.0-10.0	PH110	SO	9/18/2013	FIELD
5D_DG	SL-514-SA5D-SB-0.0-0.5	PH110	SO	9/18/2013	FIELD
5D_DG	SL-514-SA5D-SB-4.0-5.0	PH110	SO	9/18/2013	FIELD
	TB-091813	PH110	WQ	9/18/2013	FIELD
5D_DG	SL-576-SA5D-SB-0.0-0.5	PH111	SO	9/19/2013	FIELD
5D_DG	SL-576-SA5D-SB-3.5-4.5	PH111	SO	9/19/2013	FIELD
5D_DG	SL-577-SA5D-SB-0.0-0.5	PH111	SO	9/19/2013	FIELD
5D_DG	SL-578-SA5D-SB-0.0-0.5	PH111	SO	9/19/2013	FIELD
5D_DG	SL-579-SA5D-SB-0.0-0.5	PH111	SO	9/19/2013	FIELD
5D_DG	SL-580-SA5D-SB-0.0-0.5	PH111	SO	9/19/2013	FIELD
5D_DG	SL-581-SA5D-SB-0.0-0.5	PH111	SO	9/19/2013	FIELD
5D_DG	SL-581-SA5D-SB-2.5-3.5	PH111	SO	9/19/2013	FIELD
5D_DG	SL-879-SA5D-SB-0.0-0.5	PH111	SO	9/19/2013	FIELD
	TB-091913	PH111	WQ	9/19/2013	FIELD
5D_DG	SL-568-SA5D-SB-0.0-0.5	PH112	SO	9/23/2013	FIELD
5D_DG	SL-568-SA5D-SB-2.5-3.5	PH112	SO	9/23/2013	FIELD
5D_DG	SL-571-SA5D-SB-0.0-0.5	PH112	SO	9/23/2013	FIELD
5D_DG	SL-572-SA5D-SB-0.0-0.5	PH112	SO	9/23/2013	FIELD
5D_DG	SL-574-SA5D-SB-0.0-0.5	PH112	SO	9/23/2013	FIELD
5D_DG	SL-583-SA5D-SB-0.0-0.5	PH112	SO	9/23/2013	FIELD
5D_DG	SL-868-SA5D-SB-2.5-3.5	PH112	SO	9/23/2013	FIELD
	TB-092313	PH112	WQ	9/23/2013	FIELD

Task Code	System Sample Code	Lab SDG	Matrix Code	Sample Date	Sample Source
5D_DG	SL-557-SA5D-SB-0.0-0.5	PH113	SO	9/24/2013	FIELD
5D_DG	SL-558-SA5D-SB-0.0-0.5	PH113	SO	9/24/2013	FIELD
5D_DG	SL-558-SA5D-SB-4.0-5.0	PH113	SO	9/24/2013	FIELD
5D_DG	SL-565-SA5D-SB-0.0-0.5	PH113	SO	9/24/2013	FIELD
5D_DG	SL-566-SA5D-SB-0.0-0.5	PH113	SO	9/24/2013	FIELD
5D_DG	SL-566-SA5D-SB-4.0-5.0	PH113	SO	9/24/2013	FIELD
5D_DG	SL-865-SA5D-SB-0.0-0.5	PH113	SO	9/24/2013	FIELD
	TB-092413	PH113	WQ	9/24/2013	FIELD
	EB1-092513	PH114	WQ	9/25/2013	FIELD
5D_DG	SL-562-SA5D-SB-0.0-0.5	PH114	SO	9/25/2013	FIELD
5D_DG	SL-562-SA5D-SB-4.0-5.0	PH114	SO	9/25/2013	FIELD
5D_DG	SL-563-SA5D-SB-0.0-0.5	PH114	SO	9/25/2013	FIELD
5D_DG	SL-563-SA5D-SB-4.0-5.0	PH114	SO	9/25/2013	FIELD
5D_DG	SL-569-SA5D-SB-0.0-0.5	PH114	SO	9/25/2013	FIELD
5D_DG	SL-573-SA5D-SB-0.0-0.5	PH114	SO	9/25/2013	FIELD
5D_DG	SL-573-SA5D-SB-4.0-5.0	PH114	SO	9/25/2013	FIELD
5D_DG	SL-863-SA5D-SB-4.0-5.0	PH114	SO	9/25/2013	FIELD
	TB-092513	PH114	WQ	9/25/2013	FIELD
5D_DG	SL-512-SA5D-SB-0.0-0.5	PH116	SO	9/26/2013	FIELD
5D_DG	SL-512-SA5D-SB-4.0-5.0	PH116	SO	9/26/2013	FIELD
	TB1-092613	PH116	WQ	9/26/2013	FIELD
5D_DG	SL-582-SA5D-SB-0.0-0.5	PH118	SO	9/30/2013	FIELD
5D_DG	SL-582-SA5D-SB-10.0-11.0	PH118	SO	9/30/2013	FIELD
5D_DG	SL-582-SA5D-SB-4.0-5.0	PH118	SO	9/30/2013	FIELD
5D_DG	SL-595-SA5D-SB-0.0-0.5	PH118	SO	9/30/2013	FIELD
5D_DG	SL-595-SA5D-SB-14.0-15.0	PH118	SO	9/30/2013	FIELD
5D_DG	SL-595-SA5D-SB-17.0-18.0	PH118	SO	9/30/2013	FIELD
5D_DG	SL-595-SA5D-SB-4.0-5.0	PH118	SO	9/30/2013	FIELD
5D_DG	SL-595-SA5D-SB-9.0-10.0	PH118	SO	9/30/2013	FIELD
5D_DG	SL-596-SA5D-SB-0.0-0.5	PH118	SO	9/30/2013	FIELD
5D_DG	SL-596-SA5D-SB-11.5-12.5	PH118	SO	9/30/2013	FIELD
5D_DG	SL-596-SA5D-SB-4.0-5.0	PH118	SO	9/30/2013	FIELD
5D_DG	SL-597-SA5D-SB-0.0-0.5	PH118	SO	9/30/2013	FIELD
5D_DG	SL-597-SA5D-SB-14.0-15.0	PH118	SO	9/30/2013	FIELD
5D_DG	SL-597-SA5D-SB-17.0-18.0	PH118	SO	9/30/2013	FIELD
5D_DG	SL-597-SA5D-SB-4.0-5.0	PH118	SO	9/30/2013	FIELD
5D_DG	SL-597-SA5D-SB-9.0-10.0	PH118	SO	9/30/2013	FIELD
5D_DG	SL-882-SA5D-SB-4.0-5.0	PH118	SO	9/30/2013	FIELD
	TB-093013	PH118	WQ	9/30/2013	FIELD
5D_DG	SL-564-SA5D-SB-0.0-0.5	PH119	SO	10/1/2013	FIELD
5D_DG	SL-564-SA5D-SB-4.0-5.0	PH119	SO	10/1/2013	FIELD
5D_DG	SL-570-SA5D-SB-0.0-0.5	PH119	SO	10/1/2013	FIELD
5D_DG	SL-570-SA5D-SB-4.0-5.0	PH119	SO	10/1/2013	FIELD
5D_DG	SL-598-SA5D-SB-0.0-0.5	PH119	SO	10/1/2013	FIELD
5D_DG	SL-598-SA5D-SB-14.0-15.0	PH119	SO	10/1/2013	FIELD
5D_DG	SL-598-SA5D-SB-18.0-19.0	PH119	SO	10/1/2013	FIELD
5D_DG	SL-598-SA5D-SB-4.0-5.0	PH119	SO	10/1/2013	FIELD
5D_DG	SL-598-SA5D-SB-9.0-10.0	PH119	SO	10/1/2013	FIELD
5D_DG	SL-607-SA5D-SB-0.0-0.5	PH119	SO	10/1/2013	FIELD
5D_DG	SL-607-SA5D-SB-4.0-5.0	PH119	SO	10/1/2013	FIELD
	TB-100113	PH119	WQ	10/1/2013	FIELD

Task Code	System Sample Code	Lab SDG	Matrix Code	Sample Date	Sample Source
	EB1-100213	PH120	WQ	10/2/2013	FIELD
5D_DG	SL-589-SA5D-SB-0.0-0.5	PH120	SO	10/2/2013	FIELD
5D_DG	SL-589-SA5D-SB-4.0-5.0	PH120	SO	10/2/2013	FIELD
5D_DG	SL-594-SA5D-SB-0.0-0.5	PH120	SO	10/2/2013	FIELD
5D_DG	SL-594-SA5D-SB-4.0-5.0	PH120	SO	10/2/2013	FIELD
5D_DG	SL-594-SA5D-SB-7.0-8.0	PH120	SO	10/2/2013	FIELD
5D_DG	SL-600-SA5D-SB-0.0-0.5	PH120	SO	10/2/2013	FIELD
5D_DG	SL-600-SA5D-SB-14.0-15.0	PH120	SO	10/2/2013	FIELD
5D_DG	SL-600-SA5D-SB-18.5-19.5	PH120	SO	10/2/2013	FIELD
5D_DG	SL-600-SA5D-SB-4.0-5.0	PH120	SO	10/2/2013	FIELD
5D_DG	SL-600-SA5D-SB-9.0-10.0	PH120	SO	10/2/2013	FIELD
5D_DG	SL-900-SA5D-SB-0.0-0.5	PH120	SO	10/2/2013	FIELD
	TB1-100213	PH120	WQ	10/2/2013	FIELD
5D_DG	SL-502-SA5D-SB-0.0-0.5	PH122	SO	10/3/2013	FIELD
5D_DG	SL-502-SA5D-SB-6.5-7.5	PH122	SO	10/3/2013	FIELD
5D_DG	SL-507-SA5D-SB-0.0-0.5	PH122	SO	10/3/2013	FIELD
5D_DG	SL-507-SA5D-SB-10.5-11.5	PH122	SO	10/3/2013	FIELD
5D_DG	SL-507-SA5D-SB-4.0-5.0	PH122	SO	10/3/2013	FIELD
5D_DG	SL-508-SA5D-SB-0.0-0.5	PH122	SO	10/3/2013	FIELD
5D_DG	SL-508-SA5D-SB-14.0-15.0	PH122	SO	10/3/2013	FIELD
5D_DG	SL-508-SA5D-SB-19.0-20.0	PH122	SO	10/3/2013	FIELD
5D_DG	SL-508-SA5D-SB-23.0-24.0	PH122	SO	10/3/2013	FIELD
5D_DG	SL-508-SA5D-SB-4.0-5.0	PH122	SO	10/3/2013	FIELD
5D_DG	SL-508-SA5D-SB-9.0-10.0	PH122	SO	10/3/2013	FIELD
5D_DG	SL-608-SA5D-SB-0.0-0.5	PH122	SO	10/3/2013	FIELD
5D_DG	SL-608-SA5D-SB-4.0-5.0	PH122	SO	10/3/2013	FIELD
	TB-100313	PH122	WQ	10/3/2013	FIELD
5D_DG	SL-567-SA5D-SB-0.0-0.5	PH123	SO	10/7/2013	FIELD
5D_DG	SL-567-SA5D-SB-3.5-4.5	PH123	SO	10/7/2013	FIELD
5D_DG	SL-575-SA5D-SB-0.0-0.5	PH123	SO	10/7/2013	FIELD
5D_DG	SL-575-SA5D-SB-3.0-4.0	PH123	SO	10/7/2013	FIELD
5D_DG	SL-593-SA5D-SB-0.0-0.5	PH123	SO	10/7/2013	FIELD
5D_DG	SL-593-SA5D-SB-3.5-4.5	PH123	SO	10/7/2013	FIELD
	TB-100713	PH123	WQ	10/7/2013	FIELD
	EB-100813	PH124	WQ	10/8/2013	FIELD
5D_DG	SL-561-SA5D-SB-0.0-0.5	PH124	SO	10/8/2013	FIELD
5D_DG	SL-561-SA5D-SB-4.0-5.0	PH124	SO	10/8/2013	FIELD
5D_DG	SL-561-SA5D-SB-9.0-10.0	PH124	SO	10/8/2013	FIELD
5D_DG	SL-602-SA5D-SB-0.0-0.5	PH124	SO	10/8/2013	FIELD
5D_DG	SL-602-SA5D-SB-4.0-5.0	PH124	SO	10/8/2013	FIELD
5D_DG	SL-602-SA5D-SB-9.0-10.0	PH124	SO	10/8/2013	FIELD
	TB-100813	PH124	WQ	10/8/2013	FIELD
	EB1-111213	PH127	WQ	11/12/2013	FIELD
5D_DG	SL-549-SA5D-SB-0.0-0.5	PH127	SO	11/12/2013	FIELD
5D_DG	SL-549-SA5D-SB-11.0-12.0	PH127	SO	11/12/2013	FIELD
5D_DG	SL-549-SA5D-SB-4.0-5.0	PH127	SO	11/12/2013	FIELD
5D_DG	SL-560-SA5D-SB-0.0-0.5	PH127	SO	11/12/2013	FIELD
5D_DG	SL-560-SA5D-SB-4.0-5.0	PH127	SO	11/12/2013	FIELD
5D_DG	SL-560-SA5D-SB-7.0-8.0	PH127	SO	11/12/2013	FIELD
5D_DG	SL-860-SA5D-SB-4.0-5.0	PH127	SO	11/12/2013	FIELD
	TB1-111213	PH127	WQ	11/12/2013	FIELD
	EB-111413	PH129	WQ	11/14/2013	FIELD

Task Code	System Sample Code	Lab SDG	Matrix Code	Sample Date	Sample Source
5D_DG	SL-516-SA5D-SB-0.0-0.5	PH130	SO	11/15/2013	FIELD
5D_DG	SL-516-SA5D-SB-13.0-14.0	PH130	SO	11/15/2013	FIELD
5D_DG	SL-516-SA5D-SB-4.0-5.0	PH130	SO	11/15/2013	FIELD
5D_DG	SL-516-SA5D-SB-9.0-10.0	PH130	SO	11/15/2013	FIELD
5D_DG	SL-609-SA5D-SB-0.0-0.5	PH130	SO	11/15/2013	FIELD
5D_DG	SL-816-SA5D-SB-4.0-5.0	PH130	SO	11/15/2013	FIELD
	TB-111513	PH130	WQ	11/15/2013	FIELD

Subarea 8 Samples by SDG

Task Code	System Sample Code	Lab SDG	Matrix Code	Sample Date	Sample Source
	FB-041113	PH029	WQ	4/11/2013	
8_DG	SL-586-SA8-SB-0.0-0.5	PH062	SO	7/8/2013	FIELD
8_DG	SL-588-SA8-SB-0.0-0.5	PH062	SO	7/8/2013	FIELD
8_DG	SL-588-SA8-SB-2.0-3.0	PH062	SO	7/8/2013	FIELD
8_DG	SL-888-SA8-SB-0.0-0.5	PH062	SO	7/8/2013	FIELD
	TB-070813	PH062	WQ	7/8/2013	FIELD
8_DG	SL-561-SA8-SB-0.0-0.5	PH063	SO	7/9/2013	FIELD
8_DG	SL-561-SA8-SB-4.0-5.0	PH063	SO	7/9/2013	FIELD
8_DG	SL-562-SA8-SB-0.0-0.5	PH063	SO	7/9/2013	FIELD
8_DG	SL-563-SA8-SB-0.0-0.5	PH063	SO	7/9/2013	FIELD
8_DG	SL-563-SA8-SB-2.0-3.0	PH063	SO	7/9/2013	FIELD
	TB-070913	PH063	WQ	7/9/2013	FIELD
	EB1-071013	PH064	WQ	7/10/2013	FIELD
	EB2-071013	PH064	WQ	7/10/2013	FIELD
8_DG	SL-571-SA8-SB-0.0-0.5	PH064	SO	7/10/2013	FIELD
8_DG	SL-571-SA8-SB-12.5-13.5	PH064	SO	7/10/2013	FIELD
8_DG	SL-571-SA8-SB-6.5-7.5	PH064	SO	7/10/2013	FIELD
8_DG	SL-572-SA8-SB-0.0-0.5	PH064	SO	7/10/2013	FIELD
8_DG	SL-572-SA8-SB-14.0-15.0	PH064	SO	7/10/2013	FIELD
8_DG	SL-572-SA8-SB-18.5-19.5	PH064	SO	7/10/2013	FIELD
8_DG	SL-572-SA8-SB-4.0-5.0	PH064	SO	7/10/2013	FIELD
8_DG	SL-572-SA8-SB-9.0-10.0	PH064	SO	7/10/2013	FIELD
8_DG	SL-573-SA8-SB-0.0-0.5	PH064	SO	7/10/2013	FIELD
8_DG	SL-573-SA8-SB-4.0-5.0	PH064	SO	7/10/2013	FIELD
8_DG	SL-573-SA8-SB-9.5-10.5	PH064	SO	7/10/2013	FIELD
	TB-071013	PH064	WQ	7/10/2013	FIELD
8_DG	SL-570-SA8-SB-0.0-0.5	PH065	SO	7/11/2013	FIELD
8_DG	SL-570-SA8-SB-4.0-5.0	PH065	SO	7/11/2013	FIELD
8_DG	SL-574-SA8-SB-0.0-0.5	PH065	SO	7/11/2013	FIELD
8_DG	SL-574-SA8-SB-14.0-15.0	PH065	SO	7/11/2013	FIELD
8_DG	SL-574-SA8-SB-4.0-5.0	PH065	SO	7/11/2013	FIELD
8_DG	SL-574-SA8-SB-9.0-10.0	PH065	SO	7/11/2013	FIELD
8_DG	SL-874-SA8-SB-14.0-15.0	PH065	SO	7/11/2013	FIELD
	TB-071113	PH065	WQ	7/11/2013	FIELD
8_DG	SL-578-SA8-SB-0.0-0.5	PH066	SO	7/12/2013	FIELD
8_DG	SL-578-SA8-SB-4.0-5.0	PH066	SO	7/12/2013	FIELD
8_DG	SL-578-SA8-SB-9.0-10.0	PH066	SO	7/12/2013	FIELD
8_DG	SL-580-SA8-SB-0.0-0.5	PH066	SO	7/12/2013	FIELD
8_DG	SL-580-SA8-SB-10.5-11.5	PH066	SO	7/12/2013	FIELD
8_DG	SL-580-SA8-SB-4.0-5.0	PH066	SO	7/12/2013	FIELD
8_DG	SL-581-SA8-SB-0.0-0.5	PH066	SO	7/12/2013	FIELD
8_DG	SL-581-SA8-SB-4.5-5.5	PH066	SO	7/12/2013	FIELD
8_DG	SL-587-SA8-SB-0.0-0.5	PH066	SO	7/12/2013	FIELD
8_DG	SL-587-SA8-SB-6.5-7.5	PH066	SO	7/12/2013	FIELD
8_DG	SL-878-SA8-SB-4.0-5.0	PH066	SO	7/12/2013	FIELD
	TB-071213	PH066	WQ	7/12/2013	FIELD

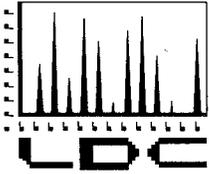
Task Code	System Sample Code	Lab SDG	Matrix Code	Sample Date	Sample Source
8_DG	SL-501-SA8-SB-0.0-0.5	PH067	SO	7/15/2013	FIELD
8_DG	SL-501-SA8-SB-12.0-13.0	PH067	SO	7/15/2013	FIELD
8_DG	SL-501-SA8-SB-4.0-5.0	PH067	SO	7/15/2013	FIELD
8_DG	SL-501-SA8-SB-9.0-10.0	PH067	SO	7/15/2013	FIELD
8_DG	SL-502-SA8-SB-0.0-0.5	PH067	SO	7/15/2013	FIELD
8_DG	SL-502-SA8-SB-4.0-5.0	PH067	SO	7/15/2013	FIELD
8_DG	SL-502-SA8-SB-7.5-8.5	PH067	SO	7/15/2013	FIELD
8_DG	SL-503-SA8-SB-0.0-0.5	PH067	SO	7/15/2013	FIELD
8_DG	SL-503-SA8-SB-3.0-4.0	PH067	SO	7/15/2013	FIELD
8_DG	SL-511-SA8-SB-0.0-0.5	PH067	SO	7/15/2013	FIELD
8_DG	SL-511-SA8-SB-6.0-7.0	PH067	SO	7/15/2013	FIELD
8_DG	SL-801-SA8-SB-0.0-0.5	PH067	SO	7/15/2013	FIELD
	TB-071513	PH067	WQ	7/15/2013	FIELD
8_DG	SL-504-SA8-SB-0.0-0.5	PH068	SO	7/16/2013	FIELD
8_DG	SL-504-SA8-SB-2.5-3.5	PH068	SO	7/16/2013	FIELD
8_DG	SL-505-SA8-SB-0.0-0.5	PH068	SO	7/16/2013	FIELD
8_DG	SL-505-SA8-SB-4.0-5.0	PH068	SO	7/16/2013	FIELD
8_DG	SL-507-SA8-SB-0.0-0.5	PH068	SO	7/16/2013	FIELD
8_DG	SL-507-SA8-SB-3.0-4.0	PH068	SO	7/16/2013	FIELD
8_DG	SL-508-SA8-SB-0.0-0.5	PH068	SO	7/16/2013	FIELD
8_DG	SL-510-SA8-SB-0.0-0.5	PH068	SO	7/16/2013	FIELD
8_DG	SL-804-SA8-SB-2.5-3.5	PH068	SO	7/16/2013	FIELD
	TB-071613	PH068	WQ	7/16/2013	FIELD
	EB1-071713	PH069	WQ	7/17/2013	FIELD
	EB2-071713	PH069	WQ	7/17/2013	FIELD
8_DG	SL-512-SA8-SB-0.0-0.5	PH069	SO	7/17/2013	FIELD
8_DG	SL-513-SA8-SB-0.0-0.5	PH069	SO	7/17/2013	FIELD
8_DG	SL-513-SA8-SB-4.0-5.0	PH069	SO	7/17/2013	FIELD
8_DG	SL-513-SA8-SB-8.0-9.0	PH069	SO	7/17/2013	FIELD
8_DG	SL-514-SA8-SB-0.0-0.5	PH069	SO	7/17/2013	FIELD
8_DG	SL-514-SA8-SB-4.0-5.0	PH069	SO	7/17/2013	FIELD
8_DG	SL-514-SA8-SB-7.5-8.5	PH069	SO	7/17/2013	FIELD
8_DG	SL-515-SA8-SB-0.0-0.5	PH069	SO	7/17/2013	FIELD
8_DG	SL-515-SA8-SB-14.0-15.0	PH069	SO	7/17/2013	FIELD
8_DG	SL-515-SA8-SB-4.0-5.0	PH069	SO	7/17/2013	FIELD
8_DG	SL-515-SA8-SB-9.0-10.0	PH069	SO	7/17/2013	FIELD
	TB-071713	PH069	WQ	7/17/2013	FIELD
8_DG	SL-506-SA8-SB-0.0-0.5	PH070	SO	7/18/2013	FIELD
8_DG	SL-506-SA8-SB-4.0-5.0	PH070	SO	7/18/2013	FIELD
8_DG	SL-509-SA8-SB-0.0-0.5	PH070	SO	7/18/2013	FIELD
8_DG	SL-509-SA8-SB-4.0-5.0	PH070	SO	7/18/2013	FIELD
8_DG	SL-519-SA8-SB-0.0-0.5	PH070	SO	7/18/2013	FIELD
8_DG	SL-519-SA8-SB-3.5-4.5	PH070	SO	7/18/2013	FIELD
8_DG	SL-520-SA8-SB-0.0-0.5	PH070	SO	7/18/2013	FIELD
8_DG	SL-531-SA8-SB-0.0-0.5	PH070	SO	7/18/2013	FIELD
8_DG	SL-531-SA8-SB-4.0-5.0	PH070	SO	7/18/2013	FIELD
8_DG	SL-601-SA8-SB-0.0-0.5	PH070	SO	7/18/2013	FIELD
8_DG	SL-601-SA8-SB-4.0-5.0	PH070	SO	7/18/2013	FIELD
	TB-071813	PH070	WQ	7/18/2013	FIELD

Task Code	System Sample Code	Lab SDG	Matrix Code	Sample Date	Sample Source
8_DG	SL-516-SA8-SB-0.0-0.5	PH071	SO	7/19/2013	FIELD
8_DG	SL-517-SA8-SB-0.0-0.5	PH071	SO	7/19/2013	FIELD
8_DG	SL-517-SA8-SB-3.0-4.0	PH071	SO	7/19/2013	FIELD
8_DG	SL-518-SA8-SB-0.0-0.5	PH071	SO	7/19/2013	FIELD
8_DG	SL-518-SA8-SB-4.0-5.0	PH071	SO	7/19/2013	FIELD
8_DG	SL-521-SA8-SB-0.0-0.5	PH071	SO	7/19/2013	FIELD
8_DG	SL-532-SA8-SB-0.0-0.5	PH071	SO	7/19/2013	FIELD
8_DG	SL-532-SA8-SB-6.5-7.5	PH071	SO	7/19/2013	FIELD
8_DG	SL-606-SA8-SB-0.0-0.5	PH071	SO	7/19/2013	FIELD
8_DG	SL-606-SA8-SB-4.0-5.0	PH071	SO	7/19/2013	FIELD
	TB-071913	PH071	WQ	7/19/2013	FIELD
8_DG	SL-550-SA8-SB-0.0-0.5	PH072	SO	7/22/2013	FIELD
8_DG	SL-550-SA8-SB-14.0-15.0	PH072	SO	7/22/2013	FIELD
8_DG	SL-550-SA8-SB-17.0-18.0	PH072	SO	7/22/2013	FIELD
8_DG	SL-550-SA8-SB-4.0-5.0	PH072	SO	7/22/2013	FIELD
8_DG	SL-550-SA8-SB-9.0-10.0	PH072	SO	7/22/2013	FIELD
8_DG	SL-554-SA8-SB-0.0-0.5	PH072	SO	7/22/2013	FIELD
8_DG	SL-554-SA8-SB-4.0-5.0	PH072	SO	7/22/2013	FIELD
8_DG	SL-556-SA8-SB-0.0-0.5	PH072	SO	7/22/2013	FIELD
8_DG	SL-556-SA8-SB-4.0-5.0	PH072	SO	7/22/2013	FIELD
	TB-072213	PH072	WQ	7/22/2013	FIELD
8_DG	SL-551-SA8-SB-0.0-0.5	PH073	SO	7/23/2013	FIELD
8_DG	SL-551-SA8-SB-14.0-15.0	PH073	SO	7/23/2013	FIELD
8_DG	SL-551-SA8-SB-19.0-20.0	PH073	SO	7/23/2013	FIELD
8_DG	SL-551-SA8-SB-4.0-5.0	PH073	SO	7/23/2013	FIELD
8_DG	SL-551-SA8-SB-9.0-10.0	PH073	SO	7/23/2013	FIELD
8_DG	SL-555-SA8-SB-0.0-0.5	PH073	SO	7/23/2013	FIELD
8_DG	SL-555-SA8-SB-4.0-5.0	PH073	SO	7/23/2013	FIELD
8_DG	SL-557A-SA8-SB-0.0-0.5	PH073	SO	7/23/2013	FIELD
8_DG	SL-557B-SA8-SB-0.0-0.5	PH073	SO	7/23/2013	FIELD
8_DG	SL-557C-SA8-SB-0.0-0.5	PH073	SO	7/23/2013	FIELD
8_DG	SL-557D-SA8-SB-0.0-0.5	PH073	SO	7/23/2013	FIELD
8_DG	SL-851-SA8-SB-4.0-5.0	PH073	SO	7/23/2013	FIELD
	TB-072313	PH073	WQ	7/23/2013	FIELD
8_DG	L-522-SA8-SB-0.0-0.5-DTS	PH074	SO	7/24/2013	FIELD
8_DG	SL-527-SA8-SB-0.0-0.5	PH074	SO	7/24/2013	FIELD
8_DG	SL-527-SA8-SB-4.0-5.0	PH074	SO	7/24/2013	FIELD
8_DG	L-528-SA8-SB-0.0-0.5-DTS	PH074	SO	7/24/2013	FIELD
8_DG	SL-528-SA8-SB-4.0-5.0	PH074	SO	7/24/2013	FIELD
8_DG	L-536-SA8-SB-0.0-0.5-DTS	PH074	SO	7/24/2013	FIELD
8_DG	L-538-SA8-SB-0.0-0.5-DTS	PH074	SO	7/24/2013	FIELD
	TB-072413	PH074	WQ	7/24/2013	FIELD
	EB1-072513	PH075	WQ	7/25/2013	FIELD
	EB2-072513	PH075	WQ	7/25/2013	FIELD
8_DG	SL-523-SA8-SB-4.0-5.0	PH075	SO	7/25/2013	FIELD
8_DG	SL-524-SA8-SB-4.0-5.0	PH075	SO	7/25/2013	FIELD
8_DG	SL-525-SA8-SB-0.0-0.5	PH075	SO	7/25/2013	FIELD
8_DG	SL-525-SA8-SB-4.0-5.0	PH075	SO	7/25/2013	FIELD
8_DG	SL-823-SA8-SB-4.0-5.0	PH075	SO	7/25/2013	FIELD
	TB-072513	PH075	WQ	7/25/2013	FIELD

Task Code	System Sample Code	Lab SDG	Matrix Code	Sample Date	Sample Source
8_DG	SL-522-SA8-SB-0.0-0.5	PH076	SO	7/26/2013	FIELD
8_DG	SL-522-SA8-SB-4.0-5.0	PH076	SO	7/26/2013	FIELD
8_DG	SL-539A-SA8-SB-0.0-0.5	PH076	SO	7/26/2013	FIELD
8_DG	SL-539B-SA8-SB-0.0-0.5	PH076	SO	7/26/2013	FIELD
8_DG	SL-539B-SA8-SB-2.0-3.0	PH076	SO	7/26/2013	FIELD
8_DG	SL-539C-SA8-SB-0.0-0.5	PH076	SO	7/26/2013	FIELD
8_DG	SL-539D-SA8-SB-0.0-0.5	PH076	SO	7/26/2013	FIELD
8_DG	SL-540-SA8-SB-0.0-0.5	PH076	SO	7/26/2013	FIELD
8_DG	SL-540-SA8-SB-4.0-5.0	PH076	SO	7/26/2013	FIELD
	TB-072613	PH076	WQ	7/26/2013	FIELD
8_DG	SL-526-SA8-SB-0.0-0.5	PH078	SO	7/29/2013	FIELD
8_DG	SL-526-SA8-SB-4.0-5.0	PH078	SO	7/29/2013	FIELD
8_DG	SL-529-SA8-SB-0.0-0.5	PH078	SO	7/29/2013	FIELD
8_DG	SL-529-SA8-SB-4.0-5.0	PH078	SO	7/29/2013	FIELD
	TB1-072913	PH078	WQ	7/29/2013	FIELD
8_DG	SL-549-SA8-SB-0.0-0.5	PH080	SO	7/30/2013	FIELD
8_DG	SL-549-SA8-SB-4.0-5.0	PH080	SO	7/30/2013	FIELD
8_DG	SL-560-SA8-SB-0.0-0.5	PH080	SO	7/30/2013	FIELD
8_DG	SL-560-SA8-SB-4.0-5.0	PH080	SO	7/30/2013	FIELD
8_DG	SL-589-SA8-SB-0.0-0.5	PH080	SO	7/30/2013	FIELD
8_DG	SL-589-SA8-SB-2.5-3.5	PH080	SO	7/30/2013	FIELD
8_DG	SL-596-SA8-SB-0.0-0.5	PH080	SO	7/30/2013	FIELD
8_DG	SL-612-SA8-SB-0.0-0.5	PH080	SO	7/30/2013	FIELD
8_DG	SL-612-SA8-SB-4.0-5.0	PH080	SO	7/30/2013	FIELD
	TB-073013	PH080	WQ	7/30/2013	FIELD
8_DG	SL-536-SA8-SB-0.0-0.5	PH081	SO	7/31/2013	FIELD
8_DG	SL-536-SA8-SB-4.0-5.0	PH081	SO	7/31/2013	FIELD
8_DG	SL-537-SA8-SB-0.0-0.5	PH081	SO	7/31/2013	FIELD
8_DG	SL-537-SA8-SB-4.0-5.0	PH081	SO	7/31/2013	FIELD
8_DG	SL-598-SA8-SB-0.0-0.5	PH081	SO	7/31/2013	FIELD
8_DG	SL-598-SA8-SB-4.5-5.5	PH081	SO	7/31/2013	FIELD
8_DG	SL-599-SA8-SB-0.0-0.5	PH081	SO	7/31/2013	FIELD
8_DG	SL-599-SA8-SB-3.0-4.0	PH081	SO	7/31/2013	FIELD
	TB-073113	PH081	WQ	7/31/2013	FIELD
	EB1-080113	PH082	WQ	8/1/2013	FIELD
	EB2-080113	PH082	WQ	8/1/2013	FIELD
8_DG	SL-608-SA8-SB-0.0-0.5	PH082	SO	8/1/2013	FIELD
8_DG	SL-608-SA8-SB-4.0-5.0	PH082	SO	8/1/2013	FIELD
8_DG	SL-608-SA8-SB-7.0-8.0	PH082	SO	8/1/2013	FIELD
8_DG	SL-610-SA8-SB-0.0-0.5	PH082	SO	8/1/2013	FIELD
8_DG	SL-610-SA8-SB-4.0-5.0	PH082	SO	8/1/2013	FIELD
8_DG	SL-610-SA8-SB-6.8-7.8	PH082	SO	8/1/2013	FIELD
	TB-080113	PH082	WQ	8/1/2013	FIELD
8_DG	SL-552-SA8-SB-0.0-0.5	PH083	SO	8/2/2013	FIELD
8_DG	SL-552-SA8-SB-4.0-5.0	PH083	SO	8/2/2013	FIELD
8_DG	SL-552-SA8-SB-7.5-8.5	PH083	SO	8/2/2013	FIELD
8_DG	SL-558-SA8-SB-0.0-0.5	PH083	SO	8/2/2013	FIELD
8_DG	SL-558-SA8-SB-12.5-13.5	PH083	SO	8/2/2013	FIELD
8_DG	SL-558-SA8-SB-4.0-5.0	PH083	SO	8/2/2013	FIELD
8_DG	SL-558-SA8-SB-9.0-10.0	PH083	SO	8/2/2013	FIELD
8_DG	SL-559-SA8-SB-0.0-0.5	PH083	SO	8/2/2013	FIELD
8_DG	SL-559-SA8-SB-4.0-5.0	PH083	SO	8/2/2013	FIELD
	TB-080213	PH083	WQ	8/2/2013	FIELD

Task Code	System Sample Code	Lab SDG	Matrix Code	Sample Date	Sample Source
8_DG	SL-568-SA8-SB-0.0-0.5	PH084	SO	8/5/2013	FIELD
8_DG	SL-568-SA8-SB-4.0-5.0	PH084	SO	8/5/2013	FIELD
8_DG	SL-569-SA8-SB-0.0-0.5	PH084	SO	8/5/2013	FIELD
8_DG	SL-569-SA8-SB-4.0-5.0	PH084	SO	8/5/2013	FIELD
8_DG	SL-569-SA8-SB-7.0-8.0	PH084	SO	8/5/2013	FIELD
	TB-080513	PH084	WQ	8/5/2013	FIELD
8_DG	SL-564-SA8-SB-0.0-0.5	PH085	SO	8/6/2013	FIELD
8_DG	SL-582-SA8-SB-0.0-0.5	PH085	SO	8/6/2013	FIELD
8_DG	SL-582-SA8-SB-2.5-3.5	PH085	SO	8/6/2013	FIELD
8_DG	SL-583-SA8-SB-0.0-0.5	PH085	SO	8/6/2013	FIELD
8_DG	SL-584-SA8-SB-0.0-0.5	PH085	SO	8/6/2013	FIELD
8_DG	SL-883-SA8-SB-0.0-0.5	PH085	SO	8/6/2013	FIELD
	TB-080613	PH085	WQ	8/6/2013	FIELD
	EB-080713	PH086	WQ	8/7/2013	FIELD
8_DG	SL-566-SA8-SB-0.0-0.5	PH086	SO	8/7/2013	FIELD
8_DG	SL-566-SA8-SB-4.0-5.0	PH086	SO	8/7/2013	FIELD
8_DG	SL-575-SA8-SB-0.0-0.5	PH086	SO	8/7/2013	FIELD
8_DG	SL-575-SA8-SB-4.0-5.0	PH086	SO	8/7/2013	FIELD
8_DG	SL-575-SA8-SB-9.0-10.0	PH086	SO	8/7/2013	FIELD
	TB-080713	PH086	WQ	8/7/2013	FIELD
8_DG	SL-565-SA8-SB-0.0-0.5	PH087	SO	8/8/2013	FIELD
8_DG	SL-565-SA8-SB-4.0-5.0	PH087	SO	8/8/2013	FIELD
8_DG	SL-567-SA8-SB-0.0-0.5	PH087	SO	8/8/2013	FIELD
8_DG	SL-567-SA8-SB-4.0-5.0	PH087	SO	8/8/2013	FIELD
8_DG	SL-567-SA8-SB-9.0-10.0	PH087	SO	8/8/2013	FIELD
	TB-080813	PH087	WQ	8/8/2013	FIELD
8_DG	SL-530-SA8-SB-0.0-0.5	PH088	SO	8/9/2013	FIELD
8_DG	SL-530-SA8-SB-4.0-5.0	PH088	SO	8/9/2013	FIELD
8_DG	SL-538-SA8-SB-0.0-0.5	PH088	SO	8/9/2013	FIELD
8_DG	SL-538-SA8-SB-4.0-5.0	PH088	SO	8/9/2013	FIELD
8_DG	SL-541-SA8-SB-0.0-0.5	PH088	SO	8/9/2013	FIELD
8_DG	SL-541-SA8-SB-4.0-5.0	PH088	SO	8/9/2013	FIELD
8_DG	SL-607-SA8-SB-0.0-0.5	PH088	SO	8/9/2013	FIELD
8_DG	SL-607-SA8-SB-5.0-6.0	PH088	SO	8/9/2013	FIELD
8_DG	SL-830-SA8-SB-4.0-5.0	PH088	SO	8/9/2013	FIELD
8_DG	SL-838-SA8-SB-4.0-5.0	PH088	SO	8/9/2013	FIELD
	TB-080913	PH088	WQ	8/9/2013	FIELD
8_DG	SL-585-SA8-SB-0.0-0.5	PH089	SO	8/12/2013	FIELD
8_DG	SL-590-SA8-SB-0.0-0.5	PH089	SO	8/12/2013	FIELD
8_DG	SL-590-SA8-SB-4.0-5.0	PH089	SO	8/12/2013	FIELD
8_DG	SL-590-SA8-SB-7.0-8.0	PH089	SO	8/12/2013	FIELD
8_DG	SL-591-SA8-SB-0.0-0.5	PH089	SO	8/12/2013	FIELD
8_DG	SL-592-SA8-SB-0.0-0.5	PH089	SO	8/12/2013	FIELD
8_DG	SL-592-SA8-SB-3.5-4.5	PH089	SO	8/12/2013	FIELD
8_DG	SL-593-SA8-SB-0.0-0.5	PH089	SO	8/12/2013	FIELD
8_DG	SL-593-SA8-SB-4.0-5.0	PH089	SO	8/12/2013	FIELD
	TB-081213	PH089	WQ	8/12/2013	FIELD

Task Code	System Sample Code	Lab SDG	Matrix Code	Sample Date	Sample Source
8_DG	SL-543-SA8-SB-0.0-0.5	PH090	SO	8/13/2013	FIELD
8_DG	SL-543-SA8-SB-4.0-5.0	PH090	SO	8/13/2013	FIELD
8_DG	SL-609-SA8-SB-0.0-0.5	PH090	SO	8/13/2013	FIELD
8_DG	SL-609-SA8-SB-4.0-5.0	PH090	SO	8/13/2013	FIELD
8_DG	SL-614-SA8-SB-0.0-0.5	PH090	SO	8/13/2013	FIELD
8_DG	SL-614-SA8-SB-4.0-5.0	PH090	SO	8/13/2013	FIELD
8_DG	SL-843-SA8-SB-4.0-5.0	PH090	SO	8/13/2013	FIELD
	TB-081313	PH090	WQ	8/13/2013	FIELD
	EB-081413	PH091	WQ	8/14/2013	FIELD
8_DG	SL-600-SA8-SB-0.0-0.5	PH091	SO	8/14/2013	FIELD
8_DG	SL-600-SA8-SB-4.0-5.0	PH091	SO	8/14/2013	FIELD
8_DG	SL-602-SA8-SB-0.0-0.5	PH091	SO	8/14/2013	FIELD
8_DG	SL-602-SA8-SB-4.0-5.0	PH091	SO	8/14/2013	FIELD
8_DG	SL-613-SA8-SB-0.0-0.5	PH091	SO	8/14/2013	FIELD
8_DG	SL-613-SA8-SB-4.0-5.0	PH091	SO	8/14/2013	FIELD
	TB-081413	PH091	WQ	8/14/2013	FIELD
8_DG	SL-594-SA8-SB-0.0-0.5	PH092	SO	8/15/2013	FIELD
8_DG	SL-595-SA8-SB-0.0-0.5	PH092	SO	8/15/2013	FIELD
8_DG	SL-597-SA8-SB-0.0-0.5	PH092	SO	8/15/2013	FIELD
8_DG	SL-553-SA8-SB-0.0-0.5	PH094	SO	8/27/2013	FIELD
8_DG	SL-553-SA8-SB-4.0-5.0	PH094	SO	8/27/2013	FIELD
8_DG	SL-615-SA8-SB-0.0-0.5	PH094	SO	8/27/2013	FIELD
8_DG	SL-853-SA8-SB-4.0-5.0	PH094	SO	8/27/2013	FIELD
	TB-082713	PH094	WQ	8/27/2013	FIELD
	EB3-082813	PH096	WQ	8/28/2013	FIELD
	EB4-082813	PH096	WQ	8/28/2013	FIELD
8_DG	SL-553-SA8-SB-14.0-15.0	PH096	SO	8/28/2013	FIELD
8_DG	SL-553-SA8-SB-18.0-19.0	PH096	SO	8/28/2013	FIELD
8_DG	SL-553-SA8-SB-9.0-10.0	PH096	SO	8/28/2013	FIELD
	TB1-082813	PH096	WQ	8/28/2013	FIELD
8_DG	SL-604-SA8-SB-0.0-0.5	PH097	SO	8/29/2013	FIELD
8_DG	SL-605-SA8-SB-0.0-0.5	PH097	SO	8/29/2013	FIELD
8_DG	SL-904-SA8-SB-0.0-0.5	PH097	SO	8/29/2013	FIELD
	EB2-092513	PH115	WQ	9/25/2013	FIELD
8_DG	SL-542-SA8-SB-0.0-0.5	PH117	SO	9/26/2013	FIELD
8_DG	SL-542-SA8-SB-14.0-15.0	PH117	SO	9/26/2013	FIELD
8_DG	SL-542-SA8-SB-17.5-18.5	PH117	SO	9/26/2013	FIELD
8_DG	SL-542-SA8-SB-4.0-5.0	PH117	SO	9/26/2013	FIELD
8_DG	SL-542-SA8-SB-9.0-10.0	PH117	SO	9/26/2013	FIELD
	TB2-092613	PH117	WQ	9/26/2013	FIELD



LABORATORY DATA CONSULTANTS, INC.
2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

CDM
555 17th Street, Suite 1100
Denver, CO 80202
ATTN: Mrs. Cherie Zakowski

November 21, 2013

SUBJECT: Santa Susana Field Laboratory, Subarea 5D Data Validation

Dear Mrs. Zakowski,

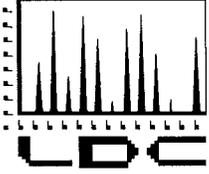
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on October 28, 2013. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 30673:

<u>SDG #</u>	<u>Fraction</u>
PH093 & PH095	Semivolatiles, Chlorinated Pesticides, Polychlorinated Biphenyls, Metals, Herbicides, Total Petroleum Hydrocarbons as Gasoline, Total Petroleum Hydrocarbons as Extractables, Dioxins/Dibenzofurans

The data validation was performed under Level III guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan for Santa Susana Field Laboratory, RCRA Facility Investigation, Surficial Media Operable Unit, March 2009, Revision 4
- USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review, January 2010
- Polychlorinated Dioxins/Dibenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007



Please feel free to contact us if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read 'Shauna McKellar', written in a cursive style.

Shauna McKellar
Project Manager/Chemist

90/10 ADR/IV LDC #30673 (CDM Federal Programs-Chantilly VA / Santa Susana Field Laboratory, Subarea 5D)

LDC	SDG#	DATE REC'D	(4) DATE DUE	SVOA (8270D -SIM)		Pest. (8081B)		PCBs (8082A)		Metals & Hg (SW846)		Herbs. (8151A)		TPH-G (8015M)		TPH-E (8015M)		Dioxins (1613B)																	
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	PH093	10/28/13	11/25/13	0	2	-	-	0	2	0	2	-	-	1	1	0	2	0	1																
B	PH095	10/28/13	11/25/13	2	6	1	0	2	6	2	6	1	0	3	3	2	6	2	3																
Matrix: Water/Soil																																			
Total	T/SM			2	8	1	0	2	8	2	8	1	0	4	4	2	8	2	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	56

Shaded cells indicate Level IV validation (all other cells are ADR review). These sample counts do not include MS/MSD, and DUPs

**Data Validation Report
Santa Susana Field Laboratory**

Subarea 5D

SDG: PH093

Prepared for

CDM Smith
555 17th Street, Suite 1100
Denver, CO 80202

Prepared by

Laboratory Data Consultants, Inc.
2701 Loker Ave West, Suite 220
Carlsbad, California 92010

November 20, 2013

INTRODUCTION

This Data Validation Report (DVR) presents Level III data validation results for samples collected on August 26, 2013. Data validation was performed in accordance with 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), Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005), and for Inorganic Data Review (January 2010). Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following methods:

Semivolatiles (SVOCs) by Environmental Protection Agency (EPA) SW 846 Method 8270D utilizing Selective Ion Monitoring (SIM)
Polychlorinated Biphenyls (PCBs) by EPA SW 846 Method 8082A
Metals by EPA SW 846 Method 6010C, 6020A and 7471B
Total Petroleum Hydrocarbons (TPH) as Gasoline by EPA SW 846 Method 8015M
TPH as Extractables by EPA SW 846 Method 8015M
Dioxins and Dibenzofurans by EPA Method 1613B

The sample identification and methods of analyses performed on each sample is presented in Attachment 1. Overall data qualification summary is presented in Attachment II. Level III Automated Data Review outliers are presented in Enclosure I.

All sample results were subjected to Level III data validation, which comprises an evaluation of quality control (QC) summary results for sample holding times, initial and continuing calibration blanks (ICB/CCBs), surrogates, internal standards (dioxins only), matrix spike/matrix spike duplicates (MS/MSD), laboratory duplicates (DUP), laboratory control sample/laboratory control sample duplicates (LCS/LCSD), ICP serial dilutions, method blanks, equipment blanks, field blanks and trip blanks. No samples in this SDG were subjected to Level IV evaluation.

Automated data review was performed on all QC summary results using the Automated Data Review (ADR) software program (LDC, 2013) with exception of ICB/CCBs and ICP serial dilutions, which were validated manually. Quality assurance (QA)/QC criteria specified in the QAPP and CLPNFGs were incorporated with the program's reference library to assess compliance with project requirements.

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.

I. Technical Holding Times

All technical holding time requirements were met.

II. Initial Calibration

Initial Calibration data were not reviewed for level III.

III. Continuing Calibration

Continuing calibration data were not reviewed for level III.

IV. Blanks

Method blanks were performed at the required frequencies. No contaminant concentrations were detected in the method or preparation blanks with the exception of two blanks for metals and dioxins. The associated sample results were qualified as non-detected (U) due to method blank contamination as applicable. The sample results that were not detected or were significantly greater than the concentrations found in the associated blanks were not qualified. The details regarding the qualification of data are provided in Enclosure I.

No contaminant concentrations were detected in the initial or continuing calibration blanks.

V. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. ICP Interference Check Sample (ICS) Analysis

ICP interference check data were not reviewed for level III.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were performed at the required frequency. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the exception of one MS/MSD pair for metals. The associated sample results were qualified as detected estimated (J) or non-detected estimated (UJ) as applicable. The details regarding the qualification of data are provided in Enclosure I.

VIII. Laboratory Duplicates Sample

Laboratory duplicates (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits with the exception of one DUP for metals. The associated sample results were qualified as detected estimated (J) or non-detected estimated (UJ) as applicable. The details regarding the qualification of data are provided in Enclosure I.

IX. 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.

X. Internal Standards

Internal standards were reviewed for dioxins. Percent recoveries (%R) were within QC limits.

XI. ICP Serial Dilution

ICP serial dilution analysis was performed by the laboratory. The analysis criteria were met with the following exceptions:

Diluted Sample	Analyte	%D (Limits)	Associated Samples	Flag	A or P
SL-548-SA5D-SB-0.0-0.5	Copper	20 (≤10)	SL-548-SA5D-SB-0.0-0.5 SL-548-SA5D-SB-4.0-5.0	J(all detects) UJ(all non-detects)	A

The associated sample results were qualified as detected estimated (J) or non-detected estimated (UJ) as applicable.

XII. Compound Quantitation

The laboratory reporting limits were evaluated. All laboratory reporting limits met the specified requirements.

All compounds reported below the RL as detected were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG PH093	All compounds reported as detected below the RL.	J (all detects)	A

XIII. Field Duplicate Samples

No field duplicates were identified in this SDG.

XIV. Field Blank Samples

One trip blank was collected and analyzed for TPH as gasoline. No contaminants were found in the trip blank.

One equipment blank (from SDG PH095) was collected and analyzed for SVOCs, PCBs, metals, TPH as gasoline, TPH as extractables and dioxins. The equipment blank had several detections for SVOCs, metals and dioxins. The associated sample results were qualified as non-detected (U) due to equipment blank contamination as applicable. The sample results that were not detected or were significantly greater than the concentrations found in the equipment blanks were not qualified. The equipment blank outlier reports are presented in Enclosure I.

One field blank (from SDG PH029) was collected and analyzed for SVOCs, PCBs, metals, TPH as gasoline, TPH as extractables and dioxins. The field blank had detections for several SVOCs, metals and dioxins. The associated sample results were qualified as non-detected (U) due to field blank contamination as applicable. The sample results that were not detected or were significantly greater than the concentrations found in the field blank were not qualified.

The field blank outlier reports are presented in Enclosure I.

XV. Overall Assessment of Data

No data associated with this sampling event were rejected. The overall assessment of QA/QC data review by automated and manual validation of this sampling event met project requirements and analytical completeness levels with the exceptions noted in the above sections. All data are deemed useable for the intended use.

Data flags are summarized and are presented as Attachment 2.

Attachment 1
Sample Cross Reference

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
26-Aug-2013	TB-082613	7176112	TB	5030B	8015M	III
26-Aug-2013	SL-548-SA5D-SB-0.0-0.5	7176110	N	3050B	6010C	III
26-Aug-2013	SL-548-SA5D-SB-0.0-0.5	7176110	N	3050B	6020A	III
26-Aug-2013	SL-548-SA5D-SB-0.0-0.5	7176110	N	3546	8015M	III
26-Aug-2013	SL-548-SA5D-SB-0.0-0.5	7176110	N	3546	8082A	III
26-Aug-2013	SL-548-SA5D-SB-0.0-0.5	7176110	N	3546	8270D SIM	III
26-Aug-2013	SL-548-SA5D-SB-0.0-0.5	7176110	N	METHOD	1613B	III
26-Aug-2013	SL-548-SA5D-SB-0.0-0.5	7176110	N	METHOD	7471B	III
26-Aug-2013	SL-548-SA5D-SB-0.0-0.5DUP	P176110D221004	DUP	3050B	6010C	III
26-Aug-2013	SL-548-SA5D-SB-0.0-0.5DUP	P176110D221119A	DUP	3050B	6020A	III
26-Aug-2013	SL-548-SA5D-SB-0.0-0.5DUP	P176110D221119B	DUP	3050B	6020A	III
26-Aug-2013	SL-548-SA5D-SB-0.0-0.5MSD	P176110M221012	MSD	3050B	6010C	III
26-Aug-2013	SL-548-SA5D-SB-0.0-0.5MSD	P176110M221124A	MSD	3050B	6020A	III
26-Aug-2013	SL-548-SA5D-SB-0.0-0.5MSD	P176110M221124B	MSD	3050B	6020A	III
26-Aug-2013	SL-548-SA5D-SB-0.0-0.5MS	P176110R221008	MS	3050B	6010C	III
26-Aug-2013	SL-548-SA5D-SB-0.0-0.5MS	P176110R221121A	MS	3050B	6020A	III
26-Aug-2013	SL-548-SA5D-SB-0.0-0.5MS	P176110R221121B	MS	3050B	6020A	III
26-Aug-2013	SL-548-SA5D-SB-4.0-5.0	7176111	N	3050B	6010C	III
26-Aug-2013	SL-548-SA5D-SB-4.0-5.0	7176111	N	3050B	6020A	III
26-Aug-2013	SL-548-SA5D-SB-4.0-5.0	7176111	N	3546	8015M	III
26-Aug-2013	SL-548-SA5D-SB-4.0-5.0	7176111	N	3546	8082A	III
26-Aug-2013	SL-548-SA5D-SB-4.0-5.0	7176111	N	3546	8270D SIM	III
26-Aug-2013	SL-548-SA5D-SB-4.0-5.0	7176111	N	5035A	8015M	III
26-Aug-2013	SL-548-SA5D-SB-4.0-5.0	7176111	N	METHOD	7471B	III
26-Aug-2013	SL-548-SA5D-SB-4.0-5.0DUP	P176111D221209	DUP	METHOD	7471B	III
26-Aug-2013	SL-548-SA5D-SB-4.0-5.0MSD	P176111M221213	MSD	METHOD	7471B	III

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
26-Aug-2013	SL-548-SA5D-SB-4.0-5.0MS	P176111R221211	MS	METHOD	7471B	III

Attachment 2
Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: PH093

Laboratory: LL

EDD Filename: PH093_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: METALS
Method: 6010C **Matrix:** SO

Sample ID: SL-548-SA5D-SB-0.0-0.5 Collected: 8/26/2013 1:00:00 Analysis Type: REA2 Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BORON	7.14	J	0.855	MDL	10.2	PQL	mg/Kg	J	Z

Sample ID: SL-548-SA5D-SB-0.0-0.5 Collected: 8/26/2013 1:00:00 Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	4.07	U	0.753	MDL	4.07	PQL	mg/Kg	UJ	Q
BERYLLIUM	0.877	J	0.0682	MDL	1.02	PQL	mg/Kg	J	Z
CADMIUM	0.325	J	0.0773	MDL	1.02	PQL	mg/Kg	J	Z
COBALT	9.27		0.101	MDL	1.02	PQL	mg/Kg	J	E
COPPER	18.7		0.295	MDL	2.04	PQL	mg/Kg	J	A
MANGANESE	496		0.0845	MDL	1.02	PQL	mg/Kg	J	E
MOLYBDENUM	0.425	J	0.173	MDL	2.04	PQL	mg/Kg	U	F, F
SODIUM	87.1	J	17.0	MDL	102	PQL	mg/Kg	J	Z
TIN	3.31	J	0.224	MDL	10.2	PQL	mg/Kg	U	B
ZINC	73.9		0.204	MDL	4.07	PQL	mg/Kg	J	Q

Sample ID: SL-548-SA5D-SB-4.0-5.0 Collected: 8/26/2013 2:35:00 Analysis Type: REA2 Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BORON	6.76	J	0.910	MDL	10.8	PQL	mg/Kg	J	Z

Sample ID: SL-548-SA5D-SB-4.0-5.0 Collected: 8/26/2013 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
ANTIMONY	4.33	U	0.802	MDL	4.33	PQL	mg/Kg	UJ	Q
BERYLLIUM	0.865	J	0.0726	MDL	1.08	PQL	mg/Kg	J	Z
CADMIUM	0.168	J	0.0824	MDL	1.08	PQL	mg/Kg	J	Z
COBALT	8.57		0.107	MDL	1.08	PQL	mg/Kg	J	E
COPPER	16.1		0.314	MDL	2.17	PQL	mg/Kg	J	A
MANGANESE	329		0.0899	MDL	1.08	PQL	mg/Kg	J	E
MOLYBDENUM	0.185	J	0.184	MDL	2.17	PQL	mg/Kg	U	F, F
SODIUM	91.3	J	18.1	MDL	108	PQL	mg/Kg	J	Z
TIN	3.13	J	0.238	MDL	10.8	PQL	mg/Kg	U	B
ZINC	72.2		0.217	MDL	4.33	PQL	mg/Kg	J	Q

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH093

Laboratory: LL

EDD Filename: PH093_v1.

eQAPP Name: CDM_SSFL_131101_Lan

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

Sample ID: SL-548-SA5D-SB-0.0-0.5 Collected: 8/26/2013 1:00:00 Analysis Type: REA Dilution: 2

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SELENIUM	0.214	J	0.102	MDL	0.407	PQL	mg/Kg	J	Z

Sample ID: SL-548-SA5D-SB-0.0-0.5 Collected: 8/26/2013 1:00:00 Analysis Type: RES Dilution: 2

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SILVER	0.0521	J	0.0265	MDL	0.204	PQL	mg/Kg	J	Z
STRONTIUM	30.4		0.0692	MDL	0.407	PQL	mg/Kg	J	Q
THALLIUM	0.367		0.0305	MDL	0.204	PQL	mg/Kg	J	Q

Sample ID: SL-548-SA5D-SB-4.0-5.0 Collected: 8/26/2013 2:35:00 Analysis Type: REA Dilution: 2

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SELENIUM	0.265	J	0.108	MDL	0.433	PQL	mg/Kg	J	Z

Sample ID: SL-548-SA5D-SB-4.0-5.0 Collected: 8/26/2013 2:35:00 Analysis Type: RES Dilution: 2

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SILVER	0.0483	J	0.0282	MDL	0.217	PQL	mg/Kg	J	Z
STRONTIUM	43.6		0.0737	MDL	0.433	PQL	mg/Kg	J	Q
THALLIUM	0.465		0.0325	MDL	0.217	PQL	mg/Kg	J	Q

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

Sample ID: SL-548-SA5D-SB-4.0-5.0 Collected: 8/26/2013 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
MERCURY	0.0164	J	0.0110	MDL	0.0184	PQL	mg/Kg	J	Z

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH093

Laboratory: LL

EDD Filename: PH093_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method Category:	SVOA	
Method:	1613B	Matrix: SO

Sample ID: SL-548-SA5D-SB-0.0-0.5 Collected: 8/26/2013 1:00:00 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	1.48	JB	0.0149	MDL	5.10	PQL	ng/Kg	J	Z
1,2,3,4,7,8,9-HPCDF	0.140	JBQ	0.0201	MDL	5.10	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.188	JB	0.0344	MDL	5.10	PQL	ng/Kg	U	B
1,2,3,4,7,8-HXCDF	0.193	JB	0.0225	MDL	5.10	PQL	ng/Kg	U	B
1,2,3,6,7,8-HxCDD	0.669	JB	0.0358	MDL	5.10	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDF	0.191	JB	0.0211	MDL	5.10	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HxCDD	0.667	JB	0.0346	MDL	5.10	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDF	0.534	JB	0.0221	MDL	5.10	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDD	0.236	JB	0.0442	MDL	5.10	PQL	ng/Kg	U	B
1,2,3,7,8-PECDF	0.468	JB	0.0274	MDL	5.10	PQL	ng/Kg	J	Z
2,3,4,6,7,8-HXCDF	0.201	JB	0.0213	MDL	5.10	PQL	ng/Kg	U	B
2,3,4,7,8-PECDF	0.356	JB	0.0271	MDL	5.10	PQL	ng/Kg	J	Z
2,3,7,8-TCDD	0.0631	JQ	0.0464	MDL	1.02	PQL	ng/Kg	J	Z
2,3,7,8-TCDF	0.181	J	0.0582	MDL	1.02	PQL	ng/Kg	J	Z
OCDF	4.10	JB	0.0285	MDL	10.2	PQL	ng/Kg	J	Z

Method Category:	SVOA	
Method:	8015M	Matrix: SO

Sample ID: SL-548-SA5D-SB-4.0-5.0 Collected: 8/26/2013 2:35:00 Analysis Type: REA Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
EFH (C30-C40)	8.3	J	4.5	MDL	11	PQL	mg/Kg	J	Z

Method Category:	SVOA	
Method:	8270D SIM	Matrix: SO

Sample ID: SL-548-SA5D-SB-0.0-0.5 Collected: 8/26/2013 1:00:00 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-METHYLNAPHTHALENE	1.4	J	0.69	MDL	1.7	PQL	ug/Kg	J	Z
BENZO(A)ANTHRACENE	1.6	J	0.69	MDL	1.7	PQL	ug/Kg	J	Z
BENZO(A)PYRENE	1.6	J	0.69	MDL	1.7	PQL	ug/Kg	J	Z
BENZO(G,H,I)PERYLENE	1.1	J	0.69	MDL	1.7	PQL	ug/Kg	J	Z

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH093

Laboratory: LL

EDD Filename: PH093_v1.

eQAPP Name: CDM_SSFL_131101_Lan

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

Sample ID: SL-548-SA5D-SB-0.0-0.5 Collected: 8/26/2013 1:00:00 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(K)FLUORANTHENE	1.1	J	0.69	MDL	1.7	PQL	ug/Kg	J	Z

Sample ID: SL-548-SA5D-SB-0.0-0.5 Collected: 8/26/2013 1:00:00 Analysis Type: RES 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	1.0	J	0.69	MDL	1.7	PQL	ug/Kg	J	Z

Sample ID: SL-548-SA5D-SB-4.0-5.0 Collected: 8/26/2013 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(B)FLUORANTHENE	1.1	J	0.74	MDL	1.8	PQL	ug/Kg	J	Z
CHRYSENE	0.48	J	0.37	MDL	1.8	PQL	ug/Kg	J	Z
NAPHTHALENE	0.87	J	0.74	MDL	1.8	PQL	ug/Kg	J	Z
PHENANTHRENE	1.1	J	0.74	MDL	1.8	PQL	ug/Kg	J	Z

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH093

Laboratory: LL

EDD Filename: PH093_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Reason Code Legend

<i>Reason Code</i>	<i>Description</i>
*#	Professional Judgment
A	ICP Serial Dilution
B	Method Blank Contamination
E	Laboratory Duplicate Precision
F	Equipment Blank Contamination
F	Field Blank Contamination
Q	Laboratory Duplicate Precision
Q	Matrix Spike Lower Estimation
Q	Matrix Spike Lower Rejection
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: 1204-002-001-AL - SSFL Area IV Phase 3

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Enclosure I
EPA Level III ADR Outliers
(Including Manual Review Outliers)

Quality Control Outlier Reports

PH093

Method Blank Outlier Report

Lab Reporting Batch ID: PH093

Laboratory: LL

EDD Filename: PH093_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 1613B
Matrix: SO

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples
BLK2480B371919	9/6/2013 7:19:00 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 OCDD OCDF	0.122 ng/Kg 0.0567 ng/Kg 0.0816 ng/Kg 0.0423 ng/Kg 0.0557 ng/Kg 0.0502 ng/Kg 0.0251 ng/Kg 0.0844 ng/Kg 0.0604 ng/Kg 0.0657 ng/Kg 0.0612 ng/Kg 0.0455 ng/Kg 0.0677 ng/Kg 0.464 ng/Kg 0.216 ng/Kg	SL-548-SA5D-SB-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-548-SA5D-SB-0.0-0.5(RES)	1,2,3,4,7,8,9-HPCDF	0.140 ng/Kg	0.140U ng/Kg
SL-548-SA5D-SB-0.0-0.5(RES)	1,2,3,4,7,8-HxCDD	0.188 ng/Kg	0.188U ng/Kg
SL-548-SA5D-SB-0.0-0.5(RES)	1,2,3,4,7,8-HXCDF	0.193 ng/Kg	0.193U ng/Kg
SL-548-SA5D-SB-0.0-0.5(RES)	1,2,3,7,8-PECDD	0.236 ng/Kg	0.236U ng/Kg
SL-548-SA5D-SB-0.0-0.5(RES)	2,3,4,6,7,8-HXCDF	0.201 ng/Kg	0.201U ng/Kg

Method: 6010C
Matrix: SO

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples
P23937AB220948	9/2/2013 9:48:00 AM	CALCIUM TIN ZINC	6.47 mg/Kg 1.64 mg/Kg 0.280 mg/Kg	SL-548-SA5D-SB-0.0-0.5 SL-548-SA5D-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-548-SA5D-SB-0.0-0.5(RES)	TIN	3.31 mg/Kg	3.31U mg/Kg
SL-548-SA5D-SB-4.0-5.0(RES)	TIN	3.13 mg/Kg	3.13U mg/Kg

Equipment Rinsate Blank Outlier Report

Lab Reporting Batch ID: PH093

Laboratory: LL

EDD Filename: PH093_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 6010C

Matrix: SO

Equipment Blank Sample ID	Collected Date	Analyte	Result	Associated Samples
EB2-082813(RES)	8/28/2013 2:30:00 PM	MOLYBDENUM	0.0022 mg/L	SL-548-SA5D-SB-0.0-0.5 SL-548-SA5D-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-548-SA5D-SB-0.0-0.5(RES)	MOLYBDENUM	0.425 mg/Kg	0.425U mg/Kg
SL-548-SA5D-SB-4.0-5.0(RES)	MOLYBDENUM	0.185 mg/Kg	0.185U mg/Kg

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

11/15/2013 12:22:40 PM

ADR version 1.7.0.207

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Field Blank Outlier Report

Lab Reporting Batch ID: PH093

Laboratory: LL

EDD Filename: PH093_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 6010C
Matrix: SO

Field Blank Sample ID	Collected Date	Analyte	Result	Associated Samples
FB-0411113(REA2)	4/11/2013 3:00:00 PM	COPPER MOLYBDENUM	0.0036 mg/L 0.0036 mg/L	SL-548-SA5D-SB-0.0-0.5 SL-548-SA5D-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-548-SA5D-SB-0.0-0.5(RES)	MOLYBDENUM	0.425 mg/Kg	0.425U mg/Kg
SL-548-SA5D-SB-4.0-5.0(RES)	MOLYBDENUM	0.185 mg/Kg	0.185U mg/Kg

Matrix Spike/Matrix Spike Duplicate Outlier Report

Lab Reporting Batch ID: PH093

Laboratory: LL

EDD Filename: PH093_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 6010C

Matrix: SO

QC Sample ID (Associated Samples)	Compound	MS %R	MSD %R	%R Limits	RPD (Limits)	Affected Compounds	Flag
SL-548-SA5D-SB-0.0-0.5MS (TOT)	ALUMINUM	2878	1876	75.00-125.00	-	ALUMINUM	J (all detects)
SL-548-SA5D-SB-0.0-0.5MSD (TOT)	TITANIUM	360	297	75.00-125.00	-	TITANIUM	
(SL-548-SA5D-SB-0.0-0.5 SL-548-SA5D-SB-4.0-5.0)	ZINC	-	133	75.00-125.00	-	ZINC	
SL-548-SA5D-SB-0.0-0.5MS (TOT)	IRON	-850	-1726	75.00-125.00	-	IRON	No Qual, >4x
SL-548-SA5D-SB-0.0-0.5MSD (TOT)	MAGNESIUM	148	-21	75.00-125.00	-	MAGNESIUM	
(SL-548-SA5D-SB-0.0-0.5 SL-548-SA5D-SB-4.0-5.0)	MANGANESE	-94	-132	75.00-125.00	-	MANGANESE	
	PHOSPHORUS	30	16	75.00-125.00	-	PHOSPHORUS	
SL-548-SA5D-SB-0.0-0.5MS (TOT)	ANTIMONY	48	50	75.00-125.00	-	ANTIMONY	J(all detects) UJ(all non-detects)
SL-548-SA5D-SB-0.0-0.5MSD (TOT)	CALCIUM	-	59	75.00-125.00	-	CALCIUM	
(SL-548-SA5D-SB-0.0-0.5 SL-548-SA5D-SB-4.0-5.0)							Ca, No Qual, >4x

Method: 6020A

Matrix: SO

QC Sample ID (Associated Samples)	Compound	MS %R	MSD %R	%R Limits	RPD (Limits)	Affected Compounds	Flag
SL-548-SA5D-SB-0.0-0.5MSD (TOT)	STRONTIUM	-	201	75.00-125.00	-	STRONTIUM	J(all detects)
(SL-548-SA5D-SB-0.0-0.5 SL-548-SA5D-SB-4.0-5.0)	THALLIUM	-	133	75.00-125.00	-	THALLIUM	

Lab Duplicate Outlier Report

Lab Reporting Batch ID: PH093

Laboratory: LL

EDD Filename: PH093_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 6010C
Matrix: SO

QC Sample ID (Associated Sample ID)	Analyte	Sample RPD	eQAPP RPD	Flag
SL-548-SA5D-SB-0.0-0.5DUP (TOT)	ARSENIC	21	20.00	J (all detects)
(SL-548-SA5D-SB-0.0-0.5)	COBALT	26	20.00	UJ (all non-detects)
SL-548-SA5D-SB-4.0-5.0)	MANGANESE	31	20.00	As, Mo, No Qual,
	MOLYBDENUM	26	20.00	OK by Difference

Method: 7471B
Matrix: SO

QC Sample ID (Associated Sample ID)	Analyte	Sample RPD	eQAPP RPD	Flag
SL-548-SA5D-SB-4.0-5.0DUP (TOT)	MERCURY	35	20.00	No Qual, OK by Difference
(SL-548-SA5D-SB-0.0-0.5)				
SL-548-SA5D-SB-4.0-5.0)				

Reporting Limit Outliers

Lab Reporting Batch ID: PH093

Laboratory: LL

EDD Filename: PH093_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 1613B
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-548-SA5D-SB-0.0-0.5	1,2,3,4,6,7,8-HPCDF	JB	1.48	5.10	PQL	ng/Kg	J (all detects)
	1,2,3,4,7,8,9-HPCDF	JBQ	0.140	5.10	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JB	0.188	5.10	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JB	0.193	5.10	PQL	ng/Kg	
	1,2,3,6,7,8-HxCDD	JB	0.669	5.10	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JB	0.191	5.10	PQL	ng/Kg	
	1,2,3,7,8,9-HxCDD	JB	0.667	5.10	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	JB	0.534	5.10	PQL	ng/Kg	
	1,2,3,7,8-PECDD	JB	0.236	5.10	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JB	0.468	5.10	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JB	0.201	5.10	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JB	0.356	5.10	PQL	ng/Kg	
	2,3,7,8-TCDD	JQ	0.0631	1.02	PQL	ng/Kg	
	2,3,7,8-TCDF	J	0.181	1.02	PQL	ng/Kg	
	OCDF	JB	4.10	10.2	PQL	ng/Kg	

Method: 6010C
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-548-SA5D-SB-0.0-0.5	BERYLLIUM	J	0.877	1.02	PQL	mg/Kg	J (all detects)
	BORON	J	7.14	10.2	PQL	mg/Kg	
	CADMIUM	J	0.325	1.02	PQL	mg/Kg	
	MOLYBDENUM	J	0.425	2.04	PQL	mg/Kg	
	SODIUM	J	87.1	102	PQL	mg/Kg	
	TIN	J	3.31	10.2	PQL	mg/Kg	
SL-548-SA5D-SB-4.0-5.0	BERYLLIUM	J	0.865	1.08	PQL	mg/Kg	J (all detects)
	BORON	J	6.76	10.8	PQL	mg/Kg	
	CADMIUM	J	0.168	1.08	PQL	mg/Kg	
	MOLYBDENUM	J	0.185	2.17	PQL	mg/Kg	
	SODIUM	J	91.3	108	PQL	mg/Kg	
	TIN	J	3.13	10.8	PQL	mg/Kg	

Method: 6020A
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-548-SA5D-SB-0.0-0.5	SELENIUM	J	0.214	0.407	PQL	mg/Kg	J (all detects)
	SILVER	J	0.0521	0.204	PQL	mg/Kg	
SL-548-SA5D-SB-4.0-5.0	SELENIUM	J	0.265	0.433	PQL	mg/Kg	J (all detects)
	SILVER	J	0.0483	0.217	PQL	mg/Kg	

Reporting Limit Outliers

Lab Reporting Batch ID: PH093

Laboratory: LL

EDD Filename: PH093_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 7471B

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-548-SA5D-SB-4.0-5.0	MERCURY	J	0.0164	0.0184	PQL	mg/Kg	J (all detects)

Method: 8015M

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-548-SA5D-SB-4.0-5.0	EFH (C30-C40)	J	8.3	11	PQL	mg/Kg	J (all detects)

Method: 8270D SIM

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-548-SA5D-SB-0.0-0.5	2-METHYLNAPHTHALENE	J	1.4	1.7	PQL	ug/Kg	J (all detects)
	BENZO(A)ANTHRACENE	J	1.6	1.7	PQL	ug/Kg	
	BENZO(A)PYRENE	J	1.6	1.7	PQL	ug/Kg	
	BENZO(G,H,I)PERYLENE	J	1.1	1.7	PQL	ug/Kg	
	BENZO(K)FLUORANTHENE	J	1.1	1.7	PQL	ug/Kg	
	INDENO(1,2,3-CD)PYRENE	J	1.0	1.7	PQL	ug/Kg	
SL-548-SA5D-SB-4.0-5.0	BENZO(B)FLUORANTHENE	J	1.1	1.8	PQL	ug/Kg	J (all detects)
	CHRYSENE	J	0.48	1.8	PQL	ug/Kg	
	NAPHTHALENE	J	0.87	1.8	PQL	ug/Kg	
	PHENANTHRENE	J	1.1	1.8	PQL	ug/Kg	

LDC #: 30673A4

VALIDATION COMPLETENESS WORKSHEET

Date: 11/7/13

SDG #: PH093

ADR

Page: 1 of 1

Laboratory: Eurofins Lancaster Laboratories

Reviewer: CA

2nd Reviewer: MG

METHOD: Metals (EPA SW 846 Method 6010C/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: 8/26/13
II.	ICP/MS Tune	—	
III.	Calibration	—	
IV.	Blanks	A	
V.	ICP Interference Check Sample (ICS) Analysis	—	
VI.	Matrix Spike Analysis	SW	MS/D
VII.	Duplicate Sample Analysis	SW	Dup
VIII.	Laboratory Control Samples (LCS)	A	LCS
IX.	Internal Standard (ICP-MS)	N	
X.	Furnace Atomic Absorption QC	N	
XI.	ICP Serial Dilution	SW	
XII.	Sample Result Verification	N	
XIII.	Overall Assessment of Data	N	
XIV.	Field Duplicates	N	
XV.	Field Blanks	SW	EB = EPD-082813 FB = FB-041113

Note: A = Acceptable ND = No compounds detected D = Duplicate (PH093) (PH029)
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples: S

1	SL-548-SA5D-SB-0.0-0.5	11		21		31	
2	SL-548-SA5D-SB-4.0-5.0	12		22		32	
3	(X1) MS	13		23		33	
4	MSD	14		24		34	
5	DUP	15		25		35	
6	(X2) MS (H)	16		26		36	
7	MSD	17		27		37	
8	DUP	18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

VALIDATION FINDINGS WORKSHEET
Field Blanks

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

Blank units: mg/L **Associated sample units:** mg/Kg Reason: F

Sampling date: 4/11/13 Soil factor applied 100x

Field blank type: (circle one) Field Blank / Rinsate / Other: Associated Samples: All

Analyte	Blank ID	Sample Identification									
	FB-041113 (SDG: PH029)	Action Limit	1	2							
Cu	0.0036	1.8									
Mo	0.0036	1.8	0.43	0.19							

Sampling date: 8/28/13 Soil factor applied 100x

Field blank type: (circle one) Field Blank / Rinsate / Other: Associated Samples: All

Analyte	Blank ID	Sample Identification									
	EB2-082813 (SDG: PH095)	Action Limit	1	2							
Mo	0.0022	1.1	0.43	0.19							

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".

QUALITY ASSURANCE SUMMARY

FORM 5A (MS/MSD)

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

SDG No.: PH093

Matrix: SOIL

Level

(low/med):

LOW

Background Lab Sample ID: 7176110BKG Matrix Spike Lab Sample ID: 7176110MS Matrix Spike Duplicate Lab Sample ID: 7176110MSD
Batch Id(s): P23937A

Analyte	Mass	BKG Sample		MS Sample		MSD Sample		MS Spike Added	MSD Spike Added	Units	MS		MSD		RPD	Control Limit		
		Result	C	Result	C	Result	C				%R	Q	%R	Q		%R	RPD	M
Aluminum		23966.2129		29666.0812		27680.5921		198.0198	198.0198	MG/KG	2878		1876		7			20P
Antimony		0.7327	U	23.8614		24.6089		49.5050	49.5050	MG/KG	48	N	50	N	3	75 - 125		20P
Arsenic		7.7713		20.8762		20.5010		14.8515	14.8515	MG/KG	88		86		2	75 - 125		20P
Barium		124.2257		308.0396		310.1653		198.0198	198.0198	MG/KG	93		94		1	75 - 125		20P
Beryllium		0.8535	B	5.6376		5.3921		4.9505	4.9505	MG/KG	97		92		4	75 - 125		20P
Boron		6.9446	B	187.8059		192.7950		198.0198	198.0198	MG/KG	91		94		3	75 - 125		20P
Cadmium		0.3158	B	4.6574		4.7396		4.9505	4.9505	MG/KG	88		89		2	75 - 125		20P
Calcium		5424.8158		5896.9178		5656.5634		396.0396	396.0396	MG/KG	119		59		4			20P
Chromium		32.7317		51.9693		51.4129		19.8020	19.8020	MG/KG	97		94		1	75 - 125		20P
Cobalt		9.0149		50.9703		50.4396		49.5050	49.5050	MG/KG	85		84		1	75 - 125		20P
Copper		18.2030		42.4198		40.6168		24.7525	24.7525	MG/KG	98		91		4	75 - 125		20P
Iron		29093.6574		28252.0218		27384.3782		99.0099	99.0099	MG/KG	850		1726		3			20P
Lead		11.8119		24.0842		24.6436		14.8515	14.8515	MG/KG	83		86		2	75 - 125		20P
Lithium		24.4455		121.2416		117.4772		99.0099	99.0099	MG/KG	98		94		3	75 - 125		20P
Magnesium		6318.3455		6610.7079		6276.3980		198.0198	198.0198	MG/KG	148		-21		5			20P
Manganese		482.8891		436.4713		417.3238		49.5050	49.5050	MG/KG	-94		-132		4			20P
Molybdenum		0.4139	B	172.1693		171.4584		198.0198	198.0198	MG/KG	87		86		0	75 - 125		20P
Nickel		18.0564		61.6366		60.1752		49.5050	49.5050	MG/KG	88		85		2	75 - 125		20P
Phosphorus		544.1089		573.7050		559.5663		99.0099	99.0099	MG/KG	30		16		2			20P
Potassium		5566.3356		6788.6772		6550.9634		990.0990	990.0990	MG/KG	123		99		4			20P
Selenium	78	0.2079	B	2.1980		2.3941		1.9802	1.9802	MG/KG	100		110		9	75 - 125		20MS
Silver	107	0.0507	B	10.7525		12.3624		9.9010	9.9010	MG/KG	108		124		14	75 - 125		20MS
Sodium		84.7030	B	1018.8228		995.0911		990.0990	990.0990	MG/KG	94		92		2	75 - 125		20P
Strontium	88	29.5446		37.9802		45.4851		7.9208	7.9208	MG/KG	106		201	N	18	75 - 125		20MS
Thallium	203	0.3566		0.7598		0.8818		0.3960	0.3960	MG/KG	102		133	N	15	75 - 125		20MS
Tin		3.2228	B	327.6554		327.6752		396.0396	396.0396	MG/KG	82		82		0	75 - 125		20P
Tungsten		1296.5772		1658.3248		1590.5792		99.0099	99.0099	MG/KG	360		297		4			20P
Vanadium		63.9980		110.2099		109.2188		49.5050	49.5050	MG/KG	93		91		1	75 - 125		20P
Zinc		71.8970		116.8485		137.7475		49.5050	49.5050	MG/KG	91		133	N	16	75 - 125		20P
Zirconium		5.0792		91.8802		89.4683		99.0099	99.0099	MG/KG	88		85		3	75 - 125		20P

Note: Results shown are reported on an as-received basis.

METHODS:

P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry

CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:

U= Below MDL, B= Below LOQ

FLAGS:

N = Matrix Spike OOS, * = Duplicate OOS

Background Lab Sample ID: 7176110BKG
 Batch ID(s): P23937A
 Concentration Units: MG/KG

Duplicate Lab Sample ID: 7176110DUP

Analyte	Mass	Control Limit	Samples (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum			23966.2129		21164.5891		12		P
Antimony			-0.9980	B	-0.7465	B	-29		P
Arsenic		4.0	7.7713		6.2772		21		P
Barium			124.2257		108.3941		14		P
Beryllium			0.8535	B	0.7356	B	15		P
Boron			6.9446	B	6.3733	B	9		P
Cadmium			0.3158	B	0.3040	B	4		P
Calcium			5424.8158		4999.2485		8		P
Chromium			32.7317		29.5713		10		P
Cobalt			9.0149		6.9198		26	*	P
Copper			18.2030		15.5030		16		P
Iron			29093.6574		26321.3545		10		P
Lead		3.0	11.8119		10.1574		15		P
Lithium			24.4455		21.2762		14		P
Magnesium			6318.3455		5710.0891		10		P
Manganese			482.8891		351.6881		31	*	P
Molybdenum			0.4139	B	0.3198	B	26		P
Nickel			18.0564		15.3505		16		P
Phosphorus			544.1089		478.1119		13		P
Potassium			5566.3356		4867.3228		13		P
Selenium	78		0.2079	B	0.2319	B	11		MS
Silver	107		0.0507	B	0.0500	B	1		MS
Sodium			84.7030	B	77.7218	B	9		P
Strontium	88		29.5446		33.1287		11		MS
Thallium	203	0.2	0.3566		0.3834		7		MS
Tin			3.2228	B	2.8634	B	12		P
Titanium			1296.5772		1124.7960		14		P
Vanadium			63.9980		55.1851		15		P
Zinc			71.8970		64.7198		11		P
Zirconium		5.0	5.0792		5.8267		14		P

NOTE: An asterisk (*) in column "Q" indicates poor duplicate precision (RPD > 20% OR |(S) - (D)| > LOQ for values < 5x LOQ).
 The data are considered to be valid because the laboratory control sample is within the control limits. See the Laboratory Control Sample.

ok by [signature]

Note: Results shown are reported on an as-received basis.

METHODS: P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence	CONCENTRATION QUALIFIERS: U= Below MDL B= Below LOQ FLAGS: = Duplicate Out of Spec
--	--

Background Lab Sample ID: 7176111BKG
 Batch ID(s): P23938B
 Concentration Units: MG/KG

Duplicate Lab Sample ID: 7176111DUP

Analyte	Mass	Control Limit	Samples (S)	C	Duplicate (D)	C	RPD	Q	M
Mercury			0.0147	B	0.0104	B	34	*	CV

NOTE: An asterisk (*) in column "Q" indicates poor duplicate precision (RPD > 20% OR |(S) - (D)| > LOQ for values < 5x LOQ).
 The data are considered to be valid because the laboratory control sample is within the control limits. See the Laboratory Control Sample.

ok by difference

Note: Results shown are reported on an as-received basis.

<p>METHODS: P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence</p>	<p>CONCENTRATION QUALIFIERS: U= Below MDL B= Below LOQ</p> <p>FLAGS: = Duplicate Out of Spec</p>
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Background Lab Sample ID: 7176110BKG Serial Dilution Lab Sample ID: 7176110L
Batch ID(s): P23937A
Concentration Units: UG/L

SL-548-SASD-SB -0.0-0.

Analyte	Mass	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Diff.	Q	M
Aluminum		242058.7500		246178.3000		2		P
Antimony		7.4000	U	37.0000	U			P
Arsenic		78.4900		74.1000	B	6		P
Barium		1254.6800		1248.3500		1		P
Beryllium		8.6200	B	8.0500	B	7		P
Boron		70.1400	B	135.3500	B	93		P
Cadmium		3.1900	B	4.9000	B	54		P
Calcium		54790.6400		56004.8500		2		P
Chromium		330.5900		325.5500		2		P
Cobalt		91.0500		98.7000		8		P
Copper		188.8500		220.3500		20		P
Iron		146922.9700		151445.4000		3		P
Lead		119.3000		130.1000	B	9		P
Lithium		246.9000		254.6000		3		P
Magnesium		63815.2900		64661.9000		1		P
Manganese		4877.1800		5032.4000		3		P
Molybdenum		4.1800	B	8.5000	U	100		P
Nickel		182.3700		197.2500		8		P
Phosphorus		5495.5000		5537.6000		1		P
Potassium		56219.9900		56489.9500		0		P
Selenium	78	1.0500	B	2.5000	U	100		MS
Silver	107	0.2559	B	0.6500	U	100		MS
Sodium		855.5000	B	835.0000	U	100		P
Strontium	88	149.2000		152.8500		2		MS
Thallium	203	1.8010		2.0715	B	15		MS
Tin		32.5500	B	33.5000	B	3		P
Titanium		13095.4300		13197.8000		1		P
Vanadium		646.3800		633.3000		2		P
Zinc		726.1600		741.5500		2		P
Zirconium		51.3000		56.0500	B	9		P

NOTE: An E in column Q indicates the presence of a chemical or physical interference in the matrix when the % difference is greater than 10%. This applies only when (I) is greater than or equal to 50x MDL for ICP, 100x MDL for ICP-MS (6020), 50x MDL for ICP-MS (200.8), or 25x MDL for GFAA.

~~3/05/14 (A) All~~

<p>METHODS: P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry</p>	<p>CONCENTRATION QUALIFIERS: U= Below MDL B= Below LOQ FLAGS: E = Matrix Effects exist as proven by Serial Dilution or Spiked Dilution</p>
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**Data Validation Report
Santa Susana Field Laboratory**

Subarea 5D

SDG: PH095

Prepared for

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Prepared by

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November 20, 2013

INTRODUCTION

This Data Validation Report (DVR) presents Level III data validation results for samples collected on August 28, 2013. Data validation was performed in accordance with 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), Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005), and for Inorganic Data Review (January 2010). Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following methods:

Semivolatiles (SVOCs) by Environmental Protection Agency (EPA) SW 846 Method 8270D utilizing Selective Ion Monitoring (SIM)

Pesticides by EPA SW 846 Method 8081A

Polychlorinated Biphenyls (PCBs) by EPA SW 846 Method 8082A

Metals by EPA SW 846 Method 6010C, 6020A, 7470A and 7471B

Herbicides by EPA SW 846 Method 8151A

Total Petroleum Hydrocarbons (TPH) as Gasoline by EPA SW 846 Method 8015M

TPH as Extractables by EPA SW 846 Method 8015M

Dioxins and Dibenzofurans by EPA Method 1613B

The sample identification and methods of analyses performed on each sample is presented in Attachment 1. Overall data qualification summary is presented in Attachment II. Level III Automated Data Review outliers are presented in Enclosure I.

All sample results were subjected to Level III data validation, which comprises an evaluation of quality control (QC) summary results for sample holding times, initial and continuing calibration blanks (ICB/CCBs), surrogates, internal standards (dioxins only), laboratory control sample/laboratory control sample duplicates (LCS/LCSD), method blanks, equipment blanks, field blanks and trip blanks. No samples in this SDG were subjected to Level IV evaluation.

Automated data review was performed on all QC summary results using the Automated Data Review (ADR) software program (LDC, 2013) with exception of ICB/CCBs, which were validated manually. Quality assurance (QA)/QC criteria specified in the QAPP and CLPNFGs were incorporated with the program's reference library to assess compliance with project requirements.

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.

I. Technical Holding Times

All technical holding time requirements were met.

II. Initial Calibration

Initial Calibration data were not reviewed for level III.

III. Continuing Calibration

Continuing calibration data were not reviewed for level III.

IV. Blanks

Method blanks were performed at the required frequencies. No contaminant concentrations were detected in the method or preparation blanks with the exception of several blanks for SVOCs, metals and dioxins. The associated sample results were qualified as non-detected (U) due to method blank contamination as applicable. The sample results that were not detected or were significantly greater than the concentrations found in the associated blanks were not qualified. The details regarding the qualification of data are provided in Enclosure I.

No contaminant concentrations were detected in the initial or continuing calibration blanks with the following exceptions:

SDG/ Method	Method Blank ID	Analyte	Maximum Concentration	Associated Samples
PH095/ 6010C	ICB/CCB	Molybdenum	3.3 ug/L	EB1-082813 EB2-082813

Sample concentrations were compared to concentrations detected in the initial and continuing blanks. The sample concentrations were not detected or were significantly greater than the concentrations found in the associated blanks with the following exceptions:

SDG/Method	Sample	Compound	Reported Concentration	Modified Final Concentration
PH095/ 6010C	EB1-082813	Molybdenum	8.0 ug/L	8.0U ug/L
PH095/ 6010C	EB2-082813	Molybdenum	2.2 ug/L	2.2U ug/L

V. 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 exception of one sample for PCBs. No data were qualified for due to high %Rs since the associated results were non-detected.

VI. ICP Interference Check Sample (ICS) Analysis

ICP interference check data were not reviewed for level III.

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 Duplicates Sample

The laboratory has indicated that there were no laboratory duplicate (DUP) analyses specified for the samples in this SDG, and therefore laboratory duplicate analyses were not performed for this SDG.

IX. 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 with the exception of several LCS/LCSD pairs for pesticides, PCBs and TPH as extractables. The associated sample results were qualified as detected estimated (J) or non-detected estimated (UJ) as applicable. The details regarding the qualification of data are provided in Enclosure I.

X. Internal Standards

Internal standards were reviewed for dioxins. Percent recoveries (%R) were within QC limits.

XI. ICP Serial Dilution

ICP serial dilution was not performed for this SDG.

XII. Compound Quantitation

The laboratory reporting limits were evaluated. All laboratory reporting limits met the specified requirements.

All compounds reported below the RL as detected were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG PH095	All compounds reported as detected below the RL.	J (all detects)	A

XIII. Field Duplicate Samples

No field duplicates were identified in this SDG.

XIV. Field Blank Samples

One trip blank was collected and analyzed for TPH as gasoline. No contaminants were found in the trip blank.

Two equipment blanks were collected and analyzed for SVOCs, pesticides, PCBs, metals, herbicides, TPH as gasoline, TPH as extractables and dioxins. The equipment blank had several detections for SVOCs, metals and dioxins. The associated sample results were qualified as non-detected (U) due to equipment blank contamination as applicable. The sample results that were not detected or were significantly greater than the concentrations found in the equipment blanks were not qualified. The equipment blank outlier reports are presented in Enclosure I.

One field blank (from SDG PH029) was collected and analyzed for SVOCs, pesticides, PCBs, metals, herbicides, TPH as gasoline, TPH as extractables and dioxins. The field blank had detections for several SVOCs, metals and dioxins. The associated sample results were qualified as non-detected (U) due to field blank contamination as applicable. The sample results that were not detected or were significantly greater than the concentrations found in the field blank were not qualified. The field blank outlier reports are presented in Enclosure I.

XV. Overall Assessment of Data

No data associated with this sampling event were rejected. The overall assessment of QA/QC data review by automated and manual validation of this sampling event met project requirements and analytical completeness levels with the exceptions noted in the above sections. All data are deemed useable for the intended use.

Data flags are summarized and are presented as Attachment 2.

Attachment 1
Sample Cross Reference

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
28-Aug-2013	TB2-082813	7179318	TB	5030B	8015M	III
28-Aug-2013	SL-537-SA5D-SB-0.0-0.5	7179321	N	3050B	6010C	III
28-Aug-2013	SL-537-SA5D-SB-0.0-0.5	7179321	N	3050B	6020A	III
28-Aug-2013	SL-537-SA5D-SB-0.0-0.5	7179321	N	3546	8015M	III
28-Aug-2013	SL-537-SA5D-SB-0.0-0.5	7179321	N	3546	8082A	III
28-Aug-2013	SL-537-SA5D-SB-0.0-0.5	7179321	N	3546	8270D SIM	III
28-Aug-2013	SL-537-SA5D-SB-0.0-0.5	7179321	N	METHOD	1613B	III
28-Aug-2013	SL-537-SA5D-SB-0.0-0.5	7179321	N	METHOD	7471B	III
28-Aug-2013	SL-537-SA5D-SB-2.5-3.5	7179322	N	3050B	6010C	III
28-Aug-2013	SL-537-SA5D-SB-2.5-3.5	7179322	N	3050B	6020A	III
28-Aug-2013	SL-537-SA5D-SB-2.5-3.5	7179322	N	3546	8015M	III
28-Aug-2013	SL-537-SA5D-SB-2.5-3.5	7179322	N	3546	8082A	III
28-Aug-2013	SL-537-SA5D-SB-2.5-3.5	7179322	N	3546	8270D SIM	III
28-Aug-2013	SL-537-SA5D-SB-2.5-3.5	7179322	N	5035A	8015M	III
28-Aug-2013	SL-537-SA5D-SB-2.5-3.5	7179322	N	METHOD	7471B	III
28-Aug-2013	SL-536-SA5D-SB-0.0-0.5	7179319	N	3050B	6010C	III
28-Aug-2013	SL-536-SA5D-SB-0.0-0.5	7179319	N	3050B	6020A	III
28-Aug-2013	SL-536-SA5D-SB-0.0-0.5	7179319	N	3546	8015M	III
28-Aug-2013	SL-536-SA5D-SB-0.0-0.5	7179319	N	3546	8082A	III
28-Aug-2013	SL-536-SA5D-SB-0.0-0.5	7179319	N	3546	8270D SIM	III
28-Aug-2013	SL-536-SA5D-SB-0.0-0.5	7179319	N	METHOD	1613B	III
28-Aug-2013	SL-536-SA5D-SB-0.0-0.5	7179319	N	METHOD	7471B	III
28-Aug-2013	SL-536-SA5D-SB-3.5-4.5	7179320	N	3050B	6010C	III
28-Aug-2013	SL-536-SA5D-SB-3.5-4.5	7179320	N	3050B	6020A	III
28-Aug-2013	SL-536-SA5D-SB-3.5-4.5	7179320	N	3546	8015M	III
28-Aug-2013	SL-536-SA5D-SB-3.5-4.5	7179320	N	3546	8082A	III

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
28-Aug-2013	SL-536-SA5D-SB-3.5-4.5	7179320	N	3546	8270D SIM	III
28-Aug-2013	SL-536-SA5D-SB-3.5-4.5	7179320	N	5035A	8015M	III
28-Aug-2013	SL-536-SA5D-SB-3.5-4.5	7179320	N	METHOD	7471B	III
28-Aug-2013	SL-538-SA5D-SB-0.0-0.5	7179323	N	3050B	6010C	III
28-Aug-2013	SL-538-SA5D-SB-0.0-0.5	7179323	N	3050B	6020A	III
28-Aug-2013	SL-538-SA5D-SB-0.0-0.5	7179323	N	3546	8015M	III
28-Aug-2013	SL-538-SA5D-SB-0.0-0.5	7179323	N	3546	8082A	III
28-Aug-2013	SL-538-SA5D-SB-0.0-0.5	7179323	N	3546	8270D SIM	III
28-Aug-2013	SL-538-SA5D-SB-0.0-0.5	7179323	N	METHOD	1613B	III
28-Aug-2013	SL-538-SA5D-SB-0.0-0.5	7179323	N	METHOD	7471B	III
28-Aug-2013	EB1-082813	7179316	EB	3005A	6010C	III
28-Aug-2013	EB1-082813	7179316	EB	3510C	8015M	III
28-Aug-2013	EB1-082813	7179316	EB	3510C	8081B	III
28-Aug-2013	EB1-082813	7179316	EB	3510C	8082A	III
28-Aug-2013	EB1-082813	7179316	EB	3510C	8270D SIM	III
28-Aug-2013	EB1-082813	7179316	EB	5030B	8015M	III
28-Aug-2013	EB1-082813	7179316	EB	M3010A	6020A	III
28-Aug-2013	EB1-082813	7179316	EB	METHOD	1613B	III
28-Aug-2013	EB1-082813	7179316	EB	METHOD	7470A	III
28-Aug-2013	EB1-082813	7179316	EB	METHOD	8151A	III
28-Aug-2013	SL-538-SA5D-SB-3.0-4.0	7179324	N	3050B	6010C	III
28-Aug-2013	SL-538-SA5D-SB-3.0-4.0	7179324	N	3050B	6020A	III
28-Aug-2013	SL-538-SA5D-SB-3.0-4.0	7179324	N	3546	8015M	III
28-Aug-2013	SL-538-SA5D-SB-3.0-4.0	7179324	N	3546	8082A	III
28-Aug-2013	SL-538-SA5D-SB-3.0-4.0	7179324	N	3546	8270D SIM	III
28-Aug-2013	SL-538-SA5D-SB-3.0-4.0	7179324	N	5035A	8015M	III

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
28-Aug-2013	SL-538-SA5D-SB-3.0-4.0	7179324	N	METHOD	7471B	III
28-Aug-2013	EB2-082813	7179317	EB	3005A	6010C	III
28-Aug-2013	EB2-082813	7179317	EB	3510C	8015M	III
28-Aug-2013	EB2-082813	7179317	EB	3510C	8082A	III
28-Aug-2013	EB2-082813	7179317	EB	3510C	8270D SIM	III
28-Aug-2013	EB2-082813	7179317	EB	5030B	8015M	III
28-Aug-2013	EB2-082813	7179317	EB	M3010A	6020A	III
28-Aug-2013	EB2-082813	7179317	EB	METHOD	1613B	III
28-Aug-2013	EB2-082813	7179317	EB	METHOD	7470A	III

Attachment 2
Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: PH095

Laboratory: LL

EDD Filename: PrepPH095

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: METALS
Method: 6010C **Matrix:** AQ

Sample ID: EB1-082813 Collected: 8/28/2013 2:00:00 Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BARIUM	0.00035	J	0.00033	MDL	0.0100	PQL	mg/L	J	Z
MOLYBDENUM	0.0080	J	0.0017	MDL	0.0200	PQL	mg/L	U	B

Sample ID: EB2-082813 Collected: 8/28/2013 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
MOLYBDENUM	0.0022	J	0.0017	MDL	0.0200	PQL	mg/L	U	B

Method Category: METALS
Method: 6010C **Matrix:** SO

Sample ID: SL-536-SA5D-SB-0.0-0.5 Collected: 8/28/2013 11:00:00 Analysis Type: REA Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	1.40	J	0.771	MDL	4.17	PQL	mg/Kg	J	Z
BERYLLIUM	0.524	J	0.0698	MDL	1.04	PQL	mg/Kg	J	Z
BORON	4.70	J	0.875	MDL	10.4	PQL	mg/Kg	J	Z
CADMIUM	0.319	J	0.0792	MDL	1.04	PQL	mg/Kg	J	Z
MOLYBDENUM	0.185	J	0.177	MDL	2.08	PQL	mg/Kg	U	F, F
SODIUM	102	J	17.4	MDL	104	PQL	mg/Kg	J	Z
TIN	3.13	J	0.229	MDL	10.4	PQL	mg/Kg	U	B

Sample ID: SL-536-SA5D-SB-3.5-4.5 Collected: 8/28/2013 12:00:00 Analysis Type: REA Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	2.84	J	0.805	MDL	4.35	PQL	mg/Kg	J	Z
BORON	8.78	J	0.914	MDL	10.9	PQL	mg/Kg	J	Z
CADMIUM	0.601	J	0.0827	MDL	1.09	PQL	mg/Kg	J	Z
MOLYBDENUM	0.487	J	0.185	MDL	2.18	PQL	mg/Kg	U	F, F
TIN	4.70	J	0.239	MDL	10.9	PQL	mg/Kg	U	B
Zirconium	3.47	J	0.914	MDL	5.44	PQL	mg/Kg	J	Z

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH095

Laboratory: LL

EDD Filename: PrepPH095

eQAPP Name: CDM_SSFL_131101_Lan

Method Category:	METALS	
Method:	6010C	Matrix: SO

Sample ID: SL-537-SA5D-SB-0.0-0.5 Collected: 8/28/2013 10:20:00 Analysis Type: REA Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	0.981	J	0.776	MDL	4.19	PQL	mg/Kg	J	Z
BERYLLIUM	0.689	J	0.0702	MDL	1.05	PQL	mg/Kg	J	Z
BORON	6.45	J	0.881	MDL	10.5	PQL	mg/Kg	J	Z
CADMIUM	0.481	J	0.0797	MDL	1.05	PQL	mg/Kg	J	Z
MOLYBDENUM	0.411	J	0.178	MDL	2.10	PQL	mg/Kg	U	F, F
TIN	2.94	J	0.231	MDL	10.5	PQL	mg/Kg	U	B
Zirconium	1.84	J	0.881	MDL	5.24	PQL	mg/Kg	J	Z

Sample ID: SL-537-SA5D-SB-2.5-3.5 Collected: 8/28/2013 10:30:00 Analysis Type: REA Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	1.22	J	0.773	MDL	4.18	PQL	mg/Kg	J	Z
BERYLLIUM	0.532	J	0.0700	MDL	1.04	PQL	mg/Kg	J	Z
BORON	4.76	J	0.878	MDL	10.4	PQL	mg/Kg	J	Z
CADMIUM	0.292	J	0.0794	MDL	1.04	PQL	mg/Kg	J	Z
MOLYBDENUM	0.242	J	0.178	MDL	2.09	PQL	mg/Kg	U	F, F
TIN	3.41	J	0.230	MDL	10.4	PQL	mg/Kg	U	B
Zirconium	2.41	J	0.878	MDL	5.22	PQL	mg/Kg	J	Z

Sample ID: SL-538-SA5D-SB-0.0-0.5 Collected: 8/28/2013 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
ANTIMONY	1.01	J	0.750	MDL	4.05	PQL	mg/Kg	J	Z
BERYLLIUM	0.647	J	0.0679	MDL	1.01	PQL	mg/Kg	J	Z
BORON	5.78	J	0.851	MDL	10.1	PQL	mg/Kg	J	Z
CADMIUM	0.329	J	0.0770	MDL	1.01	PQL	mg/Kg	J	Z
MOLYBDENUM	0.404	J	0.172	MDL	2.03	PQL	mg/Kg	U	F, F
SODIUM	86.6	J	16.9	MDL	101	PQL	mg/Kg	J	Z
TIN	2.94	J	0.223	MDL	10.1	PQL	mg/Kg	U	B
Zirconium	1.74	J	0.851	MDL	5.07	PQL	mg/Kg	J	Z

Sample ID: SL-538-SA5D-SB-3.0-4.0 Collected: 8/28/2013 2:00:00 Analysis Type: REA Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	1.21	J	0.767	MDL	4.15	PQL	mg/Kg	J	Z

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH095

Laboratory: LL

EDD Filename: PrepPH095

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: METALS
Method: 6010C **Matrix:** SO

Sample ID: SL-538-SA5D-SB-3.0-4.0 Collected: 8/28/2013 2:00:00 Analysis Type: REA Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BERYLLIUM	0.432	J	0.0694	MDL	1.04	PQL	mg/Kg	J	Z
BORON	4.28	J	0.870	MDL	10.4	PQL	mg/Kg	J	Z
CADMIUM	0.307	J	0.0788	MDL	1.04	PQL	mg/Kg	J	Z
MOLYBDENUM	2.07	U	0.176	MDL	2.07	PQL	mg/Kg	U	F
TIN	3.22	J	0.228	MDL	10.4	PQL	mg/Kg	U	B
Zirconium	1.79	J	0.870	MDL	5.18	PQL	mg/Kg	J	Z

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

Sample ID: SL-536-SA5D-SB-0.0-0.5 Collected: 8/28/2013 11:00:00 Analysis Type: REA2 Dilution: 2

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SILVER	0.0836	J	0.0271	MDL	0.208	PQL	mg/Kg	J	Z
THALLIUM	0.189	J	0.0313	MDL	0.208	PQL	mg/Kg	J	Z

Sample ID: SL-536-SA5D-SB-3.5-4.5 Collected: 8/28/2013 12:00:00 Analysis Type: REA2 Dilution: 2

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SILVER	0.144	J	0.0283	MDL	0.218	PQL	mg/Kg	J	Z

Sample ID: SL-536-SA5D-SB-3.5-4.5 Collected: 8/28/2013 12:00:00 Analysis Type: REA3 Dilution: 2

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SELENIUM	0.252	J	0.109	MDL	0.435	PQL	mg/Kg	J	Z

Sample ID: SL-537-SA5D-SB-0.0-0.5 Collected: 8/28/2013 10:20:00 Analysis Type: REA2 Dilution: 2

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SILVER	0.0501	J	0.0273	MDL	0.210	PQL	mg/Kg	J	Z

Sample ID: SL-537-SA5D-SB-0.0-0.5 Collected: 8/28/2013 10:20:00 Analysis Type: REA3 Dilution: 2

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SELENIUM	0.182	J	0.105	MDL	0.419	PQL	mg/Kg	J	Z

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH095

Laboratory: LL

EDD Filename: PrepPH095

eQAPP Name: CDM_SSFL_131101_Lan

Method Category:	METALS	
Method:	6020A	Matrix: SO

Sample ID: SL-537-SA5D-SB-2.5-3.5	Collected: 8/28/2013 10:30:00	Analysis Type: REA2	Dilution: 2						
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SILVER	0.0504	J	0.0272	MDL	0.209	PQL	mg/Kg	J	Z

Sample ID: SL-537-SA5D-SB-2.5-3.5	Collected: 8/28/2013 10:30:00	Analysis Type: REA3	Dilution: 2						
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SELENIUM	0.181	J	0.104	MDL	0.418	PQL	mg/Kg	J	Z

Sample ID: SL-538-SA5D-SB-0.0-0.5	Collected: 8/28/2013 1:45:00	Analysis Type: REA2	Dilution: 2						
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SILVER	0.0630	J	0.0263	MDL	0.203	PQL	mg/Kg	J	Z

Sample ID: SL-538-SA5D-SB-0.0-0.5	Collected: 8/28/2013 1:45:00	Analysis Type: REA3	Dilution: 2						
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SELENIUM	0.145	J	0.101	MDL	0.405	PQL	mg/Kg	J	Z

Method Category:	METALS	
Method:	7471B	Matrix: SO

Sample ID: SL-536-SA5D-SB-0.0-0.5	Collected: 8/28/2013 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
MERCURY	0.0112	J	0.0103	MDL	0.0172	PQL	mg/Kg	J	Z

Sample ID: SL-536-SA5D-SB-3.5-4.5	Collected: 8/28/2013 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
MERCURY	0.0140	J	0.0107	MDL	0.0178	PQL	mg/Kg	J	Z

Sample ID: SL-537-SA5D-SB-0.0-0.5	Collected: 8/28/2013 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
MERCURY	0.0130	J	0.010	MDL	0.0166	PQL	mg/Kg	J	Z

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH095

Laboratory: LL

EDD Filename: PrepPH095

eQAPP Name: CDM_SSFL_131101_Lan

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

Sample ID: SL-538-SA5D-SB-0.0-0.5 Collected: 8/28/2013 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
MERCURY	0.0124	J	0.0102	MDL	0.0169	PQL	mg/Kg	J	Z

Method Category: SVOA
Method: 1613B **Matrix: AQ**

Sample ID: EB1-082813 Collected: 8/28/2013 2:00:00 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	0.608	JBQ	0.423	MDL	9.67	PQL	pg/L	U	B
1,2,3,4,6,7,8-HPCDF	0.299	JBQ	0.163	MDL	9.67	PQL	pg/L	U	B
1,2,3,4,7,8,9-HPCDF	0.554	JBQ	0.193	MDL	9.67	PQL	pg/L	U	B
1,2,3,4,7,8-HXCDF	0.222	JBQ	0.169	MDL	9.67	PQL	pg/L	U	B
1,2,3,6,7,8-HXCDF	0.467	JBQ	0.163	MDL	9.67	PQL	pg/L	U	B
1,2,3,7,8,9-HXCDD	0.471	JBQ	0.308	MDL	9.67	PQL	pg/L	U	B
1,2,3,7,8,9-HXCDF	0.245	JB	0.189	MDL	9.67	PQL	pg/L	U	B
1,2,3,7,8-PECDF	0.501	JBQ	0.314	MDL	9.67	PQL	pg/L	U	B
2,3,4,6,7,8-HXCDF	0.417	JBQ	0.167	MDL	9.67	PQL	pg/L	U	B
OCDD	1.43	JBQ	0.457	MDL	19.3	PQL	pg/L	U	B
OCDF	1.41	JBQ	0.612	MDL	19.3	PQL	pg/L	U	B

Sample ID: EB2-082813 Collected: 8/28/2013 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	0.721	JBQ	0.303	MDL	9.85	PQL	pg/L	U	B
1,2,3,4,6,7,8-HPCDF	0.427	JBQ	0.102	MDL	9.85	PQL	pg/L	U	B
1,2,3,4,7,8,9-HPCDF	0.404	JBQ	0.114	MDL	9.85	PQL	pg/L	U	B
1,2,3,4,7,8-HXCDF	0.223	JBQ	0.119	MDL	9.85	PQL	pg/L	U	B
1,2,3,7,8-PECDD	0.352	JB	0.336	MDL	9.85	PQL	pg/L	U	B
1,2,3,7,8-PECDF	0.364	JB	0.203	MDL	9.85	PQL	pg/L	U	B
2,3,4,6,7,8-HXCDF	0.302	JB	0.111	MDL	9.85	PQL	pg/L	U	B
2,3,4,7,8-PECDF	0.323	JB	0.181	MDL	9.85	PQL	pg/L	U	B
OCDD	1.48	JBQ	0.365	MDL	19.7	PQL	pg/L	U	B
OCDF	1.00	JB	0.423	MDL	19.7	PQL	pg/L	U	B

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH095

Laboratory: LL

EDD Filename: PrepPH095

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: SVOA
Method: 1613B **Matrix:** SO

Sample ID: SL-536-SA5D-SB-0.0-0.5 Collected: 8/28/2013 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
1,2,3,4,6,7,8-HPCDD	0.595	JBQ	0.0179	MDL	5.10	PQL	ng/Kg	U	B
1,2,3,4,6,7,8-HPCDF	0.0869	JBQ	0.00850	MDL	5.10	PQL	ng/Kg	U	B
1,2,3,4,7,8,9-HPCDF	0.0433	JBQ	0.0122	MDL	5.10	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.0567	JBQ	0.0164	MDL	5.10	PQL	ng/Kg	U	B
1,2,3,4,7,8-HXCDF	0.0644	JBQ	0.00765	MDL	5.10	PQL	ng/Kg	U	B
1,2,3,6,7,8-HxCDD	0.0604	JBQ	0.0173	MDL	5.10	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDF	0.0535	JBQ	0.00627	MDL	5.10	PQL	ng/Kg	U	B
1,2,3,7,8,9-HxCDD	0.0718	JB	0.0171	MDL	5.10	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDF	0.0397	JBQ	0.00744	MDL	5.10	PQL	ng/Kg	U	B
1,2,3,7,8-PECDD	0.109	JBQ	0.0213	MDL	5.10	PQL	ng/Kg	U	B
1,2,3,7,8-PECDF	0.143	JBQ	0.0116	MDL	5.10	PQL	ng/Kg	U	B
2,3,4,6,7,8-HXCDF	0.0435	JB	0.00701	MDL	5.10	PQL	ng/Kg	U	B
2,3,4,7,8-PECDF	0.0605	JB	0.0118	MDL	5.10	PQL	ng/Kg	U	B
2,3,7,8-TCDD	0.0385	JQ	0.0256	MDL	1.02	PQL	ng/Kg	J	Z
2,3,7,8-TCDF	0.0360	J	0.0231	MDL	1.02	PQL	ng/Kg	J	Z
OCDD	7.52	JB	0.0164	MDL	10.2	PQL	ng/Kg	J	Z
OCDF	0.245	JB	0.0168	MDL	10.2	PQL	ng/Kg	U	B

Sample ID: SL-537-SA5D-SB-0.0-0.5 Collected: 8/28/2013 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	0.970	JB	0.0258	MDL	5.11	PQL	ng/Kg	J	Z
1,2,3,4,7,8-HxCDD	0.748	JB	0.0342	MDL	5.11	PQL	ng/Kg	J	Z
1,2,3,4,7,8-HXCDF	0.490	JB	0.0201	MDL	5.11	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HxCDD	3.34	JB	0.0355	MDL	5.11	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDF	0.326	JB	0.0171	MDL	5.11	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HxCDD	2.22	JB	0.0328	MDL	5.11	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDF	0.654	JB	0.0200	MDL	5.11	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDD	0.533	JB	0.0480	MDL	5.11	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDF	0.341	JB	0.0214	MDL	5.11	PQL	ng/Kg	J	Z
2,3,4,6,7,8-HXCDF	0.404	JB	0.0186	MDL	5.11	PQL	ng/Kg	J	Z
2,3,4,7,8-PECDF	0.229	JB	0.0200	MDL	5.11	PQL	ng/Kg	U	B
2,3,7,8-TCDD	0.0978	J	0.0390	MDL	1.02	PQL	ng/Kg	J	Z
2,3,7,8-TCDF	0.0942	JQ	0.0439	MDL	1.02	PQL	ng/Kg	J	Z

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH095

Laboratory: LL

EDD Filename: PrepPH095

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: SVOA
Method: 1613B **Matrix:** SO

Sample ID: SL-538-SA5D-SB-0.0-0.5 Collected: 8/28/2013 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-HPCDF	1.58	JB	0.0103	MDL	5.15	PQL	ng/Kg	J	Z
1,2,3,4,7,8,9-HPCDF	0.226	JBQ	0.0151	MDL	5.15	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.136	JBQ	0.0227	MDL	5.15	PQL	ng/Kg	U	B
1,2,3,4,7,8-HXCDF	0.130	JB	0.0140	MDL	5.15	PQL	ng/Kg	U	B
1,2,3,6,7,8-HxCDD	0.710	JB	0.0234	MDL	5.15	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDF	0.122	JBQ	0.0112	MDL	5.15	PQL	ng/Kg	U	B
1,2,3,7,8,9-HxCDD	0.686	JB	0.0227	MDL	5.15	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDF	0.220	JB	0.0135	MDL	5.15	PQL	ng/Kg	U	B
1,2,3,7,8-PECDF	0.380	JB	0.0166	MDL	5.15	PQL	ng/Kg	J	Z
2,3,4,6,7,8-HXCDF	0.132	JBQ	0.0104	MDL	5.15	PQL	ng/Kg	U	B
2,3,4,7,8-PECDF	0.114	JBQ	0.0164	MDL	5.15	PQL	ng/Kg	U	B
2,3,7,8-TCDD	0.0385	JQ	0.0259	MDL	1.03	PQL	ng/Kg	J	Z
2,3,7,8-TCDF	0.0651	JQ	0.0390	MDL	1.03	PQL	ng/Kg	J	Z
OCDF	4.33	JB	0.0216	MDL	10.3	PQL	ng/Kg	J	Z

Method Category: SVOA
Method: 8015M **Matrix:** AQ

Sample ID: EB1-082813 Collected: 8/28/2013 2:00:00 Analysis Type: REA Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
EFH (C8-C11)	0.095	U	0.047	MDL	0.095	PQL	mg/L	UJ	L

Sample ID: EB2-082813 Collected: 8/28/2013 2:30:00 Analysis Type: REA Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
EFH (C8-C11)	0.097	U	0.049	MDL	0.097	PQL	mg/L	UJ	L

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH095

Laboratory: LL

EDD Filename: PrepPH095

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: SVOA
Method: 8015M **Matrix:** SO

Sample ID: SL-537-SA5D-SB-0.0-0.5 Collected: 8/28/2013 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
EFH (C15-C20)	2.5	J	2.1	MDL	5.2	PQL	mg/Kg	J	Z

Method Category: SVOA
Method: 8081B **Matrix:** AQ

Sample ID: EB1-082813 Collected: 8/28/2013 2:00:00 Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
4,4'-DDE	0.017	U	0.0043	MDL	0.017	PQL	ug/L	UJ	L
ALDRIN	0.0085	U	0.0017	MDL	0.0085	PQL	ug/L	UJ	L
ALPHA-BHC	0.0085	U	0.0026	MDL	0.0085	PQL	ug/L	UJ	L
BETA-BHC	0.0085	U	0.0029	MDL	0.0085	PQL	ug/L	UJ	L
DELTA-BHC	0.0085	U	0.0029	MDL	0.0085	PQL	ug/L	UJ	L
ENDOSULFAN SULFATE	0.017	U	0.0050	MDL	0.017	PQL	ug/L	UJ	L
ENDRIN	0.017	U	0.0069	MDL	0.017	PQL	ug/L	UJ	E
ENDRIN ALDEHYDE	0.085	U	0.017	MDL	0.085	PQL	ug/L	UJ	L
gamma-BHC (Lindane)	0.0085	U	0.0017	MDL	0.0085	PQL	ug/L	UJ	L
HEPTACHLOR EPOXIDE	0.0085	U	0.0020	MDL	0.0085	PQL	ug/L	UJ	L

Method Category: SVOA
Method: 8270D SIM **Matrix:** AQ

Sample ID: EB1-082813 Collected: 8/28/2013 2:00:00 Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BIS(2-ETHYLHEXYL)PHTHALATE	0.19	J	0.051	MDL	1.0	PQL	ug/L	U	B

Sample ID: EB1-082813 Collected: 8/28/2013 2:00:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
Diethylphthalate	0.37	J	0.051	MDL	1.0	PQL	ug/L	J	Z
Di-n-butylphthalate	0.19	J	0.051	MDL	1.0	PQL	ug/L	U	B

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH095

Laboratory: LL

EDD Filename: PrepPH095

eQAPP Name: CDM_SSFL_131101_Lan

Method Category:	SVOA	
Method:	8270D SIM	Matrix: AQ

Sample ID: EB2-082813 Collected: 8/28/2013 2:30:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BIS(2-ETHYLHEXYL)PHTHALATE	0.12	J	0.053	MDL	1.1	PQL	ug/L	U	B
Diethylphthalate	0.36	J	0.053	MDL	1.1	PQL	ug/L	J	Z
Di-n-butylphthalate	0.18	J	0.053	MDL	1.1	PQL	ug/L	U	B

Method Category:	SVOA	
Method:	8270D SIM	Matrix: SO

Sample ID: SL-536-SA5D-SB-0.0-0.5 Collected: 8/28/2013 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
BIS(2-ETHYLHEXYL)PHTHALATE	11	J	6.3	MDL	19	PQL	ug/Kg	J	Z

Sample ID: SL-536-SA5D-SB-3.5-4.5 Collected: 8/28/2013 12:00:00 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(E)PYRENE	6.3	J	3.6	MDL	18	PQL	ug/Kg	J	Z
DIBENZO(A,H)ANTHRACENE	1.2	J	0.72	MDL	1.8	PQL	ug/Kg	J	Z
FLUORANTHENE	0.74	J	0.72	MDL	1.8	PQL	ug/Kg	J	Z
INDENO(1,2,3-CD)PYRENE	1.1	J	0.72	MDL	1.8	PQL	ug/Kg	J	Z
PYRENE	0.77	J	0.72	MDL	1.8	PQL	ug/Kg	J	Z

Sample ID: SL-537-SA5D-SB-0.0-0.5 Collected: 8/28/2013 10:20:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTHRACENE	0.49	J	0.35	MDL	1.7	PQL	ug/Kg	J	Z
BENZO(E)PYRENE	4.0	J	3.5	MDL	18	PQL	ug/Kg	J	Z

Sample ID: SL-538-SA5D-SB-0.0-0.5 Collected: 8/28/2013 1:45:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTHRACENE	0.43	J	0.35	MDL	1.7	PQL	ug/Kg	J	Z
BENZO(E)PYRENE	9.1	J	3.5	MDL	18	PQL	ug/Kg	J	Z
DIBENZO(A,H)ANTHRACENE	1.4	J	0.69	MDL	1.7	PQL	ug/Kg	J	Z
PHENANTHRENE	1.5	J	0.69	MDL	1.7	PQL	ug/Kg	J	Z

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH095

EDD Filename: PrepPH095

Laboratory: LL

eQAPP Name: CDM_SSFL_131101_Lan

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Data Qualifier Summary

Lab Reporting Batch ID: PH095

Laboratory: LL

EDD Filename: PrepPH095

eQAPP Name: CDM_SSFL_131101_Lan

Reason Code Legend

<i>Reason Code</i>	<i>Description</i>
B	Calibration Blank Contamination
B	Method Blank Contamination
E	Laboratory Control Precision
F	Equipment Blank Contamination
F	Field Blank Contamination
L	Laboratory Control Precision
L	Laboratory Control Spike Lower Estimation
L	Laboratory Control Spike Upper Estimation
S	Surrogate/Tracer Recovery Upper Estimation
Z	Reporting Limit Trace Value

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Enclosure I
EPA Level III ADR Outliers
(Including Manual Review Outliers)

Quality Control Outlier Reports

PH095

Method Blank Outlier Report

Lab Reporting Batch ID: PH095

Laboratory: LL

EDD Filename: PH095_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 1613B
Matrix: AQ

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples
BLK2480B372111	9/9/2013 9:11:00 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 OCDD OCDF	0.888 pg/L 0.503 pg/L 0.549 pg/L 0.461 pg/L 0.471 pg/L 0.533 pg/L 0.575 pg/L 0.529 pg/L 0.668 pg/L 0.622 pg/L 0.765 pg/L 0.483 pg/L 0.542 pg/L 1.12 pg/L 2.39 pg/L	EB1-082813 EB2-082813

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
EB1-082813(RES)	1,2,3,4,6,7,8-HPCDD	0.608 pg/L	0.608U pg/L
EB1-082813(RES)	1,2,3,4,6,7,8-HPCDF	0.299 pg/L	0.299U pg/L
EB1-082813(RES)	1,2,3,4,7,8,9-HPCDF	0.554 pg/L	0.554U pg/L
EB1-082813(RES)	1,2,3,4,7,8-HXCDF	0.222 pg/L	0.222U pg/L
EB1-082813(RES)	1,2,3,6,7,8-HXCDF	0.467 pg/L	0.467U pg/L
EB1-082813(RES)	1,2,3,7,8,9-HXCDD	0.471 pg/L	0.471U pg/L
EB1-082813(RES)	1,2,3,7,8,9-HXCDF	0.245 pg/L	0.245U pg/L
EB1-082813(RES)	1,2,3,7,8-PECDF	0.501 pg/L	0.501U pg/L
EB1-082813(RES)	2,3,4,6,7,8-HXCDF	0.417 pg/L	0.417U pg/L
EB1-082813(RES)	OCDD	1.43 pg/L	1.43U pg/L
EB1-082813(RES)	OCDF	1.41 pg/L	1.41U pg/L
EB2-082813(RES)	1,2,3,4,6,7,8-HPCDD	0.721 pg/L	0.721U pg/L
EB2-082813(RES)	1,2,3,4,6,7,8-HPCDF	0.427 pg/L	0.427U pg/L
EB2-082813(RES)	1,2,3,4,7,8,9-HPCDF	0.404 pg/L	0.404U pg/L
EB2-082813(RES)	1,2,3,4,7,8-HXCDF	0.223 pg/L	0.223U pg/L
EB2-082813(RES)	1,2,3,7,8-PECDD	0.352 pg/L	0.352U pg/L
EB2-082813(RES)	1,2,3,7,8-PECDF	0.364 pg/L	0.364U pg/L
EB2-082813(RES)	2,3,4,6,7,8-HXCDF	0.302 pg/L	0.302U pg/L
EB2-082813(RES)	2,3,4,7,8-PECDF	0.323 pg/L	0.323U pg/L
EB2-082813(RES)	OCDD	1.48 pg/L	1.48U pg/L
EB2-082813(RES)	OCDF	1.00 pg/L	1.00U pg/L

Method Blank Outlier Report

Lab Reporting Batch ID: PH095

Laboratory: LL

EDD Filename: PH095_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 1613B
Matrix: SO

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples
BLK2480B371919	9/6/2013 7:19:00 PM	1,2,3,4,6,7,8-HPCDD 1,2,3,4,6,7,8-HPCDF 1,2,3,4,7,8-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 OCDD OCDF	0.122 ng/Kg 0.0567 ng/Kg 0.0816 ng/Kg 0.0423 ng/Kg 0.0557 ng/Kg 0.0502 ng/Kg 0.0251 ng/Kg 0.0844 ng/Kg 0.0604 ng/Kg 0.0657 ng/Kg 0.0612 ng/Kg 0.0455 ng/Kg 0.0677 ng/Kg 0.464 ng/Kg 0.216 ng/Kg	SL-536-SA5D-SB-0.0-0.5 SL-537-SA5D-SB-0.0-0.5 SL-538-SA5D-SB-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-536-SA5D-SB-0.0-0.5(RES)	1,2,3,4,6,7,8-HPCDD	0.595 ng/Kg	0.595U ng/Kg
SL-536-SA5D-SB-0.0-0.5(RES)	1,2,3,4,6,7,8-HPCDF	0.0869 ng/Kg	0.0869U ng/Kg
SL-536-SA5D-SB-0.0-0.5(RES)	1,2,3,4,7,8,9-HPCDF	0.0433 ng/Kg	0.0433U ng/Kg
SL-536-SA5D-SB-0.0-0.5(RES)	1,2,3,4,7,8-HxCDD	0.0567 ng/Kg	0.0567U ng/Kg
SL-536-SA5D-SB-0.0-0.5(RES)	1,2,3,4,7,8-HXCDF	0.0644 ng/Kg	0.0644U ng/Kg
SL-536-SA5D-SB-0.0-0.5(RES)	1,2,3,6,7,8-HXCDD	0.0604 ng/Kg	0.0604U ng/Kg
SL-536-SA5D-SB-0.0-0.5(RES)	1,2,3,6,7,8-HXCDF	0.0535 ng/Kg	0.0535U ng/Kg
SL-536-SA5D-SB-0.0-0.5(RES)	1,2,3,7,8,9-HXCDD	0.0718 ng/Kg	0.0718U ng/Kg
SL-536-SA5D-SB-0.0-0.5(RES)	1,2,3,7,8,9-HXCDF	0.0397 ng/Kg	0.0397U ng/Kg
SL-536-SA5D-SB-0.0-0.5(RES)	1,2,3,7,8-PECDD	0.109 ng/Kg	0.109U ng/Kg
SL-536-SA5D-SB-0.0-0.5(RES)	1,2,3,7,8-PECDF	0.143 ng/Kg	0.143U ng/Kg
SL-536-SA5D-SB-0.0-0.5(RES)	2,3,4,6,7,8-HXCDF	0.0435 ng/Kg	0.0435U ng/Kg
SL-536-SA5D-SB-0.0-0.5(RES)	2,3,4,7,8-PECDF	0.0605 ng/Kg	0.0605U ng/Kg
SL-536-SA5D-SB-0.0-0.5(RES)	OCDF	0.245 ng/Kg	0.245U ng/Kg
SL-537-SA5D-SB-0.0-0.5(RES)	2,3,4,7,8-PECDF	0.229 ng/Kg	0.229U ng/Kg
SL-538-SA5D-SB-0.0-0.5(RES)	1,2,3,4,7,8,9-HPCDF	0.226 ng/Kg	0.226U ng/Kg
SL-538-SA5D-SB-0.0-0.5(RES)	1,2,3,4,7,8-HxCDD	0.136 ng/Kg	0.136U ng/Kg
SL-538-SA5D-SB-0.0-0.5(RES)	1,2,3,4,7,8-HXCDF	0.130 ng/Kg	0.130U ng/Kg
SL-538-SA5D-SB-0.0-0.5(RES)	1,2,3,6,7,8-HXCDF	0.122 ng/Kg	0.122U ng/Kg
SL-538-SA5D-SB-0.0-0.5(RES)	1,2,3,7,8,9-HXCDF	0.220 ng/Kg	0.220U ng/Kg
SL-538-SA5D-SB-0.0-0.5(RES)	2,3,4,6,7,8-HXCDF	0.132 ng/Kg	0.132U ng/Kg
SL-538-SA5D-SB-0.0-0.5(RES)	2,3,4,7,8-PECDF	0.114 ng/Kg	0.114U ng/Kg

Method: 6010C
Matrix: AQ

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples
P24135AB221004	9/2/2013 10:04:00 AM	CALCIUM	0.0748 mg/L	EB1-082813 EB2-082813

Method Blank Outlier Report

Lab Reporting Batch ID: PH095

Laboratory: LL

EDD Filename: PH095_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 6010C
Matrix: AQ

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples
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Method: 6010C
Matrix: SO

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples
P24237AB220427	9/4/2013 4:27:00 AM	CALCIUM TIN ZINC	9.35 mg/Kg 1.64 mg/Kg 0.416 mg/Kg	SL-536-SA5D-SB-0.0-0.5 SL-536-SA5D-SB-3.5-4.5 SL-537-SA5D-SB-0.0-0.5 SL-537-SA5D-SB-2.5-3.5 SL-538-SA5D-SB-0.0-0.5 SL-538-SA5D-SB-3.0-4.0

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-536-SA5D-SB-0.0-0.5(REA)	TIN	3.13 mg/Kg	3.13U mg/Kg
SL-536-SA5D-SB-3.5-4.5(REA)	TIN	4.70 mg/Kg	4.70U mg/Kg
SL-537-SA5D-SB-0.0-0.5(REA)	TIN	2.94 mg/Kg	2.94U mg/Kg
SL-537-SA5D-SB-2.5-3.5(REA)	TIN	3.41 mg/Kg	3.41U mg/Kg
SL-538-SA5D-SB-0.0-0.5(REA)	TIN	2.94 mg/Kg	2.94U mg/Kg
SL-538-SA5D-SB-3.0-4.0(REA)	TIN	3.22 mg/Kg	3.22U mg/Kg

Method: 8270D SIM
Matrix: AQ

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples
PLKWJ24B260027	9/4/2013 12:27:00 AM	BIS(2-ETHYLHEXYL)PHTHALATE Di-n-butylphthalate	0.061 ug/L 0.11 ug/L	EB1-082813 EB2-082813

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
EB1-082813(RES)	BIS(2-ETHYLHEXYL)PHTHALATE	0.19 ug/L	1.0U ug/L
EB1-082813(RES)	Di-n-butylphthalate	0.19 ug/L	1.0U ug/L
EB2-082813(RES)	BIS(2-ETHYLHEXYL)PHTHALATE	0.12 ug/L	1.1U ug/L
EB2-082813(RES)	Di-n-butylphthalate	0.18 ug/L	1.1U ug/L

Equipment Rinsate Blank Outlier Report

Lab Reporting Batch ID: PH095

Laboratory: LL

EDD Filename: PH095_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 6010C
Matrix: SO

Equipment Blank Sample ID	Collected Date	Analyte	Result	Associated Samples
EB1-082813(RES)	8/28/2013 2:00:00 PM	BARIUM MOLYBDENUM	0.00035 mg/L 0.008 mg/L	SL-536-SA5D-SB-0.0-0.5 SL-536-SA5D-SB-3.5-4.5 SL-537-SA5D-SB-0.0-0.5 SL-537-SA5D-SB-2.5-3.5 SL-538-SA5D-SB-0.0-0.5 SL-538-SA5D-SB-3.0-4.0

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-536-SA5D-SB-0.0-0.5(REA)	MOLYBDENUM	0.185 mg/Kg	0.185U mg/Kg
SL-536-SA5D-SB-3.5-4.5(REA)	MOLYBDENUM	0.487 mg/Kg	0.487U mg/Kg
SL-537-SA5D-SB-0.0-0.5(REA)	MOLYBDENUM	0.411 mg/Kg	0.411U mg/Kg
SL-537-SA5D-SB-2.5-3.5(REA)	MOLYBDENUM	0.242 mg/Kg	0.242U mg/Kg
SL-538-SA5D-SB-0.0-0.5(REA)	MOLYBDENUM	0.404 mg/Kg	0.404U mg/Kg
SL-538-SA5D-SB-3.0-4.0(REA)	MOLYBDENUM	2.07 mg/Kg	2.07U mg/Kg

Field Blank Outlier Report

Lab Reporting Batch ID: PH095

Laboratory: LL

EDD Filename: PrepPH095

eQAPP Name: CDM_SSFL_131101_Lan

Method: 6010C
Matrix: SO

Field Blank Sample ID	Collected Date	Analyte	Result	Associated Samples
FB-041113(REA2)	4/11/2013 3:00:00 PM	COPPER MOLYBDENUM	0.0036 mg/L 0.0036 mg/L	SL-536-SA5D-SB-0.0-0.5 SL-536-SA5D-SB-3.5-4.5 SL-537-SA5D-SB-0.0-0.5 SL-537-SA5D-SB-2.5-3.5 SL-538-SA5D-SB-0.0-0.5 SL-538-SA5D-SB-3.0-4.0

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-536-SA5D-SB-0.0-0.5(REA)	MOLYBDENUM	0.185 mg/Kg	0.185U mg/Kg
SL-536-SA5D-SB-3.5-4.5(REA)	MOLYBDENUM	0.487 mg/Kg	0.487U mg/Kg
SL-537-SA5D-SB-0.0-0.5(REA)	MOLYBDENUM	0.411 mg/Kg	0.411U mg/Kg
SL-537-SA5D-SB-2.5-3.5(REA)	MOLYBDENUM	0.242 mg/Kg	0.242U mg/Kg
SL-538-SA5D-SB-0.0-0.5(REA)	MOLYBDENUM	0.404 mg/Kg	0.404U mg/Kg

Surrogate Outlier Report

Lab Reporting Batch ID: PH095

Laboratory: LL

EDD Filename: PH095_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 8082A

Matrix: AQ

<i>Sample ID (Analysis Type)</i>	<i>Surrogate</i>	<i>Sample % Recovery</i>	<i>% Recovery Limits</i>	<i>Affected Compounds</i>	<i>Flag</i>
EB2-082813	DECACHLOROBIPHENYL TETRACHLORO-M-XYLENE	121 121	45.00-120.00 45.00-120.00	All Target Analytes	J (all detects)

Lab Control Spike/Lab Control Spike Duplicate Outlier Report

Lab Reporting Batch ID: PH095

Laboratory: LL

EDD Filename: PH095_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 8015M
Matrix: AQ

QC Sample ID (Associated Samples)	Compound	LCS %R	LCSD %R	%R Limits	RPD (Limits)	Affected Compounds	Flag
P32476AQ320211A (EB1 -082813 EB2 -082813)	EFH (C8-C11)	67	-	70.00-130.00	-	EFH (C8-C11)	J (all detects) UJ (all non-detects)

Method: 8082A
Matrix: AQ

QC Sample ID (Associated Samples)	Compound	LCS %R	LCSD %R	%R Limits	RPD (Limits)	Affected Compounds	Flag
P32479AY242234A P32479AY242253A (EB1 -082813 EB2 -082813)	AROCLOR 1260 Aroclor 5442	- -	134 98	69.00-128.00 35.00-84.00	- -	AROCLOR 1260, 1242, 1248, 1254 1262, 1268 AROCLOR 5460, 5442, 5432	J(all detects)

Method: 8081B
Matrix: AQ

QC Sample ID (Associated Samples)	Compound	LCS %R	LCSD %R	%R Limits	RPD (Limits)	Affected Compounds	Flag
P32470AQ241913A P32470AY241928A (EB1 -082813)	4,4'-DDE ALDRIN ALPHA-BHC BETA-BHC DELTA-BHC ENDOSULFAN SULFATE ENDRIN ENDRIN ALDEHYDE gamma-BHC (Lindane) HEPTACHLOR EPOXIDE	54 52 61 55 53 55 - 54 59 53	- - - 62 60 - - - - 61	56.00-137.00 55.00-126.00 63.00-132.00 63.00-132.00 63.00-131.00 60.00-129.00 43.00-139.00 55.00-123.00 68.00-128.00 65.00-128.00	- - - - - - 31 (30.00) - - -	4,4'-DDE ALDRIN ALPHA-BHC BETA-BHC DELTA-BHC ENDOSULFAN SULFATE ENDRIN ENDRIN ALDEHYDE gamma-BHC (Lindane) HEPTACHLOR EPOXIDE	J(all detects) UJ(all non-detects)

Reporting Limit Outliers

Lab Reporting Batch ID: PH095

Laboratory: LL

EDD Filename: PH095_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 1613B
Matrix: AQ

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
EB1-082813	1,2,3,4,6,7,8-HPCDD	JBQ	0.608	9.67	PQL	pg/L	J (all detects)
	1,2,3,4,6,7,8-HPCDF	JBQ	0.299	9.67	PQL	pg/L	
	1,2,3,4,7,8,9-HPCDF	JBQ	0.554	9.67	PQL	pg/L	
	1,2,3,4,7,8-HXCDF	JBQ	0.222	9.67	PQL	pg/L	
	1,2,3,6,7,8-HXCDF	JBQ	0.467	9.67	PQL	pg/L	
	1,2,3,7,8,9-HXCDD	JBQ	0.471	9.67	PQL	pg/L	
	1,2,3,7,8,9-HXCDF	JB	0.245	9.67	PQL	pg/L	
	1,2,3,7,8-PECDF	JBQ	0.501	9.67	PQL	pg/L	
	2,3,4,6,7,8-HXCDF	JBQ	0.417	9.67	PQL	pg/L	
	OCDD	JBQ	1.43	19.3	PQL	pg/L	
OCDF	JBQ	1.41	19.3	PQL	pg/L		
EB2-082813	1,2,3,4,6,7,8-HPCDD	JBQ	0.721	9.85	PQL	pg/L	J (all detects)
	1,2,3,4,6,7,8-HPCDF	JBQ	0.427	9.85	PQL	pg/L	
	1,2,3,4,7,8,9-HPCDF	JBQ	0.404	9.85	PQL	pg/L	
	1,2,3,4,7,8-HXCDF	JBQ	0.223	9.85	PQL	pg/L	
	1,2,3,7,8-PECDD	JB	0.352	9.85	PQL	pg/L	
	1,2,3,7,8-PECDF	JB	0.364	9.85	PQL	pg/L	
	2,3,4,6,7,8-HXCDF	JB	0.302	9.85	PQL	pg/L	
	2,3,4,7,8-PECDF	JB	0.323	9.85	PQL	pg/L	
	OCDD	JBQ	1.48	19.7	PQL	pg/L	
	OCDF	JB	1.00	19.7	PQL	pg/L	

Method: 6010C
Matrix: AQ

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
EB1-082813	BARIUM	J	0.00035	0.0100	PQL	mg/L	J (all detects)
	MOLYBDENUM	J	0.0080	0.0200	PQL	mg/L	
EB2-082813	MOLYBDENUM	J	0.0022	0.0200	PQL	mg/L	J (all detects)

Method: 8270D SIM
Matrix: AQ

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
EB1-082813	BIS(2-ETHYLHEXYL)PHthalate	J	0.19	1.0	PQL	ug/L	J (all detects)
	Diethylphthalate	J	0.37	1.0	PQL	ug/L	
	Di-n-butylphthalate	J	0.19	1.0	PQL	ug/L	
EB2-082813	BIS(2-ETHYLHEXYL)PHthalate	J	0.12	1.1	PQL	ug/L	J (all detects)
	Diethylphthalate	J	0.36	1.1	PQL	ug/L	
	Di-n-butylphthalate	J	0.18	1.1	PQL	ug/L	

Reporting Limit Outliers

Lab Reporting Batch ID: PH095

Laboratory: LL

EDD Filename: PH095_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 1613B

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-536-SA5D-SB-0.0-0.5	1,2,3,4,6,7,8-HPCDD	JBQ	0.595	5.10	PQL	ng/Kg	J (all detects)
	1,2,3,4,6,7,8-HPCDF	JBQ	0.0869	5.10	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JBQ	0.0433	5.10	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JBQ	0.0567	5.10	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDF	JBQ	0.0644	5.10	PQL	ng/Kg	
	1,2,3,6,7,8-HxCDD	JBQ	0.0604	5.10	PQL	ng/Kg	
	1,2,3,6,7,8-HxCDF	JBQ	0.0535	5.10	PQL	ng/Kg	
	1,2,3,7,8,9-HxCDD	JB	0.0718	5.10	PQL	ng/Kg	
	1,2,3,7,8,9-HxCDF	JBQ	0.0397	5.10	PQL	ng/Kg	
	1,2,3,7,8-PECDD	JBQ	0.109	5.10	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JBQ	0.143	5.10	PQL	ng/Kg	
	2,3,4,6,7,8-HxCDF	JB	0.0435	5.10	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JB	0.0605	5.10	PQL	ng/Kg	
	2,3,7,8-TCDD	JQ	0.0385	1.02	PQL	ng/Kg	
	2,3,7,8-TCDF	J	0.0360	1.02	PQL	ng/Kg	
	OCDD	JB	7.52	10.2	PQL	ng/Kg	
	OCDF	JB	0.245	10.2	PQL	ng/Kg	
SL-537-SA5D-SB-0.0-0.5	1,2,3,4,7,8,9-HPCDF	JB	0.970	5.11	PQL	ng/Kg	J (all detects)
	1,2,3,4,7,8-HxCDD	JB	0.748	5.11	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDF	JB	0.490	5.11	PQL	ng/Kg	
	1,2,3,6,7,8-HxCDD	JB	3.34	5.11	PQL	ng/Kg	
	1,2,3,6,7,8-HxCDF	JB	0.326	5.11	PQL	ng/Kg	
	1,2,3,7,8,9-HxCDD	JB	2.22	5.11	PQL	ng/Kg	
	1,2,3,7,8,9-HxCDF	JB	0.654	5.11	PQL	ng/Kg	
	1,2,3,7,8-PECDD	JB	0.533	5.11	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JB	0.341	5.11	PQL	ng/Kg	
	2,3,4,6,7,8-HxCDF	JB	0.404	5.11	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JB	0.229	5.11	PQL	ng/Kg	
	2,3,7,8-TCDD	J	0.0978	1.02	PQL	ng/Kg	
	2,3,7,8-TCDF	JQ	0.0942	1.02	PQL	ng/Kg	
SL-538-SA5D-SB-0.0-0.5	1,2,3,4,6,7,8-HPCDF	JB	1.58	5.15	PQL	ng/Kg	J (all detects)
	1,2,3,4,7,8,9-HPCDF	JBQ	0.226	5.15	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JBQ	0.136	5.15	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDF	JB	0.130	5.15	PQL	ng/Kg	
	1,2,3,6,7,8-HxCDD	JB	0.710	5.15	PQL	ng/Kg	
	1,2,3,6,7,8-HxCDF	JBQ	0.122	5.15	PQL	ng/Kg	
	1,2,3,7,8,9-HxCDD	JB	0.686	5.15	PQL	ng/Kg	
	1,2,3,7,8,9-HxCDF	JB	0.220	5.15	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JB	0.380	5.15	PQL	ng/Kg	
	2,3,4,6,7,8-HxCDF	JBQ	0.132	5.15	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JBQ	0.114	5.15	PQL	ng/Kg	
	2,3,7,8-TCDD	JQ	0.0385	1.03	PQL	ng/Kg	
	2,3,7,8-TCDF	JQ	0.0651	1.03	PQL	ng/Kg	
	OCDF	JB	4.33	10.3	PQL	ng/Kg	

Reporting Limit Outliers

Lab Reporting Batch ID: PH095

Laboratory: LL

EDD Filename: PH095_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 6010C
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-536-SA5D-SB-0.0-0.5	ANTIMONY	J	1.40	4.17	PQL	mg/Kg	J (all detects)
	BERYLLIUM	J	0.524	1.04	PQL	mg/Kg	
	BORON	J	4.70	10.4	PQL	mg/Kg	
	CADMIUM	J	0.319	1.04	PQL	mg/Kg	
	MOLYBDENUM	J	0.185	2.08	PQL	mg/Kg	
	SODIUM	J	102	104	PQL	mg/Kg	
	TIN	J	3.13	10.4	PQL	mg/Kg	
SL-536-SA5D-SB-3.5-4.5	ANTIMONY	J	2.84	4.35	PQL	mg/Kg	J (all detects)
	BORON	J	8.78	10.9	PQL	mg/Kg	
	CADMIUM	J	0.601	1.09	PQL	mg/Kg	
	MOLYBDENUM	J	0.487	2.18	PQL	mg/Kg	
	TIN	J	4.70	10.9	PQL	mg/Kg	
	Zirconium	J	3.47	5.44	PQL	mg/Kg	
SL-537-SA5D-SB-0.0-0.5	ANTIMONY	J	0.981	4.19	PQL	mg/Kg	J (all detects)
	BERYLLIUM	J	0.689	1.05	PQL	mg/Kg	
	BORON	J	6.45	10.5	PQL	mg/Kg	
	CADMIUM	J	0.481	1.05	PQL	mg/Kg	
	MOLYBDENUM	J	0.411	2.10	PQL	mg/Kg	
	TIN	J	2.94	10.5	PQL	mg/Kg	
	Zirconium	J	1.84	5.24	PQL	mg/Kg	
SL-537-SA5D-SB-2.5-3.5	ANTIMONY	J	1.22	4.18	PQL	mg/Kg	J (all detects)
	BERYLLIUM	J	0.532	1.04	PQL	mg/Kg	
	BORON	J	4.76	10.4	PQL	mg/Kg	
	CADMIUM	J	0.292	1.04	PQL	mg/Kg	
	MOLYBDENUM	J	0.242	2.09	PQL	mg/Kg	
	TIN	J	3.41	10.4	PQL	mg/Kg	
	Zirconium	J	2.41	5.22	PQL	mg/Kg	
SL-538-SA5D-SB-0.0-0.5	ANTIMONY	J	1.01	4.05	PQL	mg/Kg	J (all detects)
	BERYLLIUM	J	0.647	1.01	PQL	mg/Kg	
	BORON	J	5.78	10.1	PQL	mg/Kg	
	CADMIUM	J	0.329	1.01	PQL	mg/Kg	
	MOLYBDENUM	J	0.404	2.03	PQL	mg/Kg	
	SODIUM	J	86.6	101	PQL	mg/Kg	
	TIN	J	2.94	10.1	PQL	mg/Kg	
	Zirconium	J	1.74	5.07	PQL	mg/Kg	
SL-538-SA5D-SB-3.0-4.0	ANTIMONY	J	1.21	4.15	PQL	mg/Kg	J (all detects)
	BERYLLIUM	J	0.432	1.04	PQL	mg/Kg	
	BORON	J	4.28	10.4	PQL	mg/Kg	
	CADMIUM	J	0.307	1.04	PQL	mg/Kg	
	TIN	J	3.22	10.4	PQL	mg/Kg	
	Zirconium	J	1.79	5.18	PQL	mg/Kg	

Method: 6020A
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-536-SA5D-SB-0.0-0.5	SILVER	J	0.0836	0.208	PQL	mg/Kg	J (all detects)
	THALLIUM	J	0.189	0.208	PQL	mg/Kg	
SL-536-SA5D-SB-3.5-4.5	SELENIUM	J	0.252	0.435	PQL	mg/Kg	J (all detects)
	SILVER	J	0.144	0.218	PQL	mg/Kg	

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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ADR version 1.7.0.207

Page 3 of 4

Reporting Limit Outliers

Lab Reporting Batch ID: PH095

Laboratory: LL

EDD Filename: PH095_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 6020A

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-537-SA5D-SB-0.0-0.5	SELENIUM	J	0.182	0.419	PQL	mg/Kg	J (all detects)
	SILVER	J	0.0501	0.210	PQL	mg/Kg	
SL-537-SA5D-SB-2.5-3.5	SELENIUM	J	0.181	0.418	PQL	mg/Kg	J (all detects)
	SILVER	J	0.0504	0.209	PQL	mg/Kg	
SL-538-SA5D-SB-0.0-0.5	SELENIUM	J	0.145	0.405	PQL	mg/Kg	J (all detects)
	SILVER	J	0.0630	0.203	PQL	mg/Kg	

Method: 7471B

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-536-SA5D-SB-0.0-0.5	MERCURY	J	0.0112	0.0172	PQL	mg/Kg	J (all detects)
SL-536-SA5D-SB-3.5-4.5	MERCURY	J	0.0140	0.0178	PQL	mg/Kg	J (all detects)
SL-537-SA5D-SB-0.0-0.5	MERCURY	J	0.0130	0.0166	PQL	mg/Kg	J (all detects)
SL-538-SA5D-SB-0.0-0.5	MERCURY	J	0.0124	0.0169	PQL	mg/Kg	J (all detects)

Method: 8015M

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-537-SA5D-SB-0.0-0.5	EFH (C15-C20)	J	2.5	5.2	PQL	mg/Kg	J (all detects)

Method: 8270D SIM

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-536-SA5D-SB-0.0-0.5	BIS(2-ETHYLHEXYL)PHTHALATE	J	11	19	PQL	ug/Kg	J (all detects)
SL-536-SA5D-SB-3.5-4.5	BENZO(E)PYRENE	J	6.3	18	PQL	ug/Kg	J (all detects)
	DIBENZO(A,H)ANTHRACENE	J	1.2	1.8	PQL	ug/Kg	
	FLUORANTHENE	J	0.74	1.8	PQL	ug/Kg	
	INDENO(1,2,3-CD)PYRENE	J	1.1	1.8	PQL	ug/Kg	
	PYRENE	J	0.77	1.8	PQL	ug/Kg	
SL-537-SA5D-SB-0.0-0.5	ANTHRACENE	J	0.49	1.7	PQL	ug/Kg	J (all detects)
	BENZO(E)PYRENE	J	4.0	18	PQL	ug/Kg	
SL-538-SA5D-SB-0.0-0.5	ANTHRACENE	J	0.43	1.7	PQL	ug/Kg	J (all detects)
	BENZO(E)PYRENE	J	9.1	18	PQL	ug/Kg	
	DIBENZO(A,H)ANTHRACENE	J	1.4	1.7	PQL	ug/Kg	
	PHENANTHRENE	J	1.5	1.7	PQL	ug/Kg	

LDC #: 30673B4

VALIDATION COMPLETENESS WORKSHEET

Date: 11/7/13

SDG #: PH095

ADR

Page: 1 of 1

Laboratory: Eurofins Lancaster Laboratories

Reviewer: [Signature]

2nd Reviewer: MG

METHOD: Metals (EPA SW 846 Method 6010C/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: 8/28/13
II.	ICP/MS Tune	-	
III.	Calibration	-	
IV.	Blanks	SW	
V.	ICP Interference Check Sample (ICS) Analysis	-	
VI.	Matrix Spike Analysis	N	CS
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	N	
XV.	Field Blanks	SW	EB=1,2 FB=FB-041113

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

(PH095)

Validated Samples:

1	EB1-082813	11		21		31	
2	EB2-082813	12		22		32	
3	SL-536-SA5D-SB-0.0-0.5	13		23		33	
4	SL-536-SA5D-SB-3.5-4.5	14		24		34	
5	SL-537-SA5D-SB-0.0-0.5	15		25		35	
6	SL-537-SA5D-SB-2.5-3.5	16		26		36	
7	SL-538-SA5D-SB-0.0-0.5	17		27		37	
8	SL-538-SA5D-SB-3.0-4.0	18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

**VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES**

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)

Soil preparation factor applied: _____

Reason: B

Sample Concentration units, unless otherwise noted: ug/L

Associated Samples: All Water

					Sample Identification										
Analyte	Maximum PB ^a (mg/Kg)	Maximum PB ^a (ug/L)	Maximum ICB/CCB ^a (ug/L)	Action Level	1	2									
Mo			3.3	16.5	8.0	2.2									

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".

Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

VALIDATION FINDINGS WORKSHEET
Field Blanks

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

Blank units: mg/L **Associated sample units:** mg/Kg Reason: F

Sampling date: 4/11/13 Soil factor applied 100x

Field blank type: (circle one) Field Blank / Rinsate / Other: Associated Samples: All Soil

Analyte	Blank ID	Sample Identification									
	FB-041113 (SDG: PH029)	Action Limit	3	4	5	6	7				
Cu	0.0036	1.8									
Mo	0.0036	1.8	0.195	0.407	0.411	0.242	0.404				

Sampling date: 8/28/13 Soil factor applied 100x

Field blank type: (circle one) Field Blank / Rinsate / Other: Associated Samples: All Soil

Analyte	Blank ID	Sample Identification									
	EB1-082813 (SDG: PH095)	Action Limit	3	4	5	6	7	8			
Ba	0.00035	0.175									
Mo	0.0080	4.40	0.195	0.407	0.411	0.242	0.404	2.07			

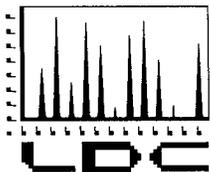
Sampling date: 8/28/13 Soil factor applied 100x

Field blank type: (circle one) Field Blank / Rinsate / Other: Associated Samples: None

Analyte	Blank ID	Sample Identification									
	EB2-082813 (SDG: PH095)	Action Limit	No Qualifiers								
Mo	0.0022	1.1									

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".



LABORATORY DATA CONSULTANTS, INC.
2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

CDM
555 17th Street, Suite 1100
Denver, CO 80202
ATTN: Mrs. Cherie Zakowski

December 11, 2013

SUBJECT: Santa Susana Field Laboratory, Subarea 5D Data Validation

Dear Mrs. Zakowski,

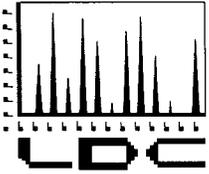
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on October 29, 2013. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 30695:

<u>SDG #</u>	<u>Fraction</u>
PH098, PH099 PH100, PH101 PH102, PH103 PH104, PH105 PH106, PH107 PH108, PH109 PH110, PH111 PH112, PH113 PH114	Semivolatiles, Chlorinated Pesticides, Polychlorinated Biphenyls, Metals, Herbicides, Wet Chemistry, Total Petroleum Hydrocarbons as Gasoline, Total Petroleum Hydrocarbons as Extractables, Dioxins/Dibenzofurans, Perchlorate

The data validation was performed under Level III & IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan for Santa Susana Field Laboratory, RCRA Facility Investigation, Surficial Media Operable Unit, March 2009, Revision 4
- USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review, January 2010
- Polychlorinated Dioxins/Dibenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007



Please feel free to contact us if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read 'Shauna McKellar', written in a cursive style.

Shauna McKellar
Project Manager/Chemist

90/10 ADR/IV LDC #30695 (CDM Federal Programs-Chantilly VA / Santa Susana Field Laboratory, Subarea 5D)

LDC	SDG#	DATE REC'D	(4) DATE DUE	SVOA (8270D -SIM)		Pest. (8081B)		PCBs (8082A)		Metals & Hg (SW846)		Herbs. (8151A)		CLO ₄ (6850)		TPH-G (8015M)		TPH-E (8015M)		Dioxins (1613B)		Cr(VI) (7199)		F (300.0)																
				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S			
Matrix: Water/Soil				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	
A	PH098	10/29/13	11/26/13	0	3	0	4	0	3	0	3	-	-	-	-	1	4	0	3	0	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
B	PH099	10/29/13	11/26/13	0	12	0	10	0	12	0	12	-	-	-	-	1	5	0	12	0	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
C	PH100	10/29/13	11/26/13	0	12	0	4	0	12	0	12	-	-	0	2	1	6	0	12	0	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
D	PH101	10/29/13	11/26/13	1	9	1	3	1	9	1	9	1	3	1	0	2	5	1	9	1	4	1	0	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
E	PH102	10/29/13	11/26/13	0	11	0	8	0	11	0	11	0	3	0	3	1	7	0	11	0	4	0	3	0	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
F	PH103	10/29/13	11/26/13	0	5	0	2	0	5	0	5	-	-	0	4	1	3	0	5	0	2	-	-	0	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
G	PH104	10/29/13	11/26/13	0	5	0	5	0	5	0	5	-	-	-	-	1	3	0	5	0	2	-	-	0	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
H	PH105	10/29/13	11/26/13	0	4	0	4	0	4	0	4	0	4	-	-	1	3	0	4	0	1	-	-	0	21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
I	PH106	10/29/13	11/26/13	1	14	1	8	1	14	1	14	1	0	1	0	2	7	1	14	1	11	1	0	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
J	PH107	10/29/13	11/26/13	1	8	0	5	1	8	1	8	1	3	1	8	1	5	1	8	1	3	1	3	1	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
K	PH108	10/29/13	11/26/13	0	5	0	5	0	5	0	5	-	-	-	-	1	4	0	5	0	1	-	-	0	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
L	PH109	10/29/13	11/26/13	0	14	-	-	0	14	0	14	-	-	-	-	1	11	0	14	0	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
M	PH110	10/29/13	11/26/13	2	10	2	2	2	10	2	10	2	4	2	3	3	6	2	10	2	4	2	0	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
N	PH111	10/29/13	11/26/13	0	4	0	4	0	1	0	1	0	3	0	5	1	1	0	4	0	5	0	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
O	PH112	10/29/13	11/26/13	0	6	0	6	0	5	0	5	0	6	0	1	1	2	0	5	0	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
P	PH113	10/29/13	11/26/13	0	7	-	-	0	7	0	7	-	-	-	-	1	2	0	7	0	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Q	PH114	10/29/13	11/26/13	1	7	1	2	1	6	1	6	1	0	1	0	2	3	1	6	1	3	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total	T/SM			6	141	5	72	6	136	6	136	6	26	6	26	22	77	6	139	6	74	5	9	6	72	0	0	0	0	0	0	0	0	0	0	0	0	0	0	988

Shaded cells indicate Level IV validation (all other cells are ADR review). These sample counts do not include MS/MSD, and DUPs

**Data Validation Report
Santa Susana Field Laboratory**

Subarea 5D

SDG: PH098

Prepared for

CDM Smith
555 17th Street, Suite 1100
Denver, CO 80202

Prepared by

Laboratory Data Consultants, Inc
2701 Loker Ave West, Suite 220
Carlsbad, California 92010

December 9, 2013

INTRODUCTION

This Data Validation Report (DVR) presents Level IV data validation results for samples collected on August 29, 2013. Data validation was performed in accordance with 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), Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005), and for Inorganic Data Review (January 2010). Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following methods:

Semivolatiles (SVOCs) by Environmental Protection Agency (EPA) SW 846 Method 8270D utilizing Selective Ion Monitoring (SIM)

Pesticides by EPA SW 846 Method 8081B

Polychlorinated Biphenyls (PCBs) by EPA SW 846 Method 8082A

Metals by EPA SW 846 Method 6010C, 6020A, and 7471B

Total Petroleum Hydrocarbons (TPH) as Gasoline by EPA SW 846 Method 8015M

TPH as Extractables by EPA SW 846 Method 8015M

Dioxins and Dibenzofurans by EPA Method 1613B

The sample identification and methods of analyses performed on each sample is presented in Attachment 1. Overall data qualification summary is presented in Attachment II. Automated Data Review outliers are presented in Enclosure I. Method specific Level IV DVRs are presented in Enclosure II.

All sample results were subjected to Level IV data validation, which comprises an evaluation of quality control (QC) summary results for sample holding times, initial and continuing calibrations, initial and continuing calibration blanks (ICB/CCBs), surrogates, internal standards, interference check (ICSA and ICSAB) samples, matrix spike/matrix spike duplicates (MS/MSD), laboratory control sample/laboratory control sample duplicates (LCS/LCSD), method blanks, trip blanks, equipment blanks, field blanks, and the raw data to confirm sample quantitation and identification.

Automated data review was performed on all QC summary results using the Automated Data Review (ADR) software program (LDC, 2013) with exception of the initial and continuing calibrations, ICB/CCBs, interference check samples and internal standards (except dioxins) which were validated manually. Quality assurance (QA)/QC criteria specified in the QAPP and CLPNFGs were incorporated with the program's reference library to assess compliance with project requirements.

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.

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 QC criteria.

II. Initial Calibration

All criteria for the initial calibration of each method were met.

III. Continuing Calibration

All criteria for the initial calibration verifications and continuing calibration of each method were met with the exception of several pesticides and PCBs. The associated sample results were qualified as non-detected estimated (UJ). The details regarding the qualification of data are provided in Enclosures II.

IV. Blanks

Method blanks were performed at the required frequencies. No contaminant concentrations were detected in the method or preparation blanks with the exception of two blanks for dioxins and metals. The associated sample results were qualified as non-detected (U) due to method blank contamination as applicable. The sample results that were not detected or were significantly greater than the concentrations found in the associated blanks were not qualified. The details regarding the qualification of data are provided in Enclosures I and II.

No contaminant concentrations were detected in the initial or continuing calibration blanks with the exception of several metals. The associated sample results were not detected or were significantly greater than the concentrations found in the equipment blanks, therefore no data were qualified.

V. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. ICP Interference Check Sample (ICS) Analysis

The frequency of analysis was met.

The criteria for analysis were met.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were performed at the required frequency. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Duplicates Sample

The laboratory has indicated that there were no laboratory duplicate (DUP) analyses specified for the samples in this SDG, and therefore laboratory duplicate analyses were not performed for this SDG.

IX. 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.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. ICP Serial Dilution

ICP serial dilution was not performed for this SDG.

XII. Compound Quantitation

The laboratory reporting limits were evaluated. All laboratory reporting limits met the specified requirements.

All compounds reported below the RL as detected were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG PH098	All compounds reported as detected below the RL.	J (all detects)	A

XIII. Field Duplicate Samples

No field duplicates were identified in this SDG.

XIV. Field Blank Samples

One trip blank was collected and analyzed for TPH as gasoline. No volatile contaminants were found in the trip blank.

One equipment blank (from SDG PH095) was collected and analyzed for SVOCs, pesticides, PCBs, metals, TPH as gasoline, TPH as extractables and dioxins. The equipment blank had detections for SVOCs, metals and dioxins. The associated sample results were qualified as non-detected (U) due to equipment blank contamination as applicable. The sample results that were not detected or were significantly greater than the concentrations found in the equipment blanks were not qualified. The equipment blank outlier reports are presented in Enclosure I.

One field blank (from SDG PH029) was collected and analyzed for SVOCs, pesticides, PCBs, metals, TPH as gasoline, TPH as extractables and dioxins. The field blank had detections for SVOCs, metals and dioxins. The associated sample results were qualified as non-detected (U) due to field blank contamination as applicable. The sample results that were not detected or

were significantly greater than the concentrations found in the field blank were not qualified. The field blank outlier reports are presented in Enclosure I.

XV. Overall Assessment of Data

No data associated with this sampling event were rejected. The overall assessment of QA/QC data review by automated and manual validation of this sampling event met project requirements and analytical completeness levels with the exceptions noted in the above sections. All data are deemed useable for the intended use.

Data flags are summarized and are presented as Attachment 2.

Attachment 1
Sample Cross Reference

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
29-Aug-2013	TB-082913	7180878	TB	5030B	8015M	IV
29-Aug-2013	SL-539-SA5D-SB-0.0-0.5	7180879	N	3050B	6010C	IV
29-Aug-2013	SL-539-SA5D-SB-0.0-0.5	7180879	N	3050B	6020A	IV
29-Aug-2013	SL-539-SA5D-SB-0.0-0.5	7180879	N	3546	8015M	IV
29-Aug-2013	SL-539-SA5D-SB-0.0-0.5	7180879	N	3546	8082A	IV
29-Aug-2013	SL-539-SA5D-SB-0.0-0.5	7180879	N	3546	8270D SIM	IV
29-Aug-2013	SL-539-SA5D-SB-0.0-0.5	7180879	N	METHOD	1613B	IV
29-Aug-2013	SL-539-SA5D-SB-0.0-0.5	7180879	N	METHOD	7471B	IV
29-Aug-2013	SL-539-SA5D-SB-0.0-0.5MSD	P180879M260443	MSD	3546	8270D SIM	IV
29-Aug-2013	SL-539-SA5D-SB-0.0-0.5MSD	P180879M320211A	MSD	3546	8015M	IV
29-Aug-2013	SL-539-SA5D-SB-0.0-0.5MS	P180879R260411	MS	3546	8270D SIM	IV
29-Aug-2013	SL-539-SA5D-SB-0.0-0.5MS	P180879R320150A	MS	3546	8015M	IV
29-Aug-2013	SL-539-SA5D-SB-3.0-4.0	7180880	N	3050B	6010C	IV
29-Aug-2013	SL-539-SA5D-SB-3.0-4.0	7180880	N	3050B	6020A	IV
29-Aug-2013	SL-539-SA5D-SB-3.0-4.0	7180880	N	3546	8015M	IV
29-Aug-2013	SL-539-SA5D-SB-3.0-4.0	7180880	N	3546	8082A	IV
29-Aug-2013	SL-539-SA5D-SB-3.0-4.0	7180880	N	3546	8270D SIM	IV
29-Aug-2013	SL-539-SA5D-SB-3.0-4.0	7180880	N	5035A	8015M	IV
29-Aug-2013	SL-539-SA5D-SB-3.0-4.0	7180880	N	METHOD	7471B	IV
29-Aug-2013	SL-543-SA5D-SB-0.0-0.5	7180885	N	3050B	6010C	IV
29-Aug-2013	SL-543-SA5D-SB-0.0-0.5	7180885	N	3050B	6020A	IV
29-Aug-2013	SL-543-SA5D-SB-0.0-0.5	7180885	N	3546	8015M	IV
29-Aug-2013	SL-543-SA5D-SB-0.0-0.5	7180885	N	3546	8081B	IV
29-Aug-2013	SL-543-SA5D-SB-0.0-0.5	7180885	N	3546	8082A	IV
29-Aug-2013	SL-543-SA5D-SB-0.0-0.5	7180885	N	3546	8270D SIM	IV
29-Aug-2013	SL-543-SA5D-SB-0.0-0.5	7180885	N	METHOD	1613B	IV

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
29-Aug-2013	SL-543-SA5D-SB-0.0-0.5	7180885	N	METHOD	7471B	IV
29-Aug-2013	SL-543-SA5D-SB-4.0-5.0	7180886	N	3050B	6010C	IV
29-Aug-2013	SL-543-SA5D-SB-4.0-5.0	7180886	N	3050B	6020A	IV
29-Aug-2013	SL-543-SA5D-SB-4.0-5.0	7180886	N	3546	8015M	IV
29-Aug-2013	SL-543-SA5D-SB-4.0-5.0	7180886	N	3546	8081B	IV
29-Aug-2013	SL-543-SA5D-SB-4.0-5.0	7180886	N	3546	8082A	IV
29-Aug-2013	SL-543-SA5D-SB-4.0-5.0	7180886	N	3546	8270D SIM	IV
29-Aug-2013	SL-543-SA5D-SB-4.0-5.0	7180886	N	5035A	8015M	IV
29-Aug-2013	SL-543-SA5D-SB-4.0-5.0	7180886	N	METHOD	7471B	IV
29-Aug-2013	SL-542-SA5D-SB-0.0-0.5	7180883	N	3050B	6010C	IV
29-Aug-2013	SL-542-SA5D-SB-0.0-0.5	7180883	N	3050B	6020A	IV
29-Aug-2013	SL-542-SA5D-SB-0.0-0.5	7180883	N	3546	8015M	IV
29-Aug-2013	SL-542-SA5D-SB-0.0-0.5	7180883	N	3546	8081B	IV
29-Aug-2013	SL-542-SA5D-SB-0.0-0.5	7180883	N	3546	8082A	IV
29-Aug-2013	SL-542-SA5D-SB-0.0-0.5	7180883	N	3546	8270D SIM	IV
29-Aug-2013	SL-542-SA5D-SB-0.0-0.5	7180883	N	METHOD	1613B	IV
29-Aug-2013	SL-542-SA5D-SB-0.0-0.5	7180883	N	METHOD	7471B	IV
29-Aug-2013	SL-542-SA5D-SB-4.0-5.0	7180884	N	3050B	6010C	IV
29-Aug-2013	SL-542-SA5D-SB-4.0-5.0	7180884	N	3050B	6020A	IV
29-Aug-2013	SL-542-SA5D-SB-4.0-5.0	7180884	N	3546	8015M	IV
29-Aug-2013	SL-542-SA5D-SB-4.0-5.0	7180884	N	3546	8081B	IV
29-Aug-2013	SL-542-SA5D-SB-4.0-5.0	7180884	N	3546	8082A	IV
29-Aug-2013	SL-542-SA5D-SB-4.0-5.0	7180884	N	3546	8270D SIM	IV
29-Aug-2013	SL-542-SA5D-SB-4.0-5.0	7180884	N	5035A	8015M	IV
29-Aug-2013	SL-542-SA5D-SB-4.0-5.0	7180884	N	METHOD	7471B	IV
29-Aug-2013	SL-526-SA5D-SB-0.0-0.5	7180881	N	3050B	6010C	IV

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
29-Aug-2013	SL-526-SA5D-SB-0.0-0.5	7180881	N	3050B	6020A	IV
29-Aug-2013	SL-526-SA5D-SB-0.0-0.5	7180881	N	3546	8015M	IV
29-Aug-2013	SL-526-SA5D-SB-0.0-0.5	7180881	N	3546	8082A	IV
29-Aug-2013	SL-526-SA5D-SB-0.0-0.5	7180881	N	3546	8270D SIM	IV
29-Aug-2013	SL-526-SA5D-SB-0.0-0.5	7180881	N	METHOD	1613B	IV
29-Aug-2013	SL-526-SA5D-SB-0.0-0.5	7180881	N	METHOD	7471B	IV
29-Aug-2013	SL-526-SA5D-SB-3.0-4.0	7180882	N	3050B	6010C	IV
29-Aug-2013	SL-526-SA5D-SB-3.0-4.0	7180882	N	3050B	6020A	IV
29-Aug-2013	SL-526-SA5D-SB-3.0-4.0	7180882	N	3546	8015M	IV
29-Aug-2013	SL-526-SA5D-SB-3.0-4.0	7180882	N	3546	8082A	IV
29-Aug-2013	SL-526-SA5D-SB-3.0-4.0	7180882	N	3546	8270D SIM	IV
29-Aug-2013	SL-526-SA5D-SB-3.0-4.0	7180882	N	5035A	8015M	IV
29-Aug-2013	SL-526-SA5D-SB-3.0-4.0	7180882	N	METHOD	7471B	IV

Attachment 2
Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: PH098

Laboratory: LL

EDD Filename: PrepPH098

eQAPP Name: CDM_SSFL_131101_Lan

Method Category:	METALS	
Method:	6010C	Matrix: SO

Sample ID: SL-526-SA5D-SB-0.0-0.5 Collected: 8/29/2013 2:00:00 Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	1.64	J	0.755	MDL	4.08	PQL	mg/Kg	J	Z
BERYLLIUM	0.417	J	0.0684	MDL	1.02	PQL	mg/Kg	J	Z
BORON	4.42	J	0.857	MDL	10.2	PQL	mg/Kg	J	Z
CADMIUM	0.370	J	0.0776	MDL	1.02	PQL	mg/Kg	J	Z
TIN	3.32	J	0.225	MDL	10.2	PQL	mg/Kg	U	B
Zirconium	2.35	J	0.857	MDL	5.10	PQL	mg/Kg	J	Z
SODIUM	85.6	J	17.0	MDL	102	PQL	mg/Kg	J	Z

Sample ID: SL-526-SA5D-SB-3.0-4.0 Collected: 8/29/2013 2:10:00 Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	1.79	J	0.775	MDL	4.19	PQL	mg/Kg	J	Z
BERYLLIUM	0.778	J	0.0702	MDL	1.05	PQL	mg/Kg	J	Z
BORON	6.08	J	0.880	MDL	10.5	PQL	mg/Kg	J	Z
CADMIUM	0.457	J	0.0796	MDL	1.05	PQL	mg/Kg	J	Z
TIN	3.53	J	0.230	MDL	10.5	PQL	mg/Kg	U	B
Zirconium	3.01	J	0.880	MDL	5.24	PQL	mg/Kg	J	Z

Sample ID: SL-539-SA5D-SB-0.0-0.5 Collected: 8/29/2013 9:10:00 Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	0.851	J	0.733	MDL	3.96	PQL	mg/Kg	J	Z
BERYLLIUM	0.608	J	0.0663	MDL	0.990	PQL	mg/Kg	J	Z
BORON	5.11	J	0.832	MDL	9.90	PQL	mg/Kg	J	Z
CADMIUM	0.370	J	0.0753	MDL	0.990	PQL	mg/Kg	J	Z
MOLYBDENUM	0.369	J	0.168	MDL	1.98	PQL	mg/Kg	U	F, F
SODIUM	85.9	J	16.5	MDL	99.0	PQL	mg/Kg	J	Z
TIN	2.58	J	0.218	MDL	9.90	PQL	mg/Kg	U	B

Sample ID: SL-539-SA5D-SB-3.0-4.0 Collected: 8/29/2013 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
ANTIMONY	1.03	J	0.757	MDL	4.09	PQL	mg/Kg	J	Z
BERYLLIUM	0.531	J	0.0685	MDL	1.02	PQL	mg/Kg	J	Z
BORON	3.79	J	0.859	MDL	10.2	PQL	mg/Kg	J	Z

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH098

Laboratory: LL

EDD Filename: PrepPH098

eQAPP Name: CDM_SSFL_131101_Lan

Method Category:	METALS	
Method:	6010C	Matrix: SO

Sample ID: SL-539-SA5D-SB-3.0-4.0 Collected: 8/29/2013 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
CADMIUM	0.347	J	0.0777	MDL	1.02	PQL	mg/Kg	J	Z
TIN	3.13	J	0.225	MDL	10.2	PQL	mg/Kg	U	B
Zirconium	0.908	J	0.859	MDL	5.11	PQL	mg/Kg	J	Z

Sample ID: SL-542-SA5D-SB-0.0-0.5 Collected: 8/29/2013 1:25:00 Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	1.86	J	0.797	MDL	4.31	PQL	mg/Kg	J	Z
BERYLLIUM	0.859	J	0.0721	MDL	1.08	PQL	mg/Kg	J	Z
BORON	8.67	J	0.904	MDL	10.8	PQL	mg/Kg	J	Z
CADMIUM	0.694	J	0.0818	MDL	1.08	PQL	mg/Kg	J	Z
MOLYBDENUM	0.306	J	0.183	MDL	2.15	PQL	mg/Kg	U	F, F
SODIUM	83.9	J	18.0	MDL	108	PQL	mg/Kg	J	Z
TIN	3.40	J	0.237	MDL	10.8	PQL	mg/Kg	U	B
Zirconium	3.58	J	0.904	MDL	5.38	PQL	mg/Kg	J	Z

Sample ID: SL-542-SA5D-SB-4.0-5.0 Collected: 8/29/2013 1:35:00 Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	0.908	J	0.770	MDL	4.16	PQL	mg/Kg	J	Z
BERYLLIUM	0.424	J	0.0697	MDL	1.04	PQL	mg/Kg	J	Z
BORON	3.83	J	0.874	MDL	10.4	PQL	mg/Kg	J	Z
CADMIUM	0.320	J	0.0790	MDL	1.04	PQL	mg/Kg	J	Z
SODIUM	83.0	J	17.4	MDL	104	PQL	mg/Kg	J	Z
TIN	3.35	J	0.229	MDL	10.4	PQL	mg/Kg	U	B
Zirconium	2.65	J	0.874	MDL	5.20	PQL	mg/Kg	J	Z

Sample ID: SL-543-SA5D-SB-0.0-0.5 Collected: 8/29/2013 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
ANTIMONY	1.42	J	0.777	MDL	4.20	PQL	mg/Kg	J	Z
BERYLLIUM	0.707	J	0.0704	MDL	1.05	PQL	mg/Kg	J	Z
BORON	8.66	J	0.882	MDL	10.5	PQL	mg/Kg	J	Z
CADMIUM	0.643	J	0.0798	MDL	1.05	PQL	mg/Kg	J	Z
MOLYBDENUM	0.332	J	0.179	MDL	2.10	PQL	mg/Kg	U	F, F

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH098

Laboratory: LL

EDD Filename: PrepPH098

eQAPP Name: CDM_SSFL_131101_Lan

Method Category:	METALS	
Method:	6010C	Matrix: SO

Sample ID: SL-543-SA5D-SB-0.0-0.5 Collected: 8/29/2013 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
SODIUM	79.0	J	17.5	MDL	105	PQL	mg/Kg	J	Z
TIN	3.17	J	0.231	MDL	10.5	PQL	mg/Kg	U	B
Zirconium	3.21	J	0.882	MDL	5.25	PQL	mg/Kg	J	Z

Sample ID: SL-543-SA5D-SB-4.0-5.0 Collected: 8/29/2013 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
ANTIMONY	1.70	J	0.813	MDL	4.40	PQL	mg/Kg	J	Z
BERYLLIUM	0.986	J	0.0736	MDL	1.10	PQL	mg/Kg	J	Z
BORON	8.30	J	0.923	MDL	11.0	PQL	mg/Kg	J	Z
CADIUM	0.538	J	0.0835	MDL	1.10	PQL	mg/Kg	J	Z
MOLYBDENUM	0.549	J	0.187	MDL	2.20	PQL	mg/Kg	U	F, F
TIN	3.66	J	0.242	MDL	11.0	PQL	mg/Kg	U	B
Zirconium	2.56	J	0.923	MDL	5.49	PQL	mg/Kg	J	Z

Method Category:	METALS	
Method:	6020A	Matrix: SO

Sample ID: SL-526-SA5D-SB-3.0-4.0 Collected: 8/29/2013 2:10:00 Analysis Type: REA Dilution: 2

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SELENIUM	0.126	J	0.105	MDL	0.419	PQL	mg/Kg	J	Z

Sample ID: SL-526-SA5D-SB-3.0-4.0 Collected: 8/29/2013 2:10:00 Analysis Type: RES Dilution: 2

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SILVER	0.0375	J	0.0272	MDL	0.210	PQL	mg/Kg	J	Z

Sample ID: SL-539-SA5D-SB-0.0-0.5 Collected: 8/29/2013 9:10:00 Analysis Type: REA Dilution: 2

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SELENIUM	0.163	J	0.0990	MDL	0.396	PQL	mg/Kg	J	Z

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH098

Laboratory: LL

EDD Filename: PrepPH098

eQAPP Name: CDM_SSFL_131101_Lan

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

Sample ID: SL-539-SA5D-SB-0.0-0.5 Collected: 8/29/2013 9:10:00 Analysis Type: RES Dilution: 2

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SILVER	0.0291	J	0.0257	MDL	0.198	PQL	mg/Kg	J	Z

Sample ID: SL-542-SA5D-SB-0.0-0.5 Collected: 8/29/2013 1:25:00 Analysis Type: REA Dilution: 2

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SELENIUM	0.200	J	0.108	MDL	0.431	PQL	mg/Kg	J	Z

Sample ID: SL-542-SA5D-SB-0.0-0.5 Collected: 8/29/2013 1:25:00 Analysis Type: RES Dilution: 2

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SILVER	0.0506	J	0.0280	MDL	0.215	PQL	mg/Kg	J	Z

Sample ID: SL-543-SA5D-SB-0.0-0.5 Collected: 8/29/2013 12:00:00 Analysis Type: REA Dilution: 2

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SELENIUM	0.236	J	0.105	MDL	0.420	PQL	mg/Kg	J	Z

Sample ID: SL-543-SA5D-SB-0.0-0.5 Collected: 8/29/2013 12:00:00 Analysis Type: RES Dilution: 2

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SILVER	0.0309	J	0.0273	MDL	0.210	PQL	mg/Kg	J	Z

Sample ID: SL-543-SA5D-SB-4.0-5.0 Collected: 8/29/2013 12:30:00 Analysis Type: REA Dilution: 2

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SELENIUM	0.111	J	0.110	MDL	0.440	PQL	mg/Kg	J	Z

Sample ID: SL-543-SA5D-SB-4.0-5.0 Collected: 8/29/2013 12:30:00 Analysis Type: RES Dilution: 2

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SILVER	0.0701	J	0.0286	MDL	0.220	PQL	mg/Kg	J	Z

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH098

Laboratory: LL

EDD Filename: PrepPH098

eQAPP Name: CDM_SSFL_131101_Lan

Method Category:	METALS	
Method:	7471B	Matrix: SO

Sample ID: SL-526-SA5D-SB-3.0-4.0	Collected: 8/29/2013 2:10:00	Analysis Type: RES	Dilution: 1						
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
MERCURY	0.0106	J	0.0104	MDL	0.0174	PQL	mg/Kg	J	Z

Sample ID: SL-542-SA5D-SB-0.0-0.5	Collected: 8/29/2013 1:25:00	Analysis Type: RES	Dilution: 1						
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
MERCURY	0.0142	J	0.0106	MDL	0.0177	PQL	mg/Kg	J	Z

Sample ID: SL-543-SA5D-SB-0.0-0.5	Collected: 8/29/2013 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
MERCURY	0.0109	J	0.0103	MDL	0.0171	PQL	mg/Kg	J	Z

Method Category:	SVOA	
Method:	1613B	Matrix: SO

Sample ID: SL-526-SA5D-SB-0.0-0.5	Collected: 8/29/2013 2:00:00	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	0.119	JBQ	0.0214	MDL	5.14	PQL	ng/Kg	U	B
1,2,3,4,6,7,8-HPCDF	0.0542	JBQ	0.00969	MDL	5.14	PQL	ng/Kg	U	B
1,2,3,4,7,8,9-HPCDF	0.0626	JBQ	0.0146	MDL	5.14	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.0391	JBQ	0.0180	MDL	5.14	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDF	0.0425	JBQ	0.00959	MDL	5.14	PQL	ng/Kg	U	B
1,2,3,6,7,8-HxCDD	0.0394	JB	0.0188	MDL	5.14	PQL	ng/Kg	U	B
1,2,3,6,7,8-HxCDF	0.0328	JB	0.00773	MDL	5.14	PQL	ng/Kg	U	B
1,2,3,7,8,9-HxCDD	0.0565	JBQ	0.0175	MDL	5.14	PQL	ng/Kg	U	B
1,2,3,7,8,9-HxCDF	0.0570	JB	0.00990	MDL	5.14	PQL	ng/Kg	U	B
1,2,3,7,8-PECDD	0.0542	JBQ	0.0281	MDL	5.14	PQL	ng/Kg	U	B
1,2,3,7,8-PECDF	0.0512	JBQ	0.0136	MDL	5.14	PQL	ng/Kg	U	B
2,3,4,6,7,8-HxCDF	0.0326	JBQ	0.00814	MDL	5.14	PQL	ng/Kg	U	B
2,3,4,7,8-PECDF	0.0471	JBQ	0.0141	MDL	5.14	PQL	ng/Kg	U	B
OCDD	0.714	JB	0.0198	MDL	10.3	PQL	ng/Kg	U	B
OCDF	0.122	JBQ	0.0247	MDL	10.3	PQL	ng/Kg	U	B

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Data Qualifier Summary

Lab Reporting Batch ID: PH098

Laboratory: LL

EDD Filename: PrepPH098

eQAPP Name: CDM_SSFL_131101_Lan

Method Category:	SVOA	
Method:	1613B	Matrix: SO

Sample ID: SL-539-SA5D-SB-0.0-0.5	Collected: 8/29/2013 9:10:00	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	0.790	JB	0.0182	MDL	5.12	PQL	ng/Kg	J	Z
1,2,3,4,6,7,8-HPCDF	0.137	JB	0.00855	MDL	5.12	PQL	ng/Kg	U	B
1,2,3,4,7,8,9-HPCDF	0.0430	JB	0.0125	MDL	5.12	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.0189	JBQ	0.0169	MDL	5.12	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDF	0.0408	JBQ	0.00927	MDL	5.12	PQL	ng/Kg	U	B
1,2,3,6,7,8-HxCDD	0.443	JB	0.0176	MDL	5.12	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HxCDF	0.0544	JB	0.00783	MDL	5.12	PQL	ng/Kg	U	B
1,2,3,7,8,9-HxCDD	0.630	JB	0.0157	MDL	5.12	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HxCDF	0.448	JB	0.0101	MDL	5.12	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDD	0.0783	JBQ	0.0263	MDL	5.12	PQL	ng/Kg	U	B
1,2,3,7,8-PECDF	0.199	JB	0.0120	MDL	5.12	PQL	ng/Kg	U	B
2,3,4,6,7,8-HxCDF	0.0377	JB	0.00886	MDL	5.12	PQL	ng/Kg	U	B
2,3,4,7,8-PECDF	0.0367	JB	0.0118	MDL	5.12	PQL	ng/Kg	U	B
2,3,7,8-TCDD	0.0290	JQ	0.0262	MDL	1.02	PQL	ng/Kg	J	Z
OCDF	0.360	JB	0.0195	MDL	10.2	PQL	ng/Kg	U	B

Sample ID: SL-542-SA5D-SB-0.0-0.5	Collected: 8/29/2013 1:25:00	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	3.39	JB	0.0313	MDL	5.38	PQL	ng/Kg	J	Z
1,2,3,4,6,7,8-HPCDF	0.410	JB	0.0174	MDL	5.38	PQL	ng/Kg	J	Z
1,2,3,4,7,8,9-HPCDF	0.101	JBQ	0.0296	MDL	5.38	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.109	JBQ	0.0249	MDL	5.38	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDF	0.107	JBQ	0.0160	MDL	5.38	PQL	ng/Kg	U	B
1,2,3,6,7,8-HxCDD	0.517	JB	0.0263	MDL	5.38	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HxCDF	0.102	JB	0.0135	MDL	5.38	PQL	ng/Kg	U	B
1,2,3,7,8,9-HxCDD	0.603	JB	0.0243	MDL	5.38	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HxCDF	0.777	JB	0.0172	MDL	5.38	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDD	0.147	JB	0.0343	MDL	5.38	PQL	ng/Kg	U	B
1,2,3,7,8-PECDF	0.313	JBQ	0.0165	MDL	5.38	PQL	ng/Kg	J	Z
2,3,4,6,7,8-HxCDF	0.101	JB	0.0147	MDL	5.38	PQL	ng/Kg	U	B
2,3,4,7,8-PECDF	0.172	JB	0.0171	MDL	5.38	PQL	ng/Kg	U	B
2,3,7,8-TCDD	0.0465	JQ	0.0357	MDL	1.08	PQL	ng/Kg	J	Z
2,3,7,8-TCDF	0.126	JQ	0.0426	MDL	1.08	PQL	ng/Kg	J	Z

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH098

Laboratory: LL

EDD Filename: PrepPH098

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: SVOA		
Method: 1613B	Matrix: SO	

Sample ID: SL-542-SA5D-SB-0.0-0.5 Collected: 8/29/2013 1:25:00 Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
OCDF	1.04	JB	0.0284	MDL	10.8	PQL	ng/Kg	U	B

Sample ID: SL-543-SA5D-SB-0.0-0.5 Collected: 8/29/2013 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-HPCDD	3.02	JB	0.0234	MDL	5.18	PQL	ng/Kg	J	Z
1,2,3,4,6,7,8-HPCDF	0.415	JB	0.0119	MDL	5.18	PQL	ng/Kg	J	Z
1,2,3,4,7,8,9-HPCDF	0.0858	JBQ	0.0171	MDL	5.18	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.118	JB	0.0227	MDL	5.18	PQL	ng/Kg	U	B
1,2,3,4,7,8-HXCDF	0.144	JBQ	0.0128	MDL	5.18	PQL	ng/Kg	U	B
1,2,3,6,7,8-HxCDD	0.734	JB	0.0239	MDL	5.18	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDF	0.173	JBQ	0.0112	MDL	5.18	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HxCDD	0.865	JB	0.0218	MDL	5.18	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDF	1.39	JB	0.0144	MDL	5.18	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDD	0.313	JBQ	0.0320	MDL	5.18	PQL	ng/Kg	U	B
1,2,3,7,8-PECDF	0.509	JB	0.0167	MDL	5.18	PQL	ng/Kg	J	Z
2,3,4,6,7,8-HXCDF	0.0927	JB	0.0124	MDL	5.18	PQL	ng/Kg	U	B
2,3,4,7,8-PECDF	0.249	JB	0.0167	MDL	5.18	PQL	ng/Kg	U	B
2,3,7,8-TCDD	0.0633	JQ	0.0304	MDL	1.04	PQL	ng/Kg	J	Z
2,3,7,8-TCDF	0.147	J	0.0347	MDL	1.04	PQL	ng/Kg	J	Z
OCDF	1.03	JB	0.0221	MDL	10.4	PQL	ng/Kg	U	B

Method Category: SVOA		
Method: 8015M	Matrix: SO	

Sample ID: SL-542-SA5D-SB-0.0-0.5 Collected: 8/29/2013 1:25:00 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)	2.5	J	2.2	MDL	5.4	PQL	mg/Kg	J	Z

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH098

Laboratory: LL

EDD Filename: PrepPH098

eQAPP Name: CDM_SSFL_131101_Lan

Method Category:	SVOA	Method:	8081B	Matrix:	SO
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Sample ID: SL-542-SA5D-SB-0.0-0.5 Collected: 8/29/2013 1:25:00 Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ENDRIN ALDEHYDE	1.8	U	0.35	MDL	1.8	PQL	ug/Kg	UJ	C

Sample ID: SL-542-SA5D-SB-4.0-5.0 Collected: 8/29/2013 1:35:00 Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ENDRIN ALDEHYDE	1.8	U	0.34	MDL	1.8	PQL	ug/Kg	UJ	C

Sample ID: SL-543-SA5D-SB-0.0-0.5 Collected: 8/29/2013 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
ENDRIN ALDEHYDE	1.8	U	0.34	MDL	1.8	PQL	ug/Kg	UJ	C

Sample ID: SL-543-SA5D-SB-4.0-5.0 Collected: 8/29/2013 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
ENDRIN ALDEHYDE	1.9	U	0.37	MDL	1.9	PQL	ug/Kg	UJ	C

Method Category:	SVOA	Method:	8082A	Matrix:	SO
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Sample ID: SL-526-SA5D-SB-0.0-0.5 Collected: 8/29/2013 2:00:00 Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
AROCLOR 1016	18	U	3.4	MDL	18	PQL	ug/Kg	UJ	C
AROCLOR 1221	18	U	5.3	MDL	18	PQL	ug/Kg	UJ	C
AROCLOR 1232	18	U	4.2	MDL	18	PQL	ug/Kg	UJ	C
Aroclor 5442	34	U	10	MDL	34	PQL	ug/Kg	UJ	C

Sample ID: SL-526-SA5D-SB-3.0-4.0 Collected: 8/29/2013 2:10:00 Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
AROCLOR 1016	18	U	3.5	MDL	18	PQL	ug/Kg	UJ	C
AROCLOR 1221	18	U	5.4	MDL	18	PQL	ug/Kg	UJ	C
AROCLOR 1232	18	U	4.3	MDL	18	PQL	ug/Kg	UJ	C
Aroclor 5442	35	U	11	MDL	35	PQL	ug/Kg	UJ	C

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH098

Laboratory: LL

EDD Filename: PrepPH098

eQAPP Name: CDM_SSFL_131101_Lan

Method Category:	SVOA		
Method:	8082A	Matrix:	SO

Sample ID: SL-539-SA5D-SB-0.0-0.5 Collected: 8/29/2013 9:10:00 Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
AROCLOR 1016	18	U	3.4	MDL	18	PQL	ug/Kg	UJ	C
AROCLOR 1221	18	U	5.3	MDL	18	PQL	ug/Kg	UJ	C
AROCLOR 1232	18	U	4.2	MDL	18	PQL	ug/Kg	UJ	C
Aroclor 5442	34	U	10	MDL	34	PQL	ug/Kg	UJ	C

Sample ID: SL-539-SA5D-SB-3.0-4.0 Collected: 8/29/2013 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
AROCLOR 1016	18	U	3.4	MDL	18	PQL	ug/Kg	UJ	C
AROCLOR 1221	18	U	5.3	MDL	18	PQL	ug/Kg	UJ	C
AROCLOR 1232	18	U	4.3	MDL	18	PQL	ug/Kg	UJ	C
Aroclor 5442	34	U	10	MDL	34	PQL	ug/Kg	UJ	C

Sample ID: SL-542-SA5D-SB-0.0-0.5 Collected: 8/29/2013 1:25:00 Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
AROCLOR 1016	18	U	3.6	MDL	18	PQL	ug/Kg	UJ	C
AROCLOR 1221	18	U	5.5	MDL	18	PQL	ug/Kg	UJ	C
AROCLOR 1232	18	U	4.4	MDL	18	PQL	ug/Kg	UJ	C
Aroclor 5442	36	U	11	MDL	36	PQL	ug/Kg	UJ	C

Sample ID: SL-542-SA5D-SB-4.0-5.0 Collected: 8/29/2013 1:35:00 Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
AROCLOR 1016	18	U	3.5	MDL	18	PQL	ug/Kg	UJ	C
AROCLOR 1221	18	U	5.4	MDL	18	PQL	ug/Kg	UJ	C
AROCLOR 1232	18	U	4.3	MDL	18	PQL	ug/Kg	UJ	C
Aroclor 5442	35	U	11	MDL	35	PQL	ug/Kg	UJ	C

Sample ID: SL-543-SA5D-SB-0.0-0.5 Collected: 8/29/2013 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
AROCLOR 1016	18	U	3.5	MDL	18	PQL	ug/Kg	UJ	C
AROCLOR 1221	18	U	5.4	MDL	18	PQL	ug/Kg	UJ	C
AROCLOR 1232	18	U	4.3	MDL	18	PQL	ug/Kg	UJ	C

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH098

Laboratory: LL

EDD Filename: PrepPH098

eQAPP Name: CDM_SSFL_131101_Lan

Method Category:	SVOA	
Method:	8082A	Matrix: SO

Sample ID: SL-543-SA5D-SB-0.0-0.5 Collected: 8/29/2013 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
Aroclor 5442	35	U	11	MDL	35	PQL	ug/Kg	UJ	C

Sample ID: SL-543-SA5D-SB-4.0-5.0 Collected: 8/29/2013 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
AROCLOR 1016	19	U	3.7	MDL	19	PQL	ug/Kg	UJ	C
AROCLOR 1221	19	U	5.7	MDL	19	PQL	ug/Kg	UJ	C
AROCLOR 1232	19	U	4.6	MDL	19	PQL	ug/Kg	UJ	C
Aroclor 5442	37	U	11	MDL	37	PQL	ug/Kg	UJ	C

Method Category:	SVOA	
Method:	8270D SIM	Matrix: SO

Sample ID: SL-539-SA5D-SB-0.0-0.5 Collected: 8/29/2013 9:10:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CHRYSENE	0.36	J	0.34	MDL	1.7	PQL	ug/Kg	J	Z

Sample ID: SL-542-SA5D-SB-0.0-0.5 Collected: 8/29/2013 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(B)FLUORANTHENE	1.0	J	0.71	MDL	1.8	PQL	ug/Kg	J	Z
CHRYSENE	1.2	J	0.35	MDL	1.8	PQL	ug/Kg	J	Z
FLUORANTHENE	1.4	J	0.71	MDL	1.8	PQL	ug/Kg	J	Z
NAPHTHALENE	0.98	J	0.71	MDL	1.8	PQL	ug/Kg	J	Z
PHENANTHRENE	1.5	J	0.71	MDL	1.8	PQL	ug/Kg	J	Z
PYRENE	1.2	J	0.71	MDL	1.8	PQL	ug/Kg	J	Z

Sample ID: SL-543-SA5D-SB-0.0-0.5 Collected: 8/29/2013 12:00:00 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	1.6	J	0.70	MDL	1.7	PQL	ug/Kg	J	Z
BIS(2-ETHYLHEXYL)PHTHALATE	6.3	J	6.3	MDL	19	PQL	ug/Kg	J	Z
NAPHTHALENE	1.1	J	0.70	MDL	1.7	PQL	ug/Kg	J	Z
PHENANTHRENE	1.5	J	0.70	MDL	1.7	PQL	ug/Kg	J	Z

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH098

Laboratory: LL

EDD Filename: PrepPH098

eQAPP Name: CDM_SSFL_131101_Lan

Method Category:	SVOA	
Method:	8270D SIM	Matrix: SO

Sample ID: SL-543-SA5D-SB-0.0-0.5 Collected: 8/29/2013 12:00:00 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	1.5	J	0.70	MDL	1.7	PQL	ug/Kg	J	Z

Sample ID: SL-543-SA5D-SB-4.0-5.0 Collected: 8/29/2013 12:30:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BIS(2-ETHYLHEXYL)PHTHALATE	17	J	6.6	MDL	20	PQL	ug/Kg	J	Z

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH098

Laboratory: LL

EDD Filename: PrepPH098

eQAPP Name: CDM_SSFL_131101_Lan

Reason Code Legend

<i>Reason Code</i>	<i>Description</i>
B	Method Blank Contamination
C	Continuing Calibration Verification Percent Difference Lower Estimation
F	Equipment Blank Contamination
F	Field Blank Contamination
Z	Reporting Limit Trace Value

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Enclosure I
EPA Level III ADR Outliers
(Including Manual Review Outliers)

Quality Control Outlier Reports

PH098

Method Blank Outlier Report

Lab Reporting Batch ID: PH098

Laboratory: LL

EDD Filename: PH098

eQAPP Name: CDM_SSFL_131101_Lan

Method: 1613B
Matrix: SO

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples
BLK2480B371919	9/6/2013 7:19:00 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 OCDD OCDF	0.122 ng/Kg 0.0567 ng/Kg 0.0816 ng/Kg 0.0423 ng/Kg 0.0557 ng/Kg 0.0502 ng/Kg 0.0251 ng/Kg 0.0844 ng/Kg 0.0604 ng/Kg 0.0657 ng/Kg 0.0612 ng/Kg 0.0455 ng/Kg 0.0677 ng/Kg 0.464 ng/Kg 0.216 ng/Kg	SL-526-SA5D-SB-0.0-0.5 SL-539-SA5D-SB-0.0-0.5 SL-542-SA5D-SB-0.0-0.5 SL-543-SA5D-SB-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-526-SA5D-SB-0.0-0.5(RES)	1,2,3,4,6,7,8-HPCDD	0.119 ng/Kg	0.119U ng/Kg
SL-526-SA5D-SB-0.0-0.5(RES)	1,2,3,4,6,7,8-HPCDF	0.0542 ng/Kg	0.0542U ng/Kg
SL-526-SA5D-SB-0.0-0.5(RES)	1,2,3,4,7,8,9-HPCDF	0.0626 ng/Kg	0.0626U ng/Kg
SL-526-SA5D-SB-0.0-0.5(RES)	1,2,3,4,7,8-HxCDD	0.0391 ng/Kg	0.0391U ng/Kg
SL-526-SA5D-SB-0.0-0.5(RES)	1,2,3,4,7,8-HxCDF	0.0425 ng/Kg	0.0425U ng/Kg
SL-526-SA5D-SB-0.0-0.5(RES)	1,2,3,6,7,8-HxCDD	0.0394 ng/Kg	0.0394U ng/Kg
SL-526-SA5D-SB-0.0-0.5(RES)	1,2,3,6,7,8-HxCDF	0.0328 ng/Kg	0.0328U ng/Kg
SL-526-SA5D-SB-0.0-0.5(RES)	1,2,3,7,8,9-HxCDD	0.0565 ng/Kg	0.0565U ng/Kg
SL-526-SA5D-SB-0.0-0.5(RES)	1,2,3,7,8,9-HxCDF	0.0570 ng/Kg	0.0570U ng/Kg
SL-526-SA5D-SB-0.0-0.5(RES)	1,2,3,7,8-PECDD	0.0542 ng/Kg	0.0542U ng/Kg
SL-526-SA5D-SB-0.0-0.5(RES)	1,2,3,7,8-PECDF	0.0512 ng/Kg	0.0512U ng/Kg
SL-526-SA5D-SB-0.0-0.5(RES)	2,3,4,6,7,8-HxCDF	0.0326 ng/Kg	0.0326U ng/Kg
SL-526-SA5D-SB-0.0-0.5(RES)	2,3,4,7,8-PECDF	0.0471 ng/Kg	0.0471U ng/Kg
SL-526-SA5D-SB-0.0-0.5(RES)	OCDD	0.714 ng/Kg	0.714U ng/Kg
SL-526-SA5D-SB-0.0-0.5(RES)	OCDF	0.122 ng/Kg	0.122U ng/Kg
SL-539-SA5D-SB-0.0-0.5(RES)	1,2,3,4,6,7,8-HPCDF	0.137 ng/Kg	0.137U ng/Kg
SL-539-SA5D-SB-0.0-0.5(RES)	1,2,3,4,7,8,9-HPCDF	0.0430 ng/Kg	0.0430U ng/Kg
SL-539-SA5D-SB-0.0-0.5(RES)	1,2,3,4,7,8-HxCDD	0.0189 ng/Kg	0.0189U ng/Kg
SL-539-SA5D-SB-0.0-0.5(RES)	1,2,3,4,7,8-HxCDF	0.0408 ng/Kg	0.0408U ng/Kg
SL-539-SA5D-SB-0.0-0.5(RES)	1,2,3,6,7,8-HxCDF	0.0544 ng/Kg	0.0544U ng/Kg
SL-539-SA5D-SB-0.0-0.5(RES)	1,2,3,7,8-PECDD	0.0783 ng/Kg	0.0783U ng/Kg
SL-539-SA5D-SB-0.0-0.5(RES)	1,2,3,7,8-PECDF	0.199 ng/Kg	0.199U ng/Kg
SL-539-SA5D-SB-0.0-0.5(RES)	2,3,4,6,7,8-HxCDF	0.0377 ng/Kg	0.0377U ng/Kg
SL-539-SA5D-SB-0.0-0.5(RES)	2,3,4,7,8-PECDF	0.0367 ng/Kg	0.0367U ng/Kg
SL-539-SA5D-SB-0.0-0.5(RES)	OCDF	0.360 ng/Kg	0.360U ng/Kg
SL-542-SA5D-SB-0.0-0.5(RES)	1,2,3,4,7,8,9-HPCDF	0.101 ng/Kg	0.101U ng/Kg
SL-542-SA5D-SB-0.0-0.5(RES)	1,2,3,4,7,8-HxCDD	0.109 ng/Kg	0.109U ng/Kg
SL-542-SA5D-SB-0.0-0.5(RES)	1,2,3,4,7,8-HxCDF	0.107 ng/Kg	0.107U ng/Kg
SL-542-SA5D-SB-0.0-0.5(RES)	1,2,3,6,7,8-HxCDF	0.102 ng/Kg	0.102U ng/Kg

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Method Blank Outlier Report

Lab Reporting Batch ID: PH098

Laboratory: LL

EDD Filename: PH098

eQAPP Name: CDM_SSFL_131101_Lan

Method: 1613B

Matrix: SO

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples
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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-542-SA5D-SB-0.0-0.5(RES)	1,2,3,7,8-PECDD	0.147 ng/Kg	0.147U ng/Kg
SL-542-SA5D-SB-0.0-0.5(RES)	2,3,4,6,7,8-HXCDF	0.101 ng/Kg	0.101U ng/Kg
SL-542-SA5D-SB-0.0-0.5(RES)	2,3,4,7,8-PECDF	0.172 ng/Kg	0.172U ng/Kg
SL-542-SA5D-SB-0.0-0.5(RES)	OCDF	1.04 ng/Kg	1.04U ng/Kg
SL-543-SA5D-SB-0.0-0.5(RES)	1,2,3,4,7,8,9-HPCDF	0.0858 ng/Kg	0.0858U ng/Kg
SL-543-SA5D-SB-0.0-0.5(RES)	1,2,3,4,7,8-HxCDD	0.118 ng/Kg	0.118U ng/Kg
SL-543-SA5D-SB-0.0-0.5(RES)	1,2,3,4,7,8-HXCDF	0.144 ng/Kg	0.144U ng/Kg
SL-543-SA5D-SB-0.0-0.5(RES)	1,2,3,7,8-PECDD	0.313 ng/Kg	0.313U ng/Kg
SL-543-SA5D-SB-0.0-0.5(RES)	2,3,4,6,7,8-HXCDF	0.0927 ng/Kg	0.0927U ng/Kg
SL-543-SA5D-SB-0.0-0.5(RES)	2,3,4,7,8-PECDF	0.249 ng/Kg	0.249U ng/Kg
SL-543-SA5D-SB-0.0-0.5(RES)	OCDF	1.03 ng/Kg	1.03U ng/Kg

Method: 6010C

Matrix: SO

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples
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P24237AB220427	9/4/2013 4:27:00 AM	CALCIUM TIN ZINC	9.35 mg/Kg 1.64 mg/Kg 0.416 mg/Kg	SL-526-SA5D-SB-0.0-0.5 SL-526-SA5D-SB-3.0-4.0 SL-539-SA5D-SB-0.0-0.5 SL-539-SA5D-SB-3.0-4.0 SL-542-SA5D-SB-0.0-0.5 SL-542-SA5D-SB-4.0-5.0 SL-543-SA5D-SB-0.0-0.5 SL-543-SA5D-SB-4.0-5.0
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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-526-SA5D-SB-0.0-0.5(RES)	TIN	3.32 mg/Kg	3.32U mg/Kg
SL-526-SA5D-SB-3.0-4.0(RES)	TIN	3.53 mg/Kg	3.53U mg/Kg
SL-539-SA5D-SB-0.0-0.5(RES)	TIN	2.58 mg/Kg	2.58U mg/Kg
SL-539-SA5D-SB-3.0-4.0(RES)	TIN	3.13 mg/Kg	3.13U mg/Kg
SL-542-SA5D-SB-0.0-0.5(RES)	TIN	3.40 mg/Kg	3.40U mg/Kg
SL-542-SA5D-SB-4.0-5.0(RES)	TIN	3.35 mg/Kg	3.35U mg/Kg
SL-543-SA5D-SB-0.0-0.5(RES)	TIN	3.17 mg/Kg	3.17U mg/Kg
SL-543-SA5D-SB-4.0-5.0(RES)	TIN	3.66 mg/Kg	3.66U mg/Kg

Equipment Rinsate Blank Outlier Report

Lab Reporting Batch ID: PH098

Laboratory: LL

EDD Filename: PrepPH098

eQAPP Name: CDM_SSFL_131101_Lan

Method: 6010C
Matrix: SO

Equipment Blank Sample ID	Collected Date	Analyte	Result	Associated Samples
EB1-082813(RES)	8/28/2013 2:00:00 PM	BARIUM MOLYBDENUM	0.00035 mg/L 0.008 mg/L	SL-526-SA5D-SB-0.0-0.5 SL-526-SA5D-SB-3.0-4.0 SL-539-SA5D-SB-0.0-0.5 SL-539-SA5D-SB-3.0-4.0 SL-542-SA5D-SB-0.0-0.5 SL-542-SA5D-SB-4.0-5.0 SL-543-SA5D-SB-0.0-0.5 SL-543-SA5D-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-539-SA5D-SB-0.0-0.5(RES)	MOLYBDENUM	0.369 mg/Kg	0.369U mg/Kg
SL-542-SA5D-SB-0.0-0.5(RES)	MOLYBDENUM	0.306 mg/Kg	0.306U mg/Kg
SL-543-SA5D-SB-0.0-0.5(RES)	MOLYBDENUM	0.332 mg/Kg	0.332U mg/Kg
SL-543-SA5D-SB-4.0-5.0(RES)	MOLYBDENUM	0.549 mg/Kg	0.549U mg/Kg

Field Blank Outlier Report

Lab Reporting Batch ID: PH098

Laboratory: LL

EDD Filename: PrepPH098

eQAPP Name: CDM_SSFL_131101_Lan

Method: 6010C
Matrix: SO

Field Blank Sample ID	Collected Date	Analyte	Result	Associated Samples
FB-041113(REA2)	4/11/2013 3:00:00 PM	COPPER MOLYBDENUM	0.0036 mg/L 0.0036 mg/L	SL-526-SA5D-SB-0.0-0.5 SL-526-SA5D-SB-3.0-4.0 SL-539-SA5D-SB-0.0-0.5 SL-539-SA5D-SB-3.0-4.0 SL-542-SA5D-SB-0.0-0.5 SL-542-SA5D-SB-4.0-5.0 SL-543-SA5D-SB-0.0-0.5 SL-543-SA5D-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-539-SA5D-SB-0.0-0.5(RES)	MOLYBDENUM	0.369 mg/Kg	0.369U mg/Kg
SL-542-SA5D-SB-0.0-0.5(RES)	MOLYBDENUM	0.306 mg/Kg	0.306U mg/Kg
SL-543-SA5D-SB-0.0-0.5(RES)	MOLYBDENUM	0.332 mg/Kg	0.332U mg/Kg
SL-543-SA5D-SB-4.0-5.0(RES)	MOLYBDENUM	0.549 mg/Kg	0.549U mg/Kg

Reporting Limit Outliers

Lab Reporting Batch ID: PH098

Laboratory: LL

EDD Filename: PH098

eQAPP Name: CDM_SSFL_131101_Lan

Method: 1613B

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-526-SA5D-SB-0.0-0.5	1,2,3,4,6,7,8-HPCDD	JBQ	0.119	5.14	PQL	ng/Kg	J (all detects)
	1,2,3,4,6,7,8-HPCDF	JBQ	0.0542	5.14	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JBQ	0.0626	5.14	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JBQ	0.0391	5.14	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDF	JBQ	0.0425	5.14	PQL	ng/Kg	
	1,2,3,6,7,8-HxCDD	JB	0.0394	5.14	PQL	ng/Kg	
	1,2,3,6,7,8-HxCDF	JB	0.0328	5.14	PQL	ng/Kg	
	1,2,3,7,8,9-HxCDD	JBQ	0.0565	5.14	PQL	ng/Kg	
	1,2,3,7,8,9-HxCDF	JB	0.0570	5.14	PQL	ng/Kg	
	1,2,3,7,8-PECDD	JBQ	0.0542	5.14	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JBQ	0.0512	5.14	PQL	ng/Kg	
	2,3,4,6,7,8-HxCDF	JBQ	0.0326	5.14	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JBQ	0.0471	5.14	PQL	ng/Kg	
	OCDD	JB	0.714	10.3	PQL	ng/Kg	
	OCDF	JBQ	0.122	10.3	PQL	ng/Kg	
SL-539-SA5D-SB-0.0-0.5	1,2,3,4,6,7,8-HPCDD	JB	0.790	5.12	PQL	ng/Kg	J (all detects)
	1,2,3,4,6,7,8-HPCDF	JB	0.137	5.12	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JB	0.0430	5.12	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JBQ	0.0189	5.12	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDF	JBQ	0.0408	5.12	PQL	ng/Kg	
	1,2,3,6,7,8-HxCDD	JB	0.443	5.12	PQL	ng/Kg	
	1,2,3,6,7,8-HxCDF	JB	0.0544	5.12	PQL	ng/Kg	
	1,2,3,7,8,9-HxCDD	JB	0.630	5.12	PQL	ng/Kg	
	1,2,3,7,8,9-HxCDF	JB	0.448	5.12	PQL	ng/Kg	
	1,2,3,7,8-PECDD	JBQ	0.0783	5.12	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JB	0.199	5.12	PQL	ng/Kg	
	2,3,4,6,7,8-HxCDF	JB	0.0377	5.12	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JB	0.0367	5.12	PQL	ng/Kg	
	2,3,7,8-TCDD	JQ	0.0290	1.02	PQL	ng/Kg	
	OCDF	JB	0.360	10.2	PQL	ng/Kg	
SL-542-SA5D-SB-0.0-0.5	1,2,3,4,6,7,8-HPCDD	JB	3.39	5.38	PQL	ng/Kg	J (all detects)
	1,2,3,4,6,7,8-HPCDF	JB	0.410	5.38	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JBQ	0.101	5.38	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JBQ	0.109	5.38	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDF	JBQ	0.107	5.38	PQL	ng/Kg	
	1,2,3,6,7,8-HxCDD	JB	0.517	5.38	PQL	ng/Kg	
	1,2,3,6,7,8-HxCDF	JB	0.102	5.38	PQL	ng/Kg	
	1,2,3,7,8,9-HxCDD	JB	0.603	5.38	PQL	ng/Kg	
	1,2,3,7,8,9-HxCDF	JB	0.777	5.38	PQL	ng/Kg	
	1,2,3,7,8-PECDD	JB	0.147	5.38	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JBQ	0.313	5.38	PQL	ng/Kg	
	2,3,4,6,7,8-HxCDF	JB	0.101	5.38	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JB	0.172	5.38	PQL	ng/Kg	
	2,3,7,8-TCDD	JQ	0.0465	1.08	PQL	ng/Kg	
	2,3,7,8-TCDF	JQ	0.126	1.08	PQL	ng/Kg	
OCDF	JB	1.04	10.8	PQL	ng/Kg		

Reporting Limit Outliers

Lab Reporting Batch ID: PH098

Laboratory: LL

EDD Filename: PH098

eQAPP Name: CDM_SSFL_131101_Lan

Method: 1613B
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-543-SA5D-SB-0.0-0.5	1,2,3,4,6,7,8-HPCDD	JB	3.02	5.18	PQL	ng/Kg	J (all detects)
	1,2,3,4,6,7,8-HPCDF	JB	0.415	5.18	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JBQ	0.0858	5.18	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JB	0.118	5.18	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDF	JBQ	0.144	5.18	PQL	ng/Kg	
	1,2,3,6,7,8-HxCDD	JB	0.734	5.18	PQL	ng/Kg	
	1,2,3,6,7,8-HxCDF	JBQ	0.173	5.18	PQL	ng/Kg	
	1,2,3,7,8,9-HxCDD	JB	0.865	5.18	PQL	ng/Kg	
	1,2,3,7,8,9-HxCDF	JB	1.39	5.18	PQL	ng/Kg	
	1,2,3,7,8-PECDD	JBQ	0.313	5.18	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JB	0.509	5.18	PQL	ng/Kg	
	2,3,4,6,7,8-HxCDF	JB	0.0927	5.18	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JB	0.249	5.18	PQL	ng/Kg	
	2,3,7,8-TCDD	JQ	0.0633	1.04	PQL	ng/Kg	
2,3,7,8-TCDF	J	0.147	1.04	PQL	ng/Kg		
OCDF	JB	1.03	10.4	PQL	ng/Kg		

Method: 6010C
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-526-SA5D-SB-0.0-0.5	ANTIMONY	J	1.64	4.08	PQL	mg/Kg	J (all detects)
	BERYLLIUM	J	0.417	1.02	PQL	mg/Kg	
	BORON	J	4.42	10.2	PQL	mg/Kg	
	CADMIUM	J	0.370	1.02	PQL	mg/Kg	
	SODIUM	J	85.6	102	PQL	mg/Kg	
	TIN	J	3.32	10.2	PQL	mg/Kg	
SL-526-SA5D-SB-3.0-4.0	Zirconium	J	2.35	5.10	PQL	mg/Kg	J (all detects)
	ANTIMONY	J	1.79	4.19	PQL	mg/Kg	
	BERYLLIUM	J	0.778	1.05	PQL	mg/Kg	
	BORON	J	6.08	10.5	PQL	mg/Kg	
	CADMIUM	J	0.457	1.05	PQL	mg/Kg	
	TIN	J	3.53	10.5	PQL	mg/Kg	
SL-539-SA5D-SB-0.0-0.5	Zirconium	J	3.01	5.24	PQL	mg/Kg	J (all detects)
	ANTIMONY	J	0.851	3.96	PQL	mg/Kg	
	BERYLLIUM	J	0.608	0.990	PQL	mg/Kg	
	BORON	J	5.11	9.90	PQL	mg/Kg	
	CADMIUM	J	0.370	0.990	PQL	mg/Kg	
	MOLYBDENUM	J	0.369	1.98	PQL	mg/Kg	
SL-539-SA5D-SB-3.0-4.0	SODIUM	J	85.9	99.0	PQL	mg/Kg	J (all detects)
	TIN	J	2.58	9.90	PQL	mg/Kg	
	ANTIMONY	J	1.03	4.09	PQL	mg/Kg	
	BERYLLIUM	J	0.531	1.02	PQL	mg/Kg	
	BORON	J	3.79	10.2	PQL	mg/Kg	
	CADMIUM	J	0.347	1.02	PQL	mg/Kg	
SL-542-SA5D-SB-0.0-0.5	TIN	J	3.13	10.2	PQL	mg/Kg	J (all detects)
	Zirconium	J	0.908	5.11	PQL	mg/Kg	
	ANTIMONY	J	1.86	4.31	PQL	mg/Kg	
	BERYLLIUM	J	0.859	1.08	PQL	mg/Kg	
	BORON	J	8.67	10.8	PQL	mg/Kg	
	CADMIUM	J	0.694	1.08	PQL	mg/Kg	
SL-542-SA5D-SB-0.0-0.5	MOLYBDENUM	J	0.306	2.15	PQL	mg/Kg	J (all detects)
	SODIUM	J	83.9	108	PQL	mg/Kg	
	TIN	J	3.40	10.8	PQL	mg/Kg	
	Zirconium	J	3.58	5.38	PQL	mg/Kg	

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Reporting Limit Outliers

Lab Reporting Batch ID: PH098

Laboratory: LL

EDD Filename: PH098

eQAPP Name: CDM_SSFL_131101_Lan

Method: 6010C
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-542-SA5D-SB-4.0-5.0	ANTIMONY	J	0.908	4.16	PQL	mg/Kg	J (all detects)
	BERYLLIUM	J	0.424	1.04	PQL	mg/Kg	
	BORON	J	3.83	10.4	PQL	mg/Kg	
	CADMIUM	J	0.320	1.04	PQL	mg/Kg	
	SODIUM	J	83.0	104	PQL	mg/Kg	
	TIN	J	3.35	10.4	PQL	mg/Kg	
	Zirconium	J	2.65	5.20	PQL	mg/Kg	
SL-543-SA5D-SB-0.0-0.5	ANTIMONY	J	1.42	4.20	PQL	mg/Kg	J (all detects)
	BERYLLIUM	J	0.707	1.05	PQL	mg/Kg	
	BORON	J	8.66	10.5	PQL	mg/Kg	
	CADMIUM	J	0.643	1.05	PQL	mg/Kg	
	MOLYBDENUM	J	0.332	2.10	PQL	mg/Kg	
	SODIUM	J	79.0	105	PQL	mg/Kg	
	TIN	J	3.17	10.5	PQL	mg/Kg	
Zirconium	J	3.21	5.25	PQL	mg/Kg		
SL-543-SA5D-SB-4.0-5.0	ANTIMONY	J	1.70	4.40	PQL	mg/Kg	J (all detects)
	BERYLLIUM	J	0.986	1.10	PQL	mg/Kg	
	BORON	J	8.30	11.0	PQL	mg/Kg	
	CADMIUM	J	0.538	1.10	PQL	mg/Kg	
	MOLYBDENUM	J	0.549	2.20	PQL	mg/Kg	
	TIN	J	3.66	11.0	PQL	mg/Kg	
	Zirconium	J	2.56	5.49	PQL	mg/Kg	

Method: 6020A
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-526-SA5D-SB-3.0-4.0	SELENIUM	J	0.126	0.419	PQL	mg/Kg	J (all detects)
	SILVER	J	0.0375	0.210	PQL	mg/Kg	
SL-539-SA5D-SB-0.0-0.5	SELENIUM	J	0.163	0.396	PQL	mg/Kg	J (all detects)
	SILVER	J	0.0291	0.198	PQL	mg/Kg	
SL-542-SA5D-SB-0.0-0.5	SELENIUM	J	0.200	0.431	PQL	mg/Kg	J (all detects)
	SILVER	J	0.0506	0.215	PQL	mg/Kg	
SL-543-SA5D-SB-0.0-0.5	SELENIUM	J	0.236	0.420	PQL	mg/Kg	J (all detects)
	SILVER	J	0.0309	0.210	PQL	mg/Kg	
SL-543-SA5D-SB-4.0-5.0	SELENIUM	J	0.111	0.440	PQL	mg/Kg	J (all detects)
	SILVER	J	0.0701	0.220	PQL	mg/Kg	

Method: 7471B
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-526-SA5D-SB-3.0-4.0	MERCURY	J	0.0106	0.0174	PQL	mg/Kg	J (all detects)
SL-542-SA5D-SB-0.0-0.5	MERCURY	J	0.0142	0.0177	PQL	mg/Kg	J (all detects)
SL-543-SA5D-SB-0.0-0.5	MERCURY	J	0.0109	0.0171	PQL	mg/Kg	J (all detects)

Reporting Limit Outliers

Lab Reporting Batch ID: PH098

Laboratory: LL

EDD Filename: PH098

eQAPP Name: CDM_SSFL_131101_Lan

Method: 8015M

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-542-SA5D-SB-0.0-0.5	EFH (C15-C20)	J	2.5	5.4	PQL	mg/Kg	J (all detects)

Method: 8270D SIM

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-539-SA5D-SB-0.0-0.5	CHRYSENE	J	0.36	1.7	PQL	ug/Kg	J (all detects)
SL-542-SA5D-SB-0.0-0.5	BENZO(B)FLUORANTHENE	J	1.0	1.8	PQL	ug/Kg	J (all detects)
	CHRYSENE	J	1.2	1.8	PQL	ug/Kg	
	FLUORANTHENE	J	1.4	1.8	PQL	ug/Kg	
	NAPHTHALENE	J	0.98	1.8	PQL	ug/Kg	
	PHENANTHRENE	J	1.5	1.8	PQL	ug/Kg	
SL-543-SA5D-SB-0.0-0.5	PYRENE	J	1.2	1.8	PQL	ug/Kg	J (all detects)
	BENZO(B)FLUORANTHENE	J	1.6	1.7	PQL	ug/Kg	
	BIS(2-ETHYLHEXYL)PHTHALATE	J	6.3	19	PQL	ug/Kg	
	NAPHTHALENE	J	1.1	1.7	PQL	ug/Kg	
SL-543-SA5D-SB-0.0-0.5	PHENANTHRENE	J	1.5	1.7	PQL	ug/Kg	J (all detects)
	PYRENE	J	1.5	1.7	PQL	ug/Kg	
SL-543-SA5D-SB-4.0-5.0	BIS(2-ETHYLHEXYL)PHTHALATE	J	17	20	PQL	ug/Kg	J (all detects)

Enclosure II

EPA Level IV Data Validation Reports

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Santa Susana Field Laboratory
Collection Date: August 29, 2013
LDC Report Date: November 20, 2013
Matrix: Soil
Parameters: Semivolatiles
Validation Level: Level IV
Laboratory: Eurofins Lancaster Laboratories
Sample Delivery Group (SDG): PH098

Sample Identification

SL-539-SA5D-SB-0.0-0.5
SL-539-SA5D-SB-3.0-4.0
SL-526-SA5D-SB-0.0-0.5
SL-526-SA5D-SB-3.0-4.0
SL-542-SA5D-SB-0.0-0.5
SL-542-SA5D-SB-4.0-5.0
SL-543-SA5D-SB-0.0-0.5
SL-543-SA5D-SB-4.0-5.0
SL-539-SA5D-SB-0.0-0.5MS
SL-539-SA5D-SB-0.0-0.5MSD

Introduction

This data review covers 10 soil samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270D 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.

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.

Sample EB1-082813 (from SDG PH095) was identified as an equipment blank. No semivolatile contaminants were found with the following exceptions:

Blank ID	Sampling Date	Compound	Concentration	Associated Samples
EB1-082813	8/28/13	Di-n-butylphthalate Diethylphthalate Bis(2-ethylhexyl)phthalate	0.19 ug/L 0.37 ug/L 0.19 ug/L	All samples in SDG PH098

Sample FB-041113 (from SDG PH029) was identified as a field blank. No semivolatile contaminants were found with the following exceptions:

Blank ID	Sampling Date	Compound	Concentration	Associated Samples
FB-041113	4/11/13	Di-n-butylphthalate Diethylphthalate Bis(2-ethylhexyl)phthalate 1-Methylnaphthalene 2-Methylnaphthalene Naphthalene	0.17 ug/L 0.18 ug/L 0.082 ug/L 0.019 ug/L 0.024 ug/L 0.17 ug/L	All samples in SDG PH098

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other 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. 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) 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

All compound quantitations were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG PH098	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
Semivolatiles - Data Qualification Summary - SDG PH098**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
PH098	SL-539-SA5D-SB-0.0-0.5 SL-539-SA5D-SB-3.0-4.0 SL-526-SA5D-SB-0.0-0.5 SL-526-SA5D-SB-3.0-4.0 SL-542-SA5D-SB-0.0-0.5 SL-542-SA5D-SB-4.0-5.0 SL-543-SA5D-SB-0.0-0.5 SL-543-SA5D-SB-4.0-5.0	All compounds reported below the RL.	J (all detects)	A	Compound quantitation (Z)

**Santa Susana Field Laboratory
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG PH098**

No Sample Data Qualified in this SDG

**Santa Susana Field Laboratory
Semivolatiles - Field Blank Data Qualification Summary - SDG PH098**

No Sample Data Qualified in this SDG

METHOD: GC/MS Polynuclear Aromatic Hydrocarbons (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: 9/5/13 or 8/29/13
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	A	
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	EB = EB1-082813 (SDG # PH095) FB = FB-041113 (SDG # PH029)

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: 561

1	SL-539-SA5D-SB-0.0-0.5	11		21		31	SBLKLG 246
2	SL-539-SA5D-SB-3.0-4.0	12		22		32	
3	SL-526-SA5D-SB-0.0-0.5	13		23		33	
4	SL-526-SA5D-SB-3.0-4.0	14		24		34	
5	SL-542-SA5D-SB-0.0-0.5	15		25		35	
6	SL-542-SA5D-SB-4.0-5.0	16		26		36	
7	SL-543-SA5D-SB-0.0-0.5	17		27		37	
8	SL-543-SA5D-SB-4.0-5.0	18		28		38	
9	#1ms	19		29		39	
10	#1msD	20		30		40	

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) $\leq 30\%$ and relative response factors (RRF) ≥ 0.05 ? <i>15% 40</i>	/			
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) $\leq 20\%$ and relative response factors (RRF) ≥ 0.05 ? <i>25</i>	/			
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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were the performance evaluation (PE) samples within the acceptance limits?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
X. Internal standards				
Were internal standard area counts within -50% or +100% of the associated calibration standard?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were retention times within + 30 seconds from the associated calibration standard?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
XI. Target compound identification				
Were relative retention times (RRT's) within + 0.06 RRT units of the standard?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were chromatogram peaks verified and accounted for?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
XII. Compound quantitation/RLs				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were compound quantitation and RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
XIII. Tentatively identified compounds (TICs)				
Were the major ions (> 10 percent relative intensity) in the reference spectrum evaluated in sample spectrum?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Were relative intensities of the major ions within ± 20% between the sample and the reference spectra?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Did the raw data indicate that the laboratory performed a library search for all required peaks in the chromatograms (samples and blanks)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
XIV. System performance				
System performance was found to be acceptable.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
XVI. Field duplicates				
Field duplicate pairs were identified in this SDG.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Target compounds were detected in the field duplicates.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
XVII. Field blanks				
Field blanks were identified in this SDG.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Target compounds were detected in the field blanks.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS SVOA

A. Phenol	T. 4-Chloroaniline	MM. 4-Chlorophenyl-phenyl ether	FFF. Di-n-octylphthalate	YYY. 2,3,5-Trimethylnaphthalene
B. Bis (2-chloroethyl) ether	U. Hexachlorobutadiene	NN. Fluorene	GGG. Benzo(b)fluoranthene	ZZZ. Perylene
C. 2-Chlorophenol	V. 4-Chloro-3-methylphenol	OO. 4-Nitroaniline	HHH. Benzo(k)fluoranthene	AAAA. Dibenzothiophene
D. 1,3-Dichlorobenzene	W. 2-Methylnaphthalene	PP. 4,6-Dinitro-2-methylphenol	III. Benzo(a)pyrene	BBBB. Benzo(a)fluoranthene
E. 1,4-Dichlorobenzene	X. Hexachlorocyclopentadiene	QQ. N-Nitrosodiphenylamine	JJJ. Indeno(1,2,3-cd)pyrene	CCCC. Benzo(b)fluorene
F. 1,2-Dichlorobenzene	Y. 2,4,6-Trichlorophenol	RR. 4-Bromophenyl-phenylether	KKK. Dibenz(a,h)anthracene	DDDD. cis/trans-Decalin
G. 2-Methylphenol	Z. 2,4,5-Trichlorophenol	SS. Hexachlorobenzene	LLL. Benzo(g,h,i)perylene	EEEE. Biphenyl
H. 2,2'-Oxybis(1-chloropropane)	AA. 2-Chloronaphthalene	TT. Pentachlorophenol	MMM. Bis(2-Chloroisopropyl)ether	FFFF. Retene
I. 4-Methylphenol	BB. 2-Nitroaniline	UU. Phenanthrene	NNN. Aniline	GGGG. C30-Hopane
J. N-Nitroso-di-n-propylamine	CC. Dimethylphthalate	VV. Anthracene	OOO. N-Nitrosodimethylamine	HHHH. 1-Methylphenanthrene
K. Hexachloroethane	DD. Acenaphthylene	WW. Carbazole	PPP. Benzoic Acid	IIII. 1,4-Dioxane
L. Nitrobenzene	EE. 2,6-Dinitrotoluene	XX. Di-n-butylphthalate	QQQ. Benzyl alcohol	JJJJ. Acetophenone
M. Isophorone	FF. 3-Nitroaniline	YY. Fluoranthene	RRR. Pyridine	KKKK. Atrazine
N. 2-Nitrophenol	GG. Acenaphthene	ZZ. Pyrene	SSS. Benzidine	LLLL. Benzaldehyde
O. 2,4-Dimethylphenol	HH. 2,4-Dinitrophenol	AAA. Butylbenzylphthalate	TTT. 1-Methylnaphthalene	MMMM. Caprolactam
P. Bis(2-chloroethoxy)methane	II. 4-Nitrophenol	BBB. 3,3'-Dichlorobenzidine	UUU. Benzo(b)thiophene	NNNN.
Q. 2,4-Dichlorophenol	JJ. Dibenzofuran	CCC. Benzo(a)anthracene	VVV. Benzonaphthothiophene	OOOO.
R. 1,2,4-Trichlorobenzene	KK. 2,4-Dinitrotoluene	DDD. Chrysene	WWW. Benzo(e)pyrene	PPPP.
S. Naphthalene	LL. Diethylphthalate	EEE. Bis(2-ethylhexyl)phthalate	XXX. 2,6-Dimethylnaphthalene	QQQQ.

VALIDATION FINDINGS WORKSHEET
Field Blanks

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

N N/A Were field blanks identified in this SDG?
 N N/A Were target compounds detected in the field blanks?

PB = FB-041113 (SDG# PH029)

Blank units: µg/L Associated sample units: µg/Lg

Code: F

Sampling date: 4/11/13

Field blank type: (circle one) Field Blank Rinsate / Other: Associated Samples: All (ND + 75X)

Compound	Blank ID	Sample Identification							
	FB	5X/10X							
XX	0.17	1.7							
LL	0.18	1.8							
EEE	0.082	0.82							
TTT	0.019	0.095							
W	0.024	0.12							
S	0.17	0.85							

Blank units: µg/L Associated sample units: µg/Lg
Sampling date: 8/28/13

EB = EB-082813 (SDG# PH095)

Field blank type: (circle one) Field Blank / Rinsate / Other: EB

Associated Samples: All (ND + 75X)

Code: F

Compound	Blank ID	Sample Identification							
	EB	5X/10X							
XX	0.19	1.9							
LL	0.37	3.7							
EEE	0.19	1.9							

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 #: 30695A2b

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
 Reviewer BR
 2nd Reviewer 

METHOD: GC/MS SVOA (EPA SW 846 Method 8270DSIM)

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 (IS)	Reported RRF (1 std)	Recalculated RRF (1 std)	Reported Average RRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
1	HP10623	9/6/2013	N-Nitrosodimethylamine (IS1)	1.012	1.012	1.038	1.038	5	5
			Naphthalene (IS2)	1.058	1.058	1.047	1.047	1	1
			Fluorene (IS3)	1.416	1.416	1.341	1.341	3	3
			Anthracene (IS4)	1.193	1.193	1.156	1.156	4	4
			Chrysene (IS5)	1.309	1.309	1.259	1.259	3	3
			Benzo(a)pyrene (IS6)	1.353	1.353	1.252	1.252	5	5

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.

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

METHOD: GC/MS SVOA (EPA SW 846 Method 8270DSIM)

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:

$$\% \text{ Difference} = 100 * (\text{ave. RRF} - \text{RRF}) / \text{ave. RRF}$$

$$\text{RRF} = (\text{Ax})(\text{Cis}) / (\text{Ais})(\text{Cx})$$

Where:

ave. RRF = initial calibration average RRF

RRF = continuing calibration RRF

Ax = Area of compound

Cx = Concentration of compound

Ais = Area of associated internal standard

Cis = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (IS)	Average RRF (Initial RRF)	Reported (CC RRF)	Recalculated (CC RRF)	Reported %D	Recalculated %D
1	ci0121	09/08/13	N-Nitrosodimethylamine (IS1)	1.038	1.016	1.016	2	2
			Naphthalene (IS2)	1.047	1.071	1.071	2	2
			Fluorene (IS3)	1.341	1.328	1.328	1	1
			Anthracene (IS4)	1.156	1.158	1.158	0	0
			Chrysene (IS5)	1.259	1.229	1.229	2	2
			Benzo(a)pyrene (IS6)	1.252	1.239	1.239	1	1

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.

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

METHOD: GC/MS Semivolatiles (EPA SW 846 Method 8270C)

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	Fluoranthene-d10 33.333	26.9667	74	74	0
2-Fluorobiphenyl	Benzo(a)pyrene-d12 ↓	26.3333	79	79	0
Terphenyl-d14	1-methylnaphthalene-d10 ↓	26.9667	81	81	0
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 #: 30695A26

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Page: 1 of 1
 Reviewer: BR
 2nd Reviewer: [Signature]

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

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 = |LCS - LCSD| * 2 / (LCS + LCSD)

LCS = Laboratory control sample percent recovery

LCSD = Laboratory control sample duplicate percent recovery

LCS/LCSD samples: 246LCLCS

Compound	Spike Added		Spike Concentration		LCS		LCSD		LCS/LCSD	
	LCS	LCSD	LCS	LCSD	Percent Recovery		Percent Recovery		RPD	
					Reported	Recalc.	Reported	Recalc.	Reported	Recalculated
Phenol										
N-Nitroso-di-n-propylamine										
4-Chloro-3-methylphenol										
Acenaphthene	33.33	—	30.95	—	93	93	—	—	—	—
Pentachlorophenol										
Pyrene	33.33	—	32.24	—	97	97	—	—	—	—

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.

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates Results Verification

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

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 concentration

RPD = |MSC - MSC1| * 2/(MSC + MSC1)

MSC = Matrix spike concentration

MSC1 = Matrix spike duplicate concentration

MS/MSD samples: 9/10

Compound	Spike Added (ug/kg)		Sample Concentration (ug/kg)	Spiked Sample Concentration (ug/kg)		Matrix Spike		Matrix Spike Duplicate		MS/MSD	
	MS	MSD		MS	MSD	Percent Recovery		Percent Recovery		RPD	
						Reported	Recalc	Reported	Recalc	Reported	Recalculated
Phenol											
N-Nitroso-di-n-propylamine											
4-Chloro-3-methylphenol											
Acenaphthene	33	33	0	31.83	30.04	96	96	90	91	2	5.8
Pentachlorophenol											
Pyrene	33	33	0	31.09	29.65	94	94	89	90	5	4.7

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.

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

Y N N/A
Y N N/A

Were all reported results recalculated and verified for all level IV samples?
Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

$$\text{Concentration} = \frac{(A_x)(I_s)(V_i)(DF)(2.0)}{(A_{is})(RRF)(V_o)(V_i)(\%S)}$$

- 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_i = 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 , DDD :

DDD = 0.4 mg/kg

$$\begin{aligned} \text{Conc.} &= \frac{(228) \times (1) \times (1000) \times () \times ()}{(170048) \times (1.25) \times (30.3) \times (0.97)} \\ &= \frac{2.3524 \times 10^6}{1.70048 \times 10^5} \times \frac{1}{1.25} \times \frac{1}{30.3} \times \frac{1}{0.97} \times \text{RR} \\ &= 0.363299334 \times \text{RR} \\ &= 20.4 \text{ mg/kg} \end{aligned}$$

#	Sample ID	Compound	Reported Concentration ()	Calculated Concentration ()	Qualification

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Santa Susana Field Laboratory
Collection Date: August 29, 2013
LDC Report Date: November 20, 2013
Matrix: Soil
Parameters: Chlorinated Pesticides
Validation Level: Level IV
Laboratory: Eurofins Lancaster Laboratories

Sample Delivery Group (SDG): PH098

Sample Identification

SL-542-SA5D-SB-0.0-0.5
SL-542-SA5D-SB-4.0-5.0
SL-543-SA5D-SB-0.0-0.5
SL-543-SA5D-SB-4.0-5.0

Introduction

This data review covers 4 soil samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8081B 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
9/10/13	MIXA3EU	RTX-CLPII	Endrin aldehyde	21	All samples in SDG PH098	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 EB1-082813 (from SDG PH095) was identified as an equipment blank. No chlorinated pesticide contaminants were found.

Sample FB-041113 (from SDG PH029) was identified as a field 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

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. 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

All compound quantitations were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG PH098	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 PH098**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
PH098	SL-542-SA5D-SB-0.0-0.5 SL-542-SA5D-SB-4.0-5.0 SL-543-SA5D-SB-0.0-0.5 SL-543-SA5D-SB-4.0-5.0	Endrin aldehyde	J (all detects) UJ (all non-detects)	A	Continuing calibration (%D) (C)
PH098	SL-542-SA5D-SB-0.0-0.5 SL-542-SA5D-SB-4.0-5.0 SL-543-SA5D-SB-0.0-0.5 SL-543-SA5D-SB-4.0-5.0	All compounds reported below the RL.	J (all detects)	A	Compound quantitation (Z)

**Santa Susana Field Laboratory
Chlorinated Pesticides - Laboratory Blank Data Qualification Summary - SDG PH098**

No Sample Data Qualified in this SDG

**Santa Susana Field Laboratory
Chlorinated Pesticides - Field Blank Data Qualification Summary - SDG PH098**

No Sample Data Qualified in this SDG

METHOD: GC Chlorinated Pesticides (EPA SW846 Method 8081A)^B

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: 8/29/13
II.	GC/ECD Instrument Performance Check	A	
III.	Initial calibration	A	RSD ≤ 20%
IV.	Continuing calibration/ICV	SW	ICV/CCV ≤ 20%
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client spec.
VIII.	Laboratory control samples	A	LCS
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	A	
XIV.	Overall assessment of data	A	
XV.	Field duplicates	N	
XVI.	Field blanks	NO	EB = EB1-082813 (SDG # PH095) FB = FB-041113 (SDG # PH029)

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-542-SA5D-SB-0.0-0.5	11		21		31	PBLK 2248
2	SL-542-SA5D-SB-4.0-5.0	12		22		32	
3	SL-543-SA5D-SB-0.0-0.5	13		23		33	
4	SL-543-SA5D-SB-4.0-5.0	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 #: 30695A3

VALIDATION FINDINGS CHECKLIST

Page: 1 of 2Reviewer: KR2nd 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) \leq 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? <u>X</u> %D or ___%R	/			
Were Evaluation mix standards analyzed prior to the initial calibration and sample analysis?	/			
Were endrin and 4,4'-DDT breakdowns \leq 15%.0 for individual breakdown in the Evaluation mix standards?	/			
Was a continuing calibration analyzed daily?	/			
Were all percent differences (%D) \leq 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?	/			
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?			/	

LDC #: 30695A34

VALIDATION FINDINGS CHECKLIST

Page: 2 of 2
 Reviewer: BR
 2nd Reviewer: A

Validation Area	Yes	No	NA	Findings/Comments
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?			<input checked="" type="checkbox"/>	
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.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Was a MS/MSD analyzed every 20 samples of each matrix?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			<input checked="" type="checkbox"/>	
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	<input checked="" type="checkbox"/>			
Was an LCS analyzed per extraction batch?	<input checked="" type="checkbox"/>			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	<input checked="" type="checkbox"/>			
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		<input checked="" type="checkbox"/>		
Were the performance evaluation (PE) samples within the acceptance limits?			<input checked="" type="checkbox"/>	
X. Target compound identification				
Were the retention times of reported detects within the RT windows?	<input checked="" type="checkbox"/>			
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?	<input checked="" type="checkbox"/>			
XII. System performance				
System performance was found to be acceptable.	<input checked="" type="checkbox"/>			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	<input checked="" type="checkbox"/>			
XIV. Field duplicates				
Field duplicate pairs were identified in this SDG.		<input checked="" type="checkbox"/>		
Target compounds were detected in the field duplicates.			<input checked="" type="checkbox"/>	
XV. Field blanks				
Field blanks were identified in this SDG.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Target compounds were detected in the field blanks.			<input checked="" type="checkbox"/>	

VALIDATION FINDINGS WORKSHEET

METHOD: Pesticide/PCBs (EPASW 846 Method 8081/8082)

A. alpha-BHC	I. Dieldrin	Q. Endrin ketone	Y. Aroclor-1242	GG. Chlordane
B. beta-BHC	J. 4,4'-DDE	R. Endrin aldehyde	Z. Aroclor-1248	HH. Chlordane (Technical)
C. delta-BHC	K. Endrin	S. alpha-Chlordane	AA. Aroclor-1254	II. Aroclor 1262
D. gamma-BHC	L. Endosulfan II	T. gamma-Chlordane	BB. Aroclor-1260	JJ. Aroclor 1268
E. Heptachlor	M. 4,4'-DDD	U. Toxaphene	CC. 2,4'-DDD	KK. Oxychlordane
F. Aldrin	N. Endosulfan sulfate	V. Aroclor-1016	DD. 2,4'-DDE	LL. trans-Nonachlor
G. Heptachlor epoxide	O. 4,4'-DDT	W. Aroclor-1221	EE. 2,4'-DDT	MM. cis-Nonachlor
H. Endosulfan I	P. Methoxychlor	X. Aroclor-1232	FF. Hexachlorobenzene	NN.

Notes: _____

VALIDATION FINDINGS WORKSHEET Continuing Calibration

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

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

- N N/A Were Evaluation mix standards run before initial calibration and before samples?
- N N/A Were Endrin & 4,4'-DDT breakdowns acceptable in the Evaluation Mix standard ($\leq 15.0\%$ for individual breakdowns)?
- N N/A Was at least one standard run daily to verify the working curve?
- Y N N/A Did the continuing calibration standards meet the percent difference (%D) / relative percent difference (RPD) criteria of $\leq 20.0\%$?

Level IV/D Only

- N N/A Were the retention times for all calibrated compounds within their respective acceptance windows?

#	Date	Standard ID	Column	Compound	%D (Limit ≤ 20.0)	RT (Limits)	Associated Samples	Code: C Qualifications
	9/10/13	CCV-MIXA3EU	RTX- CLPII	R	21	()	All	J/U/A
						()		
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- A. alpha-BHC
- B. beta-BHC
- C. delta-BHC
- D. gamma-BHC
- E. Heptachlor
- F. Aldrin
- G. Heptachlor epoxide
- H. Endosulfan I
- I. Dieldrin
- J. 4,4'-DDE
- K. Endrin
- L. Endosulfan II
- M. 4,4'-DDD
- N. Endosulfan sulfate
- O. 4,4'-DDT
- P. Methoxychlor
- Q. Endrin ketone
- R. Endrin aldehyde
- S. alpha-Chlordane
- T. gamma-Chlordane
- U. Toxaphene
- V. Aroclor-1016
- W. Aroclor-1221
- X. Aroclor-1232
- Y. Aroclor-1242
- Z. Aroclor-1248
- AA. Aroclor-1254
- BB. Aroclor-1260
- CC. DB 608
- DD. DB 1701
- EE. Hexachlobenzene
- FF. _____
- GG. _____
- HH. _____
- II. _____
- JJ. _____

LDC#: 30695A3a

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
 Reviewer: BR
 2nd Reviewer: 

METHOD: GC Pesticides (EPA SW 846 Method 8081B)

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

$$\%RSD = 100 * (S/X)$$

Where

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	Reported RRF (10 std)	Recalculated RRF (10 std)	Reported Average RRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL	9/9/2013	Endosulfan I (RTX-CLP)	283000	283497	296000	295200	9	9
	H919A		Methoxychlor (RTX-CLP)	116000	115891	119000	119000	8	8
			Endosulfan I (RTX-CLPII)	93800	93809	95800	95800	6	6
			Methoxychlor (RTX-CLPII)	43800	43827	43900	43900	2	2

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.

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Calculation Verification

METHOD: GC Pesticides (EPA SW 846 Method 8081)

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:

$\% \text{ Difference} = 100 * (\text{ave. RRF} - \text{RRF}) / \text{ave. RRF}$
 $\text{RRF} = (\text{Ax})(\text{Cis}) / (\text{Ais})(\text{Cx})$

Where:

ave. RRF = initial calibration average RRF
 RRF = continuing calibration RRF
 Ax = Area of compound,

Cx = Concentration of compound,
 Ais = Area of associated internal standard
 Cis = Concentration of internal standard

#	Standard ID	Calibration Date	Compound	Average CF/ Conc	Reported Conc/CF (CC)	Recalculated Conc/CF (CC)	Reported % D	Recalculated %D
1	MIXA3EU	9/10/2013	Endosulfan I (RTX-CLP)	10.000	9.76	9.77	2	2
	2P10252.0008	11:22	Methoxychlor (RTX-CLP)	100.000	100.97	100.97	1	1
			Endosulfan I (RTX-CLPII)	10.000	8.89	8.89	11	11
			Methoxychlor (RTX-CLPII)	100.000	99.49	99.51	1	0.5
2								

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 #: 30695A3a

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Page: 1 of 1
Reviewer: BR
2nd reviewer: C

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

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	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene						
Tetrachloro-m-xylene	RTX-CLP	10	8.018704	80	80	0
Decachlorobiphenyl	↓	↓	9.4142	93	94	1
Decachlorobiphenyl						

Sample ID: _____

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene						
Tetrachloro-m-xylene						
Decachlorobiphenyl						
Decachlorobiphenyl						

Sample ID: _____

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene						
Tetrachloro-m-xylene						
Decachlorobiphenyl						
Decachlorobiphenyl						

Sample ID: _____

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene						
Tetrachloro-m-xylene						
Decachlorobiphenyl						
Decachlorobiphenyl						

Notes: _____

LDC #: 3069SABa

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample/Laboratory Control Sample Duplicate Results Verification

Page: 1 of 1
 Reviewer: BR
 2nd Reviewer: [Signature]

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 = |LCS - LCSD| * 2 / (LCS + LCSD)

LCS = Laboratory control sample percent recovery

LCSD = Laboratory control sample duplicate percent recovery

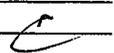
LCS/LCSD samples: LCS22248

Compound	Spike Added		Spiked Sample Concentration		LCS		LCSD		LCS/LCSD	
	LCS	LCSD	LCS	LCSD	Percent Recovery		Percent Recovery		RPD	
					Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
gamma-BHC	3.42	-	3.05	-	89	89	-	-	-	-
4,4'-DDT	7.15	-	6.74	-	95	95	-	-	-	-
Aroclor 1260										

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 #: 30695A31

VALIDATION FINDINGS WORKSHEET Sample Calculation Verification

Page: 1 of 1
Reviewer: BR
2nd reviewer: 

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

- 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?

LCS 22248 KTX-CLP

Endosulfan I = 3.29 ug/kg

$$= \frac{(2915264)(10)}{(295200)(30)}$$

$$= 3.291851852 \text{ ug/kg}$$

Example:

Sample I.D. All ND:

Conc. = _____

= _____

#	Sample ID	Compound	Reported Concentration ()	Calculated Concentration ()	Qualification

Note: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Santa Susana Field Laboratory
Collection Date: August 29, 2013
LDC Report Date: November 20, 2013
Matrix: Soil
Parameters: Polychlorinated Biphenyls
Validation Level: Level IV
Laboratory: Eurofins Lancaster Laboratories
Sample Delivery Group (SDG): PH098

Sample Identification

SL-539-SA5D-SB-0.0-0.5
SL-539-SA5D-SB-3.0-4.0
SL-526-SA5D-SB-0.0-0.5
SL-526-SA5D-SB-3.0-4.0
SL-542-SA5D-SB-0.0-0.5
SL-542-SA5D-SB-4.0-5.0
SL-543-SA5D-SB-0.0-0.5
SL-543-SA5D-SB-4.0-5.0

Introduction

This data review covers 8 soil samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8082A 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
9/5/13	AR163GG	ZBmultiR2	Aroclor-1016	22	All samples in SDG PH098	Aroclor-1016 Aroclor-1221 Aroclor-1232	J (all detects) UJ (all non-detects)	A
9/5/13	A4423CV	ZBmultiR2	Aroclor-5442	21	All samples in SDG PH098	Aroclor-5442	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 EB1-082813 (from SDG PH095) was identified as an equipment blank. No polychlorinated biphenyl contaminants were found.

Sample FB-041113 (from SDG PH029) was identified as a field 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

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. 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

All compound quantitations were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG PH098	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 PH098**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
PH098	SL-539-SA5D-SB-0.0-0.5 SL-539-SA5D-SB-3.0-4.0 SL-526-SA5D-SB-0.0-0.5 SL-526-SA5D-SB-3.0-4.0 SL-542-SA5D-SB-0.0-0.5 SL-542-SA5D-SB-4.0-5.0 SL-543-SA5D-SB-0.0-0.5 SL-543-SA5D-SB-4.0-5.0	Aroclor-1016 Aroclor-1221 Aroclor-1232 Aroclor-5442	J (all detects) UJ (all non-detects)	A	Continuing calibration (%D) (C)
PH098	SL-539-SA5D-SB-0.0-0.5 SL-539-SA5D-SB-3.0-4.0 SL-526-SA5D-SB-0.0-0.5 SL-526-SA5D-SB-3.0-4.0 SL-542-SA5D-SB-0.0-0.5 SL-542-SA5D-SB-4.0-5.0 SL-543-SA5D-SB-0.0-0.5 SL-543-SA5D-SB-4.0-5.0	All compounds reported below the RL.	J (all detects)	A	Compound quantitation (Z)

**Santa Susana Field Laboratory
Polychlorinated Biphenyls - Laboratory Blank Data Qualification Summary - SDG PH098**

No Sample Data Qualified in this SDG

**Santa Susana Field Laboratory
Polychlorinated Biphenyls - Field Blank Data Qualification Summary - SDG PH098**

No Sample Data Qualified in this SDG

METHOD: GC Polychlorinated Biphenyls (EPA SW 846 Method 8082A)

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: 8/29/13
II.	GC/ECD Instrument Performance Check	N	
III.	Initial calibration	A	RSD ≤ 20%
IV.	Continuing calibration/ICV	SW	1W/ICCV ≤ 20%
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client spec.
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	A	
XIV.	Overall assessment of data	A	
XV.	Field duplicates	N	
XVI.	Field blanks	ND	EB = EB-082813 (SDG# PH095) FB = FB-041113 (SDG# PH029)

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-539-SA5D-SB-0.0-0.5	11		21		31	PBLK10247
2	SL-539-SA5D-SB-3.0-4.0	12		22		32	
3	SL-526-SA5D-SB-0.0-0.5	13		23		33	
4	SL-526-SA5D-SB-3.0-4.0	14		24		34	
5	SL-542-SA5D-SB-0.0-0.5	15		25		35	
6	SL-542-SA5D-SB-4.0-5.0	16		26		36	
7	SL-543-SA5D-SB-0.0-0.5	17		27		37	
8	SL-543-SA5D-SB-4.0-5.0	18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

LDC #: 30695R2L

VALIDATION FINDINGS CHECKLIST

Page: 1 of 2Reviewer: KR2nd Reviewer: CA**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) \leq 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? <u>1</u> %D or ___%R	/			
Were Evaluation mix standards analyzed prior to the initial calibration and sample analysis?	/			
Were endrin and 4,4'-DDT breakdowns \leq 15%.0 for individual breakdown in the Evaluation mix standards?	/			
Was a continuing calibration analyzed daily?	/			
Were all percent differences (%D) \leq 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?	/			
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?			/	

LDC #: 30695A36

VALIDATION FINDINGS CHECKLIST

Page: 2 of 2
 Reviewer: BR
 2nd Reviewer: C

Validation Area	Yes	No	NA	Findings/Comments
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?			<input checked="" type="checkbox"/>	
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.		<input checked="" type="checkbox"/>		
Was a MS/MSD analyzed every 20 samples of each matrix?			<input checked="" type="checkbox"/>	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			<input checked="" type="checkbox"/>	
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	<input checked="" type="checkbox"/>			
Was an LCS analyzed per extraction batch?	<input checked="" type="checkbox"/>			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	<input checked="" type="checkbox"/>			
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		<input checked="" type="checkbox"/>		
Were the performance evaluation (PE) samples within the acceptance limits?			<input checked="" type="checkbox"/>	
X. Target compound identification				
Were the retention times of reported detects within the RT windows?		<input checked="" type="checkbox"/>		
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?	<input checked="" type="checkbox"/>			
XII. System performance				
System performance was found to be acceptable.	<input checked="" type="checkbox"/>			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	<input checked="" type="checkbox"/>			
XIV. Field duplicates				
Field duplicate pairs were identified in this SDG.		<input checked="" type="checkbox"/>		
Target compounds were detected in the field duplicates.			<input checked="" type="checkbox"/>	
XV. Field blanks				
Field blanks were identified in this SDG.	<input checked="" type="checkbox"/>			
Target compounds were detected in the field blanks.		<input checked="" type="checkbox"/>		

VALIDATION FINDINGS WORKSHEET

METHOD: Pesticide/PCBs (EPASW 846 Method 8081/8082)

A. alpha-BHC	I. Dieldrin	Q. Endrin ketone	Y. Aroclor-1242	GG. Chlordane
B. beta-BHC	J. 4,4'-DDE	R. Endrin aldehyde	Z. Aroclor-1248	HH. Chlordane (Technical)
C. delta-BHC	K. Endrin	S. alpha-Chlordane	AA. Aroclor-1254	II. Aroclor 1262
D. gamma-BHC	L. Endosulfan II	T. gamma-Chlordane	BB. Aroclor-1260	JJ. Aroclor 1268
E. Heptachlor	M. 4,4'-DDD	U. Toxaphene	CC. 2,4'-DDD	KK. Oxychlordane
F. Aldrin	N. Endosulfan sulfate	V. Aroclor-1016	DD. 2,4'-DDE	LL. trans-Nonachlor
G. Heptachlor epoxide	O. 4,4'-DDT	W. Aroclor-1221	EE. 2,4'-DDT	MM. cis-Nonachlor
H. Endosulfan I	P. Methoxychlor	X. Aroclor-1232	FF. Hexachlorobenzene	NN.

Notes: _____

VALIDATION FINDINGS WORKSHEET Continuing Calibration

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

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

- Y N N/A Were Evaluation mix standards run before initial calibration and before samples?
 Y N N/A Were Endrin & 4,4'-DDT breakdowns acceptable in the Evaluation Mix standard ($\leq 15.0\%$ for individual breakdowns)?
 Y N N/A Was at least one standard run daily to verify the working curve?
 Y N N/A Did the continuing calibration standards meet the percent difference (%D) / relative percent difference (RPD) criteria of $\leq 20.0\%$?

Level IV/D Only

- Y N N/A Were the retention times for all calibrated compounds within their respective acceptance windows?

#	Date	Standard ID	Column	Compound	%D (Limit ≤ 20.0)	RT (Limits)	Associated Samples	Qualifications
	9/5/13	CV-AR 16366	ZBmultir2	✓	22	()	All	col: c J/UT/A (Qual V, W, X)
	7/5/13	CV-A 4423LV	↓	Aroclor 5442	21	()		J/UT/A (5442-04)
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|--------------|-----------------------|------------------|-----------------------|--------------------|-----------------|------------------|---------------------|-----------|
| A. alpha-BHC | E. Heptachlor | I. Dieldrin | M. 4,4'-DDD | Q. Endrin ketone | U. Toxaphene | Y. Aroclor-1242 | CC. DB 608 | GG. _____ |
| B. beta-BHC | F. Aldrin | J. 4,4'-DDE | N. Endosulfan sulfate | R. Endrin aldehyde | V. Aroclor-1016 | Z. Aroclor-1248 | DD. DB 1701 | HH. _____ |
| C. delta-BHC | G. Heptachlor epoxide | K. Endrin | O. 4,4'-DDT | S. alpha-Chlordane | W. Aroclor-1221 | AA. Aroclor-1254 | EE. Hexachlobenzene | II. _____ |
| D. gamma-BHC | H. Endosulfan I | L. Endosulfan II | P. Methoxychlor | T. gamma-Chlordane | X. Aroclor-1232 | BB. Aroclor-1260 | FF. _____ | JJ. _____ |

LDC#: 30695A3b

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
Reviewer: BR
2nd Reviewer: 

METHOD: GC PCBs (EPA SW 846 Method 8082A)

The calibration factors (CF), average CF, and relative standard deviation (%RSD) were recalculated for compounds identified below using the following calculations:

$CF = A/C$

average CF = sum of the CF/number of standards

$\%RSD = 100 * (S/X)$

Where:

A = Area of compound

C = Concentration of compound

S = Standard deviation of calibration factors

X = Mean of calibration factors

#	Standard ID	Calibration Date	Compound	Reported CF (500 std)	Recalculated CF (500 std)	Reported Average CF (Initial)	Recalculated Average CF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL 17342A	8/21/2013	PCB1260-1 (ZB-MultiR1)	23051	23051	25364	25364	10	10
			PCB1260-1 (ZB-MultiR2I)	82413	82413	85405	85405	4	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#: 30695A3b

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Calculation

Page: 1 of 1
Reviewer: BR
2nd Reviewer: 

METHOD: GC PCBs (EPA SW 846 Method 8082)

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration percent difference (%D) values were recalculated for the compounds identified below using the following calculation:

$$\text{Percent difference (\%D)} = 100 * (N - C)/N$$

Where:

N = Initial Calibration Factor or Nominal Amount

C = Calibration Factor from Continuing Calibration Standard or Calculated Amount

#	Standard ID	Calibration Date	Compound	Conc	Reported Conc (CCV)	Recalculated Conc (CCV)	Reported % D	Recalculated %D
1	AR163GG	9/5/2013	PCB1260 (ZB-MultiR1)	200	221.41	221.41	11	11
	6T20233B.005	10:15	PCB1260 (ZB-MultiR2I)	200	161.96	161.96	19	19

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 #: 3069933

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Page: 1 of 1
 Reviewer: BR
 2nd reviewer: C

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

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:

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene						
Tetrachloro-m-xylene	<u>10.1</u>	<u>ZB Multi RI</u>	<u>9.345292</u>	<u>93</u>	<u>93</u>	<u>0</u>
Decachlorobiphenyl	<u>10.2</u>	<u>↓</u>	<u>9.590162</u>	<u>97</u>	<u>94</u>	<u>0</u>
Decachlorobiphenyl					<u>82</u>	

Sample ID:

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene						
Tetrachloro-m-xylene						
Decachlorobiphenyl						
Decachlorobiphenyl						

Sample ID:

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene						
Tetrachloro-m-xylene						
Decachlorobiphenyl						
Decachlorobiphenyl						

Sample ID:

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene						
Tetrachloro-m-xylene						
Decachlorobiphenyl						
Decachlorobiphenyl						

Notes: _____

LDC #: 30695A3L

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicate Results Verification

Page: 1 of 1
 Reviewer: BR
 2nd Reviewer: [Signature]

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 = $|LCS - LCSD| * 2 / (LCS + LCSD)$

LCS = Laboratory control sample percent recovery

LCSD = Laboratory control sample duplicate percent recovery

LCS/LCSD samples: LCS ~~10247~~ 10247

Compound	Spike Added		Spiked Sample Concentration		LCS		LCSD		LCS/LCSD	
	LCS	LCSD	LCS	LCSD	Percent Recovery		Percent Recovery		RPD	
					Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
gamma-BHC										
4,4'-DDT										
Aroclor 1260	147	—	181.4	—	109	109	—	—	—	—

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.

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

- N N/A Were all reported results recalculated and verified for all level IV samples?
- N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

ZB Multi - 1

LCS 10247

PCB - 1260 = 181.4 ug/kg

$$1260-1 = \frac{(13172017)(10)}{(25364)(30)}$$

$$= 173.1064632$$

$$1260-2 = 196.747684$$

$$1260-3 = 176.614795$$

$$1260-4 = 173.697494$$

$$1260-5 = 194.454201$$

$$1260-6 = \frac{179.803675}{\cancel{179.803675}}$$

Average = 181.404266

Example:
 Sample I.D. All ND :
 Conc. = _____
 =

#	Sample ID	Compound	Reported Concentration ()	Calculated Concentration ()	Qualification

Note: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Santa Susana Field Laboratory
Collection Date: August 29, 2013
LDC Report Date: November 14, 2013
Matrix: Soil
Parameters: Metals
Validation Level: Level IV
Laboratory: Eurofins Lancaster Laboratories

Sample Delivery Group (SDG): PH098

Sample Identification

SL-539-SA5D-SB-0.0-0.5
SL-539-SA5D-SB-3.0-4.0
SL-526-SA5D-SB-0.0-0.5
SL-526-SA5D-SB-3.0-4.0
SL-542-SA5D-SB-0.0-0.5
SL-542-SA5D-SB-4.0-5.0
SL-543-SA5D-SB-0.0-0.5
SL-543-SA5D-SB-4.0-5.0

Introduction

This data review covers 8 soil samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6010C, 6020A, and 7471B for Metals. The metals analyzed were Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Phosphorus, 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

The initial and continuing calibrations were performed at the required frequency.

The calibration standards criteria 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 with the following exceptions:

Method Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Calcium Tin Zinc	9.349 mg/Kg 1.643 mg/Kg 0.416 mg/Kg	All samples in SDG PH098
ICB/CCB	Cadmium Nickel	0.38 ug/L 1.0 ug/L	SL-539-SA5D-SB-3.0-4.0 SL-526-SA5D-SB-0.0-0.5 SL-526-SA5D-SB-3.0-4.0 SL-542-SA5D-SB-0.0-0.5 SL-542-SA5D-SB-4.0-5.0 SL-543-SA5D-SB-0.0-0.5 SL-543-SA5D-SB-4.0-5.0
ICB/CCB	Calcium	56.6 ug/L	SL-539-SA5D-SB-3.0-4.0 SL-526-SA5D-SB-0.0-0.5 SL-526-SA5D-SB-3.0-4.0 SL-542-SA5D-SB-0.0-0.5 SL-543-SA5D-SB-0.0-0.5 SL-543-SA5D-SB-4.0-5.0
ICB/CCB	Calcium	38.3 ug/L	SL-539-SA5D-SB-0.0-0.5 SL-542-SA5D-SB-4.0-5.0

Data qualification by the initial, continuing and preparation blanks (ICB/CCB/PBs) was based on the maximum contaminant concentration in the ICB/CCB/PBs in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
SL-539-SA5D-SB-0.0-0.5	Tin	2.58 mg/Kg	2.58U mg/Kg
SL-539-SA5D-SB-3.0-4.0	Tin	3.13 mg/Kg	3.13U mg/Kg
SL-526-SA5D-SB-0.0-0.5	Tin	3.32 mg/Kg	3.32U mg/Kg
SL-526-SA5D-SB-3.0-4.0	Tin	3.53 mg/Kg	3.53U mg/Kg
SL-542-SA5D-SB-0.0-0.5	Tin	3.40 mg/Kg	3.40U mg/Kg
SL-542-SA5D-SB-4.0-5.0	Tin	3.35 mg/Kg	3.35U mg/Kg
SL-543-SA5D-SB-0.0-0.5	Tin	3.17 mg/Kg	3.17U mg/Kg
SL-543-SA5D-SB-4.0-5.0	Tin	3.66 mg/Kg	3.66U mg/Kg

Sample EB1-082813 (from SDG PH095) was identified as an equipment blank. No metal contaminants were found with the following exceptions:

Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
EB1-082813	8/28/13	Barium Molybdenum	0.00035 mg/L 0.0080 mg/L	All samples in SDG PH098

Sample FB-041113 (from SDG PH029) was identified as a field blank. No metal contaminants were found with the following exceptions:

Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
FB-041113	4/11/13	Copper Molybdenum	0.0036 mg/L 0.0036 mg/L	All samples in SDG PH098

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 with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
SL-539-SA5D-SB-0.0-0.5	Molybdenum	0.369 mg/Kg	0.369U mg/Kg
SL-542-SA5D-SB-0.0-0.5	Molybdenum	0.306 mg/Kg	0.306U mg/Kg
SL-543-SA5D-SB-0.0-0.5	Molybdenum	0.332 mg/Kg	0.332U mg/Kg
SL-543-SA5D-SB-4.0-5.0	Molybdenum	0.549 mg/Kg	0.549U mg/Kg

V. ICP Interference Check Sample (ICS) Analysis

The frequency of analysis was met.

The criteria for analysis were met.

VI. Matrix Spike Analysis

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. 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) 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 was not performed for this SDG.

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 PH098	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 PH098**

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
PH098	SL-539-SA5D-SB-0.0-0.5 SL-539-SA5D-SB-3.0-4.0 SL-526-SA5D-SB-0.0-0.5 SL-526-SA5D-SB-3.0-4.0 SL-542-SA5D-SB-0.0-0.5 SL-542-SA5D-SB-4.0-5.0 SL-543-SA5D-SB-0.0-0.5 SL-543-SA5D-SB-4.0-5.0	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 PH098**

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
PH098	SL-539-SA5D-SB-0.0-0.5	Tin	2.58U mg/Kg	A	B
PH098	SL-539-SA5D-SB-3.0-4.0	Tin	3.13U mg/Kg	A	B
PH098	SL-526-SA5D-SB-0.0-0.5	Tin	3.32U mg/Kg	A	B
PH098	SL-526-SA5D-SB-3.0-4.0	Tin	3.53U mg/Kg	A	B
PH098	SL-542-SA5D-SB-0.0-0.5	Tin	3.40U mg/Kg	A	B
PH098	SL-542-SA5D-SB-4.0-5.0	Tin	3.35U mg/Kg	A	B
PH098	SL-543-SA5D-SB-0.0-0.5	Tin	3.17U mg/Kg	A	B
PH098	SL-543-SA5D-SB-4.0-5.0	Tin	3.66U mg/Kg	A	B

**Santa Susana Field Laboratory
Metals - Field Blank Data Qualification Summary - SDG PH098**

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
PH098	SL-539-SA5D-SB-0.0-0.5	Molybdenum	0.369U mg/Kg	A	F
PH098	SL-542-SA5D-SB-0.0-0.5	Molybdenum	0.306U mg/Kg	A	F
PH098	SL-543-SA5D-SB-0.0-0.5	Molybdenum	0.332U mg/Kg	A	F

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
PH098	SL-543-SA5D-SB-4.0-5.0	Molybdenum	0.549U mg/Kg	A	F

LDC #: 30695A4

VALIDATION COMPLETENESS WORKSHEET

Date: 11/11/13

SDG #: PH098

Level IV

Page: 1 of 1

Laboratory: Eurofins Lancaster Laboratories

Reviewer: [Signature]

2nd Reviewer: [Signature]

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

74713

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: 8/29/13
II.	ICP/MS Tune	A	
III.	Calibration	A	
IV.	Blanks	SW	
V.	ICP Interference Check Sample (ICS) Analysis	A	
VI.	Matrix Spike Analysis	N CS	
VII.	Duplicate Sample Analysis	N	
VIII.	Laboratory Control Samples (LCS)	A	LCS
IX.	Internal Standard (ICP-MS)	A	
X.	Furnace Atomic Absorption QC	N	
XI.	ICP Serial Dilution	N	
XII.	Sample Result Verification	A	
XIII.	Overall Assessment of Data	A	
XIV.	Field Duplicates	N	
XV.	Field Blanks	SW	FB=FB011113 EB=EB1-082813

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected (PH029)
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

(PH0915)

Validated Samples:

Soil

1	SL-539-SA5D-SB-0.0-0.5	11		21		31	
2	SL-539-SA5D-SB-3.0-4.0	12		22		32	
3	SL-526-SA5D-SB-0.0-0.5	13		23		33	
4	SL-526-SA5D-SB-3.0-4.0	14		24		34	
5	SL-542-SA5D-SB-0.0-0.5	15		25		35	
6	SL-542-SA5D-SB-4.0-5.0	16		26		36	
7	SL-543-SA5D-SB-0.0-0.5	17		27		37	
8	SL-543-SA5D-SB-4.0-5.0	18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

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.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Cooler temperature criteria was met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
II. ICP/MS Tune				
Were all isotopes in the tuning solution mass resolution within 0.1 amu?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were %RSD of isotopes in the tuning solution $\leq 5\%$?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
III. Calibration				
Were all instruments calibrated daily, each set-up time?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were the proper number of standards used?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all initial and continuing calibration verification %Rs within the 90-110% (80-120% for mercury) QC limits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all initial calibration correlation coefficients ≥ 0.995 ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
IV. Blanks				
Was a method blank associated with every sample in this SDG?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
V. ICP Interference Check Sample				
Were ICP interference check samples performed daily?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were the AB solution percent recoveries (%R) with the 80-120% QC limits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
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.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Were the MS/MSD or duplicate relative percent differences (RPD) $\leq 20\%$ for waters and $\leq 35\%$ for soil samples? A control limit of $\pm RL$ ($\pm 2X RL$ for soil) was used for samples that were $\leq 5X$ the RL, including when only one of the duplicate sample values were $< 5X$ the RL.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
VII. Laboratory control samples				
Was an LCS analyzed for this SDG?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was an LCS analyzed per extraction batch?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

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 analyses 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.	/			

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)
Sample Concentration units, unless otherwise noted: mg/Kg

Soil preparation factor applied: 100x
Associated Samples: All

Reason: B

					Sample Identification										
Analyte	Maximum PB ^a (mg/Kg)	Maximum PB ^a (ug/l)	Maximum ICB/CCB ^a (ug/l)	Action Level	1	2	3	4	5	6	7	8			
Ca	9.349			46.75											
Sn	1.643			8.215	2.58	3.13	3.32	3.53	3.40	3.35	3.17	3.66			
Zn	0.416			2.08											

Sample Concentration units, unless otherwise noted: mg/Kg Associated Samples: 2-8

					Sample Identification										
Analyte	Maximum PB ^a (mg/Kg)	Maximum PB ^a (ug/l)	Maximum ICB/CCB ^a (ug/l)	Action Level	No Qualifiers										
Cd			0.38	0.19											
Ni			1.0	0.5											

Sample Concentration units, unless otherwise noted: mg/Kg Associated Samples: 2-5, 7, 8

					Sample Identification										
Analyte	Maximum PB ^a (mg/Kg)	Maximum PB ^a (ug/l)	Maximum ICB/CCB ^a (ug/l)	Action Level	No Qualifiers										
Ca			56.6	28.3											

Sample Concentration units, unless otherwise noted: mg/Kg Associated Samples: 1, 6

					Sample Identification										
Analyte	Maximum PB ^a (mg/Kg)	Maximum PB ^a (ug/l)	Maximum ICB/CCB ^a (ug/l)	Action Level	No Qualifiers										
Ca			38.3	19.15											

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".
Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

VALIDATION FINDINGS WORKSHEET

Field Blanks

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

Blank units: mg/L **Associated sample units:** mg/Kg Reason: F
Sampling date: 4/11/13 **Soil factor applied:** 100x
Field blank type: (circle one) Field Blank / Rinsate / Other: Associated Samples: All

Analyte	Blank ID	Sample Identification									
	FB-041113 (SDG: PH029)	Action Limit	1	5	7	8					
Cu	0.0036	1.8									
Mo	0.0036	1.8	0.369	0.306	0.332	0.549					

Sampling date: 8/28/13 **Soil factor applied:** 100x
Field blank type: (circle one) Field Blank / Rinsate / Other: Associated Samples: All

Analyte	Blank ID	Sample Identification									
	EB1-082813 (SDG: PH095)	Action Limit	1	5	7	8					
Ba	0.00035	0.175									
Mo	0.0080	4	See FB	See FB	See FB	See FB					

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 #: 3067SA9

VALIDATION FINDINGS WORKSHEET
Initial and Continuing Calibration Calculation Verification

Page: 1 of 1
 Reviewer: GR
 2nd Reviewer: [Signature]

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:

$$\%R = \frac{\text{Found}}{\text{True}} \times 100$$
 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	Reported	Acceptable (Y/N)	
					%R	%R		
ICV	ICP (Initial calibration)	Li	589.14	600	98.2	98.2	Y	
ICV	ICP/MS (Initial calibration)	Sr	52.48	50	105.0	105.0		
ICV	CVAA (Initial calibration)	Hg	2.60	2.5	104.0	104.0		
CCV4 (10/17/25)	ICP (Continuing calibration)	Mo	515.48	500	103.1	103.1		
CCV3 (10/10/25)	ICP/MS (Continuing calibration)	Tl	25.06	25	100.2	100.2		
CCV3 (10/23)	CVAA (Continuing calibration)	Hg	1.04	1	104.1	104.0		Y
	GFAA (Initial calibration)							
	GFAA (Continuing calibration)							

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.

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

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:

$$\%R = \frac{\text{Found}}{\text{True}} \times 100$$
 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	Reported	Acceptable (Y/N)
					%R / RPD / %D	%R / RPD / %D	
ICSA3	ICP interference check	V	516.2	500	103.2	103.2	Y
LCS	Laboratory control sample	Se	1079	1000	108	108	Y
N	Matrix spike		(SSR-SR)				
N	Duplicate						
N	ICP serial dilution						

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.

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

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 Cr were recalculated and verified using the following equation:

Concentration = $\frac{(RD)(FV)(Dil)}{(In. Vol.)}$

Recalculation:

- RD = Raw data concentration
- FV = Final volume (ml)
- In. Vol. = Initial volume (ml) or weight (G)
- Dil = Dilution factor

$$= \frac{100\text{mL}(0.20475\text{mg/L})}{0.971(1.04\text{g})} = 20.278\text{mg/kg}$$

#	Sample ID	Analyte	Reported Concentration (mg/kg)	Calculated Concentration (mg/kg)	Acceptable (Y/N)
	1	Cr	20.3	20.3	Y
	2	Sr	15.0	15.0	Y
	3	Ni	21.6	21.6	
	4	Pb	0.32	0.32	
	5	P	320	320	
	6	Cu	6.0	6.0	
	7	As	0.031	0.031	
	8	Zn	74.8	74.8	

Note: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Santa Susana Field Laboratory
Collection Date: August 29, 2013
LDC Report Date: November 20, 2013
Matrix: Soil/Water
Parameters: Total Petroleum Hydrocarbons as Gasoline
Validation Level: Level IV
Laboratory: Eurofins Lancaster Laboratories
Sample Delivery Group (SDG): PH098

Sample Identification

TB-082913
SL-539-SA5D-SB-3.0-4.0
SL-526-SA5D-SB-3.0-4.0
SL-542-SA5D-SB-4.0-5.0
SL-543-SA5D-SB-4.0-5.0

Introduction

This data review covers 4 soil samples and one water 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-082913 was identified as a trip blank. No total petroleum hydrocarbons as gasoline contaminants were found.

Sample EB1-082813 (from SDG PH095) was identified as an equipment blank. No total petroleum hydrocarbons as gasoline contaminants were found.

Sample FB-041113 (from SDG PH029) was identified as a field blank. No total petroleum hydrocarbons as gasoline 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

All compound quantitations were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG PH098	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
 PH098**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
PH098	TB-082913 SL-539-SA5D-SB-3.0-4.0 SL-526-SA5D-SB-3.0-4.0 SL-542-SA5D-SB-4.0-5.0 SL-543-SA5D-SB-4.0-5.0	All compounds reported below the RL.	J (all detects)	A	Compound quantitation (Z)

**Santa Susana Field Laboratory
 Total Petroleum Hydrocarbons as Gasoline - Laboratory Blank Data Qualification
 Summary - SDG PH098**

No Sample Data Qualified in this SDG

**Santa Susana Field Laboratory
 Total Petroleum Hydrocarbons as Gasoline - Field Blank Data Qualification
 Summary - SDG PH098**

No Sample Data Qualified in this SDG

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: 8/29/13
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 spec.
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	TB=1 EB=EB1-0828/13 (SDG#PH095) FB=FB-04113 (SDG#PH029)

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: Water + Soil

1	TB-082913	W	11	21	31	BLKSF
2	SL-539-SA5D-SB-3.0-4.0		12	22	32	BLKS8
3	SL-526-SA5D-SB-3.0-4.0		13	23	33	
4	SL-542-SA5D-SB-4.0-5.0		14	24	34	
5	SL-543-SA5D-SB-4.0-5.0		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 #: 30695A7

VALIDATION FINDINGS CHECKLIST

Page: 1 of 2
Reviewer: BR
2nd Reviewer: eMethod: GC HPLC

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Cooler temperature criteria was met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
II. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was a linear fit used for evaluation? If yes, were all percent relative standard deviations (%RSD) < 20%?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was a curve fit used for evaluation? If Yes, what was the acceptance criteria used?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Did the initial calibration meet the curve fit acceptance criteria?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Were the RT windows properly established?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
IV. Continuing calibration				
What type of continuing calibration calculation was performed? <input checked="" type="checkbox"/> %D or <input type="checkbox"/> %R	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was a continuing calibration analyzed daily?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all percent differences (%D) < 20%.0 or percent recoveries 80-120%?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all the retention times within the acceptance windows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
V. Blanks				
Was a method blank associated with every sample in this SDG?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was a method blank analyzed for each matrix and concentration?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
VI. Surrogate spikes				
Were all surrogate %R within the QC limits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
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.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Was a MS/MSD analyzed every 20 samples of each matrix?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was an LCS analyzed per extraction batch?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

LDC #: 3069507

VALIDATION FINDINGS CHECKLIST

Page: 2 of 2
 Reviewer: BR
 2nd Reviewer: [Signature]

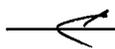
Validation Area	Yes	No	NA	Findings/Comments
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		/		
Were the performance evaluation (PE) samples within the acceptance limits?			/	
X. Target compound identification				
Were the retention times of reported detects within the RT windows?	/			
XI. Compound quantitation/CRQLs				
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions 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 #: 30695A7

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page 1 of 1

Reviewer: BR

2nd Reviewer: 

METHOD: GC X HPLC _____

The calibration factors (CF), average CF, and relative standard deviation (%RSD) were recalculated for compounds identified below using the following calculations:

$$CF = A/C$$

average CF = sum of the CF/number of standards

$$\%RSD = 100 * (S/X)$$

Where:

A = Area of compound

C = Concentration of compound

S = Standard deviation of calibration factors

X = Mean of calibration factors

#	Standard ID	Calibration Date	Compound	Reported CF (550 std)	Recalculated CF (550 std)	Reported Average CF (Initial)	Recalculated Average CF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL 11379F J&W DB-MTB	5/23/2013	GRO	61486	61486	61516	61516	3	3

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 #: 30695
30074A7
 for

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page 1 of 1
 Reviewer: BR
 2nd Reviewer: ←

METHOD: GC X HPLC _____

The calibration factors (CF), average CF, and relative standard deviation (%RSD) were recalculated for compounds identified below using the following calculations:

CF = A/C

average CF = sum of the CF/number of standards

%RSD = 100 * (S/X)

Where:

A = Area of compound

C = Concentration of compound

S = Standard deviation of calibration factors

X = Mean of calibration factors

#	Standard ID	Calibration Date	Compound	Reported CF (550 std)	Recalculated CF (550 std)	Reported Average CF (Initial)	Recalculated Average CF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL 11002f J&W DB-VRX	1/12/2012	GRO	6717	6717	6269	6269	9.2	9.2

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 #: 30695A7

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Calculation Verification

Page: 1 of 1
Reviewer: BR
2nd Reviewer: 

METHOD: GC _____ HPLC _____

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration percent difference (%D) values were recalculated for the compounds identified below using the following calculation:

$$\text{Percent difference (\%D)} = 100 * (N - C)/N$$

Where:

N = Initial Calibration Factor or Nominal Amount

C = Calibration Factor from Continuing Calibration Standard or Calculated Amount

#	Standard ID	Calibration Date	Compound	CCV Conc/CF	Reported Conc/CF	Recalculated Conc/CF	Reported % D	Recalculated %D
1	16247B.0002	9/4/2013	GRO	220.00	215.73	215.73	2	2
		5:05						
2	20247B.0019	9/5/2013	GRO	550.00	564.19	564.21	3	3
		18:03						
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 #: 30695A7

VALIDATION FINDINGS WORKSHEET Surrogate Results Verification

Page: 1 of 1

Reviewer: BR

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	
Trifluorotoluene	DB-VRx	30	26.8163	89	89	0

Sample ID: 2

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Trifluorotoluene	FID	850	619.5853	84 73	73	0

Sample ID: _____

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	

LDC #: 30695A7

VALIDATION FINDINGS WORKSHEET

Page: 1 of 1Laboratory Control Sample/Laboratory Control Sample Duplicates Results VerificationReviewer: BR2nd Reviewer: METHOD: GC HPLC

The percent recoveries (%R) and relative percent differences (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

$$\% \text{Recovery} = 100 * (\text{SSC} - \text{SC}) / \text{SA}$$

Where SSC = Spiked sample concentration

SC = Sample concentration

SA = Spike added

LCS = Laboratory Control Sample

LCSD = Laboratory Control Sample duplicate

$$\text{RPD} = ((\text{SSCLCS} - \text{SSCLCSD}) * 2) / (\text{SSCLCS} + \text{SSCLCSD}) * 100$$

CS/LCSD samples: LCSA 9 / LCSD 13

Compound	Spike Added (mg/L)		Spike Sample Concentration (mg/L)		LCS		LCSD		LCS/LCSD	
	LCS	LCSD	LCS	LCSD	Percent Recovery		Percent Recovery		RPD	
					Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline (8015)	11	11	9.7	8.64	88	88	79	79	12	12
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 #: 30695A7

VALIDATION FINDINGS WORKSHEET Sample Calculation Verification

Page: 1 of 1
Reviewer: BR
2nd Reviewer: [Signature]

METHOD: GC HPLC

N N/A Were all reported results recalculated and verified for all level IV samples?
 N N/A Were all recalculated results for detected target compounds within 10% of the reported results?

Concentration = $\frac{(A)(Fv)(Df)}{(RF)(Vs \text{ or } Ws)(\%S/100)}$

Example:

Sample ID: A11 Compound Name GR0

- 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

Concentration = ND

LCSA9
GR0 = 9.7 mg/kg
$$= \frac{(26899030 - 3029454)(25)}{(61514)(1)(1000)}$$
$$= 9.7 \text{ mg/kg}$$

#	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: August 29, 2013
LDC Report Date: November 20, 2013
Matrix: Soil
Parameters: Total Petroleum Hydrocarbons as Extractables
Validation Level: Level IV
Laboratory: Eurofins Lancaster Laboratories
Sample Delivery Group (SDG): PH098

Sample Identification

SL-539-SA5D-SB-0.0-0.5
SL-539-SA5D-SB-3.0-4.0
SL-526-SA5D-SB-0.0-0.5
SL-526-SA5D-SB-3.0-4.0
SL-542-SA5D-SB-0.0-0.5
SL-542-SA5D-SB-4.0-5.0
SL-543-SA5D-SB-0.0-0.5
SL-543-SA5D-SB-4.0-5.0
SL-539-SA5D-SB-0.0-0.5MS
SL-539-SA5D-SB-0.0-0.5MSD

Introduction

This data review covers 10 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 EB1-082813 (from SDG PH095) was identified as an equipment blank. No total petroleum hydrocarbons as extractable contaminants were found.

Sample FB-041113 (from SDG PH029) was identified as a field blank. No total petroleum hydrocarbons as extractable 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.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Target Compound Identification

All target compound identifications were within validation criteria.

IX. Compound Quantitation

All compound quantitations were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG PH098	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 PH098**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
PH098	SL-539-SA5D-SB-0.0-0.5 SL-539-SA5D-SB-3.0-4.0 SL-526-SA5D-SB-0.0-0.5 SL-526-SA5D-SB-3.0-4.0 SL-542-SA5D-SB-0.0-0.5 SL-542-SA5D-SB-4.0-5.0 SL-543-SA5D-SB-0.0-0.5 SL-543-SA5D-SB-4.0-5.0	All compounds reported below the RL.	J (all detects)	A	Compound quantitation (Z)

**Santa Susana Field Laboratory
 Total Petroleum Hydrocarbons as Extractables - Laboratory Blank Data
 Qualification Summary - SDG PH098**

No Sample Data Qualified in this SDG

**Santa Susana Field Laboratory
 Total Petroleum Hydrocarbons as Extractables - Field Blank Data Qualification
 Summary - SDG PH098**

No Sample Data Qualified in this SDG

LDC #: 30695A8

VALIDATION COMPLETENESS WORKSHEET

Date: 11/18/13

SDG #: PH098

Level IV

Page: 1 of 1

Laboratory: Eurofins Lancaster Laboratories

Reviewer: BK

2nd Reviewer: A

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: 8/29/13
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 = EB1-082813 (SDG # PH098) FB = FB-041113 (SDG # PH029)

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: 561

1	SL-539-SA5D-SB-0.0-0.5	11	21	31	FBLK 22247
2	SL-539-SA5D-SB-3.0-4.0	12	22	32	
3	SL-526-SA5D-SB-0.0-0.5	13	23	33	
4	SL-526-SA5D-SB-3.0-4.0	14	24	34	
5	SL-542-SA5D-SB-0.0-0.5	15	25	35	
6	SL-542-SA5D-SB-4.0-5.0	16	26	36	
7	SL-543-SA5D-SB-0.0-0.5	17	27	37	
8	SL-543-SA5D-SB-4.0-5.0	18	28	38	
9	#IMS	19	29	39	
10	#IMSD	20	30	40	

Notes:

LDC #: 3069548

VALIDATION FINDINGS CHECKLIST

Page: 1 of 2
 Reviewer: BR
 2nd Reviewer: [Signature]

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?	/			
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?	/			
IV. Continuing calibration				
What type of continuing calibration calculation was performed? <input checked="" type="checkbox"/> %D or <input type="checkbox"/> %R	/			
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) 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?			/	
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?	/			

LDC #: 30695A8

VALIDATION FINDINGS CHECKLIST

Page: 2 of 2
 Reviewer: BR
 2nd Reviewer: [Signature]

Validation Area	Yes	No	NA	Findings/Comments
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 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 #: 30695A8

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page 1 of 1

Reviewer: BR

2nd Reviewer: 

METHOD: GC X HPLC _____

The calibration factors (CF), average CF, and relative standard deviation (%RSD) were recalculated for compounds identified below using the following calculations:

$$CF = A/C$$

$$\text{average CF} = \text{sum of the CF}/\text{number of standards}$$

$$\%RSD = 100 * (S/X)$$

Where:

A = Area of compound

C = Concentration of compound

S = Standard deviation of calibration factors

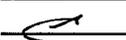
X = Mean of calibration factors

#	Standard ID	Calibration Date	Compound	Reported CF (144 std)	Recalculated CF (144 std)	Reported Average CF (Initial)	Recalculated Average CF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL CP23-19879A ZB-5	8/19/2013	C8-C40	22576	22576	22983	22983	7	7

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 #: 30695A8

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Calculation Verification

Page: (of 1
Reviewer: BR
2nd Reviewer: 

METHOD: GC _____ HPLC _____

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration percent difference (%D) values were recalculated for the compounds identified below using the following calculation:

$$\text{Percent difference (\%D)} = 100 * (N - C)/N$$

Where:

N = Initial Calibration Factor or Nominal Amount

C = Calibration Factor from Continuing Calibration Standard or Calculated Amount

#	Standard ID	Calibration Date	Compound	CCV Conc/CF	Reported Conc/CF	Recalculated Conc/CF	Reported % D	Recalculated %D
1	J249.0025	9/6/2013	C8-C40	288.01	277.76	277.76	4	4
		23:39						
2								
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 #: 3069588

VALIDATION FINDINGS WORKSHEET Surrogate Results Verification

Page: 1 of 1
Reviewer: BR
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 Difference
				Reported	Recalculated	
Chlorobenzene	ZB-5	2.0	1.8342	92	92	0
Ortho-terphenyl	↓	2.0	1.9297	96	96	0

Sample ID:

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery		Percent Difference
				Reported	Recalculated	

Sample ID:

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery		Percent Difference
				Reported	Recalculated	

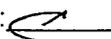
LDC #: 30695A8

VALIDATION FINDINGS WORKSHEET

Matrix Spike/Matrix Spike Duplicates Results Verification

Page: 1 of 1

Reviewer: BR

2nd Reviewer: 

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:

$$\% \text{Recovery} = 100 * (\text{SSC} - \text{SC}) / \text{SA}$$

Where

SSC = Spiked sample concentration

MS = Matrix spike

SC = Sample concentration

MSD = Matrix spike duplicate

SA = Spike added

$$\text{RPD} = \frac{((\text{SSCMS} - \text{SSCMSD}) * 2)}{(\text{SSCMS} + \text{SSCMSD})} * 100$$

MS/MSD samples: 9/10

Compound	Spike Added (<i>mg/kg</i>)		Sample Conc. (<i>mg/kg</i>)	Spike Sample Concentration (<i>mg/kg</i>)		Matrix spike		Matrix Spike Duplicate		MS/MSD	
	MS	MSD		MS	MSD	Percent Recovery		Percent Recovery		RPD	
						Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline (8015)											
Diesel (8015) ⁽⁸⁰¹⁵⁾ <i>8015</i>	5.01	5.00	0	5.81	5.94	114	116	119	119	2	2.2
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 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 #: 30695A8

VALIDATION FINDINGS WORKSHEET

Page: 1 of 1

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Reviewer: BR

2nd Reviewer: 

METHOD: GC HPLC

The percent recoveries (%R) and relative percent differences (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

$\% \text{Recovery} = 100 * (\text{SSC} - \text{SC}) / \text{SA}$

Where SSC = Spiked sample concentration

SC = Sample concentration

SA = Spike added

LCS = Laboratory Control Sample

LCSD = Laboratory Control Sample duplicate

$\text{RPD} = ((\text{SSCLCS} - \text{SSCLCSD}) * 2) / (\text{SSCLCS} + \text{SSCLCSD}) * 100$

CS/LCSD samples: LC822247

Compound	Spike Added (<i>mg/L</i>)		Spike Sample Concentration (<i>mg/L</i>)		LCS		LCSD		LCS/LCSD	
	LCS	LCSD	LCS	LCSD	Percent Recovery		Percent Recovery		RPD	
					Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline (8015)										
Diesel (<i>C30-C40</i>) (8015)	5.01	-	4.88	-	97	97	-	-	-	-
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 #: 30695788

VALIDATION FINDINGS WORKSHEET Sample Calculation Verification

Page: 1 of 1
Reviewer: BR
2nd Reviewer: [Signature]

METHOD: GC HPLC

N N/A
 N N/A

Were all reported results recalculated and verified for all level IV samples?
Were all recalculated results for detected target compounds within 10% of the reported results?

21

Concentration = $\frac{(A)(Fv)(Df)}{(RF)(Vs \text{ or } Ws)(\%S/100)}$

Example:

Sample ID: 5 Compound Name C30-C40

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

Concentration = $\frac{(13177678)(1000)}{(22983)(30)(0.929)(1000)}$
= 20.57288533 mg/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: August 29, 2013
LDC Report Date: November 20, 2013
Matrix: Soil
Parameters: Dioxins/Dibenzofurans
Validation Level: Level IV
Laboratory: Eurofins Lancaster Laboratories
Sample Delivery Group (SDG): PH098

Sample Identification

SL-539-SA5D-SB-0.0-0.5
SL-526-SA5D-SB-0.0-0.5
SL-542-SA5D-SB-0.0-0.5
SL-543-SA5D-SB-0.0-0.5

Introduction

This data review covers 4 soil samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1613B for Polychlorinated Dioxins/Dibenzofurans.

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 the USEPA Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005).

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. HRGC/HRMS Instrument Performance Check

Instrument performance was checked at the required daily frequency.

The chromatographic resolution between 2,3,7,8-TCDD and the peaks representing any other unlabeled TCDD isomers was resolved with a valley of less than or equal to 25%.

PFK and static resolving power were within validation criteria.

III. Initial Calibration

A five point initial calibration was performed as required by the method.

Percent relative standard deviations (%RSD) were less than or equal to 20.0% for unlabeled compounds and less than or equal to 35.0% for labeled compounds.

The ion abundance ratios for all PCDDs and PCDFs were within validation criteria.

The minimum S/N ratio was greater than or equal to 10 for each unlabeled compound and labeled compound.

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 within QC limits.

The percent differences (%D) of the second source calibration standard were within QC limits.

The ion abundance ratios for all PCDDs and PCDFs were within validation criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated dioxin/dibenzofuran contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound	Concentration	Associated Samples
BLK248003	9/5/13	1,2,3,7,8-PeCDD 1,2,3,4,7,8-HxCDD 1,2,3,6,7,8-HxCDD 1,2,3,7,8,9-HxCDD 1,2,3,4,6,7,8-HpCDD OCDD 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,7,8,9-HxCDF 1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF OCDF	0.0657 ng/Kg 0.0423 ng/Kg 0.0502 ng/Kg 0.0844 ng/Kg 0.122 ng/Kg 0.464 ng/Kg 0.0612 ng/Kg 0.0677 ng/Kg 0.0557 ng/Kg 0.0251 ng/Kg 0.0455 ng/Kg 0.0604 ng/Kg 0.0567 ng/Kg 0.0816 ng/Kg 0.216 ng/Kg	All samples in SDG PH098

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
SL-539-SA5D-SB-0.0-0.5	1,2,3,7,8-PeCDD 1,2,3,4,7,8-HxCDD 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF OCDF	0.0783 ng/Kg 0.0187 ng/Kg 0.199 ng/Kg 0.0367 ng/Kg 0.0408 ng/Kg 0.0544 ng/Kg 0.0377 ng/Kg 0.137 ng/Kg 0.0430 ng/Kg 0.360 ng/Kg	0.0783U ng/Kg 0.0187U ng/Kg 0.199U ng/Kg 0.0367U ng/Kg 0.0408U ng/Kg 0.0544U ng/Kg 0.0377U ng/Kg 0.137U ng/Kg 0.0430U ng/Kg 0.360U ng/Kg
SL-526-SA5D-SB-0.0-0.5	1,2,3,7,8-PeCDD 1,2,3,4,7,8-HxCDD 1,2,3,6,7,8-HxCDD 1,2,3,7,8,9-HxCDD 1,2,3,4,6,7,8-HpCDD OCDD 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,7,8,9-HxCDF 1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF OCDF	0.0542 ng/Kg 0.0391 ng/Kg 0.0394 ng/Kg 0.0565 ng/Kg 0.119 ng/Kg 0.714 ng/Kg 0.0512 ng/Kg 0.0471 ng/Kg 0.0425 ng/Kg 0.0328 ng/Kg 0.0326 ng/Kg 0.0570 ng/Kg 0.0542 ng/Kg 0.0626 ng/Kg 0.122 ng/Kg	0.0542U ng/Kg 0.0391U ng/Kg 0.0394U ng/Kg 0.0565U ng/Kg 0.119U ng/Kg 0.714U ng/Kg 0.0512U ng/Kg 0.0471U ng/Kg 0.0425U ng/Kg 0.0328U ng/Kg 0.0326U ng/Kg 0.0570U ng/Kg 0.0542U ng/Kg 0.0626U ng/Kg 0.122U ng/Kg
SL-542-SA5D-SB-0.0-0.5	1,2,3,7,8-PeCDD 1,2,3,4,7,8-HxCDD 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,7,8,9-HpCDF OCDF	0.147 ng/Kg 0.109 ng/Kg 0.172 ng/Kg 0.107 ng/Kg 0.102 ng/Kg 0.101 ng/Kg 0.101 ng/Kg 1.04 ng/Kg	0.147U ng/Kg 0.109U ng/Kg 0.172U ng/Kg 0.107U ng/Kg 0.102U ng/Kg 0.101U ng/Kg 0.101U ng/Kg 1.04U ng/Kg

Sample	Compound	Reported Concentration	Modified Final Concentration
SL-543-SA5D-SB-0.0-0.5	1,2,3,7,8-PeCDD 1,2,3,4,7,8-HxCDD 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,4,7,8,9-HpCDF OCDF	0.313 ng/Kg 0.118 ng/Kg 0.249 ng/Kg 0.144 ng/Kg 0.0927 ng/Kg 0.0858 ng/Kg 1.03 ng/Kg	0.313U ng/Kg 0.118U ng/Kg 0.249U ng/Kg 0.144U ng/Kg 0.0927U ng/Kg 0.0858U ng/Kg 1.03U ng/Kg

Sample EB1-082813 (from SDG PH095) was identified as an equipment blank. No polychlorinated dioxin/dibenzofuran contaminants were found with the following exceptions:

Blank ID	Sampling Date	Compound	Concentration	Associated Samples
EB1-082813	8/28/13	1,2,3,7,8,9-HxCDD 1,2,3,4,6,7,8-HpCDD OCDD 1,2,3,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 1,2,3,7,8,9-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF OCDF	0.471 pg/L 0.608 pg/L 1.43 pg/L 0.501 pg/L 0.222 pg/L 0.467 pg/L 0.245 pg/L 0.417 pg/L 0.299 pg/L 0.554 pg/L 1.41 pg/L	All samples in SDG PH098

Sample FB-041113 (from SDG PH029) was identified as a field blank. No perchlorate was found with the following exceptions:

Blank ID	Sampling Date	Compound	Concentration	Associated Samples
FB-041113	4/11/13	1,2,3,4,7,8-HxCDD 1,2,3,7,8,9-HxCDD 1,2,3,4,6,7,8-HpCDD 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 1,2,3,7,8,9-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,4,6,7,8-HpCDF OCDF	0.125 pg/L 0.134 pg/L 0.402 pg/L 0.398 pg/L 0.316 pg/L 0.324 pg/L 0.221 pg/L 0.211 pg/L 0.149 pg/L 0.254 pg/L 0.840 pg/L	All samples in SDG PH098

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X for other contaminants) than the concentrations found in the associated field blanks.

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. Ongoing Precision Recovery (OPR)

Ongoing precision recovery samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Regional Quality Assurance and Quality Control

Not applicable.

IX. Internal Standards

All internal standard recoveries were within QC limits.

X. Target Compound Identifications

All target compound identifications were within validation criteria.

XI. Compound Quantitation

All compound quantitations were within validation criteria with the following exceptions:

Sample	Compound	Finding	Criteria	Flag	A or P
SL-542-SA5D-SB-0.0-0.5 SL-543-SA5D-SB-0.0-0.5	2,3,7,8-TCDF	2nd column confirmation was not performed for this compound.	This compound must be confirmed on the 2nd column per the method.	None	P

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG PH098	All compounds reported below the RL.	J (all detects)	A

XII. System Performance

The system performance was acceptable.

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
Dioxins/Dibenzofurans - Data Qualification Summary - SDG PH098**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
PH098	SL-542-SA5D-SB-0.0-0.5 SL-543-SA5D-SB-0.0-0.5	2,3,7,8-TCDF	None	P	Compound quantitation (column confirmation) (*XI)
PH098	SL-539-SA5D-SB-0.0-0.5 SL-526-SA5D-SB-0.0-0.5 SL-542-SA5D-SB-0.0-0.5 SL-543-SA5D-SB-0.0-0.5	All compounds reported below the RL.	J (all detects)	A	Compound quantitation (Z)

**Santa Susana Field Laboratory
Dioxins/Dibenzofurans - Laboratory Blank Data Qualification Summary - SDG PH098**

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
PH098	SL-539-SA5D-SB-0.0-0.5	1,2,3,7,8-PeCDD 1,2,3,4,7,8-HxCDD 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF OCDF	0.0783U ng/Kg 0.0187U ng/Kg 0.199U ng/Kg 0.0367U ng/Kg 0.0408U ng/Kg 0.0544U ng/Kg 0.0377U ng/Kg 0.137U ng/Kg 0.0430U ng/Kg 0.360U ng/Kg	A	B
PH098	SL-526-SA5D-SB-0.0-0.5	1,2,3,7,8-PeCDD 1,2,3,4,7,8-HxCDD 1,2,3,6,7,8-HxCDD 1,2,3,7,8,9-HxCDD 1,2,3,4,6,7,8-HpCDD OCDD 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,7,8,9-HxCDF 1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF OCDF	0.0542U ng/Kg 0.0391U ng/Kg 0.0394U ng/Kg 0.0565U ng/Kg 0.119U ng/Kg 0.714U ng/Kg 0.0512U ng/Kg 0.0471U ng/Kg 0.0425U ng/Kg 0.0328U ng/Kg 0.0326U ng/Kg 0.0570U ng/Kg 0.0542U ng/Kg 0.0626U ng/Kg 0.122U ng/Kg	A	B
PH098	SL-542-SA5D-SB-0.0-0.5	1,2,3,7,8-PeCDD 1,2,3,4,7,8-HxCDD 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,4,7,8,9-HpCDF OCDF	0.147U ng/Kg 0.109U ng/Kg 0.172U ng/Kg 0.107U ng/Kg 0.102U ng/Kg 0.101U ng/Kg 0.101U ng/Kg 1.04U ng/Kg	A	B

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
PH098	SL-543-SA5D-SB-0.0-0.5	1,2,3,7,8-PeCDD 1,2,3,4,7,8-HxCDD 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,4,7,8,9-HpCDF OCDF	0.313U ng/Kg 0.118U ng/Kg 0.249U ng/Kg 0.144U ng/Kg 0.0927U ng/Kg 0.0858U ng/Kg 1.03U ng/Kg	A	B

**Santa Susana Field Laboratory
Dioxins/Dibenzofurans - Field Blank Data Qualification Summary - SDG PH098**

No Sample Data Qualified in this SDG

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA Method 1613B)

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: 8/29/13
II.	HRGC/HRMS Instrument performance check	A	
III.	Initial calibration	A	≤ 20/35
IV.	Continuing Calibration	A	QC limits
V.	Blanks	SW	
VI.	Matrix spike/Matrix spike duplicates	N	client
VII.	Laboratory control samples	A	OPR
VIII.	Regional quality assurance and quality control	N	
IX.	Internal standards	A	
X.	Target compound identifications	A	
XI.	Compound quantitation/RL/LOQ/LODs	SW	
XII.	System performance	A	
XIII.	Overall assessment of data	A	
XIV.	Field duplicates	N	
XV.	Field blanks	SW	EB = EB1-082813 (PH095)

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

FB = FB-041113 (PH029)

Validated Samples: *See*

1	SL-539-SA5D-SB-0.0-0.5	11		21		31	
2	SL-526-SA5D-SB-0.0-0.5	12		22		32	
3	SL-542-SA5D-SB-0.0-0.5	13		23		33	
4	SL-543-SA5D-SB-0.0-0.5	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	BLK 248003	30		40	

Notes: _____

Method: HRGC/HRMS Dioxins/Dibenzofurans (EPA Method 1613B)

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				
Was PFK exact mass 380.9760 verified?	/			
Were the retention time windows established for all homologues?	/			
Was the chromatographic resolution between 2,3,7,8-TCDD and peaks representing any other unlabeled TCDD isomers < 25% ?	/			
Is the static resolving power at least 10,000 (10% valley definition)?	/			
Was the mass resolution adequately check with PFK?	/			
Was the presence of 1,2,8,9-TCDD and 1,3,4,6,8-PeCDF verified?	/			
III. Initial calibration				
Was the initial calibration performed at 5 concentration levels?	/			
Were all percent relative standard deviations (%RSD) ≤ 20% for unlabeled compounds and < 35% for labeled compounds ?	/			
Did all calibration standards meet the Ion Abundance Ratio criteria?	/			
Was the signal to noise ratio for each target compound ≥ 2.5 and for each recovery and internal standard ≥ 10?	/			
IV. Continuing calibration				
Was a routine calibration performed at the beginning and end of each 12 hour period?	/			
Were all the concentrations for the unlabeled compounds and labeled compounds within the QC limits (Method 1613B, Table 6)?	/			
Did all routine calibration standards meet the Ion Abundance Ratio criteria?	/			
V. Blanks				
Was a method blank associated with every sample in this SDG?	/		/	
Was a method blank performed for each matrix and concentration?	/			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet?	/			
VI. 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.			/	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			/	
VII. 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?	/			

Validation Area	Yes	No	NA	Findings/Comments
VIII. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?			/	
Were the performance evaluation (PE) samples within the acceptance limits?			/	
IX. Internal standards				
Were internal standard recoveries within the 25-150% criteria?	/			
Was the minimum S/N ratio of all internal standard peaks > 10?	/			
X. Target compound identification				
For 2,3,7,8 substituted congeners with associated labeled standards, were the retention times of the two quantitation peaks within -1 to 3 sec. of the RT of the labeled standard?	/			
For 2,3,7,8 substituted congeners without associated labeled standards, were the relative retention times of the two quantitation peaks within 0.005 time units of the RRT measured in the routine calibration?	/			
For non-2,3,7,8 substituted congeners, were the retention times of the two quantitation peaks within RT established in the performance check solution?			/	
Did compound spectra contain all characteristic ions listed in the table attached?	/			
Was the Ion Abundance Ratio for the two quantitation ions within criteria?		/		
Was the signal to noise ratio for each target compound and labeled standard ≥ 2.5 ?	/			
Does the maximum intensity of each specified characteristic ion coincide within ± 2 seconds (includes labeled standards)?	/			
For PCDF identification, was any signal ($S/N \geq 2.5$, at \pm seconds RT) detected in the corresponding PCDF channel?	/			
Was an acceptable lock mass recorded and monitored?	/			
XI. 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?	/			
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: HRGC/HRMS Dioxins/Dibenzofurans (EPA Method 1613B)

A. 2,3,7,8-TCDD	F. 1,2,3,4,6,7,8-HpCDD	K. 1,2,3,4,7,8-HxCDF	P. 1,2,3,4,7,8,9-HpCDF	U. Total HpCDD
B. 1,2,3,7,8-PeCDD	G. OCDD	L. 1,2,3,6,7,8-HxCDF	Q. OCDF	V. Total TCDF
C. 1,2,3,4,7,8-HxCDD	H. 2,3,7,8-TCDF	M. 2,3,4,6,7,8-HxCDF	R. Total TCDD	W. Total PeCDF
D. 1,2,3,6,7,8-HxCDD	I. 1,2,3,7,8-PeCDF	N. 1,2,3,7,8,9-HxCDF	S. Total PeCDD	X. Total HxCDF
E. 1,2,3,7,8,9-HxCDD	J. 2,3,4,7,8-PeCDF	O. 1,2,3,4,6,7,8-HpCDF	T. Total HxCDD	Y. Total HpCDF

Notes: _____

VALIDATION FINDINGS WORKSHEET
Blanks

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA Method 1613B)

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

Y N N/A Were all samples associated with a method blank?

Y N (N/A) Was a method blank performed for each matrix and whenever a sample extraction was performed?

Y N N/A Was the method blank contaminated?

Blank extraction date: 09/05/13 Blank analysis date: 09/06/13 Associated samples: All Qual U (B)

Conc. units: pg/L pg/g (ng/L)

Compound	Blank ID	Sample Identification							
		5x	1	2	3	4			
	BLK248003								
B	0.0657	0.329	0.0783*	0.0542*	0.147	0.313*			
C	0.0423*	0.212	0.0187*	0.0391*	0.109*	0.118			
D	0.0502*	0.251		0.0394					
E	0.0844*	0.422		0.0565*					
F	0.122*	0.610		0.119*					
G	0.464*	2.32		0.714					
I	0.0612*	0.306	0.199	0.0512*					
J	0.0677*	0.339	0.0367	0.0471*	0.172	0.249			
K	0.0557	0.279	0.0408*	0.0425*	0.107*	0.144*			
L	0.0251*	0.126	0.0544	0.0328	0.102				
M	0.0455*	0.228	0.0377	0.0326*	0.101	0.0927			
N	0.0604*	0.302		0.0570					
O	0.0567*	0.284	0.137	0.0542*					
P	0.0816*	0.408	0.0430	0.0626*	0.101*	0.0858*			
Q	0.216	1.08	0.360	0.122*	1.04	1.03			

*EMPC

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the method blank concentration were qualified as not detected, "U".

VALIDATION FINDINGS WORKSHEET
Field Blanks

METHOD: HRGC/HRMS Dioxins (EPA Method 1613B)

Blank units: pg/L **Associated sample units:** ng/kg

Sampling date: 08/28/13

Field blank type: (circle one) Field Blank / Rinsate / Other: EB **Associated Samples:** All >5x

Compound	Blank ID	Sample Identification							
	EB1-082813	5X							
E	0.471*	0.00236							
F	0.608*	0.00304							
G	1.43*	0.00715							
I	0.501*	0.00251							
K	0.222*	0.00111							
L	0.467*	0.00234							
N	0.245	0.00123							
M	0.417*	0.00209							
O	0.299*	0.00150							
P	0.554*	0.00277							
Q	1.41*	0.00705							

* EMPC

EB1-082813 (PH095)

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the blank concentration were qualified as not detected, "U".

VALIDATION FINDINGS WORKSHEET
Field Blanks

METHOD: HRGC/HRMS Dioxins (EPA Method 1613B)

Blank units: pg/L **Associated sample units:** ng/kg

Sampling date: 04/11/13

Field blank type: (circle one) Field Blank / Rinsate / Other: FB **Associated Samples:** All >5x

Compound	Blank ID	Sample Identification							
		5X							
	FB-041113	5X							
C	0.125	0.00063							
E	0.134*	0.00067							
F	0.402*	0.00201							
I	0.398*	0.00199							
J	0.316*	0.00158							
K	0.324	0.00162							
L	0.221	0.00111							
N	0.211*	0.00106							
M	0.149	0.00075							
O	0.254*	0.00127							
Q	0.840*	0.00420							

* EMPC

FB-041113 (PH029)

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the blank concentration were qualified as not detected, "U".

VALIDATION FINDINGS WORKSHEET Compound Quantitation and Reported RLs

METHOD: GC/MS Dioxins/Dibenzofurans (EPA Method 1613B)

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

N N/A Were the correct internal standard (IS), quantitation ions and relative response factors (RRF) used to quantitate the compound?
 N N/A Compound quantitation and RLs were adjusted to reflect all sample dilutions and dry weight factors (if necessary).

#	Date	Compound	Finding	Associated Samples	Qualifications
		H	No 2,3,7,8-TCDF confirmation analysis	3, 4	None/P

Comments: See sample calculation verification worksheet for recalculations

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA Method 1613B)

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	Recalculated	Reported	Recalculated	Reported	Recalculated
				Average RRF (initial)	Average RRF (initial)	RRF (CS3 std)	RRF (CS3 std)	%RSD	%RSD
1	ICAL	08/21/2013	2,3,7,8-TCDF (¹³ C-2,3,7,8-TCDF)	1.049	1.049	1.022	1.022	6.08	6.08
			2,3,7,8-TCDD (¹³ C-2,3,7,8-TCDD)	1.127	1.1275	1.126	1.126	6.68	6.68
			1,2,3,6,7,8-HxCDD (¹³ C-1,2,3,6,7,8-HxCDD)	0.963	0.963	0.998	0.9975	3.50	3.52
			1,2,3,4,6,7,8-HpCDD (¹³ C-1,2,4,6,7,8,-HpCDD)	1.053	1.053	1.085	1.085	2.15	2.15
			OCDF (¹³ C-OCDF)	0.993	0.993	1.015	1.014	3.31	3.32
2			2,3,7,8-TCDF (¹³ C-2,3,7,8-TCDF)						
			2,3,7,8-TCDD (¹³ C-2,3,7,8-TCDD)						
			1,2,3,6,7,8-HxCDD (¹³ C-1,2,3,6,7,8-HxCDD)						
			1,2,3,4,6,7,8-HpCDD (¹³ C-1,2,4,6,7,8,-HpCDD)						
			OCDF (¹³ C-OCDF)						
3			2,3,7,8-TCDF (¹³ C-2,3,7,8-TCDF)						
			2,3,7,8-TCDD (¹³ C-2,3,7,8-TCDD)						
			1,2,3,6,7,8-HxCDD (¹³ C-1,2,3,6,7,8-HxCDD)						
			1,2,3,4,6,7,8-HpCDD (¹³ C-1,2,4,6,7,8,-HpCDD)						
			OCDF (¹³ C-OCDF)						

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.

VALIDATION FINDINGS WORKSHEET
Routine Calibration Results Verification

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA Method 1613B)

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:

$$\% \text{ Difference} = 100 * (\text{ave. RRF} - \text{RRF}) / \text{ave. RRF}$$

$$\text{RRF} = (A_x)(C_{is}) / (A_{is})(C_x)$$

Where: ave. RRF = initial calibration average RRF
 RRF = continuing calibration RRF
 A_x = Area of compound,
 C_x = Concentration of compound,
 A_{is} = Area of associated internal standard
 C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference Internal Standard)	Spiked Conc (ng/mL)	Reported	Recalculated	Reported	Recalculated
					Conc (ng/mL)	Conc (ng/mL)	%R	%R
1	CS30002	9-6-13 16:29	2,3,7,8-TCDF (¹³ C-2,3,7,8-TCDF)	10	10.37	10.37	104	104
			2,3,7,8-TCDD (¹³ C-2,3,7,8-TCDD)	10	10.85	10.86	109	109
			1,2,3,6,7,8-HxCDD (¹³ C-1,2,3,6,7,8-HxCDD)	50	53.19	53.19	106	106
			1,2,3,4,6,7,8-HpCDD (¹³ C-1,2,4,6,7,8,-HpCDD)	50	52.05	52.05	104	104
			OCDF (¹³ C-OCDF)	100	102.69	102.68	103	103
2	CS30002	9-9-13 10:31	2,3,7,8-TCDF (¹³ C-2,3,7,8-TCDF)	10	10.38	10.38	104	104
			2,3,7,8-TCDD (¹³ C-2,3,7,8-TCDD)	10	10.91	10.91	109	109
			1,2,3,6,7,8-HxCDD (¹³ C-1,2,3,6,7,8-HxCDD)	50	53.89	53.89	108	108
			1,2,3,4,6,7,8-HpCDD (¹³ C-1,2,4,6,7,8,-HpCDD)	50	52.86	52.85	106	106
			OCDF (¹³ C-OCDF)	100	95.65	95.64	96	96
3			2,3,7,8-TCDF (¹³ C-2,3,7,8-TCDF)	10				
			2,3,7,8-TCDD (¹³ C-2,3,7,8-TCDD)	10				
			1,2,3,6,7,8-HxCDD (¹³ C-1,2,3,6,7,8-HxCDD)	50				
			1,2,3,4,6,7,8-HpCDD (¹³ C-1,2,4,6,7,8,-HpCDD)	50				
			OCDF (¹³ C-OCDF)	100				

Comments: Refer to Routine Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET Laboratory Control Sample Results Verification

METHOD: GC/MS Dioxins/Dibenzofurans (EPA Method 1613B)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratory control sample and laboratory control sample duplicate (if applicable) were recalculated for the compounds identified below using the following calculation:

% Recovery = $100 * \text{SSC} / \text{SA}$ Where: SSC = Spiked sample concentration
SA = Spike added

RPD = $| \text{LCS} - \text{LCSD} | * 2 / (\text{LCS} + \text{LCSD})$ LCS = Laboratory control sample percent recovery LCSD = Laboratory control sample duplicate percent recovery

LCS ID: OPR 248003

Compound	Spike Added (pg/g)		Spiked Sample Concentration (pg/g)		LCS		LCSD		LCS/LCSD	
	LCS	LCSD	LCS	LCSD	Percent Recovery		Percent Recovery		RPD	
					Reported	Recalc	Reported	Recalc	Reported	Recalculated
2,3,7,8-TCDD	20	NA	19.8	NA	99	99				
1,2,3,7,8-PeCDD	100		99.3		99	99				
1,2,3,4,7,8-HxCDD	100		99.7		100	100				
1,2,3,4,7,8,9-HpCDF	100		96.4		96	96				
OCDF	200		191		96	96				

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.

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA Method 1613B)

N N/A
 N N/A

Were all reported results recalculated and verified for all level IV samples?

Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

$$\text{Concentration} = \frac{(A_x)(I_s)(DF)}{(A_{is})(RRF)(V_o)(\%S)}$$

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)

V_o = Volume or weight of sample extract in milliliters (ml) or grams (g).

RRF = Relative Response Factor (average) from the initial calibration

Df = Dilution Factor.

%S = Percent solids, applicable to soil and solid matrices only.

Example:

Sample I.D. 2, 6

$$\text{Conc.} = \frac{(2967 + 2474) (4000) (1)}{(1543548 + 1389156) (1.070) (10.02) (0.97)}$$

$$= 0.714 \mu\text{g/g}$$

#	Sample ID	Compound	Reported Concentration ()	Calculated Concentration ()	Qualification

**Data Validation Report
Santa Susana Field Laboratory**

Subarea 5D

SDG: PH099

Prepared for

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Prepared by

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December 6, 2013

INTRODUCTION

This Data Validation Report (DVR) presents Level III data validation results for samples collected on August 30, 2013. Data validation was performed in accordance with 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), Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005) and for Inorganic Data Review (January 2010). Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following methods:

Semivolatiles (SVOCs) by EPA SW 846 Method 8270D utilizing Selective Ion Monitoring (SIM)
Pesticides by EPA SW 846 Method 8081B
Polychlorinated Biphenyls (PCBs) by EPA SW 846 Method 8082A
Metals by EPA SW 846 Method 6010C, 6020A, and 7471B
Total Petroleum Hydrocarbons (TPH) as Gasoline by EPA SW 846 Method 8015M
TPH as Extractables by EPA SW 846 Method 8015M
Dioxins and Dibenzofurans by EPA Method 1613B

The sample identification and methods of analyses performed on each sample is presented in Attachment 1. Overall data qualification summary is presented in Attachment II. Level III Automated Data Review outliers are presented in Enclosure I.

All sample results were subjected to Level III data validation, which comprises an evaluation of quality control (QC) summary results for sample holding times, initial and continuing calibration blanks (ICB/CCBs), surrogates, internal standards (dioxins only), matrix spike/matrix spike duplicates (MS/MSD), laboratory duplicates (DUP), laboratory control sample/laboratory control sample duplicates (LCS/LCSD), ICP serial dilutions, method blanks, trip blanks, equipment blanks, field blanks, and field duplicate samples. No samples in this SDG were subjected to Level IV evaluation.

Automated data review was performed on all QC summary results using the Automated Data Review (ADR) software program (LDC, 2013) with exception of the ICB/CCBs and ICP serial dilutions, which were validated manually. Quality assurance (QA)/QC criteria specified in the QAPP and CLPNFGs were incorporated with the program's reference library to assess compliance with project requirements.

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.

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 QC criteria.

II. Initial Calibration

Initial Calibration data were not reviewed for level III.

III. Continuing Calibration

Continuing calibration data were not reviewed for level III.

IV. Blanks

Method blanks were performed at the required frequencies. No contaminant concentrations were detected in the method or preparation blanks with the exception of two blanks for metals and dioxins. The associated sample results were qualified as non-detected (U) due to method blank contamination as applicable. The sample results that were not detected or were significantly greater than the concentrations found in the associated blanks were not qualified. The details regarding the qualification of data are provided in Enclosure I.

No contaminant concentrations were detected in the initial or continuing calibration blanks.

V. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. ICP Interference Check Sample (ICS) Analysis

ICP interference check data were not reviewed for level III.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were performed at the required frequency. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the exception of one MS/MSD pair for metals. The associated sample results were qualified as detected estimated (J) or non-detected estimated (UJ) as applicable. The details regarding the qualification of data are provided in Enclosure I.

VIII. Laboratory Duplicates Sample

Laboratory duplicates (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

IX. 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.

X. Internal Standards

Internal standards were reviewed for dioxins. Percent recoveries (%R) were within QC limits.

XI. ICP Serial Dilution

ICP serial dilution analysis was performed by the laboratory. The analysis criteria were met.

XII. Compound Quantitation

The laboratory reporting limits were evaluated. All laboratory reporting limits met the specified requirements.

All compounds reported below the RL as detected were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG PH099	All compounds reported as detected below the RL.	J (all detects)	A

XIII. Field Duplicate Samples

One field duplicate pair was collected and analyzed for SVOCs, pesticides, PCBs, metals, TPH as extractables and dioxins. All RPDs were within QC limits with the exception of several SVOCs, metals, TPH as extractables and dioxins. In this duplicate pair, the associated sample results were qualified as detected estimated (J) or non-detected estimated (UJ) as applicable. The field duplicate result comparisons are provided in Enclosure I.

XIV. Field Blank Samples

One trip blank was collected and analyzed for TPH as gasoline. No volatile contaminants were found in the trip blank.

One equipment blank (from SDG PH095) was collected and analyzed for SVOCs, pesticides, PCBs, metals, TPH as gasoline, TPH as extractables and dioxins. The equipment blank had detections for SVOCs, metals and dioxins. The associated sample results were qualified as non-detected (U) due to equipment blank contamination as applicable. The sample results that were not detected or were significantly greater than the concentrations found in the equipment blanks were not qualified. The equipment blank outlier reports are presented in Enclosure I.

One field blank (from SDG PH029) was collected and analyzed for SVOCs, pesticides, PCBs, metals, TPH as gasoline, TPH as extractables and dioxins. The field blank had detections for SVOCs, metals and dioxins. The associated sample results were qualified as non-detected (U) due to field blank contamination as applicable. The sample results that were not detected or were significantly greater than the concentrations found in the field blank were not qualified. The field blank outlier reports are presented in Enclosure I.

XV. Overall Assessment of Data

No data associated with this sampling event were rejected. The overall assessment of QA/QC data review by automated and manual validation of this sampling event met project requirements and analytical completeness levels with the exceptions noted in the above sections. All data are deemed useable for the intended use.

Data flags are summarized and are presented as Attachment 2.

Attachment 1
Sample Cross Reference

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
30-Aug-2013	TB-083013	7182115	TB	5030B	8015M	III
30-Aug-2013	SL-535-SA5D-SB-0.0-0.5	7182118	N	3050B	6010C	III
30-Aug-2013	SL-535-SA5D-SB-0.0-0.5	7182118	N	3050B	6020A	III
30-Aug-2013	SL-535-SA5D-SB-0.0-0.5	7182118	N	3546	8015M	III
30-Aug-2013	SL-535-SA5D-SB-0.0-0.5	7182118	N	3546	8081B	III
30-Aug-2013	SL-535-SA5D-SB-0.0-0.5	7182118	N	3546	8082A	III
30-Aug-2013	SL-535-SA5D-SB-0.0-0.5	7182118	N	3546	8270D SIM	III
30-Aug-2013	SL-535-SA5D-SB-0.0-0.5	7182118	N	METHOD	1613B	III
30-Aug-2013	SL-535-SA5D-SB-0.0-0.5	7182118	N	METHOD	7471B	III
30-Aug-2013	SL-535-SA5D-SB-0.0-0.5MS	7182119	MS	3050B	6010C	III
30-Aug-2013	SL-535-SA5D-SB-0.0-0.5MS	7182119	MS	3050B	6020A	III
30-Aug-2013	SL-535-SA5D-SB-0.0-0.5MS	7182119	MS	3546	8015M	III
30-Aug-2013	SL-535-SA5D-SB-0.0-0.5MS	7182119	MS	3546	8081B	III
30-Aug-2013	SL-535-SA5D-SB-0.0-0.5MS	7182119	MS	3546	8082A	III
30-Aug-2013	SL-535-SA5D-SB-0.0-0.5MS	7182119	MS	3546	8270D SIM	III
30-Aug-2013	SL-535-SA5D-SB-0.0-0.5MS	7182119	MS	METHOD	1613B	III
30-Aug-2013	SL-535-SA5D-SB-0.0-0.5MS	7182119	MS	METHOD	7471B	III
30-Aug-2013	SL-535-SA5D-SB-0.0-0.5MSD	7182120	MSD	3050B	6010C	III
30-Aug-2013	SL-535-SA5D-SB-0.0-0.5MSD	7182120	MSD	3050B	6020A	III
30-Aug-2013	SL-535-SA5D-SB-0.0-0.5MSD	7182120	MSD	3546	8015M	III
30-Aug-2013	SL-535-SA5D-SB-0.0-0.5MSD	7182120	MSD	3546	8081B	III
30-Aug-2013	SL-535-SA5D-SB-0.0-0.5MSD	7182120	MSD	3546	8082A	III
30-Aug-2013	SL-535-SA5D-SB-0.0-0.5MSD	7182120	MSD	3546	8270D SIM	III
30-Aug-2013	SL-535-SA5D-SB-0.0-0.5MSD	7182120	MSD	METHOD	1613B	III
30-Aug-2013	SL-535-SA5D-SB-0.0-0.5MSD	7182120	MSD	METHOD	7471B	III
30-Aug-2013	SL-535-SA5D-SB-0.0-0.5DUP	7182121	DUP	3050B	6010C	III

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
30-Aug-2013	SL-535-SA5D-SB-0.0-0.5DUP	7182121	DUP	3050B	6020A	III
30-Aug-2013	SL-535-SA5D-SB-0.0-0.5DUP	7182121	DUP	METHOD	7471B	III
30-Aug-2013	SL-835-SA5D-SB-0.0-0.5	7182122	FD	3050B	6010C	III
30-Aug-2013	SL-835-SA5D-SB-0.0-0.5	7182122	FD	3050B	6020A	III
30-Aug-2013	SL-835-SA5D-SB-0.0-0.5	7182122	FD	3546	8015M	III
30-Aug-2013	SL-835-SA5D-SB-0.0-0.5	7182122	FD	3546	8081B	III
30-Aug-2013	SL-835-SA5D-SB-0.0-0.5	7182122	FD	3546	8082A	III
30-Aug-2013	SL-835-SA5D-SB-0.0-0.5	7182122	FD	3546	8270D SIM	III
30-Aug-2013	SL-835-SA5D-SB-0.0-0.5	7182122	FD	METHOD	1613B	III
30-Aug-2013	SL-835-SA5D-SB-0.0-0.5	7182122	FD	METHOD	7471B	III
30-Aug-2013	SL-535-SA5D-SB-2.0-3.0	7182123	N	3050B	6010C	III
30-Aug-2013	SL-535-SA5D-SB-2.0-3.0	7182123	N	3050B	6020A	III
30-Aug-2013	SL-535-SA5D-SB-2.0-3.0	7182123	N	3546	8015M	III
30-Aug-2013	SL-535-SA5D-SB-2.0-3.0	7182123	N	3546	8081B	III
30-Aug-2013	SL-535-SA5D-SB-2.0-3.0	7182123	N	3546	8082A	III
30-Aug-2013	SL-535-SA5D-SB-2.0-3.0	7182123	N	3546	8270D SIM	III
30-Aug-2013	SL-535-SA5D-SB-2.0-3.0	7182123	N	5035A	8015M	III
30-Aug-2013	SL-535-SA5D-SB-2.0-3.0	7182123	N	METHOD	7471B	III
30-Aug-2013	SL-534-SA5D-SB-0.0-0.5	7182116	N	3050B	6010C	III
30-Aug-2013	SL-534-SA5D-SB-0.0-0.5	7182116	N	3050B	6020A	III
30-Aug-2013	SL-534-SA5D-SB-0.0-0.5	7182116	N	3546	8015M	III
30-Aug-2013	SL-534-SA5D-SB-0.0-0.5	7182116	N	3546	8082A	III
30-Aug-2013	SL-534-SA5D-SB-0.0-0.5	7182116	N	3546	8270D SIM	III
30-Aug-2013	SL-534-SA5D-SB-0.0-0.5	7182116	N	METHOD	1613B	III
30-Aug-2013	SL-534-SA5D-SB-0.0-0.5	7182116	N	METHOD	7471B	III
30-Aug-2013	SL-534-SA5D-SB-6.5-7.5	7182117	N	3050B	6010C	III

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
30-Aug-2013	SL-534-SA5D-SB-6.5-7.5	7182117	N	3050B	6020A	III
30-Aug-2013	SL-534-SA5D-SB-6.5-7.5	7182117	N	3546	8015M	III
30-Aug-2013	SL-534-SA5D-SB-6.5-7.5	7182117	N	3546	8082A	III
30-Aug-2013	SL-534-SA5D-SB-6.5-7.5	7182117	N	3546	8270D SIM	III
30-Aug-2013	SL-534-SA5D-SB-6.5-7.5	7182117	N	5035A	8015M	III
30-Aug-2013	SL-534-SA5D-SB-6.5-7.5	7182117	N	METHOD	7471B	III
30-Aug-2013	SL-533-SA5D-SB-0.0-0.5	7182124	N	3050B	6010C	III
30-Aug-2013	SL-533-SA5D-SB-0.0-0.5	7182124	N	3050B	6020A	III
30-Aug-2013	SL-533-SA5D-SB-0.0-0.5	7182124	N	3546	8015M	III
30-Aug-2013	SL-533-SA5D-SB-0.0-0.5	7182124	N	3546	8081B	III
30-Aug-2013	SL-533-SA5D-SB-0.0-0.5	7182124	N	3546	8082A	III
30-Aug-2013	SL-533-SA5D-SB-0.0-0.5	7182124	N	3546	8270D SIM	III
30-Aug-2013	SL-533-SA5D-SB-0.0-0.5	7182124	N	METHOD	1613B	III
30-Aug-2013	SL-533-SA5D-SB-0.0-0.5	7182124	N	METHOD	7471B	III
30-Aug-2013	SL-533-SA5D-SB-2.5-3.5	7182125	N	3050B	6010C	III
30-Aug-2013	SL-533-SA5D-SB-2.5-3.5	7182125	N	3050B	6020A	III
30-Aug-2013	SL-533-SA5D-SB-2.5-3.5	7182125	N	3546	8015M	III
30-Aug-2013	SL-533-SA5D-SB-2.5-3.5	7182125	N	3546	8081B	III
30-Aug-2013	SL-533-SA5D-SB-2.5-3.5	7182125	N	3546	8082A	III
30-Aug-2013	SL-533-SA5D-SB-2.5-3.5	7182125	N	3546	8270D SIM	III
30-Aug-2013	SL-533-SA5D-SB-2.5-3.5	7182125	N	5035A	8015M	III
30-Aug-2013	SL-533-SA5D-SB-2.5-3.5	7182125	N	METHOD	1613B	III
30-Aug-2013	SL-533-SA5D-SB-2.5-3.5	7182125	N	METHOD	7471B	III
30-Aug-2013	SL-532-SA5D-SB-0.0-0.5	7182129	N	3050B	6010C	III
30-Aug-2013	SL-532-SA5D-SB-0.0-0.5	7182129	N	3050B	6020A	III
30-Aug-2013	SL-532-SA5D-SB-0.0-0.5	7182129	N	3546	8015M	III

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
30-Aug-2013	SL-532-SA5D-SB-0.0-0.5	7182129	N	3546	8081B	III
30-Aug-2013	SL-532-SA5D-SB-0.0-0.5	7182129	N	3546	8082A	III
30-Aug-2013	SL-532-SA5D-SB-0.0-0.5	7182129	N	3546	8270D SIM	III
30-Aug-2013	SL-532-SA5D-SB-0.0-0.5	7182129	N	METHOD	1613B	III
30-Aug-2013	SL-532-SA5D-SB-0.0-0.5	7182129	N	METHOD	7471B	III
30-Aug-2013	SL-532-SA5D-SB-2.5-3.5	7182130	N	3050B	6010C	III
30-Aug-2013	SL-532-SA5D-SB-2.5-3.5	7182130	N	3050B	6020A	III
30-Aug-2013	SL-532-SA5D-SB-2.5-3.5	7182130	N	3546	8015M	III
30-Aug-2013	SL-532-SA5D-SB-2.5-3.5	7182130	N	3546	8081B	III
30-Aug-2013	SL-532-SA5D-SB-2.5-3.5	7182130	N	3546	8082A	III
30-Aug-2013	SL-532-SA5D-SB-2.5-3.5	7182130	N	3546	8270D SIM	III
30-Aug-2013	SL-532-SA5D-SB-2.5-3.5	7182130	N	5035A	8015M	III
30-Aug-2013	SL-532-SA5D-SB-2.5-3.5	7182130	N	METHOD	1613B	III
30-Aug-2013	SL-532-SA5D-SB-2.5-3.5	7182130	N	METHOD	7471B	III
30-Aug-2013	SL-531-SA5D-SB-0.0-0.5	7182128	N	3050B	6010C	III
30-Aug-2013	SL-531-SA5D-SB-0.0-0.5	7182128	N	3050B	6020A	III
30-Aug-2013	SL-531-SA5D-SB-0.0-0.5	7182128	N	3546	8015M	III
30-Aug-2013	SL-531-SA5D-SB-0.0-0.5	7182128	N	3546	8081B	III
30-Aug-2013	SL-531-SA5D-SB-0.0-0.5	7182128	N	3546	8082A	III
30-Aug-2013	SL-531-SA5D-SB-0.0-0.5	7182128	N	3546	8270D SIM	III
30-Aug-2013	SL-531-SA5D-SB-0.0-0.5	7182128	N	METHOD	1613B	III
30-Aug-2013	SL-531-SA5D-SB-0.0-0.5	7182128	N	METHOD	7471B	III
30-Aug-2013	SL-530-SA5D-SB-0.0-0.5	7182126	N	3050B	6010C	III
30-Aug-2013	SL-530-SA5D-SB-0.0-0.5	7182126	N	3050B	6020A	III
30-Aug-2013	SL-530-SA5D-SB-0.0-0.5	7182126	N	3546	8015M	III
30-Aug-2013	SL-530-SA5D-SB-0.0-0.5	7182126	N	3546	8081B	III

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
30-Aug-2013	SL-530-SA5D-SB-0.0-0.5	7182126	N	3546	8082A	III
30-Aug-2013	SL-530-SA5D-SB-0.0-0.5	7182126	N	3546	8270D SIM	III
30-Aug-2013	SL-530-SA5D-SB-0.0-0.5	7182126	N	METHOD	1613B	III
30-Aug-2013	SL-530-SA5D-SB-0.0-0.5	7182126	N	METHOD	7471B	III
30-Aug-2013	SL-530-SA5D-SB-2.5-3.5	7182127	N	3050B	6010C	III
30-Aug-2013	SL-530-SA5D-SB-2.5-3.5	7182127	N	3050B	6020A	III
30-Aug-2013	SL-530-SA5D-SB-2.5-3.5	7182127	N	3546	8015M	III
30-Aug-2013	SL-530-SA5D-SB-2.5-3.5	7182127	N	3546	8081B	III
30-Aug-2013	SL-530-SA5D-SB-2.5-3.5	7182127	N	3546	8082A	III
30-Aug-2013	SL-530-SA5D-SB-2.5-3.5	7182127	N	3546	8270D SIM	III
30-Aug-2013	SL-530-SA5D-SB-2.5-3.5	7182127	N	5035A	8015M	III
30-Aug-2013	SL-530-SA5D-SB-2.5-3.5	7182127	N	METHOD	1613B	III
30-Aug-2013	SL-530-SA5D-SB-2.5-3.5	7182127	N	METHOD	7471B	III

Attachment 2
Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: PH099

Laboratory: LL

EDD Filename: PrepPH099

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: METALS
Method: 6010C **Matrix:** SO

Sample ID: SL-530-SA5D-SB-0.0-0.5 Collected: 8/30/2013 1:15:00 Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	1.68	J	0.745	MDL	4.03	PQL	mg/Kg	J	Z, Q
BERYLLIUM	0.542	J	0.0675	MDL	1.01	PQL	mg/Kg	J	Z
BORON	5.27	J	0.846	MDL	10.1	PQL	mg/Kg	U	B
CADMIUM	0.430	J	0.0765	MDL	1.01	PQL	mg/Kg	J	Z
POTASSIUM	3680		8.40	MDL	101	PQL	mg/Kg	J	Q
TIN	3.39	J	0.222	MDL	10.1	PQL	mg/Kg	U	B
Zirconium	1.27	J	0.846	MDL	5.04	PQL	mg/Kg	J	Z
MOLYBDENUM	0.336	J	0.171	MDL	2.01	PQL	mg/Kg	U	F, F

Sample ID: SL-530-SA5D-SB-2.5-3.5 Collected: 8/30/2013 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
ANTIMONY	1.61	J	0.755	MDL	4.08	PQL	mg/Kg	J	Z, Q
BERYLLIUM	0.571	J	0.0684	MDL	1.02	PQL	mg/Kg	J	Z
BORON	4.56	J	0.857	MDL	10.2	PQL	mg/Kg	U	B
CADMIUM	0.305	J	0.0775	MDL	1.02	PQL	mg/Kg	J	Z
MOLYBDENUM	2.04	U	0.173	MDL	2.04	PQL	mg/Kg	U	F
POTASSIUM	2360		8.51	MDL	102	PQL	mg/Kg	J	Q
TIN	3.59	J	0.224	MDL	10.2	PQL	mg/Kg	U	B
Zirconium	1.35	J	0.857	MDL	5.10	PQL	mg/Kg	J	Z

Sample ID: SL-531-SA5D-SB-0.0-0.5 Collected: 8/30/2013 12:50:00 Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	1.36	J	0.755	MDL	4.08	PQL	mg/Kg	J	Z, Q
BERYLLIUM	0.568	J	0.0684	MDL	1.02	PQL	mg/Kg	J	Z
BORON	4.78	J	0.857	MDL	10.2	PQL	mg/Kg	U	B
CADMIUM	0.339	J	0.0775	MDL	1.02	PQL	mg/Kg	J	Z
MOLYBDENUM	0.244	J	0.173	MDL	2.04	PQL	mg/Kg	U	F, F
POTASSIUM	2940		8.51	MDL	102	PQL	mg/Kg	J	Q
TIN	3.52	J	0.224	MDL	10.2	PQL	mg/Kg	U	B
Zirconium	1.27	J	0.857	MDL	5.10	PQL	mg/Kg	J	Z

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH099

Laboratory: LL

EDD Filename: PrepPH099

eQAPP Name: CDM_SSFL_131101_Lan

Method Category:	METALS	
Method:	6010C	Matrix: SO

Sample ID: SL-532-SA5D-SB-0.0-0.5 Collected: 8/30/2013 12:20:00 Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	1.22	J	0.744	MDL	4.02	PQL	mg/Kg	J	Z, Q
BERYLLIUM	0.606	J	0.0673	MDL	1.01	PQL	mg/Kg	J	Z
BORON	6.52	J	0.844	MDL	10.1	PQL	mg/Kg	J	Z
CADMIUM	0.653	J	0.0764	MDL	1.01	PQL	mg/Kg	J	Z
MOLYBDENUM	0.704	J	0.171	MDL	2.01	PQL	mg/Kg	U	F, F
POTASSIUM	3630		8.38	MDL	101	PQL	mg/Kg	J	Q
SODIUM	92.5	J	16.8	MDL	101	PQL	mg/Kg	J	Z
TIN	3.51	J	0.221	MDL	10.1	PQL	mg/Kg	U	B
Zirconium	1.96	J	0.844	MDL	5.03	PQL	mg/Kg	J	Z

Sample ID: SL-532-SA5D-SB-2.5-3.5 Collected: 8/30/2013 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
ANTIMONY	1.26	J	0.760	MDL	4.11	PQL	mg/Kg	J	Z, Q
BERYLLIUM	0.376	J	0.0688	MDL	1.03	PQL	mg/Kg	J	Z
BORON	4.20	J	0.862	MDL	10.3	PQL	mg/Kg	U	B
CADMIUM	0.327	J	0.0780	MDL	1.03	PQL	mg/Kg	J	Z
MOLYBDENUM	0.193	J	0.175	MDL	2.05	PQL	mg/Kg	U	F, F
POTASSIUM	2350		8.56	MDL	103	PQL	mg/Kg	J	Q
TIN	3.35	J	0.226	MDL	10.3	PQL	mg/Kg	U	B

Sample ID: SL-533-SA5D-SB-0.0-0.5 Collected: 8/30/2013 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
ANTIMONY	1.51	J	0.745	MDL	4.03	PQL	mg/Kg	J	Z, Q
BERYLLIUM	0.652	J	0.0674	MDL	1.01	PQL	mg/Kg	J	Z
BORON	6.78	J	0.846	MDL	10.1	PQL	mg/Kg	J	Z
CADMIUM	0.754	J	0.0765	MDL	1.01	PQL	mg/Kg	J	Z
MOLYBDENUM	0.628	J	0.171	MDL	2.01	PQL	mg/Kg	U	F, F
POTASSIUM	4110		8.39	MDL	101	PQL	mg/Kg	J	Q
TIN	3.43	J	0.221	MDL	10.1	PQL	mg/Kg	U	B
Zirconium	1.80	J	0.846	MDL	5.03	PQL	mg/Kg	J	Z

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH099

Laboratory: LL

EDD Filename: PrepPH099

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: METALS
Method: 6010C **Matrix:** SO

Sample ID: SL-533-SA5D-SB-2.5-3.5 Collected: 8/30/2013 10:30:00 Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	3.50	J	0.785	MDL	4.24	PQL	mg/Kg	J	Z, Q
BORON	6.60	J	0.891	MDL	10.6	PQL	mg/Kg	J	Z
CADMIUM	0.702	J	0.0806	MDL	1.06	PQL	mg/Kg	J	Z
MOLYBDENUM	0.277	J	0.180	MDL	2.12	PQL	mg/Kg	U	F, F
POTASSIUM	4450		8.85	MDL	106	PQL	mg/Kg	J	Q
TIN	5.08	J	0.233	MDL	10.6	PQL	mg/Kg	U	B
Zirconium	1.15	J	0.891	MDL	5.31	PQL	mg/Kg	J	Z

Sample ID: SL-534-SA5D-SB-0.0-0.5 Collected: 8/30/2013 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
ANTIMONY	1.73	J	0.753	MDL	4.07	PQL	mg/Kg	J	Z, Q
BERYLLIUM	0.658	J	0.0681	MDL	1.02	PQL	mg/Kg	J	Z
BORON	6.26	J	0.854	MDL	10.2	PQL	mg/Kg	J	Z
CADMIUM	0.473	J	0.0773	MDL	1.02	PQL	mg/Kg	J	Z
MOLYBDENUM	0.607	J	0.173	MDL	2.03	PQL	mg/Kg	U	F, F
POTASSIUM	3560		8.48	MDL	102	PQL	mg/Kg	J	Q
TIN	3.49	J	0.224	MDL	10.2	PQL	mg/Kg	U	B
Zirconium	2.28	J	0.854	MDL	5.09	PQL	mg/Kg	J	Z

Sample ID: SL-534-SA5D-SB-6.5-7.5 Collected: 8/30/2013 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
ANTIMONY	1.69	J	0.779	MDL	4.21	PQL	mg/Kg	J	Z, Q
BERYLLIUM	0.354	J	0.0706	MDL	1.05	PQL	mg/Kg	J	Z
BORON	4.43	J	0.885	MDL	10.5	PQL	mg/Kg	U	B
CADMIUM	0.313	J	0.0801	MDL	1.05	PQL	mg/Kg	J	Z
MOLYBDENUM	0.408	J	0.179	MDL	2.11	PQL	mg/Kg	U	F, F
POTASSIUM	2150		8.78	MDL	105	PQL	mg/Kg	J	Q
TIN	3.50	J	0.232	MDL	10.5	PQL	mg/Kg	U	B
Zirconium	1.86	J	0.885	MDL	5.27	PQL	mg/Kg	J	Z

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH099

Laboratory: LL

EDD Filename: PrepPH099

eQAPP Name: CDM_SSFL_131101_Lan

Method Category:	METALS	
Method:	6010C	Matrix: SO

Sample ID: SL-535-SA5D-SB-0.0-0.5 Collected: 8/30/2013 8:10:00 Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	2.02	J	0.753	MDL	4.07	PQL	mg/Kg	J	Z, Q
BERYLLIUM	0.804	J	0.0682	MDL	1.02	PQL	mg/Kg	J	Z
BORON	7.59	J	0.855	MDL	10.2	PQL	mg/Kg	J	Z
CADMIUM	0.485	J	0.0774	MDL	1.02	PQL	mg/Kg	J	Z
MOLYBDENUM	0.596	J	0.173	MDL	2.04	PQL	mg/Kg	U	F, F
POTASSIUM	2860		8.49	MDL	102	PQL	mg/Kg	J	Q
SODIUM	160		17.0	MDL	102	PQL	mg/Kg	J	FD
TIN	4.23	J	0.224	MDL	10.2	PQL	mg/Kg	U	B
Zirconium	2.11	J	0.855	MDL	5.09	PQL	mg/Kg	J	Z, FD

Sample ID: SL-535-SA5D-SB-2.0-3.0 Collected: 8/30/2013 8:30:00 Analysis Type: REA Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	1.32	J	0.758	MDL	4.10	PQL	mg/Kg	J	Z, Q
TIN	4.08	J	0.225	MDL	10.2	PQL	mg/Kg	U	B

Sample ID: SL-535-SA5D-SB-2.0-3.0 Collected: 8/30/2013 8:30:00 Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BERYLLIUM	0.706	J	0.0686	MDL	1.02	PQL	mg/Kg	J	Z
BORON	4.81	J	0.861	MDL	10.2	PQL	mg/Kg	U	B
MOLYBDENUM	2.05	U	0.174	MDL	2.05	PQL	mg/Kg	U	F
POTASSIUM	3100		8.54	MDL	102	PQL	mg/Kg	J	Q
Zirconium	1.62	J	0.861	MDL	5.12	PQL	mg/Kg	J	Z

Sample ID: SL-835-SA5D-SB-0.0-0.5 Collected: 8/30/2013 8:20:00 Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	1.78	J	0.743	MDL	4.01	PQL	mg/Kg	J	Z, Q
BERYLLIUM	0.711	J	0.0672	MDL	1.00	PQL	mg/Kg	J	Z
BORON	7.00	J	0.843	MDL	10.0	PQL	mg/Kg	J	Z
CADMIUM	0.513	J	0.0763	MDL	1.00	PQL	mg/Kg	J	Z
MOLYBDENUM	0.420	J	0.171	MDL	2.01	PQL	mg/Kg	U	F, F
POTASSIUM	3970		8.37	MDL	100	PQL	mg/Kg	J	Q
SODIUM	90.8	J	16.8	MDL	100	PQL	mg/Kg	J	Z, FD

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH099

Laboratory: LL

EDD Filename: PrepPH099

eQAPP Name: CDM_SSFL_131101_Lan

Method Category:	METALS	
Method:	6010C	Matrix: SO

Sample ID: SL-835-SA5D-SB-0.0-0.5 Collected: 8/30/2013 8:20:00 Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
TIN	3.62	J	0.221	MDL	10.0	PQL	mg/Kg	U	B
Zirconium	5.02	U	0.843	MDL	5.02	PQL	mg/Kg	UJ	FD

Method Category:	METALS	
Method:	6020A	Matrix: SO

Sample ID: SL-530-SA5D-SB-0.0-0.5 Collected: 8/30/2013 1:15:00 Analysis Type: REA2 Dilution: 2

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SELENIUM	0.109	J	0.101	MDL	0.403	PQL	mg/Kg	J	Z

Sample ID: SL-530-SA5D-SB-0.0-0.5 Collected: 8/30/2013 1:15:00 Analysis Type: RES Dilution: 2

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SILVER	0.0272	J	0.0262	MDL	0.201	PQL	mg/Kg	J	Z

Sample ID: SL-530-SA5D-SB-2.5-3.5 Collected: 8/30/2013 1:30:00 Analysis Type: RES Dilution: 2

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SILVER	0.0620	J	0.0265	MDL	0.204	PQL	mg/Kg	J	Z

Sample ID: SL-531-SA5D-SB-0.0-0.5 Collected: 8/30/2013 12:50:00 Analysis Type: RES Dilution: 2

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SILVER	0.0269	J	0.0265	MDL	0.204	PQL	mg/Kg	J	Z

Sample ID: SL-532-SA5D-SB-0.0-0.5 Collected: 8/30/2013 12:20:00 Analysis Type: REA2 Dilution: 2

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SELENIUM	0.190	J	0.101	MDL	0.402	PQL	mg/Kg	J	Z

Sample ID: SL-532-SA5D-SB-0.0-0.5 Collected: 8/30/2013 12:20:00 Analysis Type: RES Dilution: 2

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SILVER	0.0406	J	0.0261	MDL	0.201	PQL	mg/Kg	J	Z

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH099

Laboratory: LL

EDD Filename: PrepPH099

eQAPP Name: CDM_SSFL_131101_Lan

Method Category:	METALS	
Method:	6020A	Matrix: SO

Sample ID: SL-533-SA5D-SB-0.0-0.5 Collected: 8/30/2013 10:15:00 Analysis Type: REA2 Dilution: 2

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SELENIUM	0.165	J	0.101	MDL	0.403	PQL	mg/Kg	J	Z

Sample ID: SL-533-SA5D-SB-0.0-0.5 Collected: 8/30/2013 10:15:00 Analysis Type: RES Dilution: 2

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SILVER	0.0525	J	0.0262	MDL	0.201	PQL	mg/Kg	J	Z

Sample ID: SL-533-SA5D-SB-2.5-3.5 Collected: 8/30/2013 10:30:00 Analysis Type: REA2 Dilution: 2

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SELENIUM	0.227	J	0.106	MDL	0.424	PQL	mg/Kg	J	Z

Sample ID: SL-533-SA5D-SB-2.5-3.5 Collected: 8/30/2013 10:30:00 Analysis Type: RES Dilution: 2

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SILVER	0.160	J	0.0276	MDL	0.212	PQL	mg/Kg	J	Z

Sample ID: SL-534-SA5D-SB-0.0-0.5 Collected: 8/30/2013 9:00:00 Analysis Type: REA2 Dilution: 2

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SELENIUM	0.174	J	0.102	MDL	0.407	PQL	mg/Kg	J	Z

Sample ID: SL-534-SA5D-SB-0.0-0.5 Collected: 8/30/2013 9:00:00 Analysis Type: RES Dilution: 2

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SILVER	0.0598	J	0.0264	MDL	0.203	PQL	mg/Kg	J	Z

Sample ID: SL-534-SA5D-SB-6.5-7.5 Collected: 8/30/2013 9:20:00 Analysis Type: REA2 Dilution: 2

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SELENIUM	0.120	J	0.105	MDL	0.421	PQL	mg/Kg	J	Z

Sample ID: SL-534-SA5D-SB-6.5-7.5 Collected: 8/30/2013 9:20:00 Analysis Type: RES Dilution: 2

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
THALLIUM	0.179	J	0.0316	MDL	0.211	PQL	mg/Kg	J	Z

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH099

Laboratory: LL

EDD Filename: PrepPH099

eQAPP Name: CDM_SSFL_131101_Lan

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

Sample ID: SL-535-SA5D-SB-0.0-0.5 Collected: 8/30/2013 8:10:00 Analysis Type: REA2 Dilution: 2

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SELENIUM	0.193	J	0.102	MDL	0.407	PQL	mg/Kg	J	Z

Sample ID: SL-535-SA5D-SB-2.0-3.0 Collected: 8/30/2013 8:30:00 Analysis Type: REA2 Dilution: 2

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SELENIUM	0.164	J	0.102	MDL	0.410	PQL	mg/Kg	J	Z

Sample ID: SL-535-SA5D-SB-2.0-3.0 Collected: 8/30/2013 8:30:00 Analysis Type: RES Dilution: 2

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SILVER	0.0508	J	0.0266	MDL	0.205	PQL	mg/Kg	J	Z

Sample ID: SL-835-SA5D-SB-0.0-0.5 Collected: 8/30/2013 8:20:00 Analysis Type: REA2 Dilution: 2

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SELENIUM	0.219	J	0.100	MDL	0.401	PQL	mg/Kg	J	Z

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

Sample ID: SL-534-SA5D-SB-0.0-0.5 Collected: 8/30/2013 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
MERCURY	0.0128	J	0.0103	MDL	0.0171	PQL	mg/Kg	J	Z

Method Category: SVOA
Method: 1613B **Matrix:** SO

Sample ID: SL-530-SA5D-SB-0.0-0.5 Collected: 8/30/2013 1:15:00 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-HPCDF	2.18	J	0.0138	MDL	5.08	PQL	ng/Kg	J	Z
1,2,3,4,7,8,9-HPCDF	0.238	JB	0.0235	MDL	5.08	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.565	JQ	0.0454	MDL	5.08	PQL	ng/Kg	J	Z
1,2,3,4,7,8-HxCDF	0.226	JB	0.0270	MDL	5.08	PQL	ng/Kg	U	B

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH099

Laboratory: LL

EDD Filename: PrepPH099

eQAPP Name: CDM_SSFL_131101_Lan

Method Category:	SVOA	Method:	1613B	Matrix:	SO
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Sample ID: SL-530-SA5D-SB-0.0-0.5 Collected: 8/30/2013 1:15:00 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	1.50	J	0.0475	MDL	5.08	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDF	0.243	JB	0.0237	MDL	5.08	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDD	1.42	JB	0.0453	MDL	5.08	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDF	0.315	JBQ	0.0288	MDL	5.08	PQL	ng/Kg	U	B
1,2,3,7,8-PECDD	0.423	JQ	0.0557	MDL	5.08	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDF	0.457	JBQ	0.0304	MDL	5.08	PQL	ng/Kg	J	Z
2,3,4,6,7,8-HXCDF	0.263	J	0.0257	MDL	5.08	PQL	ng/Kg	J	Z
2,3,4,7,8-PECDF	0.316	JBQ	0.0318	MDL	5.08	PQL	ng/Kg	J	Z
2,3,7,8-TCDF	0.160	JQ	0.0711	MDL	1.02	PQL	ng/Kg	J	Z
OCDF	5.73	JB	0.0402	MDL	10.2	PQL	ng/Kg	J	Z

Sample ID: SL-530-SA5D-SB-2.5-3.5 Collected: 8/30/2013 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	0.145	JBQ	0.0277	MDL	5.08	PQL	ng/Kg	U	B
1,2,3,4,6,7,8-HPCDF	0.0634	JQ	0.0113	MDL	5.08	PQL	ng/Kg	J	Z
1,2,3,4,7,8,9-HPCDF	0.0809	JBQ	0.0208	MDL	5.08	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.110	JQ	0.0274	MDL	5.08	PQL	ng/Kg	J	Z
1,2,3,4,7,8-HXCDF	0.199	JB	0.0184	MDL	5.08	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDD	0.128	JQ	0.0288	MDL	5.08	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDF	0.184	JBQ	0.0152	MDL	5.08	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDD	0.132	JB	0.0280	MDL	5.08	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDF	0.124	JB	0.0219	MDL	5.08	PQL	ng/Kg	U	B
1,2,3,7,8-PECDD	0.350	J	0.0436	MDL	5.08	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDF	0.314	JBQ	0.0246	MDL	5.08	PQL	ng/Kg	U	B
2,3,4,6,7,8-HXCDF	0.120	JQ	0.0170	MDL	5.08	PQL	ng/Kg	J	Z
2,3,4,7,8-PECDF	0.266	JB	0.0249	MDL	5.08	PQL	ng/Kg	U	B
2,3,7,8-TCDD	0.0969	JQ	0.0699	MDL	1.02	PQL	ng/Kg	J	Z
OCDD	0.517	JB	0.0183	MDL	10.2	PQL	ng/Kg	U	B
OCDF	0.134	JBQ	0.0356	MDL	10.2	PQL	ng/Kg	U	B

Sample ID: SL-531-SA5D-SB-0.0-0.5 Collected: 8/30/2013 12:50:00 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	0.765	JB	0.0431	MDL	5.19	PQL	ng/Kg	J	Z

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH099

Laboratory: LL

EDD Filename: PrepPH099

eQAPP Name: CDM_SSFL_131101_Lan

Method Category:	SVOA	Method:	1613B	Matrix:	SO
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Sample ID: SL-531-SA5D-SB-0.0-0.5 Collected: 8/30/2013 12:50:00 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	0.0874	J	0.0153	MDL	5.19	PQL	ng/Kg	J	Z
1,2,3,4,7,8,9-HPCDF	0.0795	JB	0.0214	MDL	5.19	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.122	JQ	0.0379	MDL	5.19	PQL	ng/Kg	J	Z
1,2,3,4,7,8-HXCDF	0.143	JB	0.0233	MDL	5.19	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDD	0.175	JQ	0.0403	MDL	5.19	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDF	0.149	JBQ	0.0209	MDL	5.19	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDD	0.174	JBQ	0.0375	MDL	5.19	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDF	0.111	JBQ	0.0245	MDL	5.19	PQL	ng/Kg	U	B
1,2,3,7,8-PECDD	0.370	JQ	0.0621	MDL	5.19	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDF	0.430	JBQ	0.0322	MDL	5.19	PQL	ng/Kg	J	Z
2,3,4,6,7,8-HXCDF	0.145	JQ	0.0213	MDL	5.19	PQL	ng/Kg	J	Z
2,3,4,7,8-PECDF	0.305	JBQ	0.0302	MDL	5.19	PQL	ng/Kg	J	Z
2,3,7,8-TCDD	0.137	JQ	0.106	MDL	1.04	PQL	ng/Kg	J	Z
2,3,7,8-TCDF	0.0843	JQ	0.0680	MDL	1.04	PQL	ng/Kg	J	Z
OCDD	9.70	JB	0.0291	MDL	10.4	PQL	ng/Kg	J	Z
OCDF	0.255	JBQ	0.0405	MDL	10.4	PQL	ng/Kg	U	B

Sample ID: SL-532-SA5D-SB-0.0-0.5 Collected: 8/30/2013 12:20:00 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	1.25	JB	0.0294	MDL	4.99	PQL	ng/Kg	J	Z
1,2,3,4,7,8-HxCDD	1.81	J	0.0410	MDL	4.99	PQL	ng/Kg	J	Z
1,2,3,4,7,8-HXCDF	0.717	JB	0.0332	MDL	4.99	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDF	0.773	JB	0.0308	MDL	4.99	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDD	4.32	JB	0.0403	MDL	4.99	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDF	0.626	JB	0.0348	MDL	4.99	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDD	1.37	JQ	0.0637	MDL	4.99	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDF	0.916	JB	0.0410	MDL	4.99	PQL	ng/Kg	J	Z
2,3,4,6,7,8-HXCDF	1.11	J	0.0323	MDL	4.99	PQL	ng/Kg	J	Z
2,3,4,7,8-PECDF	1.23	JB	0.0400	MDL	4.99	PQL	ng/Kg	J	Z
2,3,7,8-TCDD	0.135	JQ	0.0644	MDL	0.997	PQL	ng/Kg	J	Z
2,3,7,8-TCDF	0.549	J	0.103	MDL	0.997	PQL	ng/Kg	J	Z

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH099

Laboratory: LL

EDD Filename: PrepPH099

eQAPP Name: CDM_SSFL_131101_Lan

Method Category:	SVOA	Method:	1613B	Matrix:	SO
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Sample ID: SL-532-SA5D-SB-2.5-3.5 Collected: 8/30/2013 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	0.229	JB	0.0316	MDL	5.23	PQL	ng/Kg	U	B
1,2,3,4,6,7,8-HPCDF	0.0468	JQ	0.0150	MDL	5.23	PQL	ng/Kg	J	Z
1,2,3,4,7,8,9-HPCDF	0.0465	JB	0.0257	MDL	5.23	PQL	ng/Kg	U	B
1,2,3,4,7,8-HXCDF	0.0733	JBQ	0.0159	MDL	5.23	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDD	0.0336	JQ	0.0243	MDL	5.23	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDF	0.0313	JBQ	0.0134	MDL	5.23	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDD	0.0540	JBQ	0.0232	MDL	5.23	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDF	0.0354	JBQ	0.0174	MDL	5.23	PQL	ng/Kg	U	B
1,2,3,7,8-PECDD	0.0995	JQ	0.0382	MDL	5.23	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDF	0.0718	JB	0.0229	MDL	5.23	PQL	ng/Kg	U	B
2,3,4,6,7,8-HXCDF	0.0647	J	0.0148	MDL	5.23	PQL	ng/Kg	J	Z
2,3,4,7,8-PECDF	0.0594	JBQ	0.0225	MDL	5.23	PQL	ng/Kg	U	B
OCDD	1.34	JB	0.0235	MDL	10.5	PQL	ng/Kg	J	Z
OCDF	0.176	JB	0.0359	MDL	10.5	PQL	ng/Kg	U	B

Sample ID: SL-533-SA5D-SB-0.0-0.5 Collected: 8/30/2013 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
1,2,3,4,7,8,9-HPCDF	0.809	JB	0.0363	MDL	4.90	PQL	ng/Kg	J	Z
1,2,3,4,7,8-HxCDD	1.26	J	0.0570	MDL	4.90	PQL	ng/Kg	J	Z
1,2,3,4,7,8-HXCDF	0.418	JB	0.0430	MDL	4.90	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDD	4.75	J	0.0598	MDL	4.90	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDF	0.553	JB	0.0380	MDL	4.90	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDD	3.94	JB	0.0557	MDL	4.90	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDF	0.723	JB	0.0484	MDL	4.90	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDD	1.13	J	0.0792	MDL	4.90	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDF	0.549	JBQ	0.0505	MDL	4.90	PQL	ng/Kg	J	Z
2,3,4,6,7,8-HXCDF	0.755	J	0.0394	MDL	4.90	PQL	ng/Kg	J	Z
2,3,4,7,8-PECDF	0.582	JBQ	0.0466	MDL	4.90	PQL	ng/Kg	J	Z
2,3,7,8-TCDF	0.225	JQ	0.114	MDL	0.981	PQL	ng/Kg	J	Z

Sample ID: SL-533-SA5D-SB-2.5-3.5 Collected: 8/30/2013 10:30:00 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	0.156	JB	0.0367	MDL	5.41	PQL	ng/Kg	U	B

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH099

Laboratory: LL

EDD Filename: PrepPH099

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: SVOA
Method: 1613B **Matrix:** SO

Sample ID: SL-533-SA5D-SB-2.5-3.5 Collected: 8/30/2013 10:30:00 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-HPCDF	0.0531	JQ	0.0199	MDL	5.41	PQL	ng/Kg	J	Z
1,2,3,4,7,8,9-HPCDF	0.0604	JBQ	0.0384	MDL	5.41	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.0454	JQ	0.0301	MDL	5.41	PQL	ng/Kg	J	Z
1,2,3,4,7,8-HXCDF	0.0650	JB	0.0201	MDL	5.41	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDD	0.0475	J	0.0322	MDL	5.41	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDF	0.0513	JBQ	0.0163	MDL	5.41	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDD	0.160	JBQ	0.0298	MDL	5.41	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDF	0.0792	JB	0.0210	MDL	5.41	PQL	ng/Kg	U	B
1,2,3,7,8-PECDD	0.0627	JQ	0.0565	MDL	5.41	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDF	0.0976	JBQ	0.0317	MDL	5.41	PQL	ng/Kg	U	B
2,3,4,6,7,8-HXCDF	0.0583	J	0.0168	MDL	5.41	PQL	ng/Kg	J	Z
2,3,4,7,8-PECDF	0.0758	JBQ	0.0318	MDL	5.41	PQL	ng/Kg	U	B
2,3,7,8-TCDF	0.0803	JQ	0.0669	MDL	1.08	PQL	ng/Kg	J	Z
OCDD	1.09	JB	0.0261	MDL	10.8	PQL	ng/Kg	U	B
OCDF	0.239	JBQ	0.0492	MDL	10.8	PQL	ng/Kg	U	B

Sample ID: SL-534-SA5D-SB-0.0-0.5 Collected: 8/30/2013 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	1.65	J	0.0137	MDL	5.14	PQL	ng/Kg	J	Z
1,2,3,4,7,8,9-HPCDF	0.133	JB	0.0230	MDL	5.14	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.145	J	0.0445	MDL	5.14	PQL	ng/Kg	J	Z
1,2,3,4,7,8-HXCDF	0.0932	JB	0.0275	MDL	5.14	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDD	0.889	J	0.0467	MDL	5.14	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDF	0.0981	JBQ	0.0225	MDL	5.14	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDD	1.11	JB	0.0448	MDL	5.14	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDF	0.438	JB	0.0280	MDL	5.14	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDD	0.326	JQ	0.0483	MDL	5.14	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDF	0.206	JBQ	0.0262	MDL	5.14	PQL	ng/Kg	U	B
2,3,4,6,7,8-HXCDF	0.121	JQ	0.0252	MDL	5.14	PQL	ng/Kg	J	Z
2,3,7,8-TCDF	0.0672	JQ	0.0624	MDL	1.03	PQL	ng/Kg	J	Z
OCDF	5.14	JB	0.0416	MDL	10.3	PQL	ng/Kg	J	Z

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH099

Laboratory: LL

EDD Filename: PrepPH099

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: SVOA
Method: 1613B **Matrix:** SO

Sample ID: SL-535-SA5D-SB-0.0-0.5 Collected: 8/30/2013 8:10:00 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	0.132	JBQ	0.0403	MDL	4.97	PQL	ng/Kg	UJ	B, FD
1,2,3,4,6,7,8-HPCDF	0.0152	JQ	0.0123	MDL	4.97	PQL	ng/Kg	J	Z, FD
1,2,3,4,7,8,9-HPCDF	0.0721	JBQ	0.0226	MDL	4.97	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.0481	JQ	0.0332	MDL	4.97	PQL	ng/Kg	J	Z, FD
1,2,3,4,7,8-HXCDF	0.0645	JB	0.0279	MDL	4.97	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDD	0.0385	J	0.0348	MDL	4.97	PQL	ng/Kg	J	Z, FD
1,2,3,6,7,8-HXCDF	0.0349	JBQ	0.0231	MDL	4.97	PQL	ng/Kg	UJ	B, FD
1,2,3,7,8,9-HXCDD	0.0744	JBQ	0.0342	MDL	4.97	PQL	ng/Kg	UJ	B, FD
1,2,3,7,8,9-HXCDF	0.0339	JBQ	0.0295	MDL	4.97	PQL	ng/Kg	UJ	B, FD
1,2,3,7,8-PECDD	4.97	U	0.0792	MDL	4.97	PQL	ng/Kg	UJ	FD
1,2,3,7,8-PECDF	0.0547	JBQ	0.0353	MDL	4.97	PQL	ng/Kg	UJ	B, FD
2,3,4,6,7,8-HXCDF	4.97	U	0.0262	MDL	4.97	PQL	ng/Kg	UJ	FD
2,3,4,7,8-PECDF	4.97	U	0.0369	MDL	4.97	PQL	ng/Kg	UJ	FD
2,3,7,8-TCDD	0.994	U	0.129	MDL	0.994	PQL	ng/Kg	UJ	FD
OCDD	1.32	JBQ	0.0370	MDL	9.94	PQL	ng/Kg	J	Z, FD
OCDF	0.0918	JBQ	0.0551	MDL	9.94	PQL	ng/Kg	UJ	B, FD

Sample ID: SL-835-SA5D-SB-0.0-0.5 Collected: 8/30/2013 8:20:00 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	6.88	B	0.0350	MDL	4.94	PQL	ng/Kg	J	FD
1,2,3,4,6,7,8-HPCDF	0.465	J	0.0117	MDL	4.94	PQL	ng/Kg	J	Z, FD
1,2,3,4,7,8,9-HPCDF	0.0821	JB	0.0185	MDL	4.94	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.169	J	0.0388	MDL	4.94	PQL	ng/Kg	J	Z, FD
1,2,3,4,7,8-HXCDF	0.0873	JBQ	0.0234	MDL	4.94	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDD	0.597	JQ	0.0389	MDL	4.94	PQL	ng/Kg	J	Z, FD
1,2,3,6,7,8-HXCDF	0.118	JBQ	0.0211	MDL	4.94	PQL	ng/Kg	UJ	B, FD
1,2,3,7,8,9-HXCDD	0.996	JB	0.0366	MDL	4.94	PQL	ng/Kg	J	Z, FD
1,2,3,7,8,9-HXCDF	0.502	JB	0.0240	MDL	4.94	PQL	ng/Kg	J	Z, FD
1,2,3,7,8-PECDD	0.332	JQ	0.0523	MDL	4.94	PQL	ng/Kg	J	Z, FD
1,2,3,7,8-PECDF	0.218	JBQ	0.0265	MDL	4.94	PQL	ng/Kg	UJ	B, FD
2,3,4,6,7,8-HXCDF	0.103	J	0.0205	MDL	4.94	PQL	ng/Kg	J	Z, FD
2,3,4,7,8-PECDF	0.101	JBQ	0.0245	MDL	4.94	PQL	ng/Kg	UJ	B, FD
2,3,7,8-TCDD	0.114	J	0.0786	MDL	0.989	PQL	ng/Kg	J	Z, FD

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH099

Laboratory: LL

EDD Filename: PrepPH099

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: SVOA
Method: 1613B **Matrix:** SO

Sample ID: SL-835-SA5D-SB-0.0-0.5 Collected: 8/30/2013 8:20:00 Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
OCDD	111	B	0.0290	MDL	9.89	PQL	ng/Kg	J	FD
OCDF	1.33	JB	0.0349	MDL	9.89	PQL	ng/Kg	J	Z, FD

Method Category: SVOA
Method: 8015M **Matrix:** SO

Sample ID: SL-535-SA5D-SB-0.0-0.5 Collected: 8/30/2013 8:10:00 Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
EFH (C21-C30)	5.2	U	2.1	MDL	5.2	PQL	mg/Kg	UJ	FD
EFH (C30-C40)	10	U	4.2	MDL	10	PQL	mg/Kg	UJ	FD

Sample ID: SL-835-SA5D-SB-0.0-0.5 Collected: 8/30/2013 8:20:00 Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
EFH (C21-C30)	4.7	J	2.0	MDL	5.1	PQL	mg/Kg	J	Z, FD
EFH (C30-C40)	9.0	J	4.1	MDL	10	PQL	mg/Kg	J	Z, FD

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

Sample ID: SL-530-SA5D-SB-0.0-0.5 Collected: 8/30/2013 1:15:00 Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
4,4'-DDT	0.43	J	0.35	MDL	1.7	PQL	ug/Kg	J	Z

Sample ID: SL-532-SA5D-SB-0.0-0.5 Collected: 8/30/2013 12:20:00 Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
4,4'-DDD	0.54	J	0.33	MDL	1.7	PQL	ug/Kg	J	Z
DIELDRIN	0.69	J	0.33	MDL	1.7	PQL	ug/Kg	J	Z
HEPTACHLOR EPOXIDE	0.26	J	0.17	MDL	0.84	PQL	ug/Kg	J	Z

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH099

Laboratory: LL

EDD Filename: PrepPH099

eQAPP Name: CDM_SSFL_131101_Lan

Method Category:	SVOA	Method:	8081B	Matrix:	SO
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Sample ID: SL-533-SA5D-SB-0.0-0.5 Collected: 8/30/2013 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
4,4'-DDT	0.86	J	0.36	MDL	1.7	PQL	ug/Kg	J	Z

Method Category:	SVOA	Method:	8082A	Matrix:	SO
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Sample ID: SL-533-SA5D-SB-0.0-0.5 Collected: 8/30/2013 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
AROCLOR 1254	6.6	J	4.5	MDL	17	PQL	ug/Kg	J	Z

Method Category:	SVOA	Method:	8270D SIM	Matrix:	SO
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Sample ID: SL-530-SA5D-SB-0.0-0.5 Collected: 8/30/2013 1:15:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTHRACENE	0.54	J	0.34	MDL	1.7	PQL	ug/Kg	J	Z
BENZO(E)PYRENE	7.3	J	3.4	MDL	17	PQL	ug/Kg	J	Z
DIBENZO(A,H)ANTHRACENE	1.4	J	0.68	MDL	1.7	PQL	ug/Kg	J	Z

Sample ID: SL-532-SA5D-SB-0.0-0.5 Collected: 8/30/2013 12:20:00 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-METHYLNAPHTHALENE	0.93	J	0.68	MDL	1.7	PQL	ug/Kg	J	Z
ANTHRACENE	0.46	J	0.34	MDL	1.7	PQL	ug/Kg	J	Z
BENZO(E)PYRENE	3.7	J	3.4	MDL	17	PQL	ug/Kg	J	Z
BIS(2-ETHYLHEXYL)PHTHALATE	8.7	J	6.1	MDL	18	PQL	ug/Kg	J	Z
INDENO(1,2,3-CD)PYRENE	1.6	J	0.68	MDL	1.7	PQL	ug/Kg	J	Z
NAPHTHALENE	1.3	J	0.68	MDL	1.7	PQL	ug/Kg	J	Z

Sample ID: SL-533-SA5D-SB-0.0-0.5 Collected: 8/30/2013 10:15:00 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	1.1	J	0.68	MDL	1.7	PQL	ug/Kg	J	Z
BENZO(A)ANTHRACENE	1.1	J	0.68	MDL	1.7	PQL	ug/Kg	J	Z

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH099

Laboratory: LL

EDD Filename: PrepPH099

eQAPP Name: CDM_SSFL_131101_Lan

Method Category:	SVOA		
Method:	8270D SIM	Matrix:	SO

Sample ID: SL-533-SA5D-SB-0.0-0.5 Collected: 8/30/2013 10:15:00 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	1.5	J	0.68	MDL	1.7	PQL	ug/Kg	J	Z
BENZO(G,H,I)PERYLENE	0.99	J	0.68	MDL	1.7	PQL	ug/Kg	J	Z
BENZO(K)FLUORANTHENE	1.2	J	0.68	MDL	1.7	PQL	ug/Kg	J	Z
BIS(2-ETHYLHEXYL)PHTHALATE	8.7	J	6.2	MDL	18	PQL	ug/Kg	J	Z
INDENO(1,2,3-CD)PYRENE	0.85	J	0.68	MDL	1.7	PQL	ug/Kg	J	Z
NAPHTHALENE	1.6	J	0.68	MDL	1.7	PQL	ug/Kg	J	Z

Sample ID: SL-534-SA5D-SB-0.0-0.5 Collected: 8/30/2013 9:00:00 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-METHYLNAPHTHALENE	0.80	J	0.69	MDL	1.7	PQL	ug/Kg	J	Z
CHRYSENE	0.59	J	0.35	MDL	1.7	PQL	ug/Kg	J	Z
NAPHTHALENE	1.3	J	0.69	MDL	1.7	PQL	ug/Kg	J	Z

Sample ID: SL-535-SA5D-SB-0.0-0.5 Collected: 8/30/2013 8:10:00 Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1-METHYLNAPHTHALENE	1.7	U	0.68	MDL	1.7	PQL	ug/Kg	UJ	FD

Sample ID: SL-535-SA5D-SB-0.0-0.5 Collected: 8/30/2013 8:10:00 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-METHYLNAPHTHALENE	1.7	U	0.68	MDL	1.7	PQL	ug/Kg	UJ	FD
CHRYSENE	1.7	U	0.34	MDL	1.7	PQL	ug/Kg	UJ	FD
FLUORANTHENE	1.7	U	0.68	MDL	1.7	PQL	ug/Kg	UJ	FD
NAPHTHALENE	1.7	U	0.68	MDL	1.7	PQL	ug/Kg	UJ	FD
PHENANTHRENE	1.7	U	0.68	MDL	1.7	PQL	ug/Kg	UJ	FD
PYRENE	1.7	U	0.68	MDL	1.7	PQL	ug/Kg	UJ	FD

Sample ID: SL-835-SA5D-SB-0.0-0.5 Collected: 8/30/2013 8:20:00 Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1-METHYLNAPHTHALENE	1.1	J	0.68	MDL	1.7	PQL	ug/Kg	J	Z, FD

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH099

Laboratory: LL

EDD Filename: PrepPH099

eQAPP Name: CDM_SSFL_131101_Lan

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

Sample ID: SL-835-SA5D-SB-0.0-0.5

Collected: 8/30/2013 8:20:00

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-METHYLNAPHTHALENE	1.9		0.68	MDL	1.7	PQL	ug/Kg	J	FD
CHRYSENE	0.63	J	0.34	MDL	1.7	PQL	ug/Kg	J	Z, FD
FLUORANTHENE	0.85	J	0.68	MDL	1.7	PQL	ug/Kg	J	Z, FD
NAPHTHALENE	1.3	J	0.68	MDL	1.7	PQL	ug/Kg	J	Z, FD
PHENANTHRENE	0.74	J	0.68	MDL	1.7	PQL	ug/Kg	J	Z, FD
PYRENE	0.81	J	0.68	MDL	1.7	PQL	ug/Kg	J	Z, FD

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Data Qualifier Summary

Lab Reporting Batch ID: PH099

Laboratory: LL

EDD Filename: PrepPH099

eQAPP Name: CDM_SSFL_131101_Lan

Reason Code Legend

<i>Reason Code</i>	<i>Description</i>
B	Method Blank Contamination
E	Laboratory Duplicate Precision
F	Equipment Blank Contamination
F	Field Blank Contamination
FD	Field Duplicate Precision
Q	Laboratory Duplicate Precision
Q	Matrix 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: 1204-002-001-AL - SSFL Area IV Phase 3

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Enclosure I
EPA Level III ADR Outliers
(Including Manual Review Outliers)

Quality Control Outlier Reports

PH099

Method Blank Outlier Report

Lab Reporting Batch ID: PH099

Laboratory: LL

EDD Filename: PH099

eQAPP Name: CDM_SSFL_131101_Lan

Method: 1613B
Matrix: SO

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples
BLK2530B372159	9/12/2013 9:59:00 PM	1,2,3,4,6,7,8-HPCDD 1,2,3,4,7,8,9-HPCDF 1,2,3,4,7,8-HXCDF 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-PECDF 2,3,4,7,8-PECDF OCDD OCDF	0.0813 ng/Kg 0.0735 ng/Kg 0.0547 ng/Kg 0.0479 ng/Kg 0.0431 ng/Kg 0.0751 ng/Kg 0.0725 ng/Kg 0.0532 ng/Kg 0.222 ng/Kg 0.141 ng/Kg	SL-530-SA5D-SB-0.0-0.5 SL-530-SA5D-SB-2.5-3.5 SL-531-SA5D-SB-0.0-0.5 SL-532-SA5D-SB-0.0-0.5 SL-532-SA5D-SB-2.5-3.5 SL-533-SA5D-SB-0.0-0.5 SL-533-SA5D-SB-2.5-3.5 SL-534-SA5D-SB-0.0-0.5 SL-535-SA5D-SB-0.0-0.5 SL-835-SA5D-SB-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-530-SA5D-SB-0.0-0.5(RES)	1,2,3,4,7,8,9-HPCDF	0.238 ng/Kg	0.238U ng/Kg
SL-530-SA5D-SB-0.0-0.5(RES)	1,2,3,4,7,8-HXCDF	0.226 ng/Kg	0.226U ng/Kg
SL-530-SA5D-SB-0.0-0.5(RES)	1,2,3,7,8,9-HXCDF	0.315 ng/Kg	0.315U ng/Kg
SL-530-SA5D-SB-2.5-3.5(RES)	1,2,3,4,6,7,8-HPCDD	0.145 ng/Kg	0.145U ng/Kg
SL-530-SA5D-SB-2.5-3.5(RES)	1,2,3,4,7,8,9-HPCDF	0.0809 ng/Kg	0.0809U ng/Kg
SL-530-SA5D-SB-2.5-3.5(RES)	1,2,3,4,7,8-HXCDF	0.199 ng/Kg	0.199U ng/Kg
SL-530-SA5D-SB-2.5-3.5(RES)	1,2,3,6,7,8-HXCDF	0.184 ng/Kg	0.184U ng/Kg
SL-530-SA5D-SB-2.5-3.5(RES)	1,2,3,7,8,9-HXCDD	0.132 ng/Kg	0.132U ng/Kg
SL-530-SA5D-SB-2.5-3.5(RES)	1,2,3,7,8,9-HXCDF	0.124 ng/Kg	0.124U ng/Kg
SL-530-SA5D-SB-2.5-3.5(RES)	1,2,3,7,8-PECDF	0.314 ng/Kg	0.314U ng/Kg
SL-530-SA5D-SB-2.5-3.5(RES)	2,3,4,7,8-PECDF	0.266 ng/Kg	0.266U ng/Kg
SL-530-SA5D-SB-2.5-3.5(RES)	OCDD	0.517 ng/Kg	0.517U ng/Kg
SL-530-SA5D-SB-2.5-3.5(RES)	OCDF	0.134 ng/Kg	0.134U ng/Kg
SL-531-SA5D-SB-0.0-0.5(RES)	1,2,3,4,7,8,9-HPCDF	0.0795 ng/Kg	0.0795U ng/Kg
SL-531-SA5D-SB-0.0-0.5(RES)	1,2,3,4,7,8-HXCDF	0.143 ng/Kg	0.143U ng/Kg
SL-531-SA5D-SB-0.0-0.5(RES)	1,2,3,6,7,8-HXCDF	0.149 ng/Kg	0.149U ng/Kg
SL-531-SA5D-SB-0.0-0.5(RES)	1,2,3,7,8,9-HXCDD	0.174 ng/Kg	0.174U ng/Kg
SL-531-SA5D-SB-0.0-0.5(RES)	1,2,3,7,8,9-HXCDF	0.111 ng/Kg	0.111U ng/Kg
SL-531-SA5D-SB-0.0-0.5(RES)	OCDF	0.255 ng/Kg	0.255U ng/Kg
SL-532-SA5D-SB-2.5-3.5(RES)	1,2,3,4,6,7,8-HPCDD	0.229 ng/Kg	0.229U ng/Kg
SL-532-SA5D-SB-2.5-3.5(RES)	1,2,3,4,7,8,9-HPCDF	0.0465 ng/Kg	0.0465U ng/Kg
SL-532-SA5D-SB-2.5-3.5(RES)	1,2,3,4,7,8-HXCDF	0.0733 ng/Kg	0.0733U ng/Kg
SL-532-SA5D-SB-2.5-3.5(RES)	1,2,3,6,7,8-HXCDF	0.0313 ng/Kg	0.0313U ng/Kg
SL-532-SA5D-SB-2.5-3.5(RES)	1,2,3,7,8,9-HXCDD	0.0540 ng/Kg	0.0540U ng/Kg
SL-532-SA5D-SB-2.5-3.5(RES)	1,2,3,7,8,9-HXCDF	0.0354 ng/Kg	0.0354U ng/Kg
SL-532-SA5D-SB-2.5-3.5(RES)	1,2,3,7,8-PECDF	0.0718 ng/Kg	0.0718U ng/Kg
SL-532-SA5D-SB-2.5-3.5(RES)	2,3,4,7,8-PECDF	0.0594 ng/Kg	0.0594U ng/Kg
SL-532-SA5D-SB-2.5-3.5(RES)	OCDF	0.176 ng/Kg	0.176U ng/Kg
SL-533-SA5D-SB-2.5-3.5(RES)	1,2,3,4,6,7,8-HPCDD	0.156 ng/Kg	0.156U ng/Kg
SL-533-SA5D-SB-2.5-3.5(RES)	1,2,3,4,7,8,9-HPCDF	0.0604 ng/Kg	0.0604U ng/Kg
SL-533-SA5D-SB-2.5-3.5(RES)	1,2,3,4,7,8-HXCDF	0.0650 ng/Kg	0.0650U ng/Kg
SL-533-SA5D-SB-2.5-3.5(RES)	1,2,3,6,7,8-HXCDF	0.0513 ng/Kg	0.0513U ng/Kg

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Method Blank Outlier Report

Lab Reporting Batch ID: PH099

Laboratory: LL

EDD Filename: PH099

eQAPP Name: CDM_SSFL_131101_Lan

Method: 1613B

Matrix: SO

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples
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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-533-SA5D-SB-2.5-3.5(RES)	1,2,3,7,8,9-HXCDD	0.160 ng/Kg	0.160U ng/Kg
SL-533-SA5D-SB-2.5-3.5(RES)	1,2,3,7,8,9-HXCDF	0.0792 ng/Kg	0.0792U ng/Kg
SL-533-SA5D-SB-2.5-3.5(RES)	1,2,3,7,8-PECDF	0.0976 ng/Kg	0.0976U ng/Kg
SL-533-SA5D-SB-2.5-3.5(RES)	2,3,4,7,8-PECDF	0.0758 ng/Kg	0.0758U ng/Kg
SL-533-SA5D-SB-2.5-3.5(RES)	OCDD	1.09 ng/Kg	1.09U ng/Kg
SL-533-SA5D-SB-2.5-3.5(RES)	OCDF	0.239 ng/Kg	0.239U ng/Kg
SL-534-SA5D-SB-0.0-0.5(RES)	1,2,3,4,7,8,9-HPCDF	0.133 ng/Kg	0.133U ng/Kg
SL-534-SA5D-SB-0.0-0.5(RES)	1,2,3,4,7,8-HXCDF	0.0932 ng/Kg	0.0932U ng/Kg
SL-534-SA5D-SB-0.0-0.5(RES)	1,2,3,6,7,8-HXCDF	0.0981 ng/Kg	0.0981U ng/Kg
SL-534-SA5D-SB-0.0-0.5(RES)	1,2,3,7,8-PECDF	0.206 ng/Kg	0.206U ng/Kg
SL-535-SA5D-SB-0.0-0.5(RES)	1,2,3,4,6,7,8-HPCDD	0.132 ng/Kg	0.132U ng/Kg
SL-535-SA5D-SB-0.0-0.5(RES)	1,2,3,4,7,8,9-HPCDF	0.0721 ng/Kg	0.0721U ng/Kg
SL-535-SA5D-SB-0.0-0.5(RES)	1,2,3,4,7,8-HXCDF	0.0645 ng/Kg	0.0645U ng/Kg
SL-535-SA5D-SB-0.0-0.5(RES)	1,2,3,6,7,8-HXCDF	0.0349 ng/Kg	0.0349U ng/Kg
SL-535-SA5D-SB-0.0-0.5(RES)	1,2,3,7,8,9-HXCDD	0.0744 ng/Kg	0.0744U ng/Kg
SL-535-SA5D-SB-0.0-0.5(RES)	1,2,3,7,8,9-HXCDF	0.0339 ng/Kg	0.0339U ng/Kg
SL-535-SA5D-SB-0.0-0.5(RES)	1,2,3,7,8-PECDF	0.0547 ng/Kg	0.0547U ng/Kg
SL-535-SA5D-SB-0.0-0.5(RES)	OCDF	0.0918 ng/Kg	0.0918U ng/Kg
SL-835-SA5D-SB-0.0-0.5(RES)	1,2,3,4,7,8,9-HPCDF	0.0821 ng/Kg	0.0821U ng/Kg
SL-835-SA5D-SB-0.0-0.5(RES)	1,2,3,4,7,8-HXCDF	0.0873 ng/Kg	0.0873U ng/Kg
SL-835-SA5D-SB-0.0-0.5(RES)	1,2,3,6,7,8-HXCDF	0.118 ng/Kg	0.118U ng/Kg
SL-835-SA5D-SB-0.0-0.5(RES)	1,2,3,7,8-PECDF	0.218 ng/Kg	0.218U ng/Kg
SL-835-SA5D-SB-0.0-0.5(RES)	2,3,4,7,8-PECDF	0.101 ng/Kg	0.101U ng/Kg

Method: 6010C

Matrix: SO

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples
P24637CB221508	9/4/2013 3:08:00 PM	ALUMINUM BORON CALCIUM TIN	7.58 mg/Kg 1.08 mg/Kg 14.9 mg/Kg 1.96 mg/Kg	SL-530-SA5D-SB-0.0-0.5 SL-530-SA5D-SB-2.5-3.5 SL-531-SA5D-SB-0.0-0.5 SL-532-SA5D-SB-0.0-0.5 SL-532-SA5D-SB-2.5-3.5 SL-533-SA5D-SB-0.0-0.5 SL-533-SA5D-SB-2.5-3.5 SL-534-SA5D-SB-0.0-0.5 SL-534-SA5D-SB-6.5-7.5 SL-535-SA5D-SB-0.0-0.5 SL-535-SA5D-SB-2.0-3.0 SL-835-SA5D-SB-0.0-0.5

Method Blank Outlier Report

Lab Reporting Batch ID: PH099

Laboratory: LL

EDD Filename: PH099

eQAPP Name: CDM_SSFL_131101_Lan

Method: 6010C
Matrix: SO

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples
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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-530-SA5D-SB-0.0-0.5(RES)	BORON	5.27 mg/Kg	5.27U mg/Kg
SL-530-SA5D-SB-0.0-0.5(RES)	TIN	3.39 mg/Kg	3.39U mg/Kg
SL-530-SA5D-SB-2.5-3.5(RES)	BORON	4.56 mg/Kg	4.56U mg/Kg
SL-530-SA5D-SB-2.5-3.5(RES)	TIN	3.59 mg/Kg	3.59U mg/Kg
SL-531-SA5D-SB-0.0-0.5(RES)	BORON	4.78 mg/Kg	4.78U mg/Kg
SL-531-SA5D-SB-0.0-0.5(RES)	TIN	3.52 mg/Kg	3.52U mg/Kg
SL-532-SA5D-SB-0.0-0.5(RES)	TIN	3.51 mg/Kg	3.51U mg/Kg
SL-532-SA5D-SB-2.5-3.5(RES)	BORON	4.20 mg/Kg	4.20U mg/Kg
SL-532-SA5D-SB-2.5-3.5(RES)	TIN	3.35 mg/Kg	3.35U mg/Kg
SL-533-SA5D-SB-0.0-0.5(RES)	TIN	3.43 mg/Kg	3.43U mg/Kg
SL-533-SA5D-SB-2.5-3.5(RES)	TIN	5.08 mg/Kg	5.08U mg/Kg
SL-534-SA5D-SB-0.0-0.5(RES)	TIN	3.49 mg/Kg	3.49U mg/Kg
SL-534-SA5D-SB-6.5-7.5(RES)	BORON	4.43 mg/Kg	4.43U mg/Kg
SL-534-SA5D-SB-6.5-7.5(RES)	TIN	3.50 mg/Kg	3.50U mg/Kg
SL-535-SA5D-SB-0.0-0.5(RES)	TIN	4.23 mg/Kg	4.23U mg/Kg
SL-535-SA5D-SB-2.0-3.0(RES)	TIN	4.08 mg/Kg	4.08U mg/Kg
SL-535-SA5D-SB-2.0-3.0(RES)	BORON	4.81 mg/Kg	4.81U mg/Kg
SL-835-SA5D-SB-0.0-0.5(RES)	TIN	3.62 mg/Kg	3.62U mg/Kg

Equipment Rinsate Blank Outlier Report

Lab Reporting Batch ID: PH099

Laboratory: LL

EDD Filename: PH099

eQAPP Name: CDM_SSFL_131101_Lan

Method: 6010C

Matrix: SO

Equipment Blank Sample ID	Collected Date	Analyte	Result	Associated Samples
EB1-082813(RES)	8/28/2013 2:00:00 PM	BARIUM MOLYBDENUM	0.00035 mg/L 0.008 mg/L	SL-530-SA5D-SB-0.0-0.5 SL-530-SA5D-SB-2.5-3.5 SL-531-SA5D-SB-0.0-0.5 SL-532-SA5D-SB-0.0-0.5 SL-532-SA5D-SB-2.5-3.5 SL-533-SA5D-SB-0.0-0.5 SL-533-SA5D-SB-2.5-3.5 SL-534-SA5D-SB-0.0-0.5 SL-534-SA5D-SB-6.5-7.5 SL-535-SA5D-SB-0.0-0.5 SL-535-SA5D-SB-2.0-3.0 SL-835-SA5D-SB-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-530-SA5D-SB-0.0-0.5(RES)	MOLYBDENUM	0.336 mg/Kg	0.336U mg/Kg
SL-530-SA5D-SB-2.5-3.5(RES)	MOLYBDENUM	2.04 mg/Kg	2.04U mg/Kg
SL-531-SA5D-SB-0.0-0.5(RES)	MOLYBDENUM	0.244 mg/Kg	0.244U mg/Kg
SL-532-SA5D-SB-0.0-0.5(RES)	MOLYBDENUM	0.704 mg/Kg	0.704U mg/Kg
SL-532-SA5D-SB-2.5-3.5(RES)	MOLYBDENUM	0.193 mg/Kg	0.193U mg/Kg
SL-533-SA5D-SB-0.0-0.5(RES)	MOLYBDENUM	0.628 mg/Kg	0.628U mg/Kg
SL-533-SA5D-SB-2.5-3.5(RES)	MOLYBDENUM	0.277 mg/Kg	0.277U mg/Kg
SL-534-SA5D-SB-0.0-0.5(RES)	MOLYBDENUM	0.607 mg/Kg	0.607U mg/Kg
SL-534-SA5D-SB-6.5-7.5(RES)	MOLYBDENUM	0.408 mg/Kg	0.408U mg/Kg
SL-535-SA5D-SB-0.0-0.5(RES)	MOLYBDENUM	0.596 mg/Kg	0.596U mg/Kg
SL-535-SA5D-SB-2.0-3.0(RES)	MOLYBDENUM	2.05 mg/Kg	2.05U mg/Kg
SL-835-SA5D-SB-0.0-0.5(RES)	MOLYBDENUM	0.420 mg/Kg	0.420U mg/Kg

Field Blank Outlier Report

Lab Reporting Batch ID: PH099

Laboratory: LL

EDD Filename: PrepPH099

eQAPP Name: CDM_SSFL_131101_Lan

Method: 6010C
Matrix: SO

Field Blank Sample ID	Collected Date	Analyte	Result	Associated Samples
FB-041113(REA2)	4/11/2013 3:00:00 PM	COPPER MOLYBDENUM	0.0036 mg/L 0.0036 mg/L	SL-530-SA5D-SB-0.0-0.5 SL-530-SA5D-SB-2.5-3.5 SL-531-SA5D-SB-0.0-0.5 SL-532-SA5D-SB-0.0-0.5 SL-532-SA5D-SB-2.5-3.5 SL-533-SA5D-SB-0.0-0.5 SL-533-SA5D-SB-2.5-3.5 SL-534-SA5D-SB-0.0-0.5 SL-534-SA5D-SB-6.5-7.5 SL-535-SA5D-SB-0.0-0.5 SL-535-SA5D-SB-2.0-3.0 SL-835-SA5D-SB-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-530-SA5D-SB-0.0-0.5(RES)	MOLYBDENUM	0.336 mg/Kg	0.336U mg/Kg
SL-531-SA5D-SB-0.0-0.5(RES)	MOLYBDENUM	0.244 mg/Kg	0.244U mg/Kg
SL-532-SA5D-SB-0.0-0.5(RES)	MOLYBDENUM	0.704 mg/Kg	0.704U mg/Kg
SL-532-SA5D-SB-2.5-3.5(RES)	MOLYBDENUM	0.193 mg/Kg	0.193U mg/Kg
SL-533-SA5D-SB-0.0-0.5(RES)	MOLYBDENUM	0.628 mg/Kg	0.628U mg/Kg
SL-533-SA5D-SB-2.5-3.5(RES)	MOLYBDENUM	0.277 mg/Kg	0.277U mg/Kg
SL-534-SA5D-SB-0.0-0.5(RES)	MOLYBDENUM	0.607 mg/Kg	0.607U mg/Kg
SL-534-SA5D-SB-6.5-7.5(RES)	MOLYBDENUM	0.408 mg/Kg	0.408U mg/Kg
SL-535-SA5D-SB-0.0-0.5(RES)	MOLYBDENUM	0.596 mg/Kg	0.596U mg/Kg
SL-835-SA5D-SB-0.0-0.5(RES)	MOLYBDENUM	0.420 mg/Kg	0.420U mg/Kg

Surrogate Outlier Report

Lab Reporting Batch ID: PH099

Laboratory: LL

EDD Filename: PH099

eQAPP Name: CDM_SSFL_131101_Lan

Method: 8270D SIM

Matrix: SO

<i>Sample ID (Analysis Type)</i>	<i>Surrogate</i>	<i>Sample % Recovery</i>	<i>% Recovery Limits</i>	<i>Affected Compounds</i>	<i>Flag</i>
SL-532-SA5D-SB- 2.5-3.5	Benzo(a)pyrene-d12	34	59.00-125.00	No Affected Compounds	

Matrix Spike/Matrix Spike Duplicate Outlier Report

Lab Reporting Batch ID: PH099

Laboratory: LL

EDD Filename: PH099

eQAPP Name: CDM_SSFL_131101_Lan

Method: 6010C
Matrix: SO

QC Sample ID (Associated Samples)	Compound	MS %R	MSD %R	%R Limits	RPD (Limits)	Affected Compounds	Flag	
SL-535-SA5D-SB-0.0-0.5MS (TOT)	ALUMINUM	1928	1251	75.00-125.00	-	ALUMINUM	J (all detects) Al, Ca, Fe, Mg, Ti, No Qual, >4x	
SL-535-SA5D-SB-0.0-0.5MSD (TOT)	CALCIUM	179	154	75.00-125.00	-	CALCIUM		
(SL-530-SA5D-SB-0.0-0.5	IRON	1217	-	75.00-125.00	-	IRON		
SL-531-SA5D-SB-0.0-0.5	MAGNESIUM	214	170	75.00-125.00	-	MAGNESIUM		
SL-532-SA5D-SB-0.0-0.5	POTASSIUM	156	151	75.00-125.00	-	POTASSIUM		
SL-532-SA5D-SB-2.5-3.5	TITANIUM	449	474	75.00-125.00	-	TITANIUM		
SL-533-SA5D-SB-0.0-0.5								
SL-533-SA5D-SB-2.5-3.5								
SL-534-SA5D-SB-0.0-0.5								
SL-534-SA5D-SB-6.5-7.5								
SL-535-SA5D-SB-0.0-0.5								
SL-535-SA5D-SB-2.0-3.0								
SL-835-SA5D-SB-0.0-0.5)								
SL-535-SA5D-SB-0.0-0.5MS (TOT)	ANTIMONY	73	71	75.00-125.00	-	ANTIMONY		J(all detects) UJ(all non-detects) Mn, No Qual, >4x
SL-535-SA5D-SB-0.0-0.5MSD (TOT)	MANGANESE	61	-	75.00-125.00	-	MANGANESE		
(SL-530-SA5D-SB-0.0-0.5								
SL-530-SA5D-SB-2.5-3.5								
SL-531-SA5D-SB-0.0-0.5								
SL-532-SA5D-SB-0.0-0.5								
SL-532-SA5D-SB-2.5-3.5								
SL-533-SA5D-SB-0.0-0.5								
SL-533-SA5D-SB-2.5-3.5								
SL-534-SA5D-SB-0.0-0.5								
SL-534-SA5D-SB-6.5-7.5								
SL-535-SA5D-SB-0.0-0.5								
SL-535-SA5D-SB-2.0-3.0								
SL-835-SA5D-SB-0.0-0.5)								

Lab Duplicate Outlier Report

Lab Reporting Batch ID: PH099

Laboratory: LL

EDD Filename: PH099

eQAPP Name: CDM_SSFL_131101_Lan

Method: 6010C
Matrix: SO

QC Sample ID (Associated Sample ID)	Analyte	Sample RPD	eQAPP RPD	Flag
SL-535-SA5D-SB-0.0-0.5DUP (TOT)	BORON	26	20.00	No Qual, OK by Difference
(SL-530-SA5D-SB-0.0-0.5	MOLYBDENUM	57	20.00	
SL-530-SA5D-SB-2.5-3.5	Zirconium	64	20.00	
SL-531-SA5D-SB-0.0-0.5				
SL-532-SA5D-SB-0.0-0.5				
SL-532-SA5D-SB-2.5-3.5				
SL-533-SA5D-SB-0.0-0.5				
SL-533-SA5D-SB-2.5-3.5				
SL-534-SA5D-SB-0.0-0.5				
SL-534-SA5D-SB-6.5-7.5				
SL-535-SA5D-SB-0.0-0.5				
SL-535-SA5D-SB-2.0-3.0				
SL-835-SA5D-SB-0.0-0.5)				

Method: 6020A
Matrix: SO

QC Sample ID (Associated Sample ID)	Analyte	Sample RPD	eQAPP RPD	Flag
SL-535-SA5D-SB-0.0-0.5DUP (TOT)	SELENIUM	22	20.00	No Qual, OK by Difference
(SL-530-SA5D-SB-0.0-0.5				
SL-530-SA5D-SB-2.5-3.5				
SL-531-SA5D-SB-0.0-0.5				
SL-532-SA5D-SB-0.0-0.5				
SL-532-SA5D-SB-2.5-3.5				
SL-533-SA5D-SB-0.0-0.5				
SL-533-SA5D-SB-2.5-3.5				
SL-534-SA5D-SB-0.0-0.5				
SL-534-SA5D-SB-6.5-7.5				
SL-535-SA5D-SB-0.0-0.5				
SL-535-SA5D-SB-2.0-3.0				
SL-835-SA5D-SB-0.0-0.5)				

Field Duplicate RPD Report

Lab Reporting Batch ID: PH099

Laboratory: LL

EDD Filename: PH099

eQAPP Name: CDM_SSFL_131101_Lan

Method: 160.3M

Matrix: SO

Analyte	Concentration (%)		Sample RPD	eQAPP RPD	Flag
	SL-535-SA5D-SB-0.0-0.5	SL-835-SA5D-SB-0.0-0.5			
MOISTURE	3.7	2.3	47		No Qualifiers Applied

Method: 1613B

Matrix: SO

Analyte	Concentration (ng/Kg)		Sample RPD	eQAPP RPD	Flag
	SL-535-SA5D-SB-0.0-0.5	SL-835-SA5D-SB-0.0-0.5			
1,2,3,4,7,8,9-HPCDF	0.0721	0.0821	13	50.00	No Qualifiers Applied
1,2,3,4,7,8-HXCDF	0.0645	0.0873	30	50.00	
1,2,3,4,6,7,8-HPCDD	0.132	6.88	192	50.00	J(all detects) UJ(all non-detects)
1,2,3,4,6,7,8-HPCDF	0.0152	0.465	187	50.00	
1,2,3,4,7,8-HxCDD	0.0481	0.169	111	50.00	
1,2,3,6,7,8-HXCDD	0.0385	0.597	176	50.00	
1,2,3,6,7,8-HXCDF	0.0349	0.118	109	50.00	
1,2,3,7,8,9-HXCDD	0.0744	0.996	172	50.00	
1,2,3,7,8,9-HXCDF	0.0339	0.502	175	50.00	
1,2,3,7,8-PECDD	4.97 U	0.332	200	50.00	
1,2,3,7,8-PECDF	0.0547	0.218	120	50.00	
2,3,4,6,7,8-HXCDF	4.97 U	0.103	200	50.00	
2,3,4,7,8-PECDF	4.97 U	0.101	200	50.00	
2,3,7,8-TCDD	0.994 U	0.114	200	50.00	
OCDD	1.32	111	195	50.00	
OCDF	0.0918	1.33	174	50.00	

Method: 6010C

Matrix: SO

Analyte	Concentration (mg/Kg)		Sample RPD	eQAPP RPD	Flag
	SL-535-SA5D-SB-0.0-0.5 (TOT)	SL-835-SA5D-SB-0.0-0.5 (TOT)			
ALUMINIUM	16900	19000	12	50.00	No Qualifiers Applied
ANTIMONY	2.02	1.78	13	50.00	
ARSENIC	8.27	5.91	33	50.00	
BARIUM	124	116	7	50.00	
BERYLLIUM	0.804	0.711	12	50.00	
BORON	7.59	7.00	8	50.00	
CADMIUM	0.485	0.513	6	50.00	
CALCIUM	3560	2860	22	50.00	
CHROMIUM	25.5	25.3	1	50.00	
COBALT	8.97	7.13	23	50.00	
COPPER	14.3	13.4	6	50.00	
IRON	31600	25000	23	50.00	
LEAD	9.60	7.49	25	50.00	
LITHIUM	39.6	24.3	48	50.00	
MAGNESIUM	5960	4690	24	50.00	
MANGANESE	418	381	9	50.00	
MOLYBDENUM	0.596	0.420	35	50.00	
NICKEL	16.2	15.4	5	50.00	
PHOSPHORUS	534	415	25	50.00	
POTASSIUM	2860	3970	33	50.00	
TIN	4.23	3.62	16	50.00	
TITANIUM	1620	1370	17	50.00	
VANADIUM	49.7	46.0	8	50.00	
ZINC	77.4	61.6	23	50.00	
SODIUM	160	90.8	55	50.00	J(all detects)
Zirconium	2.11	5.02 U	200	50.00	UJ(all non-detects)

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Field Duplicate RPD Report

Lab Reporting Batch ID: PH099

Laboratory: LL

EDD Filename: PH099

eQAPP Name: CDM_SSFL_131101_Lan

Method: 6020A

Matrix: SO

Analyte	Concentration (mg/Kg)		Sample RPD	eQAPP RPD	Flag
	SL-535-SA5D-SB-0.0-0.5 (TOT)	SL-835-SA5D-SB-0.0-0.5 (TOT)			
SELENIUM	0.193	0.219	13	50.00	No Qualifiers Applied
STRONTIUM	21.7	22.2	2	50.00	
THALLIUM	0.318	0.282	12	50.00	

Method: 8015M

Matrix: SO

Analyte	Concentration (mg/Kg)		Sample RPD	eQAPP RPD	Flag
	SL-535-SA5D-SB-0.0-0.5	SL-835-SA5D-SB-0.0-0.5			
EFH (C21-C30)	5.2 U	4.7	200	50.00	J(all detects)
EFH (C30-C40)	10 U	9.0	200	50.00	UJ(all non-detects)

Method: 8270D SIM

Matrix: SO

Analyte	Concentration (ug/Kg)		Sample RPD	eQAPP RPD	Flag
	SL-535-SA5D-SB-0.0-0.5	SL-835-SA5D-SB-0.0-0.5			
1-METHYLNAPHTHALENE	1.7 U	1.1	200	50.00	J(all detects) UJ(all non-detects)
2-METHYLNAPHTHALENE	1.7 U	1.9	200	50.00	
CHRYSENE	1.7 U	0.63	200	50.00	
FLUORANTHENE	1.7 U	0.85	200	50.00	
NAPHTHALENE	1.7 U	1.3	200	50.00	
PHENANTHRENE	1.7 U	0.74	200	50.00	
PYRENE	1.7 U	0.81	200	50.00	

Method: 9045M

Matrix: SO

Analyte	Concentration (pH unit)		Sample RPD	eQAPP RPD	Flag
	SL-535-SA5D-SB-0.0-0.5	SL-835-SA5D-SB-0.0-0.5			
PH	6.34	6.44	2	50.00	No Qualifiers Applied

Reporting Limit Outliers

Lab Reporting Batch ID: PH099

Laboratory: LL

EDD Filename: PH099

eQAPP Name: CDM_SSFL_131101_Lan

Method: 1613B
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-530-SA5D-SB-0.0-0.5	1,2,3,4,6,7,8-HPCDF	J	2.18	5.08	PQL	ng/Kg	J (all detects)
	1,2,3,4,7,8,9-HPCDF	JB	0.238	5.08	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JQ	0.565	5.08	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JB	0.226	5.08	PQL	ng/Kg	
	1,2,3,6,7,8-HxCDD	J	1.50	5.08	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JB	0.243	5.08	PQL	ng/Kg	
	1,2,3,7,8,9-HxCDD	JB	1.42	5.08	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	JBQ	0.315	5.08	PQL	ng/Kg	
	1,2,3,7,8-PECDD	JQ	0.423	5.08	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JBQ	0.457	5.08	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	J	0.263	5.08	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JBQ	0.316	5.08	PQL	ng/Kg	
	2,3,7,8-TCDF	JQ	0.160	1.02	PQL	ng/Kg	
	OCDF	JB	5.73	10.2	PQL	ng/Kg	
SL-530-SA5D-SB-2.5-3.5	1,2,3,4,6,7,8-HPCDD	JBQ	0.145	5.08	PQL	ng/Kg	J (all detects)
	1,2,3,4,6,7,8-HPCDF	JQ	0.0634	5.08	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JBQ	0.0809	5.08	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JQ	0.110	5.08	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JB	0.199	5.08	PQL	ng/Kg	
	1,2,3,6,7,8-HxCDD	JQ	0.128	5.08	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JBQ	0.184	5.08	PQL	ng/Kg	
	1,2,3,7,8,9-HxCDD	JB	0.132	5.08	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	JB	0.124	5.08	PQL	ng/Kg	
	1,2,3,7,8-PECDD	J	0.350	5.08	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JBQ	0.314	5.08	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JQ	0.120	5.08	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JB	0.266	5.08	PQL	ng/Kg	
	2,3,7,8-TCDD	JQ	0.0969	1.02	PQL	ng/Kg	
OCDD	JB	0.517	10.2	PQL	ng/Kg		
OCDF	JBQ	0.134	10.2	PQL	ng/Kg		
SL-531-SA5D-SB-0.0-0.5	1,2,3,4,6,7,8-HPCDD	JB	0.765	5.19	PQL	ng/Kg	J (all detects)
	1,2,3,4,6,7,8-HPCDF	J	0.0874	5.19	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JB	0.0795	5.19	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JQ	0.122	5.19	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JB	0.143	5.19	PQL	ng/Kg	
	1,2,3,6,7,8-HxCDD	JQ	0.175	5.19	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JBQ	0.149	5.19	PQL	ng/Kg	
	1,2,3,7,8,9-HxCDD	JBQ	0.174	5.19	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	JBQ	0.111	5.19	PQL	ng/Kg	
	1,2,3,7,8-PECDD	JQ	0.370	5.19	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JBQ	0.430	5.19	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JQ	0.145	5.19	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JBQ	0.305	5.19	PQL	ng/Kg	
	2,3,7,8-TCDD	JQ	0.137	1.04	PQL	ng/Kg	
	2,3,7,8-TCDF	JQ	0.0843	1.04	PQL	ng/Kg	
	OCDD	JB	9.70	10.4	PQL	ng/Kg	
OCDF	JBQ	0.255	10.4	PQL	ng/Kg		

Reporting Limit Outliers

Lab Reporting Batch ID: PH099

Laboratory: LL

EDD Filename: PH099

eQAPP Name: CDM_SSFL_131101_Lan

Method: 1613B

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-532-SA5D-SB-0.0-0.5	1,2,3,4,7,8,9-HPCDF	JB	1.25	4.99	PQL	ng/Kg	J (all detects)
	1,2,3,4,7,8-HxCDD	J	1.81	4.99	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JB	0.717	4.99	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JB	0.773	4.99	PQL	ng/Kg	
	1,2,3,7,8,9-HxCDD	JB	4.32	4.99	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	JB	0.626	4.99	PQL	ng/Kg	
	1,2,3,7,8-PECDD	JQ	1.37	4.99	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JB	0.916	4.99	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	J	1.11	4.99	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JB	1.23	4.99	PQL	ng/Kg	
	2,3,7,8-TCDD	JQ	0.135	0.997	PQL	ng/Kg	
2,3,7,8-TCDF	J	0.549	0.997	PQL	ng/Kg		
SL-532-SA5D-SB-2.5-3.5	1,2,3,4,6,7,8-HPCDD	JB	0.229	5.23	PQL	ng/Kg	J (all detects)
	1,2,3,4,6,7,8-HPCDF	JQ	0.0468	5.23	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JB	0.0465	5.23	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JBQ	0.0733	5.23	PQL	ng/Kg	
	1,2,3,6,7,8-HxCDD	JQ	0.0336	5.23	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JBQ	0.0313	5.23	PQL	ng/Kg	
	1,2,3,7,8,9-HxCDD	JBQ	0.0540	5.23	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	JBQ	0.0354	5.23	PQL	ng/Kg	
	1,2,3,7,8-PECDD	JQ	0.0995	5.23	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JB	0.0718	5.23	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	J	0.0647	5.23	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JBQ	0.0594	5.23	PQL	ng/Kg	
	OCDD	JB	1.34	10.5	PQL	ng/Kg	
OCDF	JB	0.176	10.5	PQL	ng/Kg		
SL-533-SA5D-SB-0.0-0.5	1,2,3,4,7,8,9-HPCDF	JB	0.809	4.90	PQL	ng/Kg	J (all detects)
	1,2,3,4,7,8-HxCDD	J	1.26	4.90	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JB	0.418	4.90	PQL	ng/Kg	
	1,2,3,6,7,8-HxCDD	J	4.75	4.90	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JB	0.553	4.90	PQL	ng/Kg	
	1,2,3,7,8,9-HxCDD	JB	3.94	4.90	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	JB	0.723	4.90	PQL	ng/Kg	
	1,2,3,7,8-PECDD	J	1.13	4.90	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JBQ	0.549	4.90	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	J	0.755	4.90	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JBQ	0.582	4.90	PQL	ng/Kg	
2,3,7,8-TCDF	JQ	0.225	0.981	PQL	ng/Kg		
SL-533-SA5D-SB-2.5-3.5	1,2,3,4,6,7,8-HPCDD	JB	0.156	5.41	PQL	ng/Kg	J (all detects)
	1,2,3,4,6,7,8-HPCDF	JQ	0.0531	5.41	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JBQ	0.0604	5.41	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JQ	0.0454	5.41	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JB	0.0650	5.41	PQL	ng/Kg	
	1,2,3,6,7,8-HxCDD	J	0.0475	5.41	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JBQ	0.0513	5.41	PQL	ng/Kg	
	1,2,3,7,8,9-HxCDD	JBQ	0.160	5.41	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	JB	0.0792	5.41	PQL	ng/Kg	
	1,2,3,7,8-PECDD	JQ	0.0627	5.41	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JBQ	0.0976	5.41	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	J	0.0583	5.41	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JBQ	0.0758	5.41	PQL	ng/Kg	
	2,3,7,8-TCDF	JQ	0.0803	1.08	PQL	ng/Kg	
	OCDD	JB	1.09	10.8	PQL	ng/Kg	
OCDF	JBQ	0.239	10.8	PQL	ng/Kg		

Reporting Limit Outliers

Lab Reporting Batch ID: PH099

Laboratory: LL

EDD Filename: PH099

eQAPP Name: CDM_SSFL_131101_Lan

Method: 1613B
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-534-SA5D-SB-0.0-0.5	1,2,3,4,6,7,8-HPCDF	J	1.65	5.14	PQL	ng/Kg	J (all detects)
	1,2,3,4,7,8,9-HPCDF	JB	0.133	5.14	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	J	0.145	5.14	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JB	0.0932	5.14	PQL	ng/Kg	
	1,2,3,6,7,8-HxCDD	J	0.889	5.14	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JBQ	0.0981	5.14	PQL	ng/Kg	
	1,2,3,7,8,9-HxCDD	JB	1.11	5.14	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	JB	0.438	5.14	PQL	ng/Kg	
	1,2,3,7,8-PECDD	JQ	0.326	5.14	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JBQ	0.206	5.14	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JQ	0.121	5.14	PQL	ng/Kg	
	2,3,7,8-TCDF	JQ	0.0672	1.03	PQL	ng/Kg	
	OCDF	JB	5.14	10.3	PQL	ng/Kg	
SL-535-SA5D-SB-0.0-0.5	1,2,3,4,6,7,8-HPCDD	JBQ	0.132	4.97	PQL	ng/Kg	J (all detects)
	1,2,3,4,6,7,8-HPCDF	JQ	0.0152	4.97	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JBQ	0.0721	4.97	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JQ	0.0481	4.97	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JB	0.0645	4.97	PQL	ng/Kg	
	1,2,3,6,7,8-HxCDD	J	0.0385	4.97	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JBQ	0.0349	4.97	PQL	ng/Kg	
	1,2,3,7,8,9-HxCDD	JBQ	0.0744	4.97	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	JBQ	0.0339	4.97	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JBQ	0.0547	4.97	PQL	ng/Kg	
	OCDD	JBQ	1.32	9.94	PQL	ng/Kg	
OCDF	JBQ	0.0918	9.94	PQL	ng/Kg		
SL-835-SA5D-SB-0.0-0.5	1,2,3,4,6,7,8-HPCDF	J	0.465	4.94	PQL	ng/Kg	J (all detects)
	1,2,3,4,7,8,9-HPCDF	JB	0.0821	4.94	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	J	0.169	4.94	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JBQ	0.0873	4.94	PQL	ng/Kg	
	1,2,3,6,7,8-HxCDD	JQ	0.597	4.94	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JBQ	0.118	4.94	PQL	ng/Kg	
	1,2,3,7,8,9-HxCDD	JB	0.996	4.94	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	JB	0.502	4.94	PQL	ng/Kg	
	1,2,3,7,8-PECDD	JQ	0.332	4.94	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JBQ	0.218	4.94	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	J	0.103	4.94	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JBQ	0.101	4.94	PQL	ng/Kg	
	2,3,7,8-TCDD	J	0.114	0.989	PQL	ng/Kg	
	OCDF	JB	1.33	9.89	PQL	ng/Kg	

Method: 6010C
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-530-SA5D-SB-0.0-0.5	ANTIMONY	J	1.68	4.03	PQL	mg/Kg	J (all detects)
	BERYLLIUM	J	0.542	1.01	PQL	mg/Kg	
	BORON	J	5.27	10.1	PQL	mg/Kg	
	CADMIUM	J	0.430	1.01	PQL	mg/Kg	
	MOLYBDENUM	J	0.336	2.01	PQL	mg/Kg	
	TIN	J	3.39	10.1	PQL	mg/Kg	
	Zirconium	J	1.27	5.04	PQL	mg/Kg	

Reporting Limit Outliers

Lab Reporting Batch ID: PH099

Laboratory: LL

EDD Filename: PH099

eQAPP Name: CDM_SSFL_131101_Lan

Method: 6010C
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-530-SA5D-SB-2.5-3.5	ANTIMONY	J	1.61	4.08	PQL	mg/Kg	J (all detects)
	BERYLLIUM	J	0.571	1.02	PQL	mg/Kg	
	BORON	J	4.56	10.2	PQL	mg/Kg	
	CADMIUM	J	0.305	1.02	PQL	mg/Kg	
	TIN	J	3.59	10.2	PQL	mg/Kg	
	Zirconium	J	1.35	5.10	PQL	mg/Kg	
SL-531-SA5D-SB-0.0-0.5	ANTIMONY	J	1.36	4.08	PQL	mg/Kg	J (all detects)
	BERYLLIUM	J	0.568	1.02	PQL	mg/Kg	
	BORON	J	4.78	10.2	PQL	mg/Kg	
	CADMIUM	J	0.339	1.02	PQL	mg/Kg	
	MOLYBDENUM	J	0.244	2.04	PQL	mg/Kg	
	TIN	J	3.52	10.2	PQL	mg/Kg	
SL-532-SA5D-SB-0.0-0.5	ANTIMONY	J	1.22	4.02	PQL	mg/Kg	J (all detects)
	BERYLLIUM	J	0.606	1.01	PQL	mg/Kg	
	BORON	J	6.52	10.1	PQL	mg/Kg	
	CADMIUM	J	0.653	1.01	PQL	mg/Kg	
	MOLYBDENUM	J	0.704	2.01	PQL	mg/Kg	
	SODIUM	J	92.5	101	PQL	mg/Kg	
SL-532-SA5D-SB-2.5-3.5	ANTIMONY	J	1.26	4.11	PQL	mg/Kg	J (all detects)
	BERYLLIUM	J	0.376	1.03	PQL	mg/Kg	
	BORON	J	4.20	10.3	PQL	mg/Kg	
	CADMIUM	J	0.327	1.03	PQL	mg/Kg	
	MOLYBDENUM	J	0.193	2.05	PQL	mg/Kg	
	TIN	J	3.35	10.3	PQL	mg/Kg	
SL-533-SA5D-SB-0.0-0.5	ANTIMONY	J	1.51	4.03	PQL	mg/Kg	J (all detects)
	BERYLLIUM	J	0.652	1.01	PQL	mg/Kg	
	BORON	J	6.78	10.1	PQL	mg/Kg	
	CADMIUM	J	0.754	1.01	PQL	mg/Kg	
	MOLYBDENUM	J	0.628	2.01	PQL	mg/Kg	
	TIN	J	3.43	10.1	PQL	mg/Kg	
SL-533-SA5D-SB-2.5-3.5	ANTIMONY	J	3.50	4.24	PQL	mg/Kg	J (all detects)
	BORON	J	6.60	10.6	PQL	mg/Kg	
	CADMIUM	J	0.702	1.06	PQL	mg/Kg	
	MOLYBDENUM	J	0.277	2.12	PQL	mg/Kg	
	TIN	J	5.08	10.6	PQL	mg/Kg	
	Zirconium	J	1.15	5.31	PQL	mg/Kg	
SL-534-SA5D-SB-0.0-0.5	ANTIMONY	J	1.73	4.07	PQL	mg/Kg	J (all detects)
	BERYLLIUM	J	0.658	1.02	PQL	mg/Kg	
	BORON	J	6.26	10.2	PQL	mg/Kg	
	CADMIUM	J	0.473	1.02	PQL	mg/Kg	
	MOLYBDENUM	J	0.607	2.03	PQL	mg/Kg	
	TIN	J	3.49	10.2	PQL	mg/Kg	
SL-534-SA5D-SB-6.5-7.5	ANTIMONY	J	1.69	4.21	PQL	mg/Kg	J (all detects)
	BERYLLIUM	J	0.354	1.05	PQL	mg/Kg	
	BORON	J	4.43	10.5	PQL	mg/Kg	
	CADMIUM	J	0.313	1.05	PQL	mg/Kg	
	MOLYBDENUM	J	0.408	2.11	PQL	mg/Kg	
	TIN	J	3.50	10.5	PQL	mg/Kg	
Zirconium	J	1.86	5.27	PQL	mg/Kg		

Reporting Limit Outliers

Lab Reporting Batch ID: PH099

Laboratory: LL

EDD Filename: PH099

eQAPP Name: CDM_SSFL_131101_Lan

Method: 6010C
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-535-SA5D-SB-0.0-0.5	ANTIMONY	J	2.02	4.07	PQL	mg/Kg	J (all detects)
	BERYLLIUM	J	0.804	1.02	PQL	mg/Kg	
	BORON	J	7.59	10.2	PQL	mg/Kg	
	CADMIUM	J	0.485	1.02	PQL	mg/Kg	
	MOLYBDENUM	J	0.596	2.04	PQL	mg/Kg	
	TIN	J	4.23	10.2	PQL	mg/Kg	
	Zirconium	J	2.11	5.09	PQL	mg/Kg	
SL-535-SA5D-SB-2.0-3.0	ANTIMONY	J	1.32	4.10	PQL	mg/Kg	J (all detects)
	BERYLLIUM	J	0.706	1.02	PQL	mg/Kg	
	BORON	J	4.81	10.2	PQL	mg/Kg	
	TIN	J	4.08	10.2	PQL	mg/Kg	
	Zirconium	J	1.62	5.12	PQL	mg/Kg	
SL-835-SA5D-SB-0.0-0.5	ANTIMONY	J	1.78	4.01	PQL	mg/Kg	J (all detects)
	BERYLLIUM	J	0.711	1.00	PQL	mg/Kg	
	BORON	J	7.00	10.0	PQL	mg/Kg	
	CADMIUM	J	0.513	1.00	PQL	mg/Kg	
	MOLYBDENUM	J	0.420	2.01	PQL	mg/Kg	
	SODIUM	J	90.8	100	PQL	mg/Kg	
	TIN	J	3.62	10.0	PQL	mg/Kg	

Method: 6020A
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-530-SA5D-SB-0.0-0.5	SELENIUM	J	0.109	0.403	PQL	mg/Kg	J (all detects)
	SILVER	J	0.0272	0.201	PQL	mg/Kg	
SL-530-SA5D-SB-2.5-3.5	SILVER	J	0.0620	0.204	PQL	mg/Kg	J (all detects)
SL-531-SA5D-SB-0.0-0.5	SILVER	J	0.0269	0.204	PQL	mg/Kg	J (all detects)
SL-532-SA5D-SB-0.0-0.5	SELENIUM	J	0.190	0.402	PQL	mg/Kg	J (all detects)
	SILVER	J	0.0406	0.201	PQL	mg/Kg	
SL-533-SA5D-SB-0.0-0.5	SELENIUM	J	0.165	0.403	PQL	mg/Kg	J (all detects)
	SILVER	J	0.0525	0.201	PQL	mg/Kg	
SL-533-SA5D-SB-2.5-3.5	SELENIUM	J	0.227	0.424	PQL	mg/Kg	J (all detects)
	SILVER	J	0.160	0.212	PQL	mg/Kg	
SL-534-SA5D-SB-0.0-0.5	SELENIUM	J	0.174	0.407	PQL	mg/Kg	J (all detects)
	SILVER	J	0.0598	0.203	PQL	mg/Kg	
SL-534-SA5D-SB-6.5-7.5	SELENIUM	J	0.120	0.421	PQL	mg/Kg	J (all detects)
	THALLIUM	J	0.179	0.211	PQL	mg/Kg	
SL-535-SA5D-SB-0.0-0.5	SELENIUM	J	0.193	0.407	PQL	mg/Kg	J (all detects)
SL-535-SA5D-SB-2.0-3.0	SELENIUM	J	0.164	0.410	PQL	mg/Kg	J (all detects)
	SILVER	J	0.0508	0.205	PQL	mg/Kg	
SL-835-SA5D-SB-0.0-0.5	SELENIUM	J	0.219	0.401	PQL	mg/Kg	J (all detects)

Reporting Limit Outliers

Lab Reporting Batch ID: PH099

Laboratory: LL

EDD Filename: PH099

eQAPP Name: CDM_SSFL_131101_Lan

Method: 7471B

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-534-SA5D-SB-0.0-0.5	MERCURY	J	0.0128	0.0171	PQL	mg/Kg	J (all detects)

Method: 8015M

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-835-SA5D-SB-0.0-0.5	EFH (C21-C30)	J	4.7	5.1	PQL	mg/Kg	J (all detects)
	EFH (C30-C40)	J	9.0	10	PQL	mg/Kg	

Method: 8081B

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-530-SA5D-SB-0.0-0.5	4,4'-DDT	J	0.43	1.7	PQL	ug/Kg	J (all detects)
SL-532-SA5D-SB-0.0-0.5	4,4'-DDD	J	0.54	1.7	PQL	ug/Kg	J (all detects)
	DIELDRIN	J	0.69	1.7	PQL	ug/Kg	
	HEPTACHLOR EPOXIDE	J	0.26	0.84	PQL	ug/Kg	
SL-533-SA5D-SB-0.0-0.5	4,4'-DDT	J	0.86	1.7	PQL	ug/Kg	J (all detects)

Method: 8082A

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-533-SA5D-SB-0.0-0.5	AROCLOR 1254	J	6.6	17	PQL	ug/Kg	J (all detects)

Method: 8270D SIM

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-530-SA5D-SB-0.0-0.5	ANTHRACENE	J	0.54	1.7	PQL	ug/Kg	J (all detects)
	BENZO(E)PYRENE	J	7.3	17	PQL	ug/Kg	
	DIBENZO(A,H)ANTHRACENE	J	1.4	1.7	PQL	ug/Kg	
SL-532-SA5D-SB-0.0-0.5	2-METHYLNAPHTHALENE	J	0.93	1.7	PQL	ug/Kg	J (all detects)
	ANTHRACENE	J	0.46	1.7	PQL	ug/Kg	
	BENZO(E)PYRENE	J	3.7	17	PQL	ug/Kg	
	BIS(2-ETHYLHEXYL)PHTHALATE	J	8.7	18	PQL	ug/Kg	
	INDENO(1,2,3-CD)PYRENE	J	1.6	1.7	PQL	ug/Kg	
	NAPHTHALENE	J	1.3	1.7	PQL	ug/Kg	

Reporting Limit Outliers

Lab Reporting Batch ID: PH099

Laboratory: LL

EDD Filename: PH099

eQAPP Name: CDM_SSFL_131101_Lan

Method: 8270D SIM

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-533-SA5D-SB-0.0-0.5	2-METHYLNAPHTHALENE	J	1.1	1.7	PQL	ug/Kg	J (all detects)
	BENZO(A)ANTHRACENE	J	1.1	1.7	PQL	ug/Kg	
	BENZO(A)PYRENE	J	1.5	1.7	PQL	ug/Kg	
	BENZO(G,H,I)PERYLENE	J	0.99	1.7	PQL	ug/Kg	
	BENZO(K)FLUORANTHENE	J	1.2	1.7	PQL	ug/Kg	
	BIS(2-ETHYLHEXYL)PHTHALATE	J	8.7	18	PQL	ug/Kg	
	INDENO(1,2,3-CD)PYRENE	J	0.85	1.7	PQL	ug/Kg	
	NAPHTHALENE	J	1.6	1.7	PQL	ug/Kg	
SL-534-SA5D-SB-0.0-0.5	2-METHYLNAPHTHALENE	J	0.80	1.7	PQL	ug/Kg	J (all detects)
	CHRYSENE	J	0.59	1.7	PQL	ug/Kg	
	NAPHTHALENE	J	1.3	1.7	PQL	ug/Kg	
SL-835-SA5D-SB-0.0-0.5	1-METHYLNAPHTHALENE	J	1.1	1.7	PQL	ug/Kg	J (all detects)
	CHRYSENE	J	0.63	1.7	PQL	ug/Kg	
	FLUORANTHENE	J	0.85	1.7	PQL	ug/Kg	
	NAPHTHALENE	J	1.3	1.7	PQL	ug/Kg	
	PHENANTHRENE	J	0.74	1.7	PQL	ug/Kg	
	PYRENE	J	0.81	1.7	PQL	ug/Kg	

LDC #: 30695B4

VALIDATION COMPLETENESS WORKSHEET

Date: 11/11/13

SDG #: PH099

ADR

Page: 1 of 1

Laboratory: Eurofins Lancaster Laboratories

Reviewer: *CA*

2nd Reviewer: *[Signature]*

METHOD: Metals (EPA SW 846 Method 6010C/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	A	Sampling dates: 8/30/13
II.	ICP/MS Tune	A	
III.	Calibration	-	
IV.	Blanks	A	
V.	ICP Interference Check Sample (ICS) Analysis	-	
VI.	Matrix Spike Analysis	SW MS/0	
VII.	Duplicate Sample Analysis	SW D.P	
VIII.	Laboratory Control Samples (LCS)	A LCS	
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	-	(3,4)
XV.	Field Blanks	SW	FB = FB-041113 EBI = EB1082813

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

(PH029)

(PH095)

Validated Samples:

soil

1	SL-534-SA5D-SB-0.0-0.5	11	SL-532-SA5D-SB-0.0-0.5	21		31	
2	SL-534-SA5D-SB-6.5-7.5	12	SL-532-SA5D-SB-2.5-3.5	22		32	
3	SL-535-SA5D-SB-0.0-0.5	13	SL-535-SA5D-SB-0.0-0.5MS	23		33	
4	SL-835-SA5D-SB-0.0-0.5	14	SL-535-SA5D-SB-0.0-0.5MSD	24		34	
5	SL-535-SA5D-SB-2.0-3.0	15	SL-535-SA5D-SB-0.0-0.5DUP	25		35	
6	SL-533-SA5D-SB-0.0-0.5	16		26		36	
7	SL-533-SA5D-SB-2.5-3.5	17		27		37	
8	SL-530-SA5D-SB-0.0-0.5	18		28		38	
9	SL-530-SA5D-SB-2.5-3.5	19		29		39	
10	SL-531-SA5D-SB-0.0-0.5	20		30		40	

Notes: _____

VALIDATION FINDINGS WORKSHEET
Field Blanks

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

Blank units: mg/L Associated sample units: mg/Kg Reason: F
 Sampling date: 4/11/13 Soil factor applied 100x
 Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: All

Analyte	Blank ID	Action Limit	Sample Identification													
			1	2	3	4	6	7	8	10	11	12				
	FB-041113 (SDG: PH029)															
Cu	0.0036	1.8														
Mo	0.0036	1.8	0.61	0.41	0.60	0.42	0.63	0.28	0.34	0.24	0.70	0.19				

Sampling date: 8/28/13 Soil factor applied 100x
 Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: All

Analyte	Blank ID	Action Limit	Sample Identification														
			1	2	3	4	6	7	8	10	11	12					
	EB1-082813 (SDG: PH095)																
Ba	0.00035	0.175															
Mo	0.0080	4	See FB	See FB	See FB	See FB	See FB	See FB	See FB	See FB	See FB	See FB	See FB	See FB	See FB	See FB	

5 | 9⁰
 2.04 | 2.05

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".



QUALITY ASSURANCE SUMMARY

FORM 5A (MS/MSD)

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

SDG No.: PH099

Matrix: SOIL

Level

(low/med):

LOW

Background Lab Sample ID: 7182118BKG Matrix Spike Lab Sample ID: 7182119MS Matrix Spike Duplicate Lab Sample ID: 7182120MSD
Batch Id(s): P24637C, P24638A

Analyte	Mass	BKG Sample		MS Sample		MSD Sample		MS Spike Added	MSD Spike Added	Units	MS		MSD		RPD	Control Limit		M
		Result	C	Result	C	Result	C				%R	Q	%R	Q		%R	RPD	
Aluminum		16321.5029		20102.2490		18774.6186		196.0784	196.0784	MG/KG	1928		1251		7		20	P
Antimony		1.9422	B	37.5520		36.6049		49.0196	49.0196	MG/KG	73	N	71	N	3	75 - 125	20	P
Arsenic		7.9686		21.7951		21.8578		14.7059	14.7059	MG/KG	94		94		0	75 - 125	20	P
Barium		119.7892		322.9451		314.1049		196.0784	196.0784	MG/KG	104		99		3	75 - 125	20	P
Beryllium		0.7745	B	5.6873		5.5961		4.9020	4.9020	MG/KG	100		98		2	75 - 125	20	P
Boron		7.3098	B	195.7853		195.2039		196.0784	196.0784	MG/KG	96		96		0	75 - 125	20	P
Cadmium		0.4667	B	5.1304		5.1088		4.9020	4.9020	MG/KG	95		95		0	75 - 125	20	P
Calcium		3429.8490		4130.2265		4034.4088		392.1569	392.1569	MG/KG	179		154		2			P
Chromium		24.5275		44.8784		44.1020		19.6078	19.6078	MG/KG	104		100		2	75 - 125	20	P
Cobalt		8.6392		55.0696		54.6382		49.0196	49.0196	MG/KG	95		94		1	75 - 125	20	P
Copper		13.8020		38.3039		38.3588		24.5098	24.5098	MG/KG	100		100		0	75 - 125	20	P
Iron		30452.8569		31646.2392		30551.9490		98.0392	98.0392	MG/KG	1217		101		4			P
Lead		9.2480		22.5873		22.7078		14.7059	14.7059	MG/KG	91		92		1	75 - 125	20	P
Lithium		38.1431		138.6755		135.6755		98.0392	98.0392	MG/KG	103		99		2	75 - 125	20	P
Magnesium		5737.9569		6158.0735		6071.3392		196.0784	196.0784	MG/KG	214		170		1			P
Manganese		402.8069		432.7480		439.7804		49.0196	49.0196	MG/KG	61		75		2			P
Mercury		0.0099	U	0.1894		0.1916		0.1596	0.1635	MG/KG	119		117		1	65 - 135	20	CV
Molybdenum		0.5735	B	191.0961		189.0010		196.0784	196.0784	MG/KG	97		96		1	75 - 125	20	P
Nickel		15.5971		62.5559		62.2108		49.0196	49.0196	MG/KG	96		95		1	75 - 125	20	P
Phosphorus		514.3931		614.3500		624.3373		98.0392	98.0392	MG/KG	102		112		2			P
Potassium		2758.4647		4292.4353		4242.3333		980.3922	980.3922	MG/KG	156	N	151	N	1	75 - 125	20	P
Selenium	78	0.1857	B	2.1361		2.1076		1.9608	1.9608	MG/KG	99		98		1	75 - 125	20	MS
Silver	107	0.0255	U	9.8767		9.7692		9.8039	9.8039	MG/KG	101		100		1	75 - 125	20	MS
Sodium		154.1755		1136.4069		1109.6745		980.3922	980.3922	MG/KG	100		97		2	75 - 125	20	P
Strontium	88	20.9216		28.4706		28.9216		7.8431	7.8431	MG/KG	96		102		2	75 - 125	20	MS
Thallium	203	0.3065		0.6749		0.7082		0.3922	0.3922	MG/KG	94		102		5	75 - 125	20	MS

Note: Results shown are reported on an as-received basis.

METHODS:

P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry

CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:

U= Below MDL, B= Below LOQ

FLAGS:

N = Matrix Spike OOS, * = Duplicate OOS

74X

QUALITY ASSURANCE SUMMARY
 FORM 5A (MS/MSD)
 MATRIX SPIKE/MATRIX SPIKE DUPLICATE
 SDG No.: PH099
 Matrix: SOIL Level: LOW
 (low/med):

Background Lab Sample ID: 7182118BKG Matrix Spike Lab Sample ID: 7182119MS Matrix Spike Duplicate Lab Sample ID: 7182120MSD
 Batch Id(s): P24637C, P24638A

Analyte	Mass	BKG Sample		MS Sample		MSD Sample		MS Spike Added	MSD Spike Added	Units	MS		MSD		Control Limit				
		Result	C	Result	C	Result	C				%R	Q	%R	Q	RPD	Q	%R	RPD	M
Tin		4.0765	B	364.1461		360.5343		392.1569	392.1569	MG/KG	92		91		1	75 - 125	20	P	
Titanium		1556.2206		1996.7549		2020.4559		98.0392	98.0392	MG/KG	449		474		1			20	P
Vanadium		47.8186		97.0441		95.7706		49.0196	49.0196	MG/KG	100		98		1	75 - 125	20	P	
Zinc		74.5716		121.9824		122.0255		49.0196	49.0196	MG/KG	97		97		0	75 - 125	20	P	
Zirconium		2.0284	B	101.2961		99.8853		98.0392	98.0392	MG/KG	101		100		1	75 - 125	20	P	

Note: Results shown are reported on an as-received basis.

<p>METHODS: P = ICP Atomic Emission Spectrometer CV = Cold Vapor MS = ICP Mass Spectrometry AF = Cold Vapor Atomic Fluorescence</p>	<p>CONCENTRATION QUALIFIERS: U= Below MDL, B= Below LOQ FLAGS: N = Matrix Spike OOS, * = Duplicate OOS</p>
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Background Lab Sample ID: 7182118BKG
 Batch ID(s): P24637C, P24638A
 Concentration Units: MG/KG

Duplicate Lab Sample ID: 7182121DUP

Analyte	Mass	Control Limit	Samples (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum			16321.5029		16121.3676		1		P
Antimony			1.9422	B	2.0971	B	8		P
Arsenic		3.9	7.9686		7.6725		4		P
Barium			119.7892		115.0578		4		P
Beryllium			0.7745	B	0.7392	B	5		P
Boron			7.3098	B	5.6559	B	26		P
Cadmium			0.4667	B	0.4275	B	9		P
Calcium			3429.8490		3426.0520		0		P
Chromium			24.5275		23.0471		6		P
Cobalt			8.6392		8.3716		3		P
Copper			13.8020		13.4010		3		P
Iron			30452.8569		29111.2216		5		P
Lead		2.9	9.2480		8.6824		6		P
Lithium			38.1431		37.8392		1		P
Magnesium			5737.9569		5671.9471		1		P
Manganese			402.8069		386.6324		4		P
Mercury			0.0099	U	0.0098	U			CV
Molybdenum			0.5735	B	0.3196	B	57		P
Nickel			15.5971		15.3500		2		P
Phosphorus			514.3931		521.3069		1		P
Potassium			2758.4647		2768.7676		0		P
Selenium	78		0.1857	B	0.2312	B	22		MS
Silver	107		0.0255	U	0.0255	U			MS
Sodium		98.0	154.1755		151.1431		2		P
Strontium	88		20.9216		20.6667		1		MS
Thallium	203	0.2	0.3065		0.2986		3		MS
Tin			4.0765	B	4.1098	B	1		P
Titanium			1556.2206		1533.3549		1		P
Vanadium			47.8186		45.8373		4		P
Zinc			74.5716		73.2265		2		P
Zirconium			2.0284	B	3.9402	B	64		P

NOTE: An asterisk (*) in column "Q" indicates poor duplicate precision (RPD > 20% OR |(S) - (D)| > LOQ for values < 5x LOQ).
 The data are considered to be valid because the laboratory control sample is within the control limits. See the Laboratory Control Sample.

ok by difference

Note: Results shown are reported on an as-received basis.

METHODS: P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence	CONCENTRATION QUALIFIERS: U= Below MDL B= Below LOQ FLAGS: = Duplicate Out of Spec
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**Data Validation Report
Santa Susana Field Laboratory**

Subarea 5D

SDG: PH100

Prepared for

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555 17th Street, Suite 1100
Denver, CO 80202

Prepared by

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December 9, 2013

INTRODUCTION

This Data Validation Report (DVR) presents Level III data validation results for samples collected on September 3, 2013. Data validation was performed in accordance with 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), Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005) and for Inorganic Data Review (January 2010). Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following methods:

Semivolatiles (SVOCs) by EPA SW 846 Method 8270D utilizing Selective Ion Monitoring (SIM)
Pesticides by EPA SW 846 Method 8081B
Polychlorinated Biphenyls (PCBs) by EPA SW 846 Method 8082A
Metals by EPA SW 846 Method 6010C, 6020A, and 7471B
Perchlorate by EPA SW 846 Method 6850
Total Petroleum Hydrocarbons (TPH) as Gasoline by EPA SW 846 Method 8015M
TPH as Extractables by EPA SW 846 Method 8015M
Dioxins and Dibenzofurans by EPA Method 1613B

The sample identification and methods of analyses performed on each sample is presented in Attachment 1. Overall data qualification summary is presented in Attachment II. Level III Automated Data Review outliers are presented in Enclosure I.

All sample results were subjected to Level III data validation, which comprises an evaluation of quality control (QC) summary results for sample holding times, initial and continuing calibration blanks (ICB/CCBs), surrogates, internal standards (dioxins only), matrix spike/matrix spike duplicates (MS/MSD), laboratory duplicates (DUP), laboratory control sample/laboratory control sample duplicates (LCS/LCSD), ICP serial dilutions, method blanks, trip blanks, equipment blanks and field blanks. No samples in this SDG were subjected to Level IV evaluation.

Automated data review was performed on all QC summary results using the Automated Data Review (ADR) software program (LDC, 2013) with exception of the ICB/CCBs and ICP serial dilutions, which were validated manually. Quality assurance (QA)/QC criteria specified in the QAPP and CLPNFGs were incorporated with the program's reference library to assess compliance with project requirements.

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.

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 QC criteria.

II. Initial Calibration

Initial Calibration data were not reviewed for level III.

III. Continuing Calibration

Continuing calibration data were not reviewed for level III.

IV. Blanks

Method blanks were performed at the required frequencies. No contaminant concentrations were detected in the method or preparation blanks with the exception of two blanks for metals and dioxins. The associated sample results were qualified as non-detected (U) due to method blank contamination as applicable. The sample results that were not detected or were significantly greater than the concentrations found in the associated blanks were not qualified. The details regarding the qualification of data are provided in Enclosure I.

No contaminant concentrations were detected in the initial or continuing calibration blanks.

V. 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 exception of one sample for PCBs. No data were qualified due to high %Rs since the associated results were non-detected.

VI. ICP Interference Check Sample (ICS) Analysis

ICP interference check data were not reviewed for level III.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were performed at the required frequency. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the exception of two MS/MSD pairs for SVOCs, metals and TPH as extractables. The associated sample results were qualified as detected estimated (J) or non-detected estimated (UJ) as applicable. The details regarding the qualification of data are provided in Enclosure I.

VIII. Laboratory Duplicates Sample

Laboratory duplicates (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

IX. 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 with the exception of one LCS/LCSD pair for SVOCs. No data were qualified due to high %Rs since the associated results were non-detected.

X. Internal Standards

Internal standards were reviewed for dioxins. Percent recoveries (%R) were within QC limits.

XI. ICP Serial Dilution

ICP serial dilution analysis was performed by the laboratory. The analysis criteria were met.

XII. Compound Quantitation

The laboratory reporting limits were evaluated. All laboratory reporting limits met the specified requirements.

All compounds reported below the RL as detected were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG PH100	All compounds reported as detected below the RL.	J (all detects)	A

XIII. Field Duplicate Samples

No field duplicates were identified in this SDG.

XIV. Field Blank Samples

One trip blank was collected and analyzed for TPH as gasoline. No volatile contaminants were found in the trip blank.

One equipment blank (from SDG PH101) was collected and analyzed for SVOCs, pesticides, PCBs, metals, perchlorate, TPH as gasoline, TPH as extractables and dioxins. The equipment blank had detections for SVOCs, metals and dioxins. The associated sample results were qualified as non-detected (U) due to equipment blank contamination as applicable. The sample results that were not detected or were significantly greater than the concentrations found in the equipment blanks were not qualified. The equipment blank outlier reports are presented in Enclosure I.

One field blank (from SDG PH029) was collected and analyzed for SVOCs, pesticides, PCBs, metals, perchlorate, TPH as gasoline, TPH as extractables and dioxins. The field blank had detections for SVOCs, metals and dioxins. The associated sample results were qualified as non-detected (U) due to field blank contamination as applicable. The sample results that were not detected or were significantly greater than the concentrations found in the field blank were not qualified. The field blank outlier reports are presented in Enclosure I.

XV. Overall Assessment of Data

No data associated with this sampling event were rejected. The overall assessment of QA/QC data review by automated and manual validation of this sampling event met project requirements and analytical completeness levels with the exceptions noted in the above sections. All data are deemed useable for the intended use.

Data flags are summarized and are presented as Attachment 2.

Attachment 1
Sample Cross Reference

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
03-Sep-2013	TB-090313	7184683	TB	5030B	8015M	III
03-Sep-2013	SL-527-SA5D-SB-0.0-0.5	7184686	N	3050B	6010C	III
03-Sep-2013	SL-527-SA5D-SB-0.0-0.5	7184686	N	3050B	6020A	III
03-Sep-2013	SL-527-SA5D-SB-0.0-0.5	7184686	N	3546	8015M	III
03-Sep-2013	SL-527-SA5D-SB-0.0-0.5	7184686	N	3546	8082A	III
03-Sep-2013	SL-527-SA5D-SB-0.0-0.5	7184686	N	3546	8270D SIM	III
03-Sep-2013	SL-527-SA5D-SB-0.0-0.5	7184686	N	METHOD	1613B	III
03-Sep-2013	SL-527-SA5D-SB-0.0-0.5	7184686	N	METHOD	7471B	III
03-Sep-2013	SL-527-SA5D-SB-4.0-5.0	7184687	N	3050B	6010C	III
03-Sep-2013	SL-527-SA5D-SB-4.0-5.0	7184687	N	3050B	6020A	III
03-Sep-2013	SL-527-SA5D-SB-4.0-5.0	7184687	N	3546	8015M	III
03-Sep-2013	SL-527-SA5D-SB-4.0-5.0	7184687	N	3546	8082A	III
03-Sep-2013	SL-527-SA5D-SB-4.0-5.0	7184687	N	3546	8270D SIM	III
03-Sep-2013	SL-527-SA5D-SB-4.0-5.0	7184687	N	5035A	8015M	III
03-Sep-2013	SL-527-SA5D-SB-4.0-5.0	7184687	N	METHOD	7471B	III
03-Sep-2013	SL-525-SA5D-SB-0.0-0.5	7184684	N	3050B	6010C	III
03-Sep-2013	SL-525-SA5D-SB-0.0-0.5	7184684	N	3050B	6020A	III
03-Sep-2013	SL-525-SA5D-SB-0.0-0.5	7184684	N	3546	8015M	III
03-Sep-2013	SL-525-SA5D-SB-0.0-0.5	7184684	N	3546	8081B	III
03-Sep-2013	SL-525-SA5D-SB-0.0-0.5	7184684	N	3546	8082A	III
03-Sep-2013	SL-525-SA5D-SB-0.0-0.5	7184684	N	3546	8270D SIM	III
03-Sep-2013	SL-525-SA5D-SB-0.0-0.5	7184684	N	METHOD	1613B	III
03-Sep-2013	SL-525-SA5D-SB-0.0-0.5	7184684	N	METHOD	7471B	III
03-Sep-2013	SL-525-SA5D-SB-0.0-0.5MSD	P184684M242155A	MSD	3546	8082A	III
03-Sep-2013	SL-525-SA5D-SB-0.0-0.5MSD	P184684M260833	MSD	3546	8270D SIM	III
03-Sep-2013	SL-525-SA5D-SB-0.0-0.5MSD	P184684M322159A	MSD	3546	8015M	III

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
03-Sep-2013	SL-525-SA5D-SB-0.0-0.5MS	P184684R242137A	MS	3546	8082A	III
03-Sep-2013	SL-525-SA5D-SB-0.0-0.5MS	P184684R260800	MS	3546	8270D SIM	III
03-Sep-2013	SL-525-SA5D-SB-0.0-0.5MS	P184684R322137A	MS	3546	8015M	III
03-Sep-2013	SL-525-SA5D-SB-2.5-3.5	7184685	N	3050B	6010C	III
03-Sep-2013	SL-525-SA5D-SB-2.5-3.5	7184685	N	3050B	6020A	III
03-Sep-2013	SL-525-SA5D-SB-2.5-3.5	7184685	N	3546	8015M	III
03-Sep-2013	SL-525-SA5D-SB-2.5-3.5	7184685	N	3546	8081B	III
03-Sep-2013	SL-525-SA5D-SB-2.5-3.5	7184685	N	3546	8082A	III
03-Sep-2013	SL-525-SA5D-SB-2.5-3.5	7184685	N	3546	8270D SIM	III
03-Sep-2013	SL-525-SA5D-SB-2.5-3.5	7184685	N	5035A	8015M	III
03-Sep-2013	SL-525-SA5D-SB-2.5-3.5	7184685	N	METHOD	7471B	III
03-Sep-2013	SL-528-SA5D-SB-0.0-0.5	7184688	N	3050B	6010C	III
03-Sep-2013	SL-528-SA5D-SB-0.0-0.5	7184688	N	3050B	6020A	III
03-Sep-2013	SL-528-SA5D-SB-0.0-0.5	7184688	N	3546	8015M	III
03-Sep-2013	SL-528-SA5D-SB-0.0-0.5	7184688	N	3546	8082A	III
03-Sep-2013	SL-528-SA5D-SB-0.0-0.5	7184688	N	3546	8270D SIM	III
03-Sep-2013	SL-528-SA5D-SB-0.0-0.5	7184688	N	METHOD	1613B	III
03-Sep-2013	SL-528-SA5D-SB-0.0-0.5	7184688	N	METHOD	7471B	III
03-Sep-2013	SL-528-SA5D-SB-2.5-3.5	7184689	N	3050B	6010C	III
03-Sep-2013	SL-528-SA5D-SB-2.5-3.5	7184689	N	3050B	6020A	III
03-Sep-2013	SL-528-SA5D-SB-2.5-3.5	7184689	N	3546	8015M	III
03-Sep-2013	SL-528-SA5D-SB-2.5-3.5	7184689	N	3546	8082A	III
03-Sep-2013	SL-528-SA5D-SB-2.5-3.5	7184689	N	3546	8270D SIM	III
03-Sep-2013	SL-528-SA5D-SB-2.5-3.5	7184689	N	5035A	8015M	III
03-Sep-2013	SL-528-SA5D-SB-2.5-3.5	7184689	N	METHOD	7471B	III
03-Sep-2013	SL-540-SA5D-SB-0.0-0.5	7184690	N	3050B	6010C	III

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
03-Sep-2013	SL-540-SA5D-SB-0.0-0.5	7184690	N	3050B	6020A	III
03-Sep-2013	SL-540-SA5D-SB-0.0-0.5	7184690	N	3546	8015M	III
03-Sep-2013	SL-540-SA5D-SB-0.0-0.5	7184690	N	3546	8081B	III
03-Sep-2013	SL-540-SA5D-SB-0.0-0.5	7184690	N	3546	8082A	III
03-Sep-2013	SL-540-SA5D-SB-0.0-0.5	7184690	N	3546	8270D SIM	III
03-Sep-2013	SL-540-SA5D-SB-0.0-0.5	7184690	N	METHOD	1613B	III
03-Sep-2013	SL-540-SA5D-SB-0.0-0.5	7184690	N	METHOD	7471B	III
03-Sep-2013	SL-540-SA5D-SB-5.0-6.0	7184691	N	3050B	6010C	III
03-Sep-2013	SL-540-SA5D-SB-5.0-6.0	7184691	N	3050B	6020A	III
03-Sep-2013	SL-540-SA5D-SB-5.0-6.0	7184691	N	3546	8015M	III
03-Sep-2013	SL-540-SA5D-SB-5.0-6.0	7184691	N	3546	8081B	III
03-Sep-2013	SL-540-SA5D-SB-5.0-6.0	7184691	N	3546	8082A	III
03-Sep-2013	SL-540-SA5D-SB-5.0-6.0	7184691	N	3546	8270D SIM	III
03-Sep-2013	SL-540-SA5D-SB-5.0-6.0	7184691	N	5035A	8015M	III
03-Sep-2013	SL-540-SA5D-SB-5.0-6.0	7184691	N	METHOD	7471B	III
03-Sep-2013	SL-545-SA5D-SB-0.0-0.5	7184694	N	3050B	6010C	III
03-Sep-2013	SL-545-SA5D-SB-0.0-0.5	7184694	N	3050B	6020A	III
03-Sep-2013	SL-545-SA5D-SB-0.0-0.5	7184694	N	3546	8015M	III
03-Sep-2013	SL-545-SA5D-SB-0.0-0.5	7184694	N	3546	8082A	III
03-Sep-2013	SL-545-SA5D-SB-0.0-0.5	7184694	N	3546	8270D SIM	III
03-Sep-2013	SL-545-SA5D-SB-0.0-0.5	7184694	N	METHOD	1613B	III
03-Sep-2013	SL-545-SA5D-SB-0.0-0.5	7184694	N	METHOD	7471B	III
03-Sep-2013	SL-545-SA5D-SB-6.0-7.0	7184695	N	3050B	6010C	III
03-Sep-2013	SL-545-SA5D-SB-6.0-7.0	7184695	N	3050B	6020A	III
03-Sep-2013	SL-545-SA5D-SB-6.0-7.0	7184695	N	3546	8015M	III
03-Sep-2013	SL-545-SA5D-SB-6.0-7.0	7184695	N	3546	8082A	III

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
03-Sep-2013	SL-545-SA5D-SB-6.0-7.0	7184695	N	3546	8270D SIM	III
03-Sep-2013	SL-545-SA5D-SB-6.0-7.0	7184695	N	5035A	8015M	III
03-Sep-2013	SL-545-SA5D-SB-6.0-7.0	7184695	N	METHOD	7471B	III
03-Sep-2013	SL-541-SA5D-SB-0.0-0.5	7184692	N	3050B	6010C	III
03-Sep-2013	SL-541-SA5D-SB-0.0-0.5	7184692	N	3050B	6020A	III
03-Sep-2013	SL-541-SA5D-SB-0.0-0.5	7184692	N	3546	8015M	III
03-Sep-2013	SL-541-SA5D-SB-0.0-0.5	7184692	N	3546	8082A	III
03-Sep-2013	SL-541-SA5D-SB-0.0-0.5	7184692	N	3546	8270D SIM	III
03-Sep-2013	SL-541-SA5D-SB-0.0-0.5	7184692	N	METHOD	1613B	III
03-Sep-2013	SL-541-SA5D-SB-0.0-0.5	7184692	N	METHOD	6850	III
03-Sep-2013	SL-541-SA5D-SB-0.0-0.5	7184692	N	METHOD	7471B	III
03-Sep-2013	SL-541-SA5D-SB-2.5-3.5	7184693	N	3050B	6010C	III
03-Sep-2013	SL-541-SA5D-SB-2.5-3.5	7184693	N	3050B	6020A	III
03-Sep-2013	SL-541-SA5D-SB-2.5-3.5	7184693	N	3546	8015M	III
03-Sep-2013	SL-541-SA5D-SB-2.5-3.5	7184693	N	3546	8082A	III
03-Sep-2013	SL-541-SA5D-SB-2.5-3.5	7184693	N	3546	8270D SIM	III
03-Sep-2013	SL-541-SA5D-SB-2.5-3.5	7184693	N	5035A	8015M	III
03-Sep-2013	SL-541-SA5D-SB-2.5-3.5	7184693	N	METHOD	6850	III
03-Sep-2013	SL-541-SA5D-SB-2.5-3.5	7184693	N	METHOD	7471B	III
03-Sep-2013	SL-541-SA5D-SB-2.5-3.5DUP	P184693D220504	DUP	3050B	6010C	III
03-Sep-2013	SL-541-SA5D-SB-2.5-3.5DUP	P184693D220904	DUP	METHOD	7471B	III
03-Sep-2013	SL-541-SA5D-SB-2.5-3.5DUP	P184693D222320A	DUP	3050B	6020A	III
03-Sep-2013	SL-541-SA5D-SB-2.5-3.5DUP	P184693D222320B	DUP	3050B	6020A	III
03-Sep-2013	SL-541-SA5D-SB-2.5-3.5MSD	P184693M220513	MSD	3050B	6010C	III
03-Sep-2013	SL-541-SA5D-SB-2.5-3.5MSD	P184693M220908	MSD	METHOD	7471B	III
03-Sep-2013	SL-541-SA5D-SB-2.5-3.5MSD	P184693M222325A	MSD	3050B	6020A	III

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
03-Sep-2013	SL-541-SA5D-SB-2.5-3.5MSD	P184693M222325B	MSD	3050B	6020A	III
03-Sep-2013	SL-541-SA5D-SB-2.5-3.5MS	P184693R220508	MS	3050B	6010C	III
03-Sep-2013	SL-541-SA5D-SB-2.5-3.5MS	P184693R220906	MS	METHOD	7471B	III
03-Sep-2013	SL-541-SA5D-SB-2.5-3.5MS	P184693R222323A	MS	3050B	6020A	III
03-Sep-2013	SL-541-SA5D-SB-2.5-3.5MS	P184693R222323B	MS	3050B	6020A	III

Attachment 2
Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: PH100

Laboratory: LL

EDD Filename: PrepPH100

eQAPP Name: CDM_SSFL_131101_Lan

Method Category:	METALS	
Method:	6010C	Matrix: SO

Sample ID: SL-525-SA5D-SB-0.0-0.5 Collected: 9/3/2013 9:15:00 AM Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	1.86	J	0.772	MDL	4.18	PQL	mg/Kg	J	Z, Q
BERYLLIUM	0.743	J	0.0699	MDL	1.04	PQL	mg/Kg	J	Z
BORON	8.04	J	0.877	MDL	10.4	PQL	mg/Kg	J	Z
CADMIUM	0.547	J	0.0793	MDL	1.04	PQL	mg/Kg	J	Z
POTASSIUM	3760		8.71	MDL	104	PQL	mg/Kg	J	Q
SODIUM	95.0	J	17.4	MDL	104	PQL	mg/Kg	J	Z
TIN	3.37	J	0.230	MDL	10.4	PQL	mg/Kg	U	B
Zirconium	2.73	J	0.877	MDL	5.22	PQL	mg/Kg	J	Z
MOLYBDENUM	0.467	J	0.177	MDL	2.09	PQL	mg/Kg	U	F

Sample ID: SL-525-SA5D-SB-2.5-3.5 Collected: 9/3/2013 9:25:00 AM Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	1.34	J	0.776	MDL	4.20	PQL	mg/Kg	J	Z, Q
BERYLLIUM	0.380	J	0.0703	MDL	1.05	PQL	mg/Kg	J	Z
BORON	4.74	J	0.881	MDL	10.5	PQL	mg/Kg	J	Z
CADMIUM	0.344	J	0.0797	MDL	1.05	PQL	mg/Kg	J	Z
MOLYBDENUM	0.258	J	0.178	MDL	2.10	PQL	mg/Kg	U	F
POTASSIUM	2130		8.75	MDL	105	PQL	mg/Kg	J	Q
TIN	3.27	J	0.231	MDL	10.5	PQL	mg/Kg	U	B
Zirconium	2.08	J	0.881	MDL	5.24	PQL	mg/Kg	J	Z

Sample ID: SL-527-SA5D-SB-0.0-0.5 Collected: 9/3/2013 8:20:00 AM Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	1.23	J	0.750	MDL	4.05	PQL	mg/Kg	J	Z, Q
BERYLLIUM	0.580	J	0.0679	MDL	1.01	PQL	mg/Kg	J	Z
BORON	7.47	J	0.851	MDL	10.1	PQL	mg/Kg	J	Z
CADMIUM	0.583	J	0.0770	MDL	1.01	PQL	mg/Kg	J	Z
MOLYBDENUM	0.391	J	0.172	MDL	2.03	PQL	mg/Kg	U	F
POTASSIUM	4130		8.45	MDL	101	PQL	mg/Kg	J	Q
SODIUM	63.4	J	16.9	MDL	101	PQL	mg/Kg	J	Z
TIN	2.89	J	0.223	MDL	10.1	PQL	mg/Kg	U	B
Zirconium	2.19	J	0.851	MDL	5.07	PQL	mg/Kg	J	Z

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH100

Laboratory: LL

EDD Filename: PrepPH100

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: METALS
Method: 6010C **Matrix:** SO

Sample ID: SL-527-SA5D-SB-4.0-5.0 Collected: 9/3/2013 8:35:00 AM Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	2.74	J	0.806	MDL	4.36	PQL	mg/Kg	J	Z, Q
BORON	9.66	J	0.915	MDL	10.9	PQL	mg/Kg	J	Z
CADMIUM	0.640	J	0.0828	MDL	1.09	PQL	mg/Kg	J	Z
POTASSIUM	3040		9.08	MDL	109	PQL	mg/Kg	J	Q
TIN	4.69	J	0.240	MDL	10.9	PQL	mg/Kg	U	B
Zirconium	3.26	J	0.915	MDL	5.45	PQL	mg/Kg	J	Z

Sample ID: SL-528-SA5D-SB-0.0-0.5 Collected: 9/3/2013 9:55:00 AM Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	1.49	J	0.735	MDL	3.97	PQL	mg/Kg	J	Z, Q
BERYLLIUM	0.707	J	0.0665	MDL	0.993	PQL	mg/Kg	J	Z
BORON	8.15	J	0.834	MDL	9.93	PQL	mg/Kg	J	Z
CADMIUM	0.549	J	0.0754	MDL	0.993	PQL	mg/Kg	J	Z
MOLYBDENUM	0.408	J	0.169	MDL	1.99	PQL	mg/Kg	U	F
POTASSIUM	3900		8.28	MDL	99.3	PQL	mg/Kg	J	Q
SODIUM	91.0	J	16.6	MDL	99.3	PQL	mg/Kg	J	Z
TIN	3.29	J	0.218	MDL	9.93	PQL	mg/Kg	U	B
Zirconium	2.95	J	0.834	MDL	4.96	PQL	mg/Kg	J	Z

Sample ID: SL-528-SA5D-SB-2.5-3.5 Collected: 9/3/2013 10:05:00 Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	1.98	J	0.794	MDL	4.29	PQL	mg/Kg	J	Z, Q
BERYLLIUM	0.659	J	0.0719	MDL	1.07	PQL	mg/Kg	J	Z
BORON	6.50	J	0.901	MDL	10.7	PQL	mg/Kg	J	Z
CADMIUM	0.473	J	0.0815	MDL	1.07	PQL	mg/Kg	J	Z
POTASSIUM	2280		8.95	MDL	107	PQL	mg/Kg	J	Q
TIN	3.59	J	0.236	MDL	10.7	PQL	mg/Kg	U	B
Zirconium	2.03	J	0.901	MDL	5.36	PQL	mg/Kg	J	Z

Sample ID: SL-540-SA5D-SB-0.0-0.5 Collected: 9/3/2013 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
ANTIMONY	1.76	J	0.793	MDL	4.29	PQL	mg/Kg	J	Z, Q

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH100

Laboratory: LL

EDD Filename: PrepPH100

eQAPP Name: CDM_SSFL_131101_Lan

Method Category:	METALS	
Method:	6010C	Matrix: SO

Sample ID: SL-540-SA5D-SB-0.0-0.5	Collected: 9/3/2013 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
BERYLLIUM	0.929	J	0.0718	MDL	1.07	PQL	mg/Kg	J	Z
CADMIUM	0.759	J	0.0814	MDL	1.07	PQL	mg/Kg	J	Z
MOLYBDENUM	1.05	J	0.182	MDL	2.14	PQL	mg/Kg	U	F
POTASSIUM	5650		8.94	MDL	107	PQL	mg/Kg	J	Q
SODIUM	93.1	J	17.9	MDL	107	PQL	mg/Kg	J	Z
TIN	3.91	J	0.236	MDL	10.7	PQL	mg/Kg	U	B
Zirconium	3.88	J	0.900	MDL	5.36	PQL	mg/Kg	J	Z

Sample ID: SL-540-SA5D-SB-5.0-6.0	Collected: 9/3/2013 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
ANTIMONY	2.15	J	0.794	MDL	4.29	PQL	mg/Kg	J	Z, Q
BERYLLIUM	0.733	J	0.0719	MDL	1.07	PQL	mg/Kg	J	Z
BORON	7.45	J	0.901	MDL	10.7	PQL	mg/Kg	J	Z
CADMIUM	0.592	J	0.0815	MDL	1.07	PQL	mg/Kg	J	Z
POTASSIUM	3250		8.95	MDL	107	PQL	mg/Kg	J	Q
TIN	3.80	J	0.236	MDL	10.7	PQL	mg/Kg	U	B

Sample ID: SL-541-SA5D-SB-0.0-0.5	Collected: 9/3/2013 1:35:00 PM	Analysis Type: RES	Dilution: 1						
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	1.79	J	0.777	MDL	4.20	PQL	mg/Kg	J	Z, Q
BERYLLIUM	0.750	J	0.0703	MDL	1.05	PQL	mg/Kg	J	Z
BORON	7.68	J	0.882	MDL	10.5	PQL	mg/Kg	J	Z
CADMIUM	0.607	J	0.0798	MDL	1.05	PQL	mg/Kg	J	Z
MOLYBDENUM	0.311	J	0.178	MDL	2.10	PQL	mg/Kg	U	F
POTASSIUM	4210		8.76	MDL	105	PQL	mg/Kg	J	Q
SODIUM	78.1	J	17.5	MDL	105	PQL	mg/Kg	J	Z
TIN	3.42	J	0.231	MDL	10.5	PQL	mg/Kg	U	B
Zirconium	2.83	J	0.882	MDL	5.25	PQL	mg/Kg	J	Z

Sample ID: SL-541-SA5D-SB-2.5-3.5	Collected: 9/3/2013 1:45:00 PM	Analysis Type: RES	Dilution: 1						
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	1.93	J	0.766	MDL	4.14	PQL	mg/Kg	J	Z, Q

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH100

Laboratory: LL

EDD Filename: PrepPH100

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: METALS
Method: 6010C **Matrix:** SO

Sample ID: SL-541-SA5D-SB-2.5-3.5 Collected: 9/3/2013 1:45:00 PM Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BERYLLIUM	0.523	J	0.0694	MDL	1.04	PQL	mg/Kg	J	Z
BORON	6.34	J	0.870	MDL	10.4	PQL	mg/Kg	J	Z
CADMIUM	0.423	J	0.0787	MDL	1.04	PQL	mg/Kg	J	Z
MOLYBDENUM	0.421	J	0.176	MDL	2.07	PQL	mg/Kg	U	F
POTASSIUM	2160		8.63	MDL	104	PQL	mg/Kg	J	Q
TIN	3.81	J	0.228	MDL	10.4	PQL	mg/Kg	U	B
Zirconium	3.10	J	0.870	MDL	5.18	PQL	mg/Kg	J	Z

Sample ID: SL-545-SA5D-SB-0.0-0.5 Collected: 9/3/2013 12:50:00 Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	2.43	J	0.785	MDL	4.24	PQL	mg/Kg	J	Z, Q
BERYLLIUM	0.889	J	0.0711	MDL	1.06	PQL	mg/Kg	J	Z
CADMIUM	0.787	J	0.0807	MDL	1.06	PQL	mg/Kg	J	Z
MOLYBDENUM	0.216	J	0.180	MDL	2.12	PQL	mg/Kg	U	F
POTASSIUM	6300		8.85	MDL	106	PQL	mg/Kg	J	Q
SODIUM	83.2	J	17.7	MDL	106	PQL	mg/Kg	J	Z
TIN	3.37	J	0.233	MDL	10.6	PQL	mg/Kg	U	B
Zirconium	3.36	J	0.891	MDL	5.31	PQL	mg/Kg	J	Z

Sample ID: SL-545-SA5D-SB-6.0-7.0 Collected: 9/3/2013 1:00:00 PM Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	1.26	J	0.763	MDL	4.12	PQL	mg/Kg	J	Z, Q
BERYLLIUM	0.445	J	0.0691	MDL	1.03	PQL	mg/Kg	J	Z
BORON	5.37	J	0.866	MDL	10.3	PQL	mg/Kg	J	Z
CADMIUM	0.485	J	0.0783	MDL	1.03	PQL	mg/Kg	J	Z
POTASSIUM	2050		8.60	MDL	103	PQL	mg/Kg	J	Q
TIN	3.23	J	0.227	MDL	10.3	PQL	mg/Kg	U	B
Zirconium	2.58	J	0.866	MDL	5.15	PQL	mg/Kg	J	Z

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH100

Laboratory: LL

EDD Filename: PrepPH100

eQAPP Name: CDM_SSFL_131101_Lan

Method Category:	METALS	
Method:	6020A	Matrix: SO

Sample ID: SL-525-SA5D-SB-0.0-0.5			Collected: 9/3/2013 9:15:00 AM				Analysis Type: REA		Dilution: 2	
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code	
SELENIUM	0.189	J	0.104	MDL	0.418	PQL	mg/Kg	J	Z	

Sample ID: SL-525-SA5D-SB-0.0-0.5			Collected: 9/3/2013 9:15:00 AM				Analysis Type: RES		Dilution: 2	
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code	
SILVER	0.0277	J	0.0271	MDL	0.209	PQL	mg/Kg	J	Z	

Sample ID: SL-527-SA5D-SB-0.0-0.5			Collected: 9/3/2013 8:20:00 AM				Analysis Type: RES		Dilution: 2	
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code	
SILVER	0.0461	J	0.0263	MDL	0.203	PQL	mg/Kg	J	Z	

Sample ID: SL-527-SA5D-SB-4.0-5.0			Collected: 9/3/2013 8:35:00 AM				Analysis Type: REA		Dilution: 2	
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code	
SELENIUM	0.258	J	0.109	MDL	0.436	PQL	mg/Kg	J	Z	

Sample ID: SL-527-SA5D-SB-4.0-5.0			Collected: 9/3/2013 8:35:00 AM				Analysis Type: RES		Dilution: 2	
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code	
SILVER	0.199	J	0.0283	MDL	0.218	PQL	mg/Kg	J	Z	

Sample ID: SL-528-SA5D-SB-0.0-0.5			Collected: 9/3/2013 9:55:00 AM				Analysis Type: REA		Dilution: 2	
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code	
SELENIUM	0.130	J	0.0993	MDL	0.397	PQL	mg/Kg	J	Z	

Sample ID: SL-528-SA5D-SB-0.0-0.5			Collected: 9/3/2013 9:55:00 AM				Analysis Type: RES		Dilution: 2	
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code	
SILVER	0.0473	J	0.0258	MDL	0.199	PQL	mg/Kg	J	Z	

Sample ID: SL-540-SA5D-SB-0.0-0.5			Collected: 9/3/2013 12:00:00				Analysis Type: REA		Dilution: 2	
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code	
SELENIUM	0.241	J	0.107	MDL	0.429	PQL	mg/Kg	J	Z	

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH100

Laboratory: LL

EDD Filename: PrepPH100

eQAPP Name: CDM_SSFL_131101_Lan

Method Category:	METALS	
Method:	6020A	Matrix: SO

Sample ID: SL-540-SA5D-SB-0.0-0.5	Collected: 9/3/2013 12:00:00	Analysis Type: RES	Dilution: 2						
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SILVER	0.0478	J	0.0279	MDL	0.214	PQL	mg/Kg	J	Z

Sample ID: SL-540-SA5D-SB-5.0-6.0	Collected: 9/3/2013 12:10:00	Analysis Type: RES	Dilution: 2						
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SILVER	0.0363	J	0.0279	MDL	0.215	PQL	mg/Kg	J	Z

Sample ID: SL-541-SA5D-SB-0.0-0.5	Collected: 9/3/2013 1:35:00 PM	Analysis Type: REA	Dilution: 2						
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SELENIUM	0.150	J	0.105	MDL	0.420	PQL	mg/Kg	J	Z

Sample ID: SL-541-SA5D-SB-0.0-0.5	Collected: 9/3/2013 1:35:00 PM	Analysis Type: RES	Dilution: 2						
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SILVER	0.0278	J	0.0273	MDL	0.210	PQL	mg/Kg	J	Z

Sample ID: SL-545-SA5D-SB-0.0-0.5	Collected: 9/3/2013 12:50:00	Analysis Type: REA	Dilution: 2						
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SELENIUM	0.222	J	0.106	MDL	0.424	PQL	mg/Kg	J	Z

Sample ID: SL-545-SA5D-SB-0.0-0.5	Collected: 9/3/2013 12:50:00	Analysis Type: RES	Dilution: 2						
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SILVER	0.0409	J	0.0276	MDL	0.212	PQL	mg/Kg	J	Z

Method Category:	METALS	
Method:	7471B	Matrix: SO

Sample ID: SL-527-SA5D-SB-4.0-5.0	Collected: 9/3/2013 8:35:00 AM	Analysis Type: RES	Dilution: 1						
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
MERCURY	0.0155	J	0.0108	MDL	0.0181	PQL	mg/Kg	J	Z

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH100

Laboratory: LL

EDD Filename: PrepPH100

eQAPP Name: CDM_SSFL_131101_Lan

Method Category:	METALS	
Method:	7471B	Matrix: SO

Sample ID: SL-528-SA5D-SB-2.5-3.5	Collected: 9/3/2013 10:05:00	Analysis Type: RES	Dilution: 1
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Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
MERCURY	0.0119	J	0.0106	MDL	0.0176	PQL	mg/Kg	J	Z

Method Category:	SVOA	
Method:	1613B	Matrix: SO

Sample ID: SL-525-SA5D-SB-0.0-0.5	Collected: 9/3/2013 9:15:00 AM	Analysis Type: RES	Dilution: 1
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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	1.74	JB	0.0215	MDL	4.98	PQL	ng/Kg	J	Z
1,2,3,4,7,8,9-HPCDF	0.249	JBQ	0.0257	MDL	4.98	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.201	JBQ	0.0541	MDL	4.98	PQL	ng/Kg	J	Z
1,2,3,4,7,8-HXCDF	0.199	JBQ	0.0304	MDL	4.98	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDD	1.27	J	0.0556	MDL	4.98	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDF	0.271	JB	0.0287	MDL	4.98	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDD	1.42	JB	0.0524	MDL	4.98	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDF	0.827	JBQ	0.0316	MDL	4.98	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDD	0.212	JQ	0.0497	MDL	4.98	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDF	0.578	JB	0.0361	MDL	4.98	PQL	ng/Kg	J	Z
2,3,4,6,7,8-HXCDF	0.260	JB	0.0279	MDL	4.98	PQL	ng/Kg	U	B
2,3,4,7,8-PECDF	0.543	JB	0.0341	MDL	4.98	PQL	ng/Kg	J	Z
2,3,7,8-TCDF	0.153	JQ	0.0796	MDL	0.996	PQL	ng/Kg	J	Z
OCDF	4.47	JB	0.0467	MDL	9.96	PQL	ng/Kg	J	Z

Sample ID: SL-527-SA5D-SB-0.0-0.5	Collected: 9/3/2013 8:20:00 AM	Analysis Type: RES	Dilution: 1
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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	3.32	JB	0.0212	MDL	5.00	PQL	ng/Kg	J	Z
1,2,3,4,7,8,9-HPCDF	0.323	JB	0.0331	MDL	5.00	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.366	JBQ	0.0604	MDL	5.00	PQL	ng/Kg	J	Z
1,2,3,4,7,8-HXCDF	0.280	JBQ	0.0314	MDL	5.00	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDD	1.55	J	0.0620	MDL	5.00	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDF	0.288	JB	0.0274	MDL	5.00	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDD	1.21	JBQ	0.0603	MDL	5.00	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDF	0.529	JBQ	0.0316	MDL	5.00	PQL	ng/Kg	J	Z

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH100

Laboratory: LL

EDD Filename: PrepPH100

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: SVOA
Method: 1613B **Matrix:** SO

Sample ID: SL-527-SA5D-SB-0.0-0.5 Collected: 9/3/2013 8:20:00 AM 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	0.454	JQ	0.0600	MDL	5.00	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDF	0.433	JB	0.0361	MDL	5.00	PQL	ng/Kg	J	Z
2,3,4,6,7,8-HXCDF	0.331	JB	0.0266	MDL	5.00	PQL	ng/Kg	J	Z
2,3,7,8-TCDF	0.283	JQ	0.0908	MDL	0.999	PQL	ng/Kg	J	Z
OCDF	9.29	JB	0.0479	MDL	9.99	PQL	ng/Kg	J	Z

Sample ID: SL-528-SA5D-SB-0.0-0.5 Collected: 9/3/2013 9:55:00 AM 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	3.61	JB	0.0219	MDL	5.09	PQL	ng/Kg	J	Z
1,2,3,4,7,8,9-HPCDF	0.294	JBQ	0.0332	MDL	5.09	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.452	JB	0.0640	MDL	5.09	PQL	ng/Kg	J	Z
1,2,3,4,7,8-HXCDF	0.300	JB	0.0396	MDL	5.09	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDD	2.18	J	0.0668	MDL	5.09	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDF	0.300	JB	0.0345	MDL	5.09	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDD	2.15	JB	0.0630	MDL	5.09	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDF	0.679	JBQ	0.0412	MDL	5.09	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDD	0.351	J	0.0717	MDL	5.09	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDF	0.466	JBQ	0.0496	MDL	5.09	PQL	ng/Kg	J	Z
2,3,4,6,7,8-HXCDF	0.349	JBQ	0.0378	MDL	5.09	PQL	ng/Kg	J	Z
2,3,7,8-TCDF	0.204	J	0.119	MDL	1.02	PQL	ng/Kg	J	Z
OCDF	8.74	JB	0.0434	MDL	10.2	PQL	ng/Kg	J	Z

Sample ID: SL-540-SA5D-SB-0.0-0.5 Collected: 9/3/2013 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-HPCDD	1.76	JB	0.0418	MDL	5.36	PQL	ng/Kg	J	Z
1,2,3,4,6,7,8-HPCDF	0.308	JBQ	0.0160	MDL	5.36	PQL	ng/Kg	J	Z
1,2,3,4,7,8,9-HPCDF	0.0742	JBQ	0.0237	MDL	5.36	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.0604	JBQ	0.0432	MDL	5.36	PQL	ng/Kg	U	B
1,2,3,4,7,8-HXCDF	0.0907	JB	0.0203	MDL	5.36	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDD	0.445	J	0.0465	MDL	5.36	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDF	0.0726	JBQ	0.0179	MDL	5.36	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDD	0.629	JBQ	0.0431	MDL	5.36	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDF	1.16	JB	0.0211	MDL	5.36	PQL	ng/Kg	J	Z

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH100

Laboratory: LL

EDD Filename: PrepPH100

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: SVOA
Method: 1613B **Matrix:** SO

Sample ID: SL-540-SA5D-SB-0.0-0.5 Collected: 9/3/2013 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
1,2,3,7,8-PECDD	0.0960	JQ	0.0583	MDL	5.36	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDF	0.270	JBQ	0.0268	MDL	5.36	PQL	ng/Kg	U	B
2,3,4,6,7,8-HXCDF	0.0930	JBQ	0.0183	MDL	5.36	PQL	ng/Kg	U	B
OCDF	1.13	JB	0.0311	MDL	10.7	PQL	ng/Kg	U	B

Sample ID: SL-541-SA5D-SB-0.0-0.5 Collected: 9/3/2013 1:35:00 PM 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	0.924	JB	0.0340	MDL	5.23	PQL	ng/Kg	J	Z
1,2,3,4,6,7,8-HPCDF	0.0771	JBQ	0.0131	MDL	5.23	PQL	ng/Kg	U	B
1,2,3,4,7,8,9-HPCDF	0.0551	JBQ	0.0183	MDL	5.23	PQL	ng/Kg	U	B
1,2,3,4,7,8-HXCDF	0.0218	JBQ	0.0163	MDL	5.23	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDD	0.556	JQ	0.0419	MDL	5.23	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDF	0.0549	JB	0.0143	MDL	5.23	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDD	0.782	JB	0.0390	MDL	5.23	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDF	0.933	JB	0.0165	MDL	5.23	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDD	0.186	JQ	0.0557	MDL	5.23	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDF	0.238	JB	0.0275	MDL	5.23	PQL	ng/Kg	U	B
2,3,4,6,7,8-HXCDF	0.0398	JBQ	0.0151	MDL	5.23	PQL	ng/Kg	U	B
2,3,4,7,8-PECDF	0.0782	JBQ	0.0252	MDL	5.23	PQL	ng/Kg	U	B
OCDF	0.289	JBQ	0.0314	MDL	10.5	PQL	ng/Kg	U	B

Sample ID: SL-545-SA5D-SB-0.0-0.5 Collected: 9/3/2013 12:50:00 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	0.589	JBQ	0.0356	MDL	5.35	PQL	ng/Kg	J	Z
1,2,3,4,6,7,8-HPCDF	0.138	JBQ	0.0123	MDL	5.35	PQL	ng/Kg	U	B
1,2,3,4,7,8,9-HPCDF	0.0380	JB	0.0174	MDL	5.35	PQL	ng/Kg	U	B
1,2,3,4,7,8-HXCDF	0.0802	JBQ	0.0186	MDL	5.35	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDD	0.458	JQ	0.0406	MDL	5.35	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDF	0.0247	JBQ	0.0165	MDL	5.35	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDD	0.689	JBQ	0.0385	MDL	5.35	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDF	1.14	JB	0.0186	MDL	5.35	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDD	0.0851	JQ	0.0524	MDL	5.35	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDF	0.235	JBQ	0.0238	MDL	5.35	PQL	ng/Kg	U	B

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH100

Laboratory: LL

EDD Filename: PrepPH100

eQAPP Name: CDM_SSFL_131101_Lan

Method Category:	SVOA	Method:	1613B	Matrix:	SO
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Sample ID: SL-545-SA5D-SB-0.0-0.5	Collected: 9/3/2013 12:50:00	Analysis Type: RES	Dilution: 1
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Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
2,3,4,6,7,8-HXCDF	0.0607	JB	0.0156	MDL	5.35	PQL	ng/Kg	U	B
2,3,4,7,8-PECDF	0.0410	JBQ	0.0234	MDL	5.35	PQL	ng/Kg	U	B
2,3,7,8-TCDF	0.0886	JQ	0.0528	MDL	1.07	PQL	ng/Kg	J	Z
OCDD	6.06	JB	0.0293	MDL	10.7	PQL	ng/Kg	J	Z
OCDF	0.321	JB	0.0333	MDL	10.7	PQL	ng/Kg	U	B

Method Category:	SVOA	Method:	8015M	Matrix:	SO
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Sample ID: SL-525-SA5D-SB-0.0-0.5	Collected: 9/3/2013 9:15:00 AM	Analysis Type: RES	Dilution: 1
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Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
EFH (C21-C30)	6.1		2.1	MDL	5.2	PQL	mg/Kg	J	Q
EFH (C30-C40)	21		4.2	MDL	10	PQL	mg/Kg	J	Q, Q

Sample ID: SL-527-SA5D-SB-0.0-0.5	Collected: 9/3/2013 8:20:00 AM	Analysis Type: RES	Dilution: 1
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Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
EFH (C21-C30)	4.7	J	2.0	MDL	5.1	PQL	mg/Kg	J	Z

Sample ID: SL-528-SA5D-SB-0.0-0.5	Collected: 9/3/2013 9:55:00 AM	Analysis Type: RES	Dilution: 1
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Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
EFH (C21-C30)	4.9	J	2.0	MDL	5.1	PQL	mg/Kg	J	Z

Sample ID: SL-541-SA5D-SB-0.0-0.5	Collected: 9/3/2013 1:35:00 PM	Analysis Type: RES	Dilution: 1
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Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
EFH (C21-C30)	3.5	J	2.1	MDL	5.3	PQL	mg/Kg	J	Z
EFH (C30-C40)	8.0	J	4.2	MDL	11	PQL	mg/Kg	J	Z

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH100

Laboratory: LL

EDD Filename: PrepPH100

eQAPP Name: CDM_SSFL_131101_Lan

Method Category:	SVOA
Method:	8081B
Matrix:	SO

Sample ID: SL-540-SA5D-SB-0.0-0.5 Collected: 9/3/2013 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
4,4'-DDE	0.55	J	0.35	MDL	1.8	PQL	ug/Kg	J	Z

Method Category:	SVOA
Method:	8082A
Matrix:	SO

Sample ID: SL-528-SA5D-SB-0.0-0.5 Collected: 9/3/2013 9:55:00 AM Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
AROCLOR 1254	6.3	J	4.5	MDL	17	PQL	ug/Kg	J	Z

Method Category:	SVOA
Method:	8270D SIM
Matrix:	SO

Sample ID: SL-525-SA5D-SB-0.0-0.5 Collected: 9/3/2013 9:15:00 AM Analysis Type: RES-BASE/NEUTRAL Dilution: 10

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CHRYSENE	15	J	3.5	MDL	17	PQL	ug/Kg	J	Z

Sample ID: SL-527-SA5D-SB-0.0-0.5 Collected: 9/3/2013 8:20:00 AM 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	0.85	J	0.68	MDL	1.7	PQL	ug/Kg	J	Z
BENZO(A)ANTHRACENE	0.80	J	0.68	MDL	1.7	PQL	ug/Kg	J	Z
BENZO(A)PYRENE	0.71	J	0.68	MDL	1.7	PQL	ug/Kg	J	Z
BENZO(B)FLUORANTHENE	1.6	J	0.68	MDL	1.7	PQL	ug/Kg	J	Z
BENZO(G,H,I)PERYLENE	0.91	J	0.68	MDL	1.7	PQL	ug/Kg	J	Z
BENZO(K)FLUORANTHENE	0.73	J	0.68	MDL	1.7	PQL	ug/Kg	J	Z
NAPHTHALENE	1.2	J	0.68	MDL	1.7	PQL	ug/Kg	J	Z

Sample ID: SL-528-SA5D-SB-0.0-0.5 Collected: 9/3/2013 9:55:00 AM 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	1.2	J	0.67	MDL	1.7	PQL	ug/Kg	J	Z
BENZO(A)ANTHRACENE	1.2	J	0.67	MDL	1.7	PQL	ug/Kg	J	Z
BENZO(A)PYRENE	1.2	J	0.67	MDL	1.7	PQL	ug/Kg	J	Z

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Data Qualifier Summary

Lab Reporting Batch ID: PH100

Laboratory: LL

EDD Filename: PrepPH100

eQAPP Name: CDM_SSFL_131101_Lan

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

Sample ID: SL-528-SA5D-SB-0.0-0.5 Collected: 9/3/2013 9:55:00 AM 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	0.95	J	0.67	MDL	1.7	PQL	ug/Kg	J	Z
BENZO(K)FLUORANTHENE	1.2	J	0.67	MDL	1.7	PQL	ug/Kg	J	Z
BIS(2-ETHYLHEXYL)PHTHALATE	8.5	J	6.1	MDL	18	PQL	ug/Kg	U	F
INDENO(1,2,3-CD)PYRENE	0.71	J	0.67	MDL	1.7	PQL	ug/Kg	J	Z

Sample ID: SL-528-SA5D-SB-2.5-3.5 Collected: 9/3/2013 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
BENZO(B)FLUORANTHENE	0.91	J	0.72	MDL	1.8	PQL	ug/Kg	J	Z
CHRYSENE	0.69	J	0.36	MDL	1.8	PQL	ug/Kg	J	Z

Sample ID: SL-540-SA5D-SB-0.0-0.5 Collected: 9/3/2013 12:00:00 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-METHYLNAPHTHALENE	0.99	J	0.71	MDL	1.8	PQL	ug/Kg	J	Z
ANTHRACENE	0.37	J	0.36	MDL	1.8	PQL	ug/Kg	J	Z
BENZO(A)ANTHRACENE	1.1	J	0.71	MDL	1.8	PQL	ug/Kg	J	Z
BENZO(A)PYRENE	0.78	J	0.71	MDL	1.8	PQL	ug/Kg	J	Z
BENZO(K)FLUORANTHENE	0.88	J	0.71	MDL	1.8	PQL	ug/Kg	J	Z
NAPHTHALENE	1.5	J	0.71	MDL	1.8	PQL	ug/Kg	J	Z

Sample ID: SL-541-SA5D-SB-0.0-0.5 Collected: 9/3/2013 1:35:00 PM 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	0.95	J	0.70	MDL	1.8	PQL	ug/Kg	J	Z
CHRYSENE	0.81	J	0.35	MDL	1.8	PQL	ug/Kg	J	Z

Sample ID: SL-545-SA5D-SB-0.0-0.5 Collected: 9/3/2013 12:50:00 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(B)FLUORANTHENE	1.7	J	0.71	MDL	1.8	PQL	ug/Kg	J	Z
FLUORANTHENE	1.1	J	0.71	MDL	1.8	PQL	ug/Kg	J	Z
NAPHTHALENE	1.0	J	0.71	MDL	1.8	PQL	ug/Kg	J	Z
PHENANTHRENE	0.88	J	0.71	MDL	1.8	PQL	ug/Kg	J	Z

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH100

Laboratory: LL

EDD Filename: PrepPH100

eQAPP Name: CDM_SSFL_131101_Lan

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

Sample ID: SL-545-SA5D-SB-6.0-7.0

Collected: 9/3/2013 1:00:00 PM 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	0.85	J	0.35	MDL	1.7	PQL	ug/Kg	J	Z

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Data Qualifier Summary

Lab Reporting Batch ID: PH100

Laboratory: LL

EDD Filename: PrepPH100

eQAPP Name: CDM_SSFL_131101_Lan

Reason Code Legend

<i>Reason Code</i>	<i>Description</i>
B	Method Blank Contamination
E	Laboratory Duplicate Precision
E	Matrix Spike Precision
F	Equipment Blank Contamination
F	Field Blank Contamination
L	Laboratory Control Spike Upper Estimation
Q	Laboratory Duplicate Precision
Q	Matrix Spike Lower Estimation
Q	Matrix Spike Lower Rejection
Q	Matrix Spike Precision
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: 1204-002-001-AL - SSFL Area IV Phase 3

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Enclosure I
EPA Level III ADR Outliers
(Including Manual Review Outliers)

Quality Control Outlier Reports

PH100

Method Blank Outlier Report

Lab Reporting Batch ID: PH100

Laboratory: LL

EDD Filename: PH100

eQAPP Name: CDM_SSFL_131101_Lan

Method: 1613B
Matrix: SO

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples
BLK2540B372247	9/13/2013 10:47:00 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-HXCDF 1,2,3,7,8,9-HXCDD 1,2,3,7,8,9-HXCDF 1,2,3,7,8-PECDF 2,3,4,6,7,8-HXCDF 2,3,4,7,8-PECDF OCDD OCDF	0.0675 ng/Kg 0.0376 ng/Kg 0.0826 ng/Kg 0.0390 ng/Kg 0.0639 ng/Kg 0.0330 ng/Kg 0.0470 ng/Kg 0.0649 ng/Kg 0.0692 ng/Kg 0.0615 ng/Kg 0.0786 ng/Kg 0.281 ng/Kg 0.227 ng/Kg	SL-525-SA5D-SB-0.0-0.5 SL-527-SA5D-SB-0.0-0.5 SL-528-SA5D-SB-0.0-0.5 SL-540-SA5D-SB-0.0-0.5 SL-541-SA5D-SB-0.0-0.5 SL-545-SA5D-SB-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-525-SA5D-SB-0.0-0.5(RES)	1,2,3,4,7,8,9-HPCDF	0.249 ng/Kg	0.249U ng/Kg
SL-525-SA5D-SB-0.0-0.5(RES)	1,2,3,4,7,8-HXCDF	0.199 ng/Kg	0.199U ng/Kg
SL-525-SA5D-SB-0.0-0.5(RES)	2,3,4,6,7,8-HXCDF	0.260 ng/Kg	0.260U ng/Kg
SL-527-SA5D-SB-0.0-0.5(RES)	1,2,3,4,7,8,9-HPCDF	0.323 ng/Kg	0.323U ng/Kg
SL-527-SA5D-SB-0.0-0.5(RES)	1,2,3,4,7,8-HXCDF	0.280 ng/Kg	0.280U ng/Kg
SL-528-SA5D-SB-0.0-0.5(RES)	1,2,3,4,7,8,9-HPCDF	0.294 ng/Kg	0.294U ng/Kg
SL-528-SA5D-SB-0.0-0.5(RES)	1,2,3,4,7,8-HXCDF	0.300 ng/Kg	0.300U ng/Kg
SL-540-SA5D-SB-0.0-0.5(RES)	1,2,3,4,7,8,9-HPCDF	0.0742 ng/Kg	0.0742U ng/Kg
SL-540-SA5D-SB-0.0-0.5(RES)	1,2,3,4,7,8-HxCDD	0.0604 ng/Kg	0.0604U ng/Kg
SL-540-SA5D-SB-0.0-0.5(RES)	1,2,3,4,7,8-HXCDF	0.0907 ng/Kg	0.0907U ng/Kg
SL-540-SA5D-SB-0.0-0.5(RES)	1,2,3,6,7,8-HXCDF	0.0726 ng/Kg	0.0726U ng/Kg
SL-540-SA5D-SB-0.0-0.5(RES)	1,2,3,7,8-PECDF	0.270 ng/Kg	0.270U ng/Kg
SL-540-SA5D-SB-0.0-0.5(RES)	2,3,4,6,7,8-HXCDF	0.0930 ng/Kg	0.0930U ng/Kg
SL-540-SA5D-SB-0.0-0.5(RES)	OCDF	1.13 ng/Kg	1.13U ng/Kg
SL-541-SA5D-SB-0.0-0.5(RES)	1,2,3,4,6,7,8-HPCDF	0.0771 ng/Kg	0.0771U ng/Kg
SL-541-SA5D-SB-0.0-0.5(RES)	1,2,3,4,7,8,9-HPCDF	0.0551 ng/Kg	0.0551U ng/Kg
SL-541-SA5D-SB-0.0-0.5(RES)	1,2,3,4,7,8-HXCDF	0.0218 ng/Kg	0.0218U ng/Kg
SL-541-SA5D-SB-0.0-0.5(RES)	1,2,3,6,7,8-HXCDF	0.0549 ng/Kg	0.0549U ng/Kg
SL-541-SA5D-SB-0.0-0.5(RES)	1,2,3,7,8-PECDF	0.238 ng/Kg	0.238U ng/Kg
SL-541-SA5D-SB-0.0-0.5(RES)	2,3,4,6,7,8-HXCDF	0.0398 ng/Kg	0.0398U ng/Kg
SL-541-SA5D-SB-0.0-0.5(RES)	2,3,4,7,8-PECDF	0.0782 ng/Kg	0.0782U ng/Kg
SL-541-SA5D-SB-0.0-0.5(RES)	OCDF	0.289 ng/Kg	0.289U ng/Kg
SL-545-SA5D-SB-0.0-0.5(RES)	1,2,3,4,6,7,8-HPCDF	0.138 ng/Kg	0.138U ng/Kg
SL-545-SA5D-SB-0.0-0.5(RES)	1,2,3,4,7,8,9-HPCDF	0.0380 ng/Kg	0.0380U ng/Kg
SL-545-SA5D-SB-0.0-0.5(RES)	1,2,3,4,7,8-HXCDF	0.0802 ng/Kg	0.0802U ng/Kg
SL-545-SA5D-SB-0.0-0.5(RES)	1,2,3,6,7,8-HXCDF	0.0247 ng/Kg	0.0247U ng/Kg
SL-545-SA5D-SB-0.0-0.5(RES)	1,2,3,7,8-PECDF	0.235 ng/Kg	0.235U ng/Kg
SL-545-SA5D-SB-0.0-0.5(RES)	2,3,4,6,7,8-HXCDF	0.0607 ng/Kg	0.0607U ng/Kg
SL-545-SA5D-SB-0.0-0.5(RES)	2,3,4,7,8-PECDF	0.0410 ng/Kg	0.0410U ng/Kg
SL-545-SA5D-SB-0.0-0.5(RES)	OCDF	0.321 ng/Kg	0.321U ng/Kg

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Method Blank Outlier Report

Lab Reporting Batch ID: PH100

Laboratory: LL

EDD Filename: PH100

eQAPP Name: CDM_SSFL_131101_Lan

Method: 6010C
Matrix: SO

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples
P24737AB220448	9/6/2013 4:48:00 AM	CALCIUM TIN ZINC	10.2 mg/Kg 1.69 mg/Kg 0.230 mg/Kg	SL-525-SA5D-SB-0.0-0.5 SL-525-SA5D-SB-2.5-3.5 SL-527-SA5D-SB-0.0-0.5 SL-527-SA5D-SB-4.0-5.0 SL-528-SA5D-SB-0.0-0.5 SL-528-SA5D-SB-2.5-3.5 SL-540-SA5D-SB-0.0-0.5 SL-540-SA5D-SB-5.0-6.0 SL-541-SA5D-SB-0.0-0.5 SL-541-SA5D-SB-2.5-3.5 SL-545-SA5D-SB-0.0-0.5 SL-545-SA5D-SB-6.0-7.0

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-525-SA5D-SB-0.0-0.5(RES)	TIN	3.37 mg/Kg	3.37U mg/Kg
SL-525-SA5D-SB-2.5-3.5(RES)	TIN	3.27 mg/Kg	3.27U mg/Kg
SL-527-SA5D-SB-0.0-0.5(RES)	TIN	2.89 mg/Kg	2.89U mg/Kg
SL-527-SA5D-SB-4.0-5.0(RES)	TIN	4.69 mg/Kg	4.69U mg/Kg
SL-528-SA5D-SB-0.0-0.5(RES)	TIN	3.29 mg/Kg	3.29U mg/Kg
SL-528-SA5D-SB-2.5-3.5(RES)	TIN	3.59 mg/Kg	3.59U mg/Kg
SL-540-SA5D-SB-0.0-0.5(RES)	TIN	3.91 mg/Kg	3.91U mg/Kg
SL-540-SA5D-SB-5.0-6.0(RES)	TIN	3.80 mg/Kg	3.80U mg/Kg
SL-541-SA5D-SB-0.0-0.5(RES)	TIN	3.42 mg/Kg	3.42U mg/Kg
SL-541-SA5D-SB-2.5-3.5(RES)	TIN	3.81 mg/Kg	3.81U mg/Kg
SL-545-SA5D-SB-0.0-0.5(RES)	TIN	3.37 mg/Kg	3.37U mg/Kg
SL-545-SA5D-SB-6.0-7.0(RES)	TIN	3.23 mg/Kg	3.23U mg/Kg

Equipment Rinsate Blank Outlier Report

Lab Reporting Batch ID: PH100

Laboratory: LL

EDD Filename: PH100

eQAPP Name: CDM_SSFL_131101_Lan

Method: 8270D SIM
Matrix: SO

Equipment Blank Sample ID	Collected Date	Analyte	Result	Associated Samples
EB-090413(RES)	9/4/2013 3:00:00 PM	BIS(2-ETHYLHEXYL)PHTHALATE Diethylphthalate Di-n-butylphthalate NAPHTHALENE	1.6 ug/L 0.3 ug/L 0.11 ug/L 0.032 ug/L	SL-525-SA5D-SB-0.0-0.5 SL-525-SA5D-SB-2.5-3.5 SL-527-SA5D-SB-0.0-0.5 SL-527-SA5D-SB-4.0-5.0 SL-528-SA5D-SB-0.0-0.5 SL-528-SA5D-SB-2.5-3.5 SL-540-SA5D-SB-0.0-0.5 SL-540-SA5D-SB-5.0-6.0 SL-541-SA5D-SB-0.0-0.5 SL-541-SA5D-SB-2.5-3.5 SL-545-SA5D-SB-0.0-0.5 SL-545-SA5D-SB-6.0-7.0

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-528-SA5D-SB-0.0-0.5(RES)	BIS(2-ETHYLHEXYL)PHTHALATE	8.5 ug/Kg	18U ug/Kg

Field Blank Outlier Report

Lab Reporting Batch ID: PH100

Laboratory: LL

EDD Filename: PH100

eQAPP Name: CDM_SSFL_131101_Lan

Method: 6010C
Matrix: SO

Field Blank Sample ID	Collected Date	Analyte	Result	Associated Samples
FB-041113(REA2)	4/11/2013 3:00:00 PM	COPPER MOLYBDENUM	0.0036 mg/L 0.0036 mg/L	SL-525-SA5D-SB-0.0-0.5 SL-525-SA5D-SB-2.5-3.5 SL-527-SA5D-SB-0.0-0.5 SL-527-SA5D-SB-4.0-5.0 SL-528-SA5D-SB-0.0-0.5 SL-528-SA5D-SB-2.5-3.5 SL-540-SA5D-SB-0.0-0.5 SL-540-SA5D-SB-5.0-6.0 SL-541-SA5D-SB-0.0-0.5 SL-541-SA5D-SB-2.5-3.5 SL-545-SA5D-SB-0.0-0.5 SL-545-SA5D-SB-6.0-7.0

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-525-SA5D-SB-0.0-0.5(RES)	MOLYBDENUM	0.467 mg/Kg	0.467U mg/Kg
SL-525-SA5D-SB-2.5-3.5(RES)	MOLYBDENUM	0.258 mg/Kg	0.258U mg/Kg
SL-527-SA5D-SB-0.0-0.5(RES)	MOLYBDENUM	0.391 mg/Kg	0.391U mg/Kg
SL-528-SA5D-SB-0.0-0.5(RES)	MOLYBDENUM	0.408 mg/Kg	0.408U mg/Kg
SL-540-SA5D-SB-0.0-0.5(RES)	MOLYBDENUM	1.05 mg/Kg	1.05U mg/Kg
SL-541-SA5D-SB-0.0-0.5(RES)	MOLYBDENUM	0.311 mg/Kg	0.311U mg/Kg
SL-541-SA5D-SB-2.5-3.5(RES)	MOLYBDENUM	0.421 mg/Kg	0.421U mg/Kg
SL-545-SA5D-SB-0.0-0.5(RES)	MOLYBDENUM	0.216 mg/Kg	0.216U mg/Kg

Surrogate Outlier Report

Lab Reporting Batch ID: PH100

Laboratory: LL

EDD Filename: PH100

eQAPP Name: CDM_SSFL_131101_Lan

Method: 8082A

Matrix: SO

<i>Sample ID (Analysis Type)</i>	<i>Surrogate</i>	<i>Sample % Recovery</i>	<i>% Recovery Limits</i>	<i>Affected Compounds</i>	<i>Flag</i>
SL-545-SA5D-SB-6.0-7.0	TETRACHLORO-M-XYLENE	124	45.00-120.00	All Target Analytes	J (all detects)

Matrix Spike/Matrix Spike Duplicate Outlier Report

Lab Reporting Batch ID: PH100

Laboratory: LL

EDD Filename: PH100

eQAPP Name: CDM_SSFL_131101_Lan

Method: 8015M
Matrix: SO

QC Sample ID (Associated Samples)	Compound	MS %R	MSD %R	%R Limits	RPD (Limits)	Affected Compounds	Flag
SL-525-SA5D-SB-0.0-0.5MS	EFH (C15-C20)	130	132	49.00-123.00	-	EFH (C15-C20)	J (all detects)
SL-525-SA5D-SB-0.0-0.5MSD	EFH (C21-C30)	137	181	49.00-123.00	-	EFH (C21-C30)	
(SL-525-SA5D-SB-0.0-0.5)	EFH (C30-C40)	127	326	49.00-123.00	32 (20.00)	EFH (C30-C40)	

Method: 6010C
Matrix: SO

QC Sample ID (Associated Samples)	Compound	MS %R	MSD %R	%R Limits	RPD (Limits)	Affected Compounds	Flag
SL-541-SA5D-SB-2.5-3.5MS (TOT)	ALUMINUM	1024	1065	75.00-125.00	-	ALUMINUM	J(all detects) Al, Ca, Fe, Ti, No Qual, >4x
SL-541-SA5D-SB-2.5-3.5MSD (TOT)	CALCIUM	175	146	75.00-125.00	-	CALCIUM	
(SL-525-SA5D-SB-0.0-0.5)	IRON	681	365	75.00-125.00	-	IRON	
SL-525-SA5D-SB-2.5-3.5	POTASSIUM	136	-	75.00-125.00	-	POTASSIUM	
SL-527-SA5D-SB-0.0-0.5	TITANIUM	310	163	75.00-125.00	-	TITANIUM	
SL-527-SA5D-SB-4.0-5.0							
SL-528-SA5D-SB-0.0-0.5							
SL-528-SA5D-SB-2.5-3.5							
SL-540-SA5D-SB-0.0-0.5							
SL-540-SA5D-SB-5.0-6.0							
SL-541-SA5D-SB-0.0-0.5							
SL-541-SA5D-SB-2.5-3.5							
SL-545-SA5D-SB-0.0-0.5							
SL-545-SA5D-SB-6.0-7.0)							
SL-541-SA5D-SB-2.5-3.5MSD (TOT)	MANGANESE	-	25	75.00-125.00	-	MANGANESE	No Qual, >4x
(SL-525-SA5D-SB-0.0-0.5)							
SL-525-SA5D-SB-2.5-3.5							
SL-527-SA5D-SB-0.0-0.5							
SL-527-SA5D-SB-4.0-5.0							
SL-528-SA5D-SB-0.0-0.5							
SL-528-SA5D-SB-2.5-3.5							
SL-540-SA5D-SB-0.0-0.5							
SL-540-SA5D-SB-5.0-6.0							
SL-541-SA5D-SB-0.0-0.5							
SL-541-SA5D-SB-2.5-3.5							
SL-545-SA5D-SB-0.0-0.5							
SL-545-SA5D-SB-6.0-7.0)							
SL-541-SA5D-SB-2.5-3.5MS (TOT)	ANTIMONY	56	47	75.00-125.00	-	ANTIMONY	J(all detects) UJ(all non-detects)
SL-541-SA5D-SB-2.5-3.5MSD (TOT)							
(SL-525-SA5D-SB-0.0-0.5)							
SL-525-SA5D-SB-2.5-3.5							
SL-527-SA5D-SB-0.0-0.5							
SL-527-SA5D-SB-4.0-5.0							
SL-528-SA5D-SB-0.0-0.5							
SL-528-SA5D-SB-2.5-3.5							
SL-540-SA5D-SB-0.0-0.5							
SL-540-SA5D-SB-5.0-6.0							
SL-541-SA5D-SB-0.0-0.5							
SL-541-SA5D-SB-2.5-3.5							
SL-545-SA5D-SB-0.0-0.5							
SL-545-SA5D-SB-6.0-7.0)							

Matrix Spike/Matrix Spike Duplicate Outlier Report

Lab Reporting Batch ID: PH100

Laboratory: LL

EDD Filename: PH100

eQAPP Name: CDM_SSFL_131101_Lan

Method: 8270D SIM

Matrix: SO

QC Sample ID (Associated Samples)	Compound	MS %R	MSD %R	%R Limits	RPD (Limits)	Affected Compounds	Flag
SL-525-SA5D-SB-0.0-0.5MS SL-525-SA5D-SB-0.0-0.5MSD (SL-525-SA5D-SB-0.0-0.5)	BENZO(B)FLUORANTHENE BENZO(E)PYRENE N-NITROSODIMETHYLAMINE	- - 171	149 173 172	26.00-142.00 70.00-130.00 48.00-113.00	- 49 (30.00) -	BENZO(B)FLUORANTHENE BENZO(E)PYRENE N-NITROSODIMETHYLAMINE	No Qual, Diluted Out
SL-525-SA5D-SB-0.0-0.5MS SL-525-SA5D-SB-0.0-0.5MSD (SL-525-SA5D-SB-0.0-0.5)	BIS(2-ETHYLHEXYL)PHTHALAT Butylbenzylphthalate Diethylphthalate Dimethylphthalate Di-n-butylphthalate Di-n-octylphthalate	0 0 0 0 0 0	0 0 0 0 0 0	39.00-167.00 59.00-153.00 76.00-127.00 62.00-136.00 62.00-154.00 52.00-162.00	- - - - - -	BIS(2-ETHYLHEXYL)PHTHALA Butylbenzylphthalate Diethylphthalate Dimethylphthalate Di-n-butylphthalate Di-n-octylphthalate	No Qual, Diluted Out

Lab Duplicate Outlier Report

Lab Reporting Batch ID: PH100

Laboratory: LL

EDD Filename: PH100

eQAPP Name: CDM_SSFL_131101_Lan

Method: 6010C

Matrix: SO

QC Sample ID (Associated Sample ID)	Analyte	Sample RPD	eQAPP RPD	Flag
SL-541-SA5D-SB-2.5-3.5DUP (TOT)	MOLYBDENUM	74	20.00	
(SL-525-SA5D-SB-0.0-0.5	Zirconium	27	20.00	
SL -525-SA5D-SB-2.5-3.5				
SL -527-SA5D-SB-0.0-0.5				
SL -527-SA5D-SB-4.0-5.0				
SL -528-SA5D-SB-0.0-0.5				
SL -528-SA5D-SB-2.5-3.5				
SL -540-SA5D-SB-0.0-0.5				
SL -540-SA5D-SB-5.0-6.0				
SL -541-SA5D-SB-0.0-0.5				
SL -541-SA5D-SB-2.5-3.5				
SL -545-SA5D-SB-0.0-0.5				
SL -545-SA5D-SB-6.0-7.0)				

No Qual,
OK by Difference

Lab Control Spike/Lab Control Spike Duplicate Outlier Report

Lab Reporting Batch ID: PH100

Laboratory: LL

EDD Filename: PH100

eQAPP Name: CDM_SSFL_131101_Lan

Method: 8270D SIM

Matrix: SO

QC Sample ID (Associated Samples)	Compound	LCS %R	LCSD %R	%R Limits	RPD (Limits)	Affected Compounds	Flag
P9LGLCSQ260050 (SL-525-SA5D-SB-0.0-0.5 SL-525-SA5D-SB-2.5-3.5 SL-527-SA5D-SB-0.0-0.5 SL-527-SA5D-SB-4.0-5.0 SL-528-SA5D-SB-0.0-0.5 SL-528-SA5D-SB-2.5-3.5 SL-540-SA5D-SB-0.0-0.5 SL-540-SA5D-SB-5.0-6.0 SL-541-SA5D-SB-0.0-0.5 SL-541-SA5D-SB-2.5-3.5 SL-545-SA5D-SB-0.0-0.5 SL-545-SA5D-SB-6.0-7.0)	N-NITROSODIMETHYLAMINE	187	-	71.00-124.00	-	N-NITROSODIMETHYLAMINE	J (all detects)

Reporting Limit Outliers

Lab Reporting Batch ID: PH100

Laboratory: LL

EDD Filename: PH100

eQAPP Name: CDM_SSFL_131101_Lan

Method: 1613B

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-525-SA5D-SB-0.0-0.5	1,2,3,4,6,7,8-HPCDF	JB	1.74	4.98	PQL	ng/Kg	J (all detects)
	1,2,3,4,7,8,9-HPCDF	JBQ	0.249	4.98	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JBQ	0.201	4.98	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JBQ	0.199	4.98	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	J	1.27	4.98	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JB	0.271	4.98	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDD	JB	1.42	4.98	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	JBQ	0.827	4.98	PQL	ng/Kg	
	1,2,3,7,8-PECDD	JQ	0.212	4.98	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JB	0.578	4.98	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JB	0.260	4.98	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JB	0.543	4.98	PQL	ng/Kg	
	2,3,7,8-TCDF	JQ	0.153	0.996	PQL	ng/Kg	
	OCDF	JB	4.47	9.96	PQL	ng/Kg	
SL-527-SA5D-SB-0.0-0.5	1,2,3,4,6,7,8-HPCDF	JB	3.32	5.00	PQL	ng/Kg	J (all detects)
	1,2,3,4,7,8,9-HPCDF	JB	0.323	5.00	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JBQ	0.366	5.00	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JBQ	0.280	5.00	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	J	1.55	5.00	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JB	0.288	5.00	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDD	JBQ	1.21	5.00	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	JBQ	0.529	5.00	PQL	ng/Kg	
	1,2,3,7,8-PECDD	JQ	0.454	5.00	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JB	0.433	5.00	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JB	0.331	5.00	PQL	ng/Kg	
	2,3,7,8-TCDF	JQ	0.283	0.999	PQL	ng/Kg	
	OCDF	JB	9.29	9.99	PQL	ng/Kg	
	SL-528-SA5D-SB-0.0-0.5	1,2,3,4,6,7,8-HPCDF	JB	3.61	5.09	PQL	
1,2,3,4,7,8,9-HPCDF		JBQ	0.294	5.09	PQL	ng/Kg	
1,2,3,4,7,8-HxCDD		JB	0.452	5.09	PQL	ng/Kg	
1,2,3,4,7,8-HXCDF		JB	0.300	5.09	PQL	ng/Kg	
1,2,3,6,7,8-HXCDD		J	2.18	5.09	PQL	ng/Kg	
1,2,3,6,7,8-HXCDF		JB	0.300	5.09	PQL	ng/Kg	
1,2,3,7,8,9-HXCDD		JB	2.15	5.09	PQL	ng/Kg	
1,2,3,7,8,9-HXCDF		JBQ	0.679	5.09	PQL	ng/Kg	
1,2,3,7,8-PECDD		J	0.351	5.09	PQL	ng/Kg	
1,2,3,7,8-PECDF		JBQ	0.466	5.09	PQL	ng/Kg	
2,3,4,6,7,8-HXCDF		JBQ	0.349	5.09	PQL	ng/Kg	
2,3,7,8-TCDF		J	0.204	1.02	PQL	ng/Kg	
OCDF		JB	8.74	10.2	PQL	ng/Kg	
SL-540-SA5D-SB-0.0-0.5		1,2,3,4,6,7,8-HPCDD	JB	1.76	5.36	PQL	ng/Kg
	1,2,3,4,6,7,8-HPCDF	JBQ	0.308	5.36	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JBQ	0.0742	5.36	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JBQ	0.0604	5.36	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JB	0.0907	5.36	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	J	0.445	5.36	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JBQ	0.0726	5.36	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDD	JBQ	0.629	5.36	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	JB	1.16	5.36	PQL	ng/Kg	
	1,2,3,7,8-PECDD	JQ	0.0960	5.36	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JBQ	0.270	5.36	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JBQ	0.0930	5.36	PQL	ng/Kg	
	OCDF	JB	1.13	10.7	PQL	ng/Kg	

Reporting Limit Outliers

Lab Reporting Batch ID: PH100

Laboratory: LL

EDD Filename: PH100

eQAPP Name: CDM_SSFL_131101_Lan

Method: 1613B

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-541-SA5D-SB-0.0-0.5	1,2,3,4,6,7,8-HPCDD	JB	0.924	5.23	PQL	ng/Kg	J (all detects)
	1,2,3,4,6,7,8-HPCDF	JBQ	0.0771	5.23	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JBQ	0.0551	5.23	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JBQ	0.0218	5.23	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	JQ	0.556	5.23	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JB	0.0549	5.23	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDD	JB	0.782	5.23	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	JB	0.933	5.23	PQL	ng/Kg	
	1,2,3,7,8-PECDD	JQ	0.186	5.23	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JB	0.238	5.23	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JBQ	0.0398	5.23	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JBQ	0.0782	5.23	PQL	ng/Kg	
	OCDF	JBQ	0.289	10.5	PQL	ng/Kg	
	SL-545-SA5D-SB-0.0-0.5	1,2,3,4,6,7,8-HPCDD	JBQ	0.589	5.35	PQL	
1,2,3,4,6,7,8-HPCDF		JBQ	0.138	5.35	PQL	ng/Kg	
1,2,3,4,7,8,9-HPCDF		JB	0.0380	5.35	PQL	ng/Kg	
1,2,3,4,7,8-HXCDF		JBQ	0.0802	5.35	PQL	ng/Kg	
1,2,3,6,7,8-HXCDD		JQ	0.458	5.35	PQL	ng/Kg	
1,2,3,6,7,8-HXCDF		JBQ	0.0247	5.35	PQL	ng/Kg	
1,2,3,7,8,9-HXCDD		JBQ	0.689	5.35	PQL	ng/Kg	
1,2,3,7,8,9-HXCDF		JB	1.14	5.35	PQL	ng/Kg	
1,2,3,7,8-PECDD		JQ	0.0851	5.35	PQL	ng/Kg	
1,2,3,7,8-PECDF		JBQ	0.235	5.35	PQL	ng/Kg	
2,3,4,6,7,8-HXCDF		JB	0.0607	5.35	PQL	ng/Kg	
2,3,4,7,8-PECDF		JBQ	0.0410	5.35	PQL	ng/Kg	
2,3,7,8-TCDF		JQ	0.0886	1.07	PQL	ng/Kg	
OCDD		JB	6.06	10.7	PQL	ng/Kg	
OCDF	JB	0.321	10.7	PQL	ng/Kg		

Method: 6010C

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-525-SA5D-SB-0.0-0.5	ANTIMONY	J	1.86	4.18	PQL	mg/Kg	J (all detects)
	BERYLLIUM	J	0.743	1.04	PQL	mg/Kg	
	BORON	J	8.04	10.4	PQL	mg/Kg	
	CADMIUM	J	0.547	1.04	PQL	mg/Kg	
	MOLYBDENUM	J	0.467	2.09	PQL	mg/Kg	
	SODIUM	J	95.0	104	PQL	mg/Kg	
	TIN	J	3.37	10.4	PQL	mg/Kg	
	Zirconium	J	2.73	5.22	PQL	mg/Kg	
SL-525-SA5D-SB-2.5-3.5	ANTIMONY	J	1.34	4.20	PQL	mg/Kg	J (all detects)
	BERYLLIUM	J	0.380	1.05	PQL	mg/Kg	
	BORON	J	4.74	10.5	PQL	mg/Kg	
	CADMIUM	J	0.344	1.05	PQL	mg/Kg	
	MOLYBDENUM	J	0.258	2.10	PQL	mg/Kg	
	TIN	J	3.27	10.5	PQL	mg/Kg	
	Zirconium	J	2.08	5.24	PQL	mg/Kg	

Reporting Limit Outliers

Lab Reporting Batch ID: PH100

Laboratory: LL

EDD Filename: PH100

eQAPP Name: CDM_SSFL_131101_Lan

Method: 6010C

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-527-SA5D-SB-0.0-0.5	ANTIMONY	J	1.23	4.05	PQL	mg/Kg	J (all detects)
	BERYLLIUM	J	0.580	1.01	PQL	mg/Kg	
	BORON	J	7.47	10.1	PQL	mg/Kg	
	CADMIUM	J	0.583	1.01	PQL	mg/Kg	
	MOLYBDENUM	J	0.391	2.03	PQL	mg/Kg	
	SODIUM	J	63.4	101	PQL	mg/Kg	
	TIN	J	2.89	10.1	PQL	mg/Kg	
Zirconium	J	2.19	5.07	PQL	mg/Kg		
SL-527-SA5D-SB-4.0-5.0	ANTIMONY	J	2.74	4.36	PQL	mg/Kg	J (all detects)
	BORON	J	9.66	10.9	PQL	mg/Kg	
	CADMIUM	J	0.640	1.09	PQL	mg/Kg	
	TIN	J	4.69	10.9	PQL	mg/Kg	
Zirconium	J	3.26	5.45	PQL	mg/Kg		
SL-528-SA5D-SB-0.0-0.5	ANTIMONY	J	1.49	3.97	PQL	mg/Kg	J (all detects)
	BERYLLIUM	J	0.707	0.993	PQL	mg/Kg	
	BORON	J	8.15	9.93	PQL	mg/Kg	
	CADMIUM	J	0.549	0.993	PQL	mg/Kg	
	MOLYBDENUM	J	0.408	1.99	PQL	mg/Kg	
	SODIUM	J	91.0	99.3	PQL	mg/Kg	
	TIN	J	3.29	9.93	PQL	mg/Kg	
Zirconium	J	2.95	4.96	PQL	mg/Kg		
SL-528-SA5D-SB-2.5-3.5	ANTIMONY	J	1.98	4.29	PQL	mg/Kg	J (all detects)
	BERYLLIUM	J	0.659	1.07	PQL	mg/Kg	
	BORON	J	6.50	10.7	PQL	mg/Kg	
	CADMIUM	J	0.473	1.07	PQL	mg/Kg	
	TIN	J	3.59	10.7	PQL	mg/Kg	
Zirconium	J	2.03	5.36	PQL	mg/Kg		
SL-540-SA5D-SB-0.0-0.5	ANTIMONY	J	1.76	4.29	PQL	mg/Kg	J (all detects)
	BERYLLIUM	J	0.929	1.07	PQL	mg/Kg	
	CADMIUM	J	0.759	1.07	PQL	mg/Kg	
	MOLYBDENUM	J	1.05	2.14	PQL	mg/Kg	
	SODIUM	J	93.1	107	PQL	mg/Kg	
	TIN	J	3.91	10.7	PQL	mg/Kg	
	Zirconium	J	3.88	5.36	PQL	mg/Kg	
SL-540-SA5D-SB-5.0-6.0	ANTIMONY	J	2.15	4.29	PQL	mg/Kg	J (all detects)
	BERYLLIUM	J	0.733	1.07	PQL	mg/Kg	
	BORON	J	7.45	10.7	PQL	mg/Kg	
	CADMIUM	J	0.592	1.07	PQL	mg/Kg	
	TIN	J	3.80	10.7	PQL	mg/Kg	
SL-541-SA5D-SB-0.0-0.5	ANTIMONY	J	1.79	4.20	PQL	mg/Kg	J (all detects)
	BERYLLIUM	J	0.750	1.05	PQL	mg/Kg	
	BORON	J	7.68	10.5	PQL	mg/Kg	
	CADMIUM	J	0.607	1.05	PQL	mg/Kg	
	MOLYBDENUM	J	0.311	2.10	PQL	mg/Kg	
	SODIUM	J	78.1	105	PQL	mg/Kg	
	TIN	J	3.42	10.5	PQL	mg/Kg	
Zirconium	J	2.83	5.25	PQL	mg/Kg		
SL-541-SA5D-SB-2.5-3.5	ANTIMONY	J	1.93	4.14	PQL	mg/Kg	J (all detects)
	BERYLLIUM	J	0.523	1.04	PQL	mg/Kg	
	BORON	J	6.34	10.4	PQL	mg/Kg	
	CADMIUM	J	0.423	1.04	PQL	mg/Kg	
	MOLYBDENUM	J	0.421	2.07	PQL	mg/Kg	
	TIN	J	3.81	10.4	PQL	mg/Kg	
Zirconium	J	3.10	5.18	PQL	mg/Kg		

Reporting Limit Outliers

Lab Reporting Batch ID: PH100

Laboratory: LL

EDD Filename: PH100

eQAPP Name: CDM_SSFL_131101_Lan

Method: 6010C

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-545-SA5D-SB-0.0-0.5	ANTIMONY	J	2.43	4.24	PQL	mg/Kg	J (all detects)
	BERYLLIUM	J	0.889	1.06	PQL	mg/Kg	
	CADMIUM	J	0.787	1.06	PQL	mg/Kg	
	MOLYBDENUM	J	0.216	2.12	PQL	mg/Kg	
	SODIUM	J	83.2	106	PQL	mg/Kg	
	TIN	J	3.37	10.6	PQL	mg/Kg	
	Zirconium	J	3.36	5.31	PQL	mg/Kg	
SL-545-SA5D-SB-6.0-7.0	ANTIMONY	J	1.26	4.12	PQL	mg/Kg	J (all detects)
	BERYLLIUM	J	0.445	1.03	PQL	mg/Kg	
	BORON	J	5.37	10.3	PQL	mg/Kg	
	CADMIUM	J	0.485	1.03	PQL	mg/Kg	
	TIN	J	3.23	10.3	PQL	mg/Kg	
	Zirconium	J	2.58	5.15	PQL	mg/Kg	

Method: 6020A

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-525-SA5D-SB-0.0-0.5	SELENIUM	J	0.189	0.418	PQL	mg/Kg	J (all detects)
	SILVER	J	0.0277	0.209	PQL	mg/Kg	
SL-527-SA5D-SB-0.0-0.5	SILVER	J	0.0461	0.203	PQL	mg/Kg	J (all detects)
SL-527-SA5D-SB-4.0-5.0	SELENIUM	J	0.258	0.436	PQL	mg/Kg	J (all detects)
	SILVER	J	0.199	0.218	PQL	mg/Kg	
SL-528-SA5D-SB-0.0-0.5	SELENIUM	J	0.130	0.397	PQL	mg/Kg	J (all detects)
	SILVER	J	0.0473	0.199	PQL	mg/Kg	
SL-540-SA5D-SB-0.0-0.5	SELENIUM	J	0.241	0.429	PQL	mg/Kg	J (all detects)
	SILVER	J	0.0478	0.214	PQL	mg/Kg	
SL-540-SA5D-SB-5.0-6.0	SILVER	J	0.0363	0.215	PQL	mg/Kg	J (all detects)
SL-541-SA5D-SB-0.0-0.5	SELENIUM	J	0.150	0.420	PQL	mg/Kg	J (all detects)
	SILVER	J	0.0278	0.210	PQL	mg/Kg	
SL-545-SA5D-SB-0.0-0.5	SELENIUM	J	0.222	0.424	PQL	mg/Kg	J (all detects)
	SILVER	J	0.0409	0.212	PQL	mg/Kg	

Method: 7471B

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-527-SA5D-SB-4.0-5.0	MERCURY	J	0.0155	0.0181	PQL	mg/Kg	J (all detects)
SL-528-SA5D-SB-2.5-3.5	MERCURY	J	0.0119	0.0176	PQL	mg/Kg	J (all detects)

Method: 8015M

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-527-SA5D-SB-0.0-0.5	EFH (C21-C30)	J	4.7	5.1	PQL	mg/Kg	J (all detects)

Reporting Limit Outliers

Lab Reporting Batch ID: PH100

Laboratory: LL

EDD Filename: PH100

eQAPP Name: CDM_SSFL_131101_Lan

Method: 8015M
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-528-SA5D-SB-0.0-0.5	EFH (C21-C30)	J	4.9	5.1	PQL	mg/Kg	J (all detects)
SL-541-SA5D-SB-0.0-0.5	EFH (C21-C30)	J	3.5	5.3	PQL	mg/Kg	J (all detects)
	EFH (C30-C40)	J	8.0	11	PQL	mg/Kg	

Method: 8081B
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-540-SA5D-SB-0.0-0.5	4,4'-DDE	J	0.55	1.8	PQL	ug/Kg	J (all detects)

Method: 8082A
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-528-SA5D-SB-0.0-0.5	AROCLOR 1254	J	6.3	17	PQL	ug/Kg	J (all detects)

Method: 8270D SIM
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-525-SA5D-SB-0.0-0.5	CHRYSENE	J	15	17	PQL	ug/Kg	J (all detects)
SL-527-SA5D-SB-0.0-0.5	2-METHYLNAPHTHALENE	J	0.85	1.7	PQL	ug/Kg	J (all detects)
	BENZO(A)ANTHRACENE	J	0.80	1.7	PQL	ug/Kg	
	BENZO(A)PYRENE	J	0.71	1.7	PQL	ug/Kg	
	BENZO(B)FLUORANTHENE	J	1.6	1.7	PQL	ug/Kg	
	BENZO(G,H,I)PERYLENE	J	0.91	1.7	PQL	ug/Kg	
	BENZO(K)FLUORANTHENE	J	0.73	1.7	PQL	ug/Kg	
SL-528-SA5D-SB-0.0-0.5	2-METHYLNAPHTHALENE	J	1.2	1.7	PQL	ug/Kg	J (all detects)
	BENZO(A)ANTHRACENE	J	1.2	1.7	PQL	ug/Kg	
	BENZO(A)PYRENE	J	1.2	1.7	PQL	ug/Kg	
	BENZO(G,H,I)PERYLENE	J	0.95	1.7	PQL	ug/Kg	
	BENZO(K)FLUORANTHENE	J	1.2	1.7	PQL	ug/Kg	
	BIS(2-ETHYLHEXYL)PHTHALATE	J	8.5	18	PQL	ug/Kg	
SL-528-SA5D-SB-2.5-3.5	INDENO(1,2,3-CD)PYRENE	J	0.71	1.7	PQL	ug/Kg	J (all detects)
	BENZO(B)FLUORANTHENE	J	0.91	1.8	PQL	ug/Kg	
SL-540-SA5D-SB-0.0-0.5	CHRYSENE	J	0.69	1.8	PQL	ug/Kg	J (all detects)
	2-METHYLNAPHTHALENE	J	0.99	1.8	PQL	ug/Kg	
	ANTHRACENE	J	0.37	1.8	PQL	ug/Kg	
	BENZO(A)ANTHRACENE	J	1.1	1.8	PQL	ug/Kg	
	BENZO(A)PYRENE	J	0.78	1.8	PQL	ug/Kg	
SL-541-SA5D-SB-0.0-0.5	BENZO(K)FLUORANTHENE	J	0.88	1.8	PQL	ug/Kg	J (all detects)
	NAPHTHALENE	J	1.5	1.8	PQL	ug/Kg	
SL-541-SA5D-SB-0.0-0.5	BENZO(B)FLUORANTHENE	J	0.95	1.8	PQL	ug/Kg	J (all detects)
	CHRYSENE	J	0.81	1.8	PQL	ug/Kg	

Reporting Limit Outliers

Lab Reporting Batch ID: PH100

Laboratory: LL

EDD Filename: PH100

eQAPP Name: CDM_SSFL_131101_Lan

Method: 8270D SIM

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-545-SA5D-SB-0.0-0.5	BENZO(B)FLUORANTHENE	J	1.7	1.8	PQL	ug/Kg	J (all detects)
	FLUORANTHENE	J	1.1	1.8	PQL	ug/Kg	
	NAPHTHALENE	J	1.0	1.8	PQL	ug/Kg	
	PHENANTHRENE	J	0.88	1.8	PQL	ug/Kg	
SL-545-SA5D-SB-6.0-7.0	CHRYSENE	J	0.85	1.7	PQL	ug/Kg	J (all detects)

LDC #: 30695C4

VALIDATION COMPLETENESS WORKSHEET

Date: 11/11/13

SDG #: PH100

ADR

Page: 1 of 1

Laboratory: Eurofins Lancaster Laboratories

Reviewer: *ca*

2nd Reviewer: *ca*

METHOD: Metals (EPA SW 846 Method 6010C/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: 9/3/13
II.	ICP/MS Tune	—	
III.	Calibration	—	
IV.	Blanks	A	
V.	ICP Interference Check Sample (ICS) Analysis	—	
VI.	Matrix Spike Analysis	SW MS/D	
VII.	Duplicate Sample Analysis	SW DP	
VIII.	Laboratory Control Samples (LCS)	A LCS	
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-090413 FB=FB-011113	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

(PH 101)
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank
 (PH029)

Validated Samples: Soil

1	SL-525-SA5D-SB-0.0-0.5	11	SL-545-SA5D-SB-0.0-0.5	21		31	
2	SL-525-SA5D-SB-2.5-3.5	12	SL-545-SA5D-SB-6.0-7.0	22		32	
3	SL-527-SA5D-SB-0.0-0.5	13		23		33	
4	SL-527-SA5D-SB-4.0-5.0	14		24		34	
5	SL-528-SA5D-SB-0.0-0.5	15		25		35	
6	SL-528-SA5D-SB-2.5-3.5	16		26		36	
7	SL-540-SA5D-SB-0.0-0.5	17		27		37	
8	SL-540-SA5D-SB-5.0-6.0	18		28		38	
9	SL-541-SA5D-SB-0.0-0.5	19		29		39	
10	SL-541-SA5D-SB-2.5-3.5	20		30		40	

Notes: _____

VALIDATION FINDINGS WORKSHEET Field Blanks

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

Blank units: mg/L Associated sample units: mg/Kg Reason: F

Sampling date: 4/11/13 Soil factor applied 100x

Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: All Soil

Analyte	Blank ID	Sample Identification												
	FB-041113 (SDG: PH029)	Action Limit	1	2	3	5	7	9	10	11				
Cu	0.0036	1.8												
Mo	0.0036	1.8	0.47	0.26	0.39	0.41	1.1	0.31	0.42	0.22				

Sampling date: 8/28/13 Soil factor applied 100x

Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: All Soil

Analyte	Blank ID	Sample Identification												
	EB-090413 (SDG: PH101)	Action Limit	No Qualifiers											
Ba	0.00040	0.2												
Ca	0.0346	17.3												
Mn	0.0011	0.55												

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".

QUALITY ASSURANCE SUMMARY

FORM 5A (MS/MSD)

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

SDG No.: PH100

Matrix: SOIL

Level

(low/med):

LOW

Background Lab Sample ID: 7184693BKG Matrix Spike Lab Sample ID: 7184693MS Matrix Spike Duplicate Lab Sample ID: 7184693MSD
Batch Id(s): P24737A, P24738A

Analyte	Mass	BKG Sample		MS Sample		MSD Sample		MS Spike Added	MSD Spike Added	Units	MS		MSD		Control Limit			
		Result	C	Result	C	Result	C				%R	Q	%R	Q	RPD	Q	%R	RPD
Aluminum		13970.0260		15998.4950		16038.5961		198.0198	194.1748	MG/KG	1024		1065		0		20	P
Antimony		1.8600	B	29.4812		24.8583		49.5050	48.5437	MG/KG	56	N	47	N	17	75 - 125	20	P
Arsenic		5.6740		20.8337		20.8184		14.8515	14.5631	MG/KG	102		104		0	75 - 125	20	P
Barium		88.3590		291.1198		290.8117		198.0198	194.1748	MG/KG	102		104		0	75 - 125	20	P
Beryllium		0.5050	B	5.6010		5.5262		4.9505	4.8544	MG/KG	103		103		1	75 - 125	20	P
Boron		6.1200	B	204.0436		199.4621		198.0198	194.1748	MG/KG	100		100		2	75 - 125	20	P
Cadmium		0.4090	B	5.2901		5.2214		4.9505	4.8544	MG/KG	99		99		1	75 - 125	20	P
Calcium		3478.8870		4172.8673		4045.7573		396.0396	388.3495	MG/KG	175		146		3		20	P
Chromium		26.8630		47.7515		48.1311		19.8020	19.4175	MG/KG	105		110		1	75 - 125	20	P
Cobalt		6.4940		55.1644		54.3680		49.5050	48.5437	MG/KG	98		99		1	75 - 125	20	P
Copper		10.0970		36.0257		35.7515		24.7525	24.2718	MG/KG	105		106		1	75 - 125	20	P
Iron		22164.2370		22838.1931		22518.3660		99.0099	97.0874	MG/KG	681		365		1		20	P
Lead		4.4490		18.9119		18.7447		14.8515	14.5631	MG/KG	97		98		1	75 - 125	20	P
Lithium		31.6910		134.3020		130.9136		99.0099	97.0874	MG/KG	104		102		3	75 - 125	20	P
Magnesium		6548.8350		6785.5297		6767.8359		198.0198	194.1748	MG/KG	120		113		0		20	P
Manganese		317.6920		360.2970		329.8097		49.5050	48.5437	MG/KG	86		25		9		20	P
Mercury		0.0096	U	0.1827		0.1821		0.1627	0.1625	MG/KG	112		112		0	65 - 135	20	CV
Molybdenum		0.4070	B	196.7436		191.7612		198.0198	194.1748	MG/KG	99		99		3	75 - 125	20	P
Nickel		24.0650		72.8069		72.2165		49.5050	48.5437	MG/KG	98		99		1	75 - 125	20	P
Phosphorus		505.0590		609.9604		605.3699		99.0099	97.0874	MG/KG	106		103		1		20	P
Potassium		2089.1660		3438.4693		3184.4835		990.0990	970.8738	MG/KG	136	N	113		8	75 - 125	20	P
Selenium	78	0.1000	U	2.0317		2.1126		1.9802	1.9417	MG/KG	103		109		4	75 - 125	20	MS
Silver	107	0.0260	U	9.7267		9.7126		9.9010	9.7087	MG/KG	98		100		0	75 - 125	20	MS
Sodium		105.9650		1118.3317		1089.0699		990.0990	970.8738	MG/KG	102		101		3	75 - 125	20	P
Strontium	88	19.1480		25.9406		26.3301		7.9208	7.7670	MG/KG	86		92		1	75 - 125	20	MS
Thallium	203	0.2440		0.6214		0.6328		0.3960	0.3883	MG/KG	95		100		2	75 - 125	20	MS

Note: Results shown are reported on an as-received basis.

<p>METHODS: P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry</p>	<p>CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence</p>	<p>CONCENTRATION QUALIFIERS: U= Below MDL, B= Below LOQ</p> <p>FLAGS: N = Matrix Spike OOS, * = Duplicate OOS</p>
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Lancaster
Laboratories

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QUALITY ASSURANCE SUMMARY

FORM 5A (MS/MSD)

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

SDG No.: PH100

Matrix: SOIL

Level

(low/med):

LOW

Background Lab Sample ID: 7184693BKG Matrix Spike Lab Sample ID: 7184693MS Matrix Spike Duplicate Lab Sample ID: 7184693MSD
Batch Id(s): P24737A, P24738A

Analyte	Mass	BKG Sample		MS Sample		MSD Sample		MS Spike Added	MSD Spike Added	Units	MS		MSD		Control Limit				
		Result	C	Result	C	Result	C				%R	Q	%R	Q	RPD	Q	%R	RPD	M
Tin		3.6810	B	369.4515		363.5320		396.0396	388.3495	MG/KG	92		93		2	75 - 125	20	P	
Titanium		1338.6750		1646.0267		1496.8757		99.0099	97.0874	MG/KG	310		163		9			20	P
Vanadium		46.2520		97.2347		95.7214		49.5050	48.5437	MG/KG	103		102		2	75 - 125	20	P	
Zinc		57.4510		107.8248		106.1505		49.5050	48.5437	MG/KG	102		100		2	75 - 125	20	P	
Zirconium		2.9900	B	106.2178		104.2553		99.0099	97.0874	MG/KG	104		104		2	75 - 125	20	P	

Note: Results shown are reported on an as-received basis.

<p>METHODS:</p> <p>P = ICP Atomic Emission Spectrometer CV = Cold Vapor MS = ICP Mass Spectrometry AF = Cold Vapor Atomic Fluorescence</p>	<p>CONCENTRATION QUALIFIERS:</p> <p>U= Below MDL, B= Below LOQ</p> <p>FLAGS:</p> <p>N = Matrix Spike OOS, * = Duplicate OOS</p>
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Background Lab Sample ID: 7184693BKG
 Batch ID(s): P24737A, P24738A
 Concentration Units: MG/KG

Duplicate Lab Sample ID: 7184693DUP

Analyte	Mass	Control Limit	Samples (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum			13970.0260		13693.5653		2		P
Antimony			1.8600	B	1.6594	B	11		P
Arsenic		4.0	5.6740		5.4990		3		P
Barium			88.3590		86.5406		2		P
Beryllium			0.5050	B	0.4931	B	2		P
Boron			6.1200	B	5.7545	B	6		P
Cadmium			0.4090	B	0.3683	B	10		P
Calcium			3478.8870		3428.2624		1		P
Chromium			26.8630		27.4653		2		P
Cobalt			6.4940		6.5980		2		P
Copper			10.0970		10.1762		1		P
Iron			22164.2370		22101.2495		0		P
Lead		3.0	4.4490		4.2327		5		P
Lithium			31.6910		31.4277		1		P
Magnesium			6548.8350		6570.5208		0		P
Manganese			317.6920		320.3238		1		P
Mercury			0.0096	U	0.0099	U			CV
Molybdenum			0.4070	B	0.1871	B	74		P
Nickel			24.0650		23.5119		2		P
Phosphorus			505.0590		488.1941		3		P
Potassium			2089.1660		2040.7941		2		P
Selenium	78		0.1000	U	0.0990	U			MS
Silver	107		0.0260	U	0.0257	U			MS
Sodium		100.0	105.9650		105.5287		0		P
Strontium	88		19.1480		18.5188		3		MS
Thallium	203	0.2	0.2440		0.2420		1		MS
Tin			3.6810	B	3.4485	B	7		P
Titanium			1338.6750		1265.4713		6		P
Vanadium			46.2520		45.6079		1		P
Zinc			57.4510		56.9743		1		P
Zirconium			2.9900	B	3.9109	B	27		P

NOTE: An asterisk (*) in column "Q" indicates poor duplicate precision (RPD > 20% OR |(S) - (D)| > LOQ for values < 5x LOQ).
 The data are considered to be valid because the laboratory control sample is within the control limits. See the Laboratory Control Sample.

obeyance

Note: Results shown are reported on an as-received basis.

METHODS: P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence	CONCENTRATION QUALIFIERS: U= Below MDL B= Below LOQ FLAGS: * = Duplicate Out of Spec
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**Data Validation Report
Santa Susana Field Laboratory**

Subarea 5D

SDG: PH101

Prepared for

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Prepared by

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December 9, 2013

INTRODUCTION

This Data Validation Report (DVR) presents Level III data validation results for samples collected on September 4, 2013. Data validation was performed in accordance with 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), Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005) and for Inorganic Data Review (January 2010). Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following methods:

Semivolatiles (SVOCs) by EPA SW 846 Method 8270D utilizing Selective Ion Monitoring (SIM)
Pesticides by EPA SW 846 Method 8081B
Polychlorinated Biphenyls (PCBs) by EPA SW 846 Method 8082A
Metals by EPA SW 846 Method 6010C, 6020A, 7470A and 7471B
Herbicides by EPA SW 846 Method 8151A
Perchlorate by EPA SW 846 Method 6850
Total Petroleum Hydrocarbons (TPH) as Gasoline by EPA SW 846 Method 8015M
TPH as Extractables by EPA SW 846 Method 8015M
Dioxins and Dibenzofurans by EPA Method 1613B

Wet Chemistry:

Hexavalent Chromium by EPA Method 7199
Fluoride by EPA Method 300.0

The sample identification and methods of analyses performed on each sample is presented in Attachment 1. Overall data qualification summary is presented in Attachment II. Level III Automated Data Review outliers are presented in Enclosure I.

All sample results were subjected to Level III data validation, which comprises an evaluation of quality control (QC) summary results for sample holding times, initial and continuing calibration blanks (ICB/CCBs), surrogates, internal standards (dioxins only), matrix spike/matrix spike duplicates (MS/MSD), laboratory duplicates (DUP), laboratory control sample/laboratory control sample duplicates (LCS/LCSD), ICP serial dilutions, method blanks, trip blanks, equipment blanks, field blanks and field duplicates. No samples in this SDG were subjected to Level IV evaluation.

Automated data review was performed on all QC summary results using the Automated Data Review (ADR) software program (LDC, 2013) with exception of ICB/CCBs and ICP serial dilutions, which were validated manually. Quality assurance (QA)/QC criteria specified in the QAPP and CLPNFGs were incorporated with the program's reference library to assess compliance with project requirements.

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.

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 QC criteria.

II. Initial Calibration

Initial Calibration data were not reviewed for level III.

III. Continuing Calibration

Continuing calibration data were not reviewed for level III.

IV. Blanks

Method blanks were performed at the required frequencies. No contaminant concentrations were detected in the method or preparation blanks with the exception of several blanks for SVOCs, metals and dioxins. The associated sample results were qualified as non-detected (U) due to method blank contamination as applicable. The sample results that were not detected or were significantly greater than the concentrations found in the associated blanks were not qualified. The details regarding the qualification of data are provided in Enclosure I.

No contaminant concentrations were detected in the initial or continuing calibration blanks.

V. 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 exception of one sample for SVOCs and seven samples for PCBs. The associated sample results were qualified as detected estimated (J) or non-detected estimated (UJ) as applicable. The details regarding the qualification of data are provided in Enclosure I.

VI. ICP Interference Check Sample (ICS) Analysis

ICP interference check data were not reviewed for level III.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were performed at the required frequency. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the exception of one MS/MSD pair for SVOCs, metals and TPH as extractables. The associated sample results were qualified as detected estimated (J) or non-detected estimated (UJ) as applicable. The details regarding the qualification of data are provided in Enclosure I.

VIII. Laboratory Duplicates Sample

Laboratory duplicates (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

IX. 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 with the exception of three LCS/LCSD pairs for pesticides, TPH as extractables and hexavalent chromium. The associated sample results were qualified as detected estimated (J) or non-detected estimated (UJ) as applicable. The details regarding the qualification of data are provided in Enclosure I.

X. Internal Standards

Internal standards were reviewed for dioxins. Percent recoveries (%R) were within QC limits.

XI. ICP Serial Dilution

ICP serial dilution analysis was performed by the laboratory. The analysis criteria were met.

XII. Compound Quantitation

The laboratory reporting limits were evaluated. All laboratory reporting limits met the specified requirements.

All compounds reported below the RL as detected were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG PH101	All compounds reported as detected below the RL.	J (all detects)	A

XIII. Field Duplicate Samples

One field duplicate pair was collected and analyzed for SVOCs, pesticides, PCBs, metals, herbicides, TPH as gasoline and TPH as extractables. All RPDs were within QC limits with the exception of several SVOCs, pesticides and metals. In this duplicate pair, the associated sample results were qualified as detected estimated (J) or non-detected estimated (UJ) as applicable. The field duplicate result comparisons are provided in Enclosure I.

XIV. Field Blank Samples

One trip blank was collected and analyzed for TPH as gasoline. No volatile contaminants were found in the trip blank.

One equipment blank was collected and analyzed for SVOCs, pesticides, PCBs, metals, herbicides, perchlorate, TPH as gasoline, TPH as extractables, dioxins, hexavalent chromium and fluoride. The equipment blank had detections for SVOCs, metals and dioxins. The associated sample results were not detected or were significantly greater than the concentrations found in the equipment blanks, therefore no data were qualified.

One field blank (from SDG PH029) was collected and analyzed for SVOCs, pesticides, PCBs, metals, herbicides, perchlorate, TPH as gasoline, TPH as extractables, dioxins, hexavalent chromium and fluoride. The field blank had detections for SVOCs, metals and dioxins. The associated sample results were qualified as non-detected (U) due to field blank contamination

as applicable. The sample results that were not detected or were significantly greater than the concentrations found in the field blank were not qualified. The field blank outlier reports are presented in Enclosure I.

XV. Overall Assessment of Data

No data associated with this sampling event were rejected. The overall assessment of QA/QC data review by automated and manual validation of this sampling event met project requirements and analytical completeness levels with the exceptions noted in the above sections. All data are deemed useable for the intended use.

Data flags are summarized and are presented as Attachment 2.

Attachment 1
Sample Cross Reference

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
04-Sep-2013	TB-090413	7186219	TB	5030B	8015M	III
04-Sep-2013	SL-524-SA5D-SB-0.0-0.5	7186220	N	3050B	6010C	III
04-Sep-2013	SL-524-SA5D-SB-0.0-0.5	7186220	N	3050B	6020A	III
04-Sep-2013	SL-524-SA5D-SB-0.0-0.5	7186220	N	3546	8015M	III
04-Sep-2013	SL-524-SA5D-SB-0.0-0.5	7186220	N	3546	8081B	III
04-Sep-2013	SL-524-SA5D-SB-0.0-0.5	7186220	N	3546	8082A	III
04-Sep-2013	SL-524-SA5D-SB-0.0-0.5	7186220	N	3546	8270D SIM	III
04-Sep-2013	SL-524-SA5D-SB-0.0-0.5	7186220	N	3550B	8151A	III
04-Sep-2013	SL-524-SA5D-SB-0.0-0.5	7186220	N	METHOD	1613B	III
04-Sep-2013	SL-524-SA5D-SB-0.0-0.5	7186220	N	METHOD	7471B	III
04-Sep-2013	SL-524-SA5D-SB-5.5-6.5	7186221	N	3050B	6010C	III
04-Sep-2013	SL-524-SA5D-SB-5.5-6.5	7186221	N	3050B	6020A	III
04-Sep-2013	SL-524-SA5D-SB-5.5-6.5	7186221	N	3546	8015M	III
04-Sep-2013	SL-524-SA5D-SB-5.5-6.5	7186221	N	3546	8081B	III
04-Sep-2013	SL-524-SA5D-SB-5.5-6.5	7186221	N	3546	8082A	III
04-Sep-2013	SL-524-SA5D-SB-5.5-6.5	7186221	N	3546	8270D SIM	III
04-Sep-2013	SL-524-SA5D-SB-5.5-6.5	7186221	N	3550B	8151A	III
04-Sep-2013	SL-524-SA5D-SB-5.5-6.5	7186221	N	5035A	8015M	III
04-Sep-2013	SL-524-SA5D-SB-5.5-6.5	7186221	N	METHOD	7471B	III
04-Sep-2013	SL-524-SA5D-SB-5.5-6.5MS	7186222	MS	3050B	6010C	III
04-Sep-2013	SL-524-SA5D-SB-5.5-6.5MS	7186222	MS	3050B	6020A	III
04-Sep-2013	SL-524-SA5D-SB-5.5-6.5MS	7186222	MS	3546	8015M	III
04-Sep-2013	SL-524-SA5D-SB-5.5-6.5MS	7186222	MS	3546	8081B	III
04-Sep-2013	SL-524-SA5D-SB-5.5-6.5MS	7186222	MS	3546	8082A	III
04-Sep-2013	SL-524-SA5D-SB-5.5-6.5MS	7186222	MS	3546	8270D SIM	III
04-Sep-2013	SL-524-SA5D-SB-5.5-6.5MS	7186222	MS	3550B	8151A	III

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
04-Sep-2013	SL-524-SA5D-SB-5.5-6.5MS	7186222	MS	5035A	8015M	III
04-Sep-2013	SL-524-SA5D-SB-5.5-6.5MS	7186222	MS	METHOD	7471B	III
04-Sep-2013	SL-524-SA5D-SB-5.5-6.5MSD	7186223	MSD	3050B	6010C	III
04-Sep-2013	SL-524-SA5D-SB-5.5-6.5MSD	7186223	MSD	3050B	6020A	III
04-Sep-2013	SL-524-SA5D-SB-5.5-6.5MSD	7186223	MSD	3546	8015M	III
04-Sep-2013	SL-524-SA5D-SB-5.5-6.5MSD	7186223	MSD	3546	8081B	III
04-Sep-2013	SL-524-SA5D-SB-5.5-6.5MSD	7186223	MSD	3546	8082A	III
04-Sep-2013	SL-524-SA5D-SB-5.5-6.5MSD	7186223	MSD	3546	8270D SIM	III
04-Sep-2013	SL-524-SA5D-SB-5.5-6.5MSD	7186223	MSD	3550B	8151A	III
04-Sep-2013	SL-524-SA5D-SB-5.5-6.5MSD	7186223	MSD	5035A	8015M	III
04-Sep-2013	SL-524-SA5D-SB-5.5-6.5MSD	7186223	MSD	METHOD	7471B	III
04-Sep-2013	SL-524-SA5D-SB-5.5-6.5DUP	7186224	DUP	3050B	6010C	III
04-Sep-2013	SL-524-SA5D-SB-5.5-6.5DUP	7186224	DUP	3050B	6020A	III
04-Sep-2013	SL-524-SA5D-SB-5.5-6.5DUP	7186224	DUP	METHOD	7471B	III
04-Sep-2013	SL-824-SA5D-SB-5.5-6.5	7186225	FD	3050B	6010C	III
04-Sep-2013	SL-824-SA5D-SB-5.5-6.5	7186225	FD	3050B	6020A	III
04-Sep-2013	SL-824-SA5D-SB-5.5-6.5	7186225	FD	3546	8015M	III
04-Sep-2013	SL-824-SA5D-SB-5.5-6.5	7186225	FD	3546	8081B	III
04-Sep-2013	SL-824-SA5D-SB-5.5-6.5	7186225	FD	3546	8082A	III
04-Sep-2013	SL-824-SA5D-SB-5.5-6.5	7186225	FD	3546	8270D SIM	III
04-Sep-2013	SL-824-SA5D-SB-5.5-6.5	7186225	FD	3550B	8151A	III
04-Sep-2013	SL-824-SA5D-SB-5.5-6.5	7186225	FD	5035A	8015M	III
04-Sep-2013	SL-824-SA5D-SB-5.5-6.5	7186225	FD	METHOD	7471B	III
04-Sep-2013	SL-544-SA5D-SB-0.0-0.5	7186226	N	3050B	6010C	III
04-Sep-2013	SL-544-SA5D-SB-0.0-0.5	7186226	N	3050B	6020A	III
04-Sep-2013	SL-544-SA5D-SB-0.0-0.5	7186226	N	3546	8015M	III

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
04-Sep-2013	SL-544-SA5D-SB-0.0-0.5	7186226	N	3546	8082A	III
04-Sep-2013	SL-544-SA5D-SB-0.0-0.5	7186226	N	3546	8270D SIM	III
04-Sep-2013	SL-544-SA5D-SB-0.0-0.5	7186226	N	METHOD	1613B	III
04-Sep-2013	SL-544-SA5D-SB-0.0-0.5	7186226	N	METHOD	7471B	III
04-Sep-2013	SL-544-SA5D-SB-6.5-7.5	7186227	N	3050B	6010C	III
04-Sep-2013	SL-544-SA5D-SB-6.5-7.5	7186227	N	3050B	6020A	III
04-Sep-2013	SL-544-SA5D-SB-6.5-7.5	7186227	N	3546	8015M	III
04-Sep-2013	SL-544-SA5D-SB-6.5-7.5	7186227	N	3546	8082A	III
04-Sep-2013	SL-544-SA5D-SB-6.5-7.5	7186227	N	3546	8270D SIM	III
04-Sep-2013	SL-544-SA5D-SB-6.5-7.5	7186227	N	5035A	8015M	III
04-Sep-2013	SL-544-SA5D-SB-6.5-7.5	7186227	N	METHOD	7471B	III
04-Sep-2013	SL-547-SA5D-SB-0.0-0.5	7186230	N	3050B	6010C	III
04-Sep-2013	SL-547-SA5D-SB-0.0-0.5	7186230	N	3050B	6020A	III
04-Sep-2013	SL-547-SA5D-SB-0.0-0.5	7186230	N	3546	8015M	III
04-Sep-2013	SL-547-SA5D-SB-0.0-0.5	7186230	N	3546	8082A	III
04-Sep-2013	SL-547-SA5D-SB-0.0-0.5	7186230	N	3546	8270D SIM	III
04-Sep-2013	SL-547-SA5D-SB-0.0-0.5	7186230	N	METHOD	1613B	III
04-Sep-2013	SL-547-SA5D-SB-0.0-0.5	7186230	N	METHOD	7471B	III
04-Sep-2013	SL-547-SA5D-SB-4.0-5.0	7186231	N	3050B	6010C	III
04-Sep-2013	SL-547-SA5D-SB-4.0-5.0	7186231	N	3050B	6020A	III
04-Sep-2013	SL-547-SA5D-SB-4.0-5.0	7186231	N	3546	8015M	III
04-Sep-2013	SL-547-SA5D-SB-4.0-5.0	7186231	N	3546	8082A	III
04-Sep-2013	SL-547-SA5D-SB-4.0-5.0	7186231	N	3546	8270D SIM	III
04-Sep-2013	SL-547-SA5D-SB-4.0-5.0	7186231	N	5035A	8015M	III
04-Sep-2013	SL-547-SA5D-SB-4.0-5.0	7186231	N	METHOD	7471B	III
04-Sep-2013	SL-546-SA5D-SB-0.0-0.5	7186228	N	3050B	6010C	III

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
04-Sep-2013	SL-546-SA5D-SB-0.0-0.5	7186228	N	3050B	6020A	III
04-Sep-2013	SL-546-SA5D-SB-0.0-0.5	7186228	N	3546	8015M	III
04-Sep-2013	SL-546-SA5D-SB-0.0-0.5	7186228	N	3546	8082A	III
04-Sep-2013	SL-546-SA5D-SB-0.0-0.5	7186228	N	3546	8270D SIM	III
04-Sep-2013	SL-546-SA5D-SB-0.0-0.5	7186228	N	METHOD	1613B	III
04-Sep-2013	SL-546-SA5D-SB-0.0-0.5	7186228	N	METHOD	7471B	III
04-Sep-2013	SL-546-SA5D-SB-4.0-5.0	7186229	N	3050B	6010C	III
04-Sep-2013	SL-546-SA5D-SB-4.0-5.0	7186229	N	3050B	6020A	III
04-Sep-2013	SL-546-SA5D-SB-4.0-5.0	7186229	N	3546	8015M	III
04-Sep-2013	SL-546-SA5D-SB-4.0-5.0	7186229	N	3546	8082A	III
04-Sep-2013	SL-546-SA5D-SB-4.0-5.0	7186229	N	3546	8270D SIM	III
04-Sep-2013	SL-546-SA5D-SB-4.0-5.0	7186229	N	5035A	8015M	III
04-Sep-2013	SL-546-SA5D-SB-4.0-5.0	7186229	N	METHOD	7471B	III
04-Sep-2013	EB-090413	7186218	EB	3005A	6010C	III
04-Sep-2013	EB-090413	7186218	EB	3510C	8015M	III
04-Sep-2013	EB-090413	7186218	EB	3510C	8081B	III
04-Sep-2013	EB-090413	7186218	EB	3510C	8082A	III
04-Sep-2013	EB-090413	7186218	EB	3510C	8270D SIM	III
04-Sep-2013	EB-090413	7186218	EB	5030B	8015M	III
04-Sep-2013	EB-090413	7186218	EB	Gen Prep	300.0	III
04-Sep-2013	EB-090413	7186218	EB	Gen Prep	6850	III
04-Sep-2013	EB-090413	7186218	EB	Gen Prep	7199	III
04-Sep-2013	EB-090413	7186218	EB	M3010A	6020A	III
04-Sep-2013	EB-090413	7186218	EB	METHOD	1613B	III
04-Sep-2013	EB-090413	7186218	EB	METHOD	7470A	III
04-Sep-2013	EB-090413	7186218	EB	METHOD	8151A	III

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
04-Sep-2013	EB-090413MSD	P186218M241728A	MSD	Gen Prep	6850	III
04-Sep-2013	EB-090413MS	P186218R241716A	MS	Gen Prep	6850	III

Attachment 2
Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: PH101

Laboratory: LL

EDD Filename: PrepPH101

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: METALS
Method: 6010C **Matrix:** AQ

Sample ID: EB-090413 Collected: 9/4/2013 3:00:00 PM Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BARIUM	0.00040	J	0.00033	MDL	0.0100	PQL	mg/L	J	Z
CALCIUM	0.0346	J	0.0334	MDL	0.400	PQL	mg/L	U	B
MANGANESE	0.0011	J	0.00083	MDL	0.0100	PQL	mg/L	J	Z

Method Category: METALS
Method: 6010C **Matrix:** SO

Sample ID: SL-524-SA5D-SB-0.0-0.5 Collected: 9/4/2013 8:20:00 AM Analysis Type: REA Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	4.15	U	0.768	MDL	4.15	PQL	mg/Kg	UJ	Q
BERYLLIUM	0.780	J	0.0695	MDL	1.04	PQL	mg/Kg	J	Z
CADMIUM	0.624	J	0.0789	MDL	1.04	PQL	mg/Kg	J	Z
MANGANESE	374		0.0861	MDL	1.04	PQL	mg/Kg	J	Q
MOLYBDENUM	0.413	J	0.176	MDL	2.08	PQL	mg/Kg	U	F
TIN	2.90	J	0.228	MDL	10.4	PQL	mg/Kg	U	B

Sample ID: SL-524-SA5D-SB-5.5-6.5 Collected: 9/4/2013 8:35:00 AM Analysis Type: REA Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	4.28	U	0.792	MDL	4.28	PQL	mg/Kg	UJ	Q
ARSENIC	4.02	J	0.749	MDL	4.28	PQL	mg/Kg	J	Z
BERYLLIUM	0.449	J	0.0717	MDL	1.07	PQL	mg/Kg	J	Z
CADMIUM	0.456	J	0.0814	MDL	1.07	PQL	mg/Kg	J	Z
MANGANESE	182		0.0889	MDL	1.07	PQL	mg/Kg	J	Q
TIN	2.92	J	0.236	MDL	10.7	PQL	mg/Kg	U	B
Zirconium	4.01	J	0.899	MDL	5.35	PQL	mg/Kg	J	Z

Sample ID: SL-544-SA5D-SB-0.0-0.5 Collected: 9/4/2013 9:40:00 AM Analysis Type: REA Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	4.19	U	0.775	MDL	4.19	PQL	mg/Kg	UJ	Q

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

12/9/2013 9:30:37 AM

ADR version 1.7.0.207

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Data Qualifier Summary

Lab Reporting Batch ID: PH101

Laboratory: LL

EDD Filename: PrepPH101

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: METALS
Method: 6010C **Matrix:** SO

Sample ID: SL-544-SA5D-SB-0.0-0.5 Collected: 9/4/2013 9:40:00 AM Analysis Type: REA Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BERYLLIUM	0.706	J	0.0702	MDL	1.05	PQL	mg/Kg	J	Z
CADMIUM	0.619	J	0.0796	MDL	1.05	PQL	mg/Kg	J	Z
MANGANESE	410		0.0869	MDL	1.05	PQL	mg/Kg	J	Q
MOLYBDENUM	0.487	J	0.178	MDL	2.09	PQL	mg/Kg	U	F
SODIUM	85.8	J	17.5	MDL	105	PQL	mg/Kg	J	Z
TIN	2.93	J	0.230	MDL	10.5	PQL	mg/Kg	U	B
Zirconium	5.06	J	0.880	MDL	5.24	PQL	mg/Kg	J	Z

Sample ID: SL-544-SA5D-SB-6.5-7.5 Collected: 9/4/2013 9:50:00 AM Analysis Type: REA Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	4.12	U	0.762	MDL	4.12	PQL	mg/Kg	UJ	Q
BERYLLIUM	0.450	J	0.0690	MDL	1.03	PQL	mg/Kg	J	Z
CADMIUM	0.425	J	0.0782	MDL	1.03	PQL	mg/Kg	J	Z
MANGANESE	252		0.0855	MDL	1.03	PQL	mg/Kg	J	Q
TIN	3.14	J	0.227	MDL	10.3	PQL	mg/Kg	U	B
Zirconium	4.93	J	0.865	MDL	5.15	PQL	mg/Kg	J	Z

Sample ID: SL-546-SA5D-SB-0.0-0.5 Collected: 9/4/2013 1:25:00 PM Analysis Type: REA Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	4.17	U	0.772	MDL	4.17	PQL	mg/Kg	UJ	Q
BERYLLIUM	0.631	J	0.0699	MDL	1.04	PQL	mg/Kg	J	Z
CADMIUM	0.677	J	0.0792	MDL	1.04	PQL	mg/Kg	J	Z
MANGANESE	369		0.0865	MDL	1.04	PQL	mg/Kg	J	Q
MOLYBDENUM	0.580	J	0.177	MDL	2.09	PQL	mg/Kg	U	F
SODIUM	79.8	J	17.4	MDL	104	PQL	mg/Kg	J	Z
TIN	2.87	J	0.229	MDL	10.4	PQL	mg/Kg	U	B
Zirconium	4.28	J	0.876	MDL	5.21	PQL	mg/Kg	J	Z

* denotes a non-reportable result

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Data Qualifier Summary

Lab Reporting Batch ID: PH101

Laboratory: LL

EDD Filename: PrepPH101

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: METALS

Method: 6010C

Matrix: SO

Sample ID: SL-546-SA5D-SB-4.0-5.0

Collected: 9/4/2013 1:45:00 PM Analysis Type: REA

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	4.53	U	0.838	MDL	4.53	PQL	mg/Kg	UJ	Q
BERYLLIUM	0.912	J	0.0759	MDL	1.13	PQL	mg/Kg	J	Z
CADMIUM	0.600	J	0.0861	MDL	1.13	PQL	mg/Kg	J	Z
MANGANESE	428		0.0940	MDL	1.13	PQL	mg/Kg	J	Q
MOLYBDENUM	0.755	J	0.193	MDL	2.27	PQL	mg/Kg	U	F
TIN	3.37	J	0.249	MDL	11.3	PQL	mg/Kg	U	B

Sample ID: SL-547-SA5D-SB-0.0-0.5

Collected: 9/4/2013 12:00:00 Analysis Type: REA

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	4.15	U	0.767	MDL	4.15	PQL	mg/Kg	UJ	Q
BERYLLIUM	0.707	J	0.0694	MDL	1.04	PQL	mg/Kg	J	Z
CADMIUM	0.587	J	0.0788	MDL	1.04	PQL	mg/Kg	J	Z
MANGANESE	376		0.0860	MDL	1.04	PQL	mg/Kg	J	Q
MOLYBDENUM	0.396	J	0.176	MDL	2.07	PQL	mg/Kg	U	F
SODIUM	91.9	J	17.3	MDL	104	PQL	mg/Kg	J	Z
TIN	2.91	J	0.228	MDL	10.4	PQL	mg/Kg	U	B

Sample ID: SL-547-SA5D-SB-4.0-5.0

Collected: 9/4/2013 12:15:00 Analysis Type: REA

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	4.38	U	0.810	MDL	4.38	PQL	mg/Kg	UJ	Q
BERYLLIUM	0.920	J	0.0734	MDL	1.10	PQL	mg/Kg	J	Z
CADMIUM	0.494	J	0.0832	MDL	1.10	PQL	mg/Kg	J	Z
MANGANESE	405		0.0909	MDL	1.10	PQL	mg/Kg	J	Q
MOLYBDENUM	0.251	J	0.186	MDL	2.19	PQL	mg/Kg	U	F
TIN	3.16	J	0.241	MDL	11.0	PQL	mg/Kg	U	B

Sample ID: SL-824-SA5D-SB-5.5-6.5

Collected: 9/4/2013 8:45:00 AM Analysis Type: REA

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	4.22	U	0.781	MDL	4.22	PQL	mg/Kg	UJ	Q

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Data Qualifier Summary

Lab Reporting Batch ID: PH101

Laboratory: LL

EDD Filename: PrepPH101

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: METALS
Method: 6010C **Matrix:** SO

Sample ID: SL-824-SA5D-SB-5.5-6.5 Collected: 9/4/2013 8:45:00 AM Analysis Type: REA Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BERYLLIUM	0.453	J	0.0707	MDL	1.06	PQL	mg/Kg	J	Z
CADMIUM	0.427	J	0.0802	MDL	1.06	PQL	mg/Kg	J	Z
MANGANESE	225		0.0876	MDL	1.06	PQL	mg/Kg	J	Q
TIN	2.88	J	0.232	MDL	10.6	PQL	mg/Kg	U	B
Zirconium	4.05	J	0.886	MDL	5.28	PQL	mg/Kg	J	Z

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

Sample ID: SL-524-SA5D-SB-0.0-0.5 Collected: 9/4/2013 8:20:00 AM Analysis Type: REA Dilution: 2

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SELENIUM	0.132	J	0.104	MDL	0.415	PQL	mg/Kg	J	Z

Sample ID: SL-524-SA5D-SB-0.0-0.5 Collected: 9/4/2013 8:20:00 AM Analysis Type: RES Dilution: 2

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SILVER	0.0922	J	0.0270	MDL	0.208	PQL	mg/Kg	J	Z

Sample ID: SL-524-SA5D-SB-5.5-6.5 Collected: 9/4/2013 8:35:00 AM Analysis Type: RES Dilution: 2

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SILVER	0.0657	J	0.0278	MDL	0.214	PQL	mg/Kg	J	Z

Sample ID: SL-544-SA5D-SB-0.0-0.5 Collected: 9/4/2013 9:40:00 AM Analysis Type: REA Dilution: 2

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SELENIUM	0.240	J	0.105	MDL	0.419	PQL	mg/Kg	J	Z

Sample ID: SL-544-SA5D-SB-0.0-0.5 Collected: 9/4/2013 9:40:00 AM Analysis Type: RES Dilution: 2

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SILVER	0.0299	J	0.0272	MDL	0.209	PQL	mg/Kg	J	Z

* denotes a non-reportable result

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Data Qualifier Summary

Lab Reporting Batch ID: PH101

Laboratory: LL

EDD Filename: PrepPH101

eQAPP Name: CDM_SSFL_131101_Lan

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

Sample ID: SL-546-SA5D-SB-0.0-0.5 Collected: 9/4/2013 1:25:00 PM Analysis Type: REA Dilution: 2

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SELENIUM	0.254	J	0.104	MDL	0.417	PQL	mg/Kg	J	Z

Sample ID: SL-546-SA5D-SB-0.0-0.5 Collected: 9/4/2013 1:25:00 PM Analysis Type: RES Dilution: 2

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SILVER	0.0307	J	0.0271	MDL	0.209	PQL	mg/Kg	J	Z

Sample ID: SL-546-SA5D-SB-4.0-5.0 Collected: 9/4/2013 1:45:00 PM Analysis Type: REA Dilution: 2

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SELENIUM	0.282	J	0.113	MDL	0.453	PQL	mg/Kg	J	Z

Sample ID: SL-546-SA5D-SB-4.0-5.0 Collected: 9/4/2013 1:45:00 PM Analysis Type: RES Dilution: 2

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SILVER	0.0801	J	0.0294	MDL	0.227	PQL	mg/Kg	J	Z

Sample ID: SL-547-SA5D-SB-0.0-0.5 Collected: 9/4/2013 12:00:00 Analysis Type: REA Dilution: 2

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SELENIUM	0.283	J	0.104	MDL	0.415	PQL	mg/Kg	J	Z

Sample ID: SL-547-SA5D-SB-0.0-0.5 Collected: 9/4/2013 12:00:00 Analysis Type: RES Dilution: 2

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SILVER	0.0292	J	0.0269	MDL	0.207	PQL	mg/Kg	J	Z

Sample ID: SL-547-SA5D-SB-4.0-5.0 Collected: 9/4/2013 12:15:00 Analysis Type: REA Dilution: 2

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SELENIUM	0.153	J	0.110	MDL	0.438	PQL	mg/Kg	J	Z

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Data Qualifier Summary

Lab Reporting Batch ID: PH101

Laboratory: LL

EDD Filename: PrepPH101

eQAPP Name: CDM_SSFL_131101_Lan

Method Category:	METALS	
Method:	6020A	Matrix: SO

Sample ID: SL-547-SA5D-SB-4.0-5.0 Collected: 9/4/2013 12:15:00 Analysis Type: RES Dilution: 2

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SILVER	0.0627	J	0.0285	MDL	0.219	PQL	mg/Kg	J	Z

Sample ID: SL-824-SA5D-SB-5.5-6.5 Collected: 9/4/2013 8:45:00 AM Analysis Type: RES Dilution: 2

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SILVER	0.0687	J	0.0274	MDL	0.211	PQL	mg/Kg	J	Z

Method Category:	METALS	
Method:	7471B	Matrix: SO

Sample ID: SL-524-SA5D-SB-5.5-6.5 Collected: 9/4/2013 8:35:00 AM Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
MERCURY	0.113		0.0103	MDL	0.0172	PQL	mg/Kg	J	FD

Sample ID: SL-546-SA5D-SB-0.0-0.5 Collected: 9/4/2013 1:25:00 PM Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
MERCURY	0.0132	J	0.0102	MDL	0.0169	PQL	mg/Kg	J	Z

Sample ID: SL-547-SA5D-SB-0.0-0.5 Collected: 9/4/2013 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
MERCURY	0.0110	J	0.0102	MDL	0.0170	PQL	mg/Kg	J	Z

Sample ID: SL-824-SA5D-SB-5.5-6.5 Collected: 9/4/2013 8:45:00 AM Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
MERCURY	0.0172	U	0.0103	MDL	0.0172	PQL	mg/Kg	UJ	FD

* denotes a non-reportable result

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Data Qualifier Summary

Lab Reporting Batch ID: PH101

Laboratory: LL

EDD Filename: PrepPH101

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: SVOA
Method: 1613B **Matrix:** AQ

Sample ID: EB-090413 Collected: 9/4/2013 3:00:00 PM 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	0.554	JBQ	0.0939	MDL	10.1	PQL	pg/L	U	B
1,2,3,4,6,7,8-HPCDF	0.461	JBQ	0.0397	MDL	10.1	PQL	pg/L	U	B
1,2,3,4,7,8,9-HPCDF	0.305	JB	0.0435	MDL	10.1	PQL	pg/L	U	B
1,2,3,4,7,8-HxCDD	0.254	JBQ	0.111	MDL	10.1	PQL	pg/L	U	B
1,2,3,4,7,8-HXCDF	0.194	JBQ	0.0573	MDL	10.1	PQL	pg/L	U	B
1,2,3,6,7,8-HXCDD	0.212	JBQ	0.120	MDL	10.1	PQL	pg/L	U	B
1,2,3,6,7,8-HXCDF	0.179	JBQ	0.0534	MDL	10.1	PQL	pg/L	U	B
1,2,3,7,8,9-HXCDD	0.136	JBQ	0.108	MDL	10.1	PQL	pg/L	U	B
1,2,3,7,8,9-HXCDF	0.278	JBQ	0.0561	MDL	10.1	PQL	pg/L	U	B
1,2,3,7,8-PECDD	0.517	JBQ	0.129	MDL	10.1	PQL	pg/L	U	B
1,2,3,7,8-PECDF	0.614	JQ	0.0736	MDL	10.1	PQL	pg/L	J	Z
2,3,4,6,7,8-HXCDF	0.236	JB	0.0532	MDL	10.1	PQL	pg/L	U	B
2,3,4,7,8-PECDF	0.211	JBQ	0.0638	MDL	10.1	PQL	pg/L	U	B
OCDD	0.962	JBQ	0.126	MDL	20.1	PQL	pg/L	U	B
OCDF	0.878	JBQ	0.133	MDL	20.1	PQL	pg/L	U	B

Method Category: SVOA
Method: 1613B **Matrix:** SO

Sample ID: SL-524-SA5D-SB-0.0-0.5 Collected: 9/4/2013 8:20:00 AM 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	4.77	JB	0.0256	MDL	5.10	PQL	ng/Kg	J	Z
1,2,3,4,7,8,9-HPCDF	0.410	JB	0.0346	MDL	5.10	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.487	JBQ	0.0664	MDL	5.10	PQL	ng/Kg	J	Z
1,2,3,4,7,8-HXCDF	0.349	JBQ	0.0324	MDL	5.10	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDD	2.02	JQ	0.0684	MDL	5.10	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDF	0.310	JBQ	0.0290	MDL	5.10	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDD	1.61	JBQ	0.0652	MDL	5.10	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDF	0.689	JB	0.0348	MDL	5.10	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDD	0.371	JQ	0.0635	MDL	5.10	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDF	0.722	JBQ	0.0429	MDL	5.10	PQL	ng/Kg	J	Z

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH101

Laboratory: LL

EDD Filename: PrepPH101

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: SVOA
Method: 1613B **Matrix:** SO

Sample ID: SL-524-SA5D-SB-0.0-0.5 Collected: 9/4/2013 8:20:00 AM 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	0.337	JB	0.0308	MDL	5.10	PQL	ng/Kg	J	Z
2,3,4,7,8-PECDF	0.409	JBQ	0.0419	MDL	5.10	PQL	ng/Kg	J	Z
2,3,7,8-TCDF	0.247	JQ	0.110	MDL	1.02	PQL	ng/Kg	J	Z

Sample ID: SL-544-SA5D-SB-0.0-0.5 Collected: 9/4/2013 9:40:00 AM 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	0.562	JBQ	0.0350	MDL	5.21	PQL	ng/Kg	J	Z
1,2,3,4,6,7,8-HPCDF	0.148	JB	0.0132	MDL	5.21	PQL	ng/Kg	U	B
1,2,3,4,7,8,9-HPCDF	0.0544	JBQ	0.0208	MDL	5.21	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.0521	JBQ	0.0415	MDL	5.21	PQL	ng/Kg	U	B
1,2,3,4,7,8-HXCDF	0.0932	JB	0.0194	MDL	5.21	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDD	0.560	J	0.0437	MDL	5.21	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDF	0.130	JBQ	0.0170	MDL	5.21	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDD	0.794	JB	0.0404	MDL	5.21	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDF	1.39	JB	0.0202	MDL	5.21	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDD	0.188	J	0.0563	MDL	5.21	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDF	0.461	JBQ	0.0272	MDL	5.21	PQL	ng/Kg	J	Z
2,3,4,6,7,8-HXCDF	0.0686	JBQ	0.0170	MDL	5.21	PQL	ng/Kg	U	B
2,3,4,7,8-PECDF	0.146	JBQ	0.0277	MDL	5.21	PQL	ng/Kg	U	B
2,3,7,8-TCDD	0.101	JQ	0.0756	MDL	1.04	PQL	ng/Kg	J	Z
OCDD	6.62	JB	0.0276	MDL	10.4	PQL	ng/Kg	J	Z
OCDF	0.290	JBQ	0.0386	MDL	10.4	PQL	ng/Kg	U	B

Sample ID: SL-546-SA5D-SB-0.0-0.5 Collected: 9/4/2013 1:25:00 PM 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	1.97	JB	0.0407	MDL	5.06	PQL	ng/Kg	J	Z
1,2,3,4,6,7,8-HPCDF	0.462	JB	0.0175	MDL	5.06	PQL	ng/Kg	J	Z
1,2,3,4,7,8,9-HPCDF	0.187	JB	0.0263	MDL	5.06	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.211	JBQ	0.0483	MDL	5.06	PQL	ng/Kg	J	Z
1,2,3,4,7,8-HXCDF	0.248	JB	0.0262	MDL	5.06	PQL	ng/Kg	U	B

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Data Qualifier Summary

Lab Reporting Batch ID: PH101

Laboratory: LL

EDD Filename: PrepPH101

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: SVOA
Method: 1613B **Matrix:** SO

Sample ID: SL-546-SA5D-SB-0.0-0.5 Collected: 9/4/2013 1:25:00 PM 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	0.744	JQ	0.0498	MDL	5.06	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDF	0.290	JBQ	0.0226	MDL	5.06	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDD	1.05	JB	0.0482	MDL	5.06	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDF	1.69	JB	0.0288	MDL	5.06	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDD	0.437	J	0.0694	MDL	5.06	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDF	0.617	JB	0.0326	MDL	5.06	PQL	ng/Kg	J	Z
2,3,4,6,7,8-HXCDF	0.242	JBQ	0.0242	MDL	5.06	PQL	ng/Kg	U	B
2,3,4,7,8-PECDF	0.443	JBQ	0.0334	MDL	5.06	PQL	ng/Kg	J	Z
2,3,7,8-TCDD	0.117	JQ	0.0820	MDL	1.01	PQL	ng/Kg	J	Z
2,3,7,8-TCDF	0.108	J	0.0781	MDL	1.01	PQL	ng/Kg	J	Z
OCDF	1.05	JBQ	0.0385	MDL	10.1	PQL	ng/Kg	U	B

Sample ID: SL-547-SA5D-SB-0.0-0.5 Collected: 9/4/2013 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-HPCDD	1.90	JB	0.0449	MDL	5.22	PQL	ng/Kg	J	Z
1,2,3,4,6,7,8-HPCDF	0.264	JBQ	0.0148	MDL	5.22	PQL	ng/Kg	J	Z
1,2,3,4,7,8,9-HPCDF	0.0744	JB	0.0237	MDL	5.22	PQL	ng/Kg	U	B
1,2,3,4,7,8-HXCDF	0.0665	JB	0.0267	MDL	5.22	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDD	0.667	J	0.0443	MDL	5.22	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDF	0.154	JB	0.0228	MDL	5.22	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDD	0.831	JB	0.0409	MDL	5.22	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDF	1.75	JB	0.0265	MDL	5.22	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDF	0.492	JBQ	0.0284	MDL	5.22	PQL	ng/Kg	J	Z
2,3,4,6,7,8-HXCDF	0.109	JBQ	0.0239	MDL	5.22	PQL	ng/Kg	U	B
2,3,4,7,8-PECDF	0.0975	JBQ	0.0303	MDL	5.22	PQL	ng/Kg	U	B
2,3,7,8-TCDF	0.106	JQ	0.0686	MDL	1.04	PQL	ng/Kg	J	Z
OCDF	0.920	JB	0.0430	MDL	10.4	PQL	ng/Kg	U	B

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Data Qualifier Summary

Lab Reporting Batch ID: PH101

Laboratory: LL

EDD Filename: PrepPH101

eQAPP Name: CDM_SSFL_131101_Lan

Method Category:	SVOA		
Method:	8015M	Matrix:	AQ

Sample ID: EB-090413 Collected: 9/4/2013 3:00:00 PM Analysis Type: REA Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
EFH (C8-C11)	0.096	U	0.048	MDL	0.096	PQL	mg/L	UJ	L

Method Category:	SVOA		
Method:	8015M	Matrix:	SO

Sample ID: SL-544-SA5D-SB-0.0-0.5 Collected: 9/4/2013 9:40:00 AM Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
EFH (C21-C30)	4.4	J	2.1	MDL	5.2	PQL	mg/Kg	J	Z

Sample ID: SL-547-SA5D-SB-0.0-0.5 Collected: 9/4/2013 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
EFH (C21-C30)	5.1	J	2.1	MDL	5.2	PQL	mg/Kg	J	Z

Method Category:	SVOA		
Method:	8081B	Matrix:	SO

Sample ID: SL-524-SA5D-SB-0.0-0.5 Collected: 9/4/2013 8:20:00 AM Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
4,4'-DDD	0.50	J	0.35	MDL	1.8	PQL	ug/Kg	J	Z
DIELDRIN	0.52	J	0.35	MDL	1.8	PQL	ug/Kg	J	Z

Sample ID: SL-524-SA5D-SB-5.5-6.5 Collected: 9/4/2013 8:35:00 AM Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
4,4'-DDE	1.6	J	0.35	MDL	1.8	PQL	ug/Kg	J	Z, FD

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Data Qualifier Summary

Lab Reporting Batch ID: PH101

Laboratory: LL

EDD Filename: PrepPH101

eQAPP Name: CDM_SSFL_131101_Lan

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

Sample ID: SL-824-SA5D-SB-5.5-6.5 Collected: 9/4/2013 8:45:00 AM Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
4,4'-DDE	1.8	U	0.36	MDL	1.8	PQL	ug/Kg	UJ	FD

Method Category: SVOA
Method: 8270D SIM **Matrix:** AQ

Sample ID: EB-090413 Collected: 9/4/2013 3:00:00 PM Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1-METHYLNAPHTHALENE	0.051	U	0.010	MDL	0.051	PQL	ug/L	UJ	S

Sample ID: EB-090413 Collected: 9/4/2013 3:00:00 PM 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	0.051	U	0.010	MDL	0.051	PQL	ug/L	UJ	S
ACENAPHTHENE	0.051	U	0.010	MDL	0.051	PQL	ug/L	UJ	S
ACENAPHTHYLENE	0.051	U	0.010	MDL	0.051	PQL	ug/L	UJ	S
ANTHRACENE	0.051	U	0.010	MDL	0.051	PQL	ug/L	UJ	S
BENZO(A)ANTHRACENE	0.051	U	0.010	MDL	0.051	PQL	ug/L	UJ	S
BENZO(A)PYRENE	0.051	U	0.010	MDL	0.051	PQL	ug/L	UJ	S
BENZO(B)FLUORANTHENE	0.051	U	0.010	MDL	0.051	PQL	ug/L	UJ	S
BENZO(E)PYRENE	0.051	U	0.010	MDL	0.051	PQL	ug/L	UJ	S
BENZO(G,H,I)PERYLENE	0.051	U	0.010	MDL	0.051	PQL	ug/L	UJ	S
BENZO(K)FLUORANTHENE	0.051	U	0.010	MDL	0.051	PQL	ug/L	UJ	S
BIS(2-ETHYLHEXYL)PHTHALATE	1.6		0.051	MDL	1.0	PQL	ug/L	J	S
Butylbenzylphthalate	1.0	U	0.051	MDL	1.0	PQL	ug/L	UJ	S
CHRYSENE	0.051	U	0.010	MDL	0.051	PQL	ug/L	UJ	S
DIBENZO(A,H)ANTHRACENE	0.051	U	0.010	MDL	0.051	PQL	ug/L	UJ	S
Diethylphthalate	0.30	J	0.051	MDL	1.0	PQL	ug/L	J	Z, S
Dimethylphthalate	1.0	U	0.051	MDL	1.0	PQL	ug/L	UJ	S
Di-n-butylphthalate	0.11	J	0.051	MDL	1.0	PQL	ug/L	J	Z, S
Di-n-octylphthalate	1.0	U	0.051	MDL	1.0	PQL	ug/L	UJ	S
FLUORANTHENE	0.051	U	0.010	MDL	0.051	PQL	ug/L	UJ	S

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH101

Laboratory: LL

EDD Filename: PrepPH101

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: SVOA
Method: 8270D SIM **Matrix:** AQ

Sample ID: EB-090413 Collected: 9/4/2013 3:00:00 PM Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
FLUORENE	0.051	U	0.010	MDL	0.051	PQL	ug/L	UJ	S
INDENO(1,2,3-CD)PYRENE	0.051	U	0.010	MDL	0.051	PQL	ug/L	UJ	S
NAPHTHALENE	0.032	J	0.031	MDL	0.051	PQL	ug/L	J	Z, S
N-NITROSODIMETHYLAMINE	0.051	U	0.010	MDL	0.051	PQL	ug/L	UJ	S
PHENANTHRENE	0.051	U	0.031	MDL	0.051	PQL	ug/L	UJ	S
PYRENE	0.051	U	0.010	MDL	0.051	PQL	ug/L	UJ	S

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

Sample ID: SL-524-SA5D-SB-0.0-0.5 Collected: 9/4/2013 8:20:00 AM Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1-METHYLNAPHTHALENE	0.74	J	0.69	MDL	1.7	PQL	ug/Kg	J	Z

Sample ID: SL-524-SA5D-SB-0.0-0.5 Collected: 9/4/2013 8:20:00 AM 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	1.4	J	0.69	MDL	1.7	PQL	ug/Kg	J	Z
BENZO(A)ANTHRACENE	0.86	J	0.69	MDL	1.7	PQL	ug/Kg	J	Z
BENZO(B)FLUORANTHENE	1.6	J	0.69	MDL	1.7	PQL	ug/Kg	J	Z
BENZO(G,H,I)PERYLENE	0.71	J	0.69	MDL	1.7	PQL	ug/Kg	J	Z
NAPHTHALENE	1.5	J	0.69	MDL	1.7	PQL	ug/Kg	J	Z

Sample ID: SL-524-SA5D-SB-5.5-6.5 Collected: 9/4/2013 8:35:00 AM 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	0.84	J	0.36	MDL	1.8	PQL	ug/Kg	J	Z, FD

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Data Qualifier Summary

Lab Reporting Batch ID: PH101

Laboratory: LL

EDD Filename: PrepPH101

eQAPP Name: CDM_SSFL_131101_Lan

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

Sample ID: SL-544-SA5D-SB-0.0-0.5 Collected: 9/4/2013 9:40:00 AM 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	0.70	MDL	1.7	PQL	ug/Kg	J	Z
FLUORANTHENE	1.4	J	0.70	MDL	1.7	PQL	ug/Kg	J	Z
PHENANTHRENE	1.4	J	0.70	MDL	1.7	PQL	ug/Kg	J	Z
PYRENE	1.3	J	0.70	MDL	1.7	PQL	ug/Kg	J	Z

Sample ID: SL-546-SA5D-SB-0.0-0.5 Collected: 9/4/2013 1:25:00 PM 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	0.73	J	0.70	MDL	1.7	PQL	ug/Kg	J	Z
BENZO(B)FLUORANTHENE	1.0	J	0.70	MDL	1.7	PQL	ug/Kg	J	Z
CHRYSENE	1.3	J	0.35	MDL	1.7	PQL	ug/Kg	J	Z
FLUORANTHENE	0.80	J	0.70	MDL	1.7	PQL	ug/Kg	J	Z
NAPHTHALENE	0.88	J	0.70	MDL	1.7	PQL	ug/Kg	J	Z
PHENANTHRENE	0.70	J	0.70	MDL	1.7	PQL	ug/Kg	J	Z

Sample ID: SL-547-SA5D-SB-0.0-0.5 Collected: 9/4/2013 12:00:00 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-METHYLNAPHTHALENE	0.75	J	0.70	MDL	1.8	PQL	ug/Kg	J	Z
BENZO(B)FLUORANTHENE	1.1	J	0.70	MDL	1.8	PQL	ug/Kg	J	Z
CHRYSENE	1.4	J	0.35	MDL	1.8	PQL	ug/Kg	J	Z
FLUORANTHENE	0.72	J	0.70	MDL	1.8	PQL	ug/Kg	J	Z
NAPHTHALENE	0.83	J	0.70	MDL	1.8	PQL	ug/Kg	U	F
PHENANTHRENE	0.71	J	0.70	MDL	1.8	PQL	ug/Kg	J	Z

Sample ID: SL-824-SA5D-SB-5.5-6.5 Collected: 9/4/2013 8:45:00 AM 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	1.8	U	0.36	MDL	1.8	PQL	ug/Kg	UJ	FD

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Data Qualifier Summary

Lab Reporting Batch ID: PH101

Laboratory: LL

EDD Filename: PrepPH101

eQAPP Name: CDM_SSFL_131101_Lan

Reason Code Legend

<i>Reason Code</i>	<i>Description</i>
B	Method Blank Contamination
E	Laboratory Duplicate Precision
E	Matrix Spike Precision
F	Field Blank Contamination
FD	Field Duplicate Precision
L	Laboratory Control Spike Lower Estimation
L	Laboratory Control Spike Upper Estimation
Q	Laboratory Duplicate Precision
Q	Matrix Spike Lower Estimation
Q	Matrix Spike Precision
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: 1204-002-001-AL - SSFL Area IV Phase 3

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Enclosure I
EPA Level III ADR Outliers
(Including Manual Review Outliers)

Quality Control Outlier Reports

PH101

Method Blank Outlier Report

Lab Reporting Batch ID: PH101

Laboratory: LL

EDD Filename: PH101

eQAPP Name: CDM_SSFL_131101_Lan

Method: 1613B
Matrix: AQ

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples
BLK2550B371705	9/18/2013 5:05:00 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 2,3,4,6,7,8-HXCDF 2,3,4,7,8-PECDF 2,3,7,8-TCDD OCDD OCDF	0.485 pg/L 0.513 pg/L 0.444 pg/L 0.243 pg/L 0.239 pg/L 0.275 pg/L 0.321 pg/L 0.257 pg/L 0.424 pg/L 0.336 pg/L 0.300 pg/L 0.446 pg/L 0.275 pg/L 1.26 pg/L 0.948 pg/L	EB-090413

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-090413(RES)	1,2,3,4,6,7,8-HPCDD	0.554 pg/L	0.554U pg/L
EB-090413(RES)	1,2,3,4,6,7,8-HPCDF	0.461 pg/L	0.461U pg/L
EB-090413(RES)	1,2,3,4,7,8,9-HPCDF	0.305 pg/L	0.305U pg/L
EB-090413(RES)	1,2,3,4,7,8-HxCDD	0.254 pg/L	0.254U pg/L
EB-090413(RES)	1,2,3,4,7,8-HXCDF	0.194 pg/L	0.194U pg/L
EB-090413(RES)	1,2,3,6,7,8-HXCDD	0.212 pg/L	0.212U pg/L
EB-090413(RES)	1,2,3,6,7,8-HXCDF	0.179 pg/L	0.179U pg/L
EB-090413(RES)	1,2,3,7,8,9-HXCDD	0.136 pg/L	0.136U pg/L
EB-090413(RES)	1,2,3,7,8,9-HXCDF	0.278 pg/L	0.278U pg/L
EB-090413(RES)	1,2,3,7,8-PECDD	0.517 pg/L	0.517U pg/L
EB-090413(RES)	2,3,4,6,7,8-HXCDF	0.236 pg/L	0.236U pg/L
EB-090413(RES)	2,3,4,7,8-PECDF	0.211 pg/L	0.211U pg/L
EB-090413(RES)	OCDD	0.962 pg/L	0.962U pg/L
EB-090413(RES)	OCDF	0.878 pg/L	0.878U pg/L

Method: 1613B
Matrix: SO

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples
BLK2540B372247	9/13/2013 10:47:00 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-HXCDF 1,2,3,7,8,9-HXCDD 1,2,3,7,8,9-HXCDF 1,2,3,7,8-PECDF 2,3,4,6,7,8-HXCDF 2,3,4,7,8-PECDF OCDD OCDF	0.0675 ng/Kg 0.0376 ng/Kg 0.0826 ng/Kg 0.0390 ng/Kg 0.0639 ng/Kg 0.0330 ng/Kg 0.0470 ng/Kg 0.0649 ng/Kg 0.0692 ng/Kg 0.0615 ng/Kg 0.0786 ng/Kg 0.281 ng/Kg 0.227 ng/Kg	SL-524-SA5D-SB-0.0-0.5 SL-544-SA5D-SB-0.0-0.5 SL-546-SA5D-SB-0.0-0.5 SL-547-SA5D-SB-0.0-0.5

Method Blank Outlier Report

Lab Reporting Batch ID: PH101

Laboratory: LL

EDD Filename: PH101

eQAPP Name: CDM_SSFL_131101_Lan

Method: 1613B
Matrix: SO

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples
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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-524-SA5D-SB-0.0-0.5(RES)	1,2,3,4,7,8,9-HPCDF	0.410 ng/Kg	0.410U ng/Kg
SL-544-SA5D-SB-0.0-0.5(RES)	1,2,3,4,6,7,8-HPCDF	0.148 ng/Kg	0.148U ng/Kg
SL-544-SA5D-SB-0.0-0.5(RES)	1,2,3,4,7,8,9-HPCDF	0.0544 ng/Kg	0.0544U ng/Kg
SL-544-SA5D-SB-0.0-0.5(RES)	1,2,3,4,7,8-HxCDD	0.0521 ng/Kg	0.0521U ng/Kg
SL-544-SA5D-SB-0.0-0.5(RES)	1,2,3,4,7,8-HxCDF	0.0932 ng/Kg	0.0932U ng/Kg
SL-544-SA5D-SB-0.0-0.5(RES)	1,2,3,6,7,8-HxCDF	0.130 ng/Kg	0.130U ng/Kg
SL-544-SA5D-SB-0.0-0.5(RES)	2,3,4,6,7,8-HxCDF	0.0686 ng/Kg	0.0686U ng/Kg
SL-544-SA5D-SB-0.0-0.5(RES)	2,3,4,7,8-PECDF	0.146 ng/Kg	0.146U ng/Kg
SL-544-SA5D-SB-0.0-0.5(RES)	OCDF	0.290 ng/Kg	0.290U ng/Kg
SL-546-SA5D-SB-0.0-0.5(RES)	1,2,3,4,7,8,9-HPCDF	0.187 ng/Kg	0.187U ng/Kg
SL-546-SA5D-SB-0.0-0.5(RES)	1,2,3,4,7,8-HxCDF	0.248 ng/Kg	0.248U ng/Kg
SL-546-SA5D-SB-0.0-0.5(RES)	2,3,4,6,7,8-HxCDF	0.242 ng/Kg	0.242U ng/Kg
SL-546-SA5D-SB-0.0-0.5(RES)	OCDF	1.05 ng/Kg	1.05U ng/Kg
SL-547-SA5D-SB-0.0-0.5(RES)	1,2,3,4,7,8,9-HPCDF	0.0744 ng/Kg	0.0744U ng/Kg
SL-547-SA5D-SB-0.0-0.5(RES)	1,2,3,4,7,8-HxCDF	0.0665 ng/Kg	0.0665U ng/Kg
SL-547-SA5D-SB-0.0-0.5(RES)	1,2,3,6,7,8-HxCDF	0.154 ng/Kg	0.154U ng/Kg
SL-547-SA5D-SB-0.0-0.5(RES)	2,3,4,6,7,8-HxCDF	0.109 ng/Kg	0.109U ng/Kg
SL-547-SA5D-SB-0.0-0.5(RES)	2,3,4,7,8-PECDF	0.0975 ng/Kg	0.0975U ng/Kg
SL-547-SA5D-SB-0.0-0.5(RES)	OCDF	0.920 ng/Kg	0.920U ng/Kg

Method: 6010C
Matrix: AQ

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples
P24835AB220504	9/7/2013 5:04:00 AM	CALCIUM	0.0352 mg/L	EB-090413

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-090413(RES)	CALCIUM	0.0346 mg/L	0.0346U mg/L

Method Blank Outlier Report

Lab Reporting Batch ID: PH101

Laboratory: LL

EDD Filename: PH101

eQAPP Name: CDM_SSFL_131101_Lan

Method: 6010C
Matrix: SO

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples
P24837BB221019	9/6/2013 10:19:00 AM	CALCIUM TIN ZINC	8.21 mg/Kg 1.73 mg/Kg 0.413 mg/Kg	SL-524-SA5D-SB-0.0-0.5 SL-524-SA5D-SB-5.5-6.5 SL-544-SA5D-SB-0.0-0.5 SL-544-SA5D-SB-6.5-7.5 SL-546-SA5D-SB-0.0-0.5 SL-546-SA5D-SB-4.0-5.0 SL-547-SA5D-SB-0.0-0.5 SL-547-SA5D-SB-4.0-5.0 SL-824-SA5D-SB-5.5-6.5

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-524-SA5D-SB-0.0-0.5(REA)	TIN	2.90 mg/Kg	2.90U mg/Kg
SL-524-SA5D-SB-5.5-6.5(REA)	TIN	2.92 mg/Kg	2.92U mg/Kg
SL-544-SA5D-SB-0.0-0.5(REA)	TIN	2.93 mg/Kg	2.93U mg/Kg
SL-544-SA5D-SB-6.5-7.5(REA)	TIN	3.14 mg/Kg	3.14U mg/Kg
SL-546-SA5D-SB-0.0-0.5(REA)	TIN	2.87 mg/Kg	2.87U mg/Kg
SL-546-SA5D-SB-4.0-5.0(REA)	TIN	3.37 mg/Kg	3.37U mg/Kg
SL-547-SA5D-SB-0.0-0.5(REA)	TIN	2.91 mg/Kg	2.91U mg/Kg
SL-547-SA5D-SB-4.0-5.0(REA)	TIN	3.16 mg/Kg	3.16U mg/Kg
SL-824-SA5D-SB-5.5-6.5(REA)	TIN	2.88 mg/Kg	2.88U mg/Kg

Method: 8270D SIM
Matrix: AQ

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples
PLKWE25B261405	9/13/2013 2:05:00 PM	BIS(2-ETHYLHEXYL)PHTHALATE	0.058 ug/L	EB-090413

Field Blank Outlier Report

Lab Reporting Batch ID: PH101

Laboratory: LL

EDD Filename: PH101

eQAPP Name: CDM_SSFL_131101_Lan

Method: 6010C
Matrix: SO

Field Blank Sample ID	Collected Date	Analyte	Result	Associated Samples
FB-041113(REA2)	4/11/2013 3:00:00 PM	COPPER MOLYBDENUM	0.0036 mg/L 0.0036 mg/L	SL-524-SA5D-SB-0.0-0.5 SL-524-SA5D-SB-5.5-6.5 SL-544-SA5D-SB-0.0-0.5 SL-544-SA5D-SB-6.5-7.5 SL-546-SA5D-SB-0.0-0.5 SL-546-SA5D-SB-4.0-5.0 SL-547-SA5D-SB-0.0-0.5 SL-547-SA5D-SB-4.0-5.0 SL-824-SA5D-SB-5.5-6.5

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-524-SA5D-SB-0.0-0.5(REA)	MOLYBDENUM	0.413 mg/Kg	0.413U mg/Kg
SL-544-SA5D-SB-0.0-0.5(REA)	MOLYBDENUM	0.487 mg/Kg	0.487U mg/Kg
SL-546-SA5D-SB-0.0-0.5(REA)	MOLYBDENUM	0.580 mg/Kg	0.580U mg/Kg
SL-546-SA5D-SB-4.0-5.0(REA)	MOLYBDENUM	0.755 mg/Kg	0.755U mg/Kg
SL-547-SA5D-SB-0.0-0.5(REA)	MOLYBDENUM	0.396 mg/Kg	0.396U mg/Kg
SL-547-SA5D-SB-4.0-5.0(REA)	MOLYBDENUM	0.251 mg/Kg	0.251U mg/Kg

Method: 8270D SIM
Matrix: SO

Field Blank Sample ID	Collected Date	Analyte	Result	Associated Samples
FB-041113(RES)	4/11/2013 3:00:00 PM	1-METHYLNAPHTHALENE 2-METHYLNAPHTHALENE BIS(2-ETHYLHEXYL)PHTHALATE Diethylphthalate Di-n-butylphthalate NAPHTHALENE	0.019 ug/L 0.024 ug/L 0.082 ug/L 0.18 ug/L 0.17 ug/L 0.17 ug/L	SL-524-SA5D-SB-0.0-0.5 SL-524-SA5D-SB-5.5-6.5 SL-544-SA5D-SB-0.0-0.5 SL-544-SA5D-SB-6.5-7.5 SL-546-SA5D-SB-0.0-0.5 SL-546-SA5D-SB-4.0-5.0 SL-547-SA5D-SB-0.0-0.5 SL-547-SA5D-SB-4.0-5.0 SL-824-SA5D-SB-5.5-6.5

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-547-SA5D-SB-0.0-0.5(RES)	NAPHTHALENE	0.83 ug/Kg	1.8U ug/Kg

Surrogate Outlier Report

Lab Reporting Batch ID: PH101

Laboratory: LL

EDD Filename: PrepPH101

eQAPP Name: CDM_SSFL_131101_Lan

Method: 8082A
Matrix: SO

Sample ID (Analysis Type)	Surrogate	Sample % Recovery	% Recovery Limits	Affected Compounds	Flag
SL-524-SA5D-SB-0.0-0.5	TETRACHLORO-M-XYLENE	128	45.00-120.00	All Target Analytes	J(all detects)
SL-544-SA5D-SB-0.0-0.5	TETRACHLORO-M-XYLENE	125	45.00-120.00	All Target Analytes	J(all detects)
SL-544-SA5D-SB-6.5-7.5	TETRACHLORO-M-XYLENE	125	45.00-120.00	All Target Analytes	J(all detects)
SL-546-SA5D-SB-0.0-0.5	TETRACHLORO-M-XYLENE	130	45.00-120.00	All Target Analytes	J(all detects)
SL-546-SA5D-SB-4.0-5.0	TETRACHLORO-M-XYLENE	125	45.00-120.00	All Target Analytes	J(all detects)
SL-547-SA5D-SB-0.0-0.5	TETRACHLORO-M-XYLENE	122	45.00-120.00	All Target Analytes	J(all detects)
SL-824-SA5D-SB-5.5-6.5	TETRACHLORO-M-XYLENE	129	45.00-120.00	All Target Analytes	J(all detects)

Method: 8270D SIM
Matrix: AQ

Sample ID (Analysis Type)	Surrogate	Sample % Recovery	% Recovery Limits	Affected Compounds	Flag
EB-090413	1-Methylnaphthalene-d10 Benzo(a)pyrene-d12	48 60	51.00-136.00 62.00-141.00	All Base Target Analytes	J(all detects) UJ(all non-detects)

Matrix Spike/Matrix Spike Duplicate Outlier Report

Lab Reporting Batch ID: PH101

Laboratory: LL

EDD Filename: PH101

eQAPP Name: CDM_SSFL_131101_Lan

Method: 8015M

Matrix: SO

QC Sample ID (Associated Samples)	Compound	MS %R	MSD %R	%R Limits	RPD (Limits)	Affected Compounds	Flag
SL-524-SA5D-SB-5.5-6.5MS (SL-524-SA5D-SB-5.5-6.5)	EFH (C21-C30)	126	-	49.00-123.00	-	EFH (C21-C30)	J (all detects)

Method: 6010C

Matrix: SO

QC Sample ID (Associated Samples)	Compound	MS %R	MSD %R	%R Limits	RPD (Limits)	Affected Compounds	Flag
SL-524-SA5D-SB-5.5-6.5MS (TOT) SL-524-SA5D-SB-5.5-6.5MSD (TOT) (SL-524-SA5D-SB-0.0-0.5 SL-524-SA5D-SB-5.5-6.5 SL-544-SA5D-SB-0.0-0.5 SL-544-SA5D-SB-6.5-7.5 SL-546-SA5D-SB-0.0-0.5 SL-546-SA5D-SB-4.0-5.0 SL-547-SA5D-SB-0.0-0.5 SL-547-SA5D-SB-4.0-5.0 SL-824-SA5D-SB-5.5-6.5)	ALUMINUM CALCIUM IRON MAGNESIUM MANGANESE TITANIUM	1308 184 1635 273 163 404	1078 145 830 177 146 291	75.00-125.00 75.00-125.00 75.00-125.00 75.00-125.00 75.00-125.00 75.00-125.00	- - - - - -	ALUMINUM CALCIUM IRON MAGNESIUM MANGANESE TITANIUM	J(all detects) Al, Ca, Fe, Mg, Ti, No Qual, >4x
SL-524-SA5D-SB-5.5-6.5MS (TOT) SL-524-SA5D-SB-5.5-6.5MSD (TOT) (SL-524-SA5D-SB-0.0-0.5 SL-524-SA5D-SB-5.5-6.5 SL-544-SA5D-SB-0.0-0.5 SL-544-SA5D-SB-6.5-7.5 SL-546-SA5D-SB-0.0-0.5 SL-546-SA5D-SB-4.0-5.0 SL-547-SA5D-SB-0.0-0.5 SL-547-SA5D-SB-4.0-5.0 SL-824-SA5D-SB-5.5-6.5)	ANTIMONY	66	65	75.00-125.00	-	ANTIMONY	J(all detects) UJ(all non-detects)

Method: 8270D SIM

Matrix: SO

QC Sample ID (Associated Samples)	Compound	MS %R	MSD %R	%R Limits	RPD (Limits)	Affected Compounds	Flag
SL-524-SA5D-SB-5.5-6.5MS SL-524-SA5D-SB-5.5-6.5MSD (SL-524-SA5D-SB-5.5-6.5)	BIS(2-ETHYLHEXYL)PHTHALAT	171	-	39.00-167.00	53 (30.00)	BIS(2-ETHYLHEXYL)PHTHALA	J(all detects)

Lab Duplicate Outlier Report

Lab Reporting Batch ID: PH101

Laboratory: LL

EDD Filename: PH101

eQAPP Name: CDM_SSFL_131101_Lan

Method: 7471B

Matrix: SO

QC Sample ID (Associated Sample ID)	Analyte	Sample RPD	eQAPP RPD	Flag
SL-524-SA5D-SB-5.5-6.5DUP (TOT) (SL-524-SA5D-SB-0.0-0.5 SL-524-SA5D-SB-5.5-6.5 SL-544-SA5D-SB-0.0-0.5 SL-544-SA5D-SB-6.5-7.5 SL-546-SA5D-SB-0.0-0.5 SL-546-SA5D-SB-4.0-5.0 SL-547-SA5D-SB-0.0-0.5 SL-547-SA5D-SB-4.0-5.0 SL-824-SA5D-SB-5.5-6.5)	MERCURY	84	20.00	No Qual, OK by Difference

Lab Control Spike/Lab Control Spike Duplicate Outlier Report

Lab Reporting Batch ID: PH101

Laboratory: LL

EDD Filename: PH101

eQAPP Name: CDM_SSFL_131101_Lan

Method: 8015M
Matrix: AQ

QC Sample ID (Associated Samples)	Compound	LCS %R	LCSD %R	%R Limits	RPD (Limits)	Affected Compounds	Flag
P32524AQ321618A P32524AY321639A (EB-090413)	EFH (C8-C11)	66	65	70.00-130.00	-	EFH (C8-C11)	J(all detects) UJ(all non-detects)

Method: 7199
Matrix: AQ

QC Sample ID (Associated Samples)	Compound	LCS %R	LCSD %R	%R Limits	RPD (Limits)	Affected Compounds	Flag
P24821CY271451A (TOT) (EB-090413)	HEXAVALENT CHROMIUM	-	112	90.00-110.00	-	HEXAVALENT CHROMIUM	J(all detects)

Method: 8151A
Matrix: SO

QC Sample ID (Associated Samples)	Compound	LCS %R	LCSD %R	%R Limits	RPD (Limits)	Affected Compounds	Flag
P32499AQ240754A (SL-524-SA5D-SB-0.0-0.5 SL-524-SA5D-SB-5.5-6.5 SL-824-SA5D-SB-5.5-6.5)	2,4-DB	138	-	54.00-131.00	-	2,4-DB	J (all detects)

Field Duplicate RPD Report

Lab Reporting Batch ID: PH101

Laboratory: LL

EDD Filename: PH101

eQAPP Name: CDM_SSFL_131101_Lan

Method: 160.3M

Matrix: SO

Analyte	Concentration (%)		Sample RPD	eQAPP RPD	Flag
	SL-524-SA5D-SB-5.5-6.5	SL-824-SA5D-SB-5.5-6.5			
MOISTURE	6.6	7.1	7		No Qualifiers Applied

Method: 6010C

Matrix: SO

Analyte	Concentration (mg/Kg)		Sample RPD	eQAPP RPD	Flag
	SL-524-SA5D-SB-5.5-6.5 (TOT)	SL-824-SA5D-SB-5.5-6.5 (TOT)			
ALUMINUM	13100	12800	2	50.00	No Qualifiers Applied
ARSENIC	4.02	5.01	22	50.00	
BARIUM	76.5	84.0	9	50.00	
BERYLLIUM	0.449	0.453	1	50.00	
BORON	22.7	22.1	3	50.00	
CADMIUM	0.456	0.427	7	50.00	
CALCIUM	3180	3230	2	50.00	
CHROMIUM	17.1	17.0	1	50.00	
COBALT	3.69	3.99	8	50.00	
COPPER	10.1	10.5	4	50.00	
IRON	20000	20800	4	50.00	
LEAD	4.53	3.96	13	50.00	
LITHIUM	21.8	24.5	12	50.00	
MAGNESIUM	4290	4660	8	50.00	
MANGANESE	182	225	21	50.00	
NICKEL	8.39	9.18	9	50.00	
PHOSPHORUS	305	351	14	50.00	
POTASSIUM	1690	1850	9	50.00	
SODIUM	160	141	13	50.00	
TIN	2.92	2.88	1	50.00	
TITANIUM	1250	1310	5	50.00	
VANADIUM	35.6	36.4	2	50.00	
ZINC	47.3	51.8	9	50.00	
Zirconium	4.01	4.05	1	50.00	

Method: 6020A

Matrix: SO

Analyte	Concentration (mg/Kg)		Sample RPD	eQAPP RPD	Flag
	SL-524-SA5D-SB-5.5-6.5 (TOT)	SL-824-SA5D-SB-5.5-6.5 (TOT)			
SILVER	0.0657	0.0687	4	50.00	No Qualifiers Applied
STRONTIUM	25.3	32.2	24	50.00	
THALLIUM	0.233	0.328	34	50.00	

Method: 7471B

Matrix: SO

Analyte	Concentration (mg/Kg)		Sample RPD	eQAPP RPD	Flag
	SL-524-SA5D-SB-5.5-6.5 (TOT)	SL-824-SA5D-SB-5.5-6.5 (TOT)			
MERCURY	0.113	0.0172 U	200	50.00	J(all detects) UJ(all non-detects)

Field Duplicate RPD Report

Lab Reporting Batch ID: PH101

Laboratory: LL

EDD Filename: PH101

eQAPP Name: CDM_SSFL_131101_Lan

Method: 8081B
Matrix: SO

<i>Analyte</i>	<i>Concentration (ug/Kg)</i>		<i>Sample RPD</i>	<i>eQAPP RPD</i>	<i>Flag</i>
	<i>SL-524-SA5D-SB-5.5-6.5</i>	<i>SL-824-SA5D-SB-5.5-6.5</i>			
4,4'-DDE	1.6	1.8 U	200	50.00	J(all detects) UJ(all non-detects)

Method: 8270D SIM
Matrix: SO

<i>Analyte</i>	<i>Concentration (ug/Kg)</i>		<i>Sample RPD</i>	<i>eQAPP RPD</i>	<i>Flag</i>
	<i>SL-524-SA5D-SB-5.5-6.5</i>	<i>SL-824-SA5D-SB-5.5-6.5</i>			
CHRYSENE	0.84	1.8 U	200	50.00	J(all detects) UJ(all non-detects)

Method: 9045M
Matrix: SO

<i>Analyte</i>	<i>Concentration (pH unit)</i>		<i>Sample RPD</i>	<i>eQAPP RPD</i>	<i>Flag</i>
	<i>SL-524-SA5D-SB-5.5-6.5</i>	<i>SL-824-SA5D-SB-5.5-6.5</i>			
PH	7.74	7.78	1	50.00	No Qualifiers Applied

Reporting Limit Outliers

Lab Reporting Batch ID: PH101

Laboratory: LL

EDD Filename: PH101

eQAPP Name: CDM_SSFL_131101_Lan

Method: 1613B
Matrix: AQ

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
EB-090413	1,2,3,4,6,7,8-HPCDD	JBQ	0.554	10.1	PQL	pg/L	J (all detects)
	1,2,3,4,6,7,8-HPCDF	JBQ	0.461	10.1	PQL	pg/L	
	1,2,3,4,7,8,9-HPCDF	JB	0.305	10.1	PQL	pg/L	
	1,2,3,4,7,8-HxCDD	JBQ	0.254	10.1	PQL	pg/L	
	1,2,3,4,7,8-HxCDF	JBQ	0.194	10.1	PQL	pg/L	
	1,2,3,6,7,8-HxCDD	JBQ	0.212	10.1	PQL	pg/L	
	1,2,3,6,7,8-HxCDF	JBQ	0.179	10.1	PQL	pg/L	
	1,2,3,7,8,9-HxCDD	JBQ	0.136	10.1	PQL	pg/L	
	1,2,3,7,8,9-HxCDF	JBQ	0.278	10.1	PQL	pg/L	
	1,2,3,7,8-PECDD	JBQ	0.517	10.1	PQL	pg/L	
	1,2,3,7,8-PECDF	JQ	0.614	10.1	PQL	pg/L	
	2,3,4,6,7,8-HxCDF	JB	0.236	10.1	PQL	pg/L	
	2,3,4,7,8-PECDF	JBQ	0.211	10.1	PQL	pg/L	
	OCDD	JBQ	0.962	20.1	PQL	pg/L	
	OCDF	JBQ	0.878	20.1	PQL	pg/L	

Method: 6010C
Matrix: AQ

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
EB-090413	BARIUM	J	0.00040	0.0100	PQL	mg/L	J (all detects)
	CALCIUM	J	0.0346	0.400	PQL	mg/L	
	MANGANESE	J	0.0011	0.0100	PQL	mg/L	

Method: 8270D SIM
Matrix: AQ

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
EB-090413	Diethylphthalate	J	0.30	1.0	PQL	ug/L	J (all detects)
	Di-n-butylphthalate	J	0.11	1.0	PQL	ug/L	
	NAPHTHALENE	J	0.032	0.051	PQL	ug/L	

Method: 1613B
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-524-SA5D-SB-0.0-0.5	1,2,3,4,6,7,8-HPCDF	JB	4.77	5.10	PQL	ng/Kg	J (all detects)
	1,2,3,4,7,8,9-HPCDF	JB	0.410	5.10	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JBQ	0.487	5.10	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDF	JBQ	0.349	5.10	PQL	ng/Kg	
	1,2,3,6,7,8-HxCDD	JQ	2.02	5.10	PQL	ng/Kg	
	1,2,3,6,7,8-HxCDF	JBQ	0.310	5.10	PQL	ng/Kg	
	1,2,3,7,8,9-HxCDD	JBQ	1.61	5.10	PQL	ng/Kg	
	1,2,3,7,8,9-HxCDF	JB	0.689	5.10	PQL	ng/Kg	
	1,2,3,7,8-PECDD	JQ	0.371	5.10	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JBQ	0.722	5.10	PQL	ng/Kg	
	2,3,4,6,7,8-HxCDF	JB	0.337	5.10	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JBQ	0.409	5.10	PQL	ng/Kg	
	2,3,7,8-TCDF	JQ	0.247	1.02	PQL	ng/Kg	

Reporting Limit Outliers

Lab Reporting Batch ID: PH101

Laboratory: LL

EDD Filename: PH101

eQAPP Name: CDM_SSFL_131101_Lan

Method: 1613B
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-544-SA5D-SB-0.0-0.5	1,2,3,4,6,7,8-HPCDD	JBQ	0.562	5.21	PQL	ng/Kg	J (all detects)
	1,2,3,4,6,7,8-HPCDF	JB	0.148	5.21	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JBQ	0.0544	5.21	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JBQ	0.0521	5.21	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JB	0.0932	5.21	PQL	ng/Kg	
	1,2,3,6,7,8-HxCDD	J	0.560	5.21	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JBQ	0.130	5.21	PQL	ng/Kg	
	1,2,3,7,8,9-HxCDD	JB	0.794	5.21	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	JB	1.39	5.21	PQL	ng/Kg	
	1,2,3,7,8-PECDD	J	0.188	5.21	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JBQ	0.461	5.21	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JBQ	0.0686	5.21	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JBQ	0.146	5.21	PQL	ng/Kg	
	2,3,7,8-TCDD	JQ	0.101	1.04	PQL	ng/Kg	
	OCDD	JB	6.62	10.4	PQL	ng/Kg	
	OCDF	JBQ	0.290	10.4	PQL	ng/Kg	
SL-546-SA5D-SB-0.0-0.5	1,2,3,4,6,7,8-HPCDD	JB	1.97	5.06	PQL	ng/Kg	J (all detects)
	1,2,3,4,6,7,8-HPCDF	JB	0.462	5.06	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JB	0.187	5.06	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JBQ	0.211	5.06	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JB	0.248	5.06	PQL	ng/Kg	
	1,2,3,6,7,8-HxCDD	JQ	0.744	5.06	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JBQ	0.290	5.06	PQL	ng/Kg	
	1,2,3,7,8,9-HxCDD	JB	1.05	5.06	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	JB	1.69	5.06	PQL	ng/Kg	
	1,2,3,7,8-PECDD	J	0.437	5.06	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JB	0.617	5.06	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JBQ	0.242	5.06	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JBQ	0.443	5.06	PQL	ng/Kg	
	2,3,7,8-TCDD	JQ	0.117	1.01	PQL	ng/Kg	
2,3,7,8-TCDF	J	0.108	1.01	PQL	ng/Kg		
OCDF	JBQ	1.05	10.1	PQL	ng/Kg		
SL-547-SA5D-SB-0.0-0.5	1,2,3,4,6,7,8-HPCDD	JB	1.90	5.22	PQL	ng/Kg	J (all detects)
	1,2,3,4,6,7,8-HPCDF	JBQ	0.264	5.22	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JB	0.0744	5.22	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JB	0.0665	5.22	PQL	ng/Kg	
	1,2,3,6,7,8-HxCDD	J	0.667	5.22	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JB	0.154	5.22	PQL	ng/Kg	
	1,2,3,7,8,9-HxCDD	JB	0.831	5.22	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	JB	1.75	5.22	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JBQ	0.492	5.22	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JBQ	0.109	5.22	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JBQ	0.0975	5.22	PQL	ng/Kg	
	2,3,7,8-TCDF	JQ	0.106	1.04	PQL	ng/Kg	
	OCDF	JB	0.920	10.4	PQL	ng/Kg	

Method: 6010C
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-524-SA5D-SB-0.0-0.5	BERYLLIUM	J	0.780	1.04	PQL	mg/Kg	J (all detects)
	CADMIUM	J	0.624	1.04	PQL	mg/Kg	
	MOLYBDENUM	J	0.413	2.08	PQL	mg/Kg	
	TIN	J	2.90	10.4	PQL	mg/Kg	

Reporting Limit Outliers

Lab Reporting Batch ID: PH101

Laboratory: LL

EDD Filename: PH101

eQAPP Name: CDM_SSFL_131101_Lan

Method: 6010C

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-524-SA5D-SB-5.5-6.5	ARSENIC	J	4.02	4.28	PQL	mg/Kg	J (all detects)
	BERYLLIUM	J	0.449	1.07	PQL	mg/Kg	
	CADMIUM	J	0.456	1.07	PQL	mg/Kg	
	TIN	J	2.92	10.7	PQL	mg/Kg	
	Zirconium	J	4.01	5.35	PQL	mg/Kg	
SL-544-SA5D-SB-0.0-0.5	BERYLLIUM	J	0.706	1.05	PQL	mg/Kg	J (all detects)
	CADMIUM	J	0.619	1.05	PQL	mg/Kg	
	MOLYBDENUM	J	0.487	2.09	PQL	mg/Kg	
	SODIUM	J	85.8	105	PQL	mg/Kg	
	TIN	J	2.93	10.5	PQL	mg/Kg	
	Zirconium	J	5.06	5.24	PQL	mg/Kg	
SL-544-SA5D-SB-6.5-7.5	BERYLLIUM	J	0.450	1.03	PQL	mg/Kg	J (all detects)
	CADMIUM	J	0.425	1.03	PQL	mg/Kg	
	TIN	J	3.14	10.3	PQL	mg/Kg	
	Zirconium	J	4.93	5.15	PQL	mg/Kg	
SL-546-SA5D-SB-0.0-0.5	BERYLLIUM	J	0.631	1.04	PQL	mg/Kg	J (all detects)
	CADMIUM	J	0.677	1.04	PQL	mg/Kg	
	MOLYBDENUM	J	0.580	2.09	PQL	mg/Kg	
	SODIUM	J	79.8	104	PQL	mg/Kg	
	TIN	J	2.87	10.4	PQL	mg/Kg	
	Zirconium	J	4.28	5.21	PQL	mg/Kg	
SL-546-SA5D-SB-4.0-5.0	BERYLLIUM	J	0.912	1.13	PQL	mg/Kg	J (all detects)
	CADMIUM	J	0.600	1.13	PQL	mg/Kg	
	MOLYBDENUM	J	0.755	2.27	PQL	mg/Kg	
	TIN	J	3.37	11.3	PQL	mg/Kg	
SL-547-SA5D-SB-0.0-0.5	BERYLLIUM	J	0.707	1.04	PQL	mg/Kg	J (all detects)
	CADMIUM	J	0.587	1.04	PQL	mg/Kg	
	MOLYBDENUM	J	0.396	2.07	PQL	mg/Kg	
	SODIUM	J	91.9	104	PQL	mg/Kg	
	TIN	J	2.91	10.4	PQL	mg/Kg	
SL-547-SA5D-SB-4.0-5.0	BERYLLIUM	J	0.920	1.10	PQL	mg/Kg	J (all detects)
	CADMIUM	J	0.494	1.10	PQL	mg/Kg	
	MOLYBDENUM	J	0.251	2.19	PQL	mg/Kg	
	TIN	J	3.16	11.0	PQL	mg/Kg	
SL-824-SA5D-SB-5.5-6.5	BERYLLIUM	J	0.453	1.06	PQL	mg/Kg	J (all detects)
	CADMIUM	J	0.427	1.06	PQL	mg/Kg	
	TIN	J	2.88	10.6	PQL	mg/Kg	
	Zirconium	J	4.05	5.28	PQL	mg/Kg	

Method: 6020A

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-524-SA5D-SB-0.0-0.5	SELENIUM	J	0.132	0.415	PQL	mg/Kg	J (all detects)
	SILVER	J	0.0922	0.208	PQL	mg/Kg	
SL-524-SA5D-SB-5.5-6.5	SILVER	J	0.0657	0.214	PQL	mg/Kg	J (all detects)
SL-544-SA5D-SB-0.0-0.5	SELENIUM	J	0.240	0.419	PQL	mg/Kg	J (all detects)
	SILVER	J	0.0299	0.209	PQL	mg/Kg	
SL-546-SA5D-SB-0.0-0.5	SELENIUM	J	0.254	0.417	PQL	mg/Kg	J (all detects)
	SILVER	J	0.0307	0.209	PQL	mg/Kg	
SL-546-SA5D-SB-4.0-5.0	SELENIUM	J	0.282	0.453	PQL	mg/Kg	J (all detects)
	SILVER	J	0.0801	0.227	PQL	mg/Kg	

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Reporting Limit Outliers

Lab Reporting Batch ID: PH101

Laboratory: LL

EDD Filename: PH101

eQAPP Name: CDM_SSFL_131101_Lan

Method: 6020A
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-547-SA5D-SB-0.0-0.5	SELENIUM	J	0.283	0.415	PQL	mg/Kg	J (all detects)
	SILVER	J	0.0292	0.207	PQL	mg/Kg	
SL-547-SA5D-SB-4.0-5.0	SELENIUM	J	0.153	0.438	PQL	mg/Kg	J (all detects)
	SILVER	J	0.0627	0.219	PQL	mg/Kg	
SL-824-SA5D-SB-5.5-6.5	SILVER	J	0.0687	0.211	PQL	mg/Kg	J (all detects)

Method: 7471B
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-546-SA5D-SB-0.0-0.5	MERCURY	J	0.0132	0.0169	PQL	mg/Kg	J (all detects)
SL-547-SA5D-SB-0.0-0.5	MERCURY	J	0.0110	0.0170	PQL	mg/Kg	J (all detects)

Method: 8015M
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-544-SA5D-SB-0.0-0.5	EFH (C21-C30)	J	4.4	5.2	PQL	mg/Kg	J (all detects)
SL-547-SA5D-SB-0.0-0.5	EFH (C21-C30)	J	5.1	5.2	PQL	mg/Kg	J (all detects)

Method: 8081B
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-524-SA5D-SB-0.0-0.5	4,4'-DDD	J	0.50	1.8	PQL	ug/Kg	J (all detects)
	DIELDRIN	J	0.52	1.8	PQL	ug/Kg	
SL-524-SA5D-SB-5.5-6.5	4,4'-DDE	J	1.6	1.8	PQL	ug/Kg	J (all detects)

Method: 8270D SIM
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-524-SA5D-SB-0.0-0.5	1-METHYLNAPHTHALENE	J	0.74	1.7	PQL	ug/Kg	J (all detects)
	2-METHYLNAPHTHALENE	J	1.4	1.7	PQL	ug/Kg	
	BENZO(A)ANTHRACENE	J	0.86	1.7	PQL	ug/Kg	
	BENZO(B)FLUORANTHENE	J	1.6	1.7	PQL	ug/Kg	
	BENZO(G,H,I)PERYLENE	J	0.71	1.7	PQL	ug/Kg	
	NAPHTHALENE	J	1.5	1.7	PQL	ug/Kg	
SL-524-SA5D-SB-5.5-6.5	CHRYSENE	J	0.84	1.8	PQL	ug/Kg	J (all detects)
SL-544-SA5D-SB-0.0-0.5	BENZO(B)FLUORANTHENE	J	1.6	1.7	PQL	ug/Kg	J (all detects)
	FLUORANTHENE	J	1.4	1.7	PQL	ug/Kg	
	PHENANTHRENE	J	1.4	1.7	PQL	ug/Kg	
	PYRENE	J	1.3	1.7	PQL	ug/Kg	

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Reporting Limit Outliers

Lab Reporting Batch ID: PH101

Laboratory: LL

EDD Filename: PH101

eQAPP Name: CDM_SSFL_131101_Lan

Method: 8270D SIM
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-546-SA5D-SB-0.0-0.5	2-METHYLNAPHTHALENE	J	0.73	1.7	PQL	ug/Kg	J (all detects)
	BENZO(B)FLUORANTHENE	J	1.0	1.7	PQL	ug/Kg	
	CHRYSENE	J	1.3	1.7	PQL	ug/Kg	
	FLUORANTHENE	J	0.80	1.7	PQL	ug/Kg	
	NAPHTHALENE	J	0.88	1.7	PQL	ug/Kg	
	PHENANTHRENE	J	0.70	1.7	PQL	ug/Kg	
SL-547-SA5D-SB-0.0-0.5	2-METHYLNAPHTHALENE	J	0.75	1.8	PQL	ug/Kg	J (all detects)
	BENZO(B)FLUORANTHENE	J	1.1	1.8	PQL	ug/Kg	
	CHRYSENE	J	1.4	1.8	PQL	ug/Kg	
	FLUORANTHENE	J	0.72	1.8	PQL	ug/Kg	
	NAPHTHALENE	J	0.83	1.8	PQL	ug/Kg	
	PHENANTHRENE	J	0.71	1.8	PQL	ug/Kg	

LDC #: 30695D4

VALIDATION COMPLETENESS WORKSHEET

Date: 11/11/13

SDG #: PH101

ADR

Page: 1 of 1

Laboratory: Eurofins Lancaster Laboratories

Reviewer: [Signature]

2nd Reviewer: [Signature]

METHOD: Metals (EPA SW 846 Method 6010C/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: 9/4/13
II.	ICP/MS Tune	—	
III.	Calibration	—	
IV.	Blanks	A	
V.	ICP Interference Check Sample (ICS) Analysis	—	
VI.	Matrix Spike Analysis	SW MS/D	
VII.	Duplicate Sample Analysis	SW Dup	
VIII.	Laboratory Control Samples (LCS)	A LCS	
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	N	
XV.	Field Blanks	SW EB=1	FB=FB-01113

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

(PH029)

Validated Samples:

1	EB-090413	11	SL-524-SA5D-SB-5.5-6.5MS	21	31
2	SL-524-SA5D-SB-0.0-0.5	12	SL-524-SA5D-SB-5.5-6.5MSD	22	32
3	SL-524-SA5D-SB-5.5-6.5	13	SL-524-SA5D-SB-5.5-6.5DUP	23	33
4	SL-524-SA5D-SB-5.5-6.5	14		24	34
5	SL-544-SA5D-SB-0.0-0.5	15		25	35
6	SL-544-SA5D-SB-6.5-7.5	16		26	36
7	SL-546-SA5D-SB-0.0-0.5	17		27	37
8	SL-546-SA5D-SB-4.0-5.0	18		28	38
9	SL-547-SA5D-SB-0.0-0.5	19		29	39
10	SL-547-SA5D-SB-4.0-5.0	20		30	40

Notes: _____

VALIDATION FINDINGS WORKSHEET
Field Blanks

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

Blank units: mg/L **Associated sample units:** mg/Kg Reason: F

Sampling date: 4/11/13 Soil factor applied 100x

Field blank type: (circle one) Field Blank / Rinsate / Other: Associated Samples: All Soil

Analyte	Blank ID	Sample Identification												
	FB-041113 (SDG: PH029)	Action Limit	2	5	7	8	9	10						
Cu	0.0036	1.8												
Mo	0.0036	1.8	0.41	0.49	0.58	0.76	0.40	0.25						

Sampling date: 8/28/13 Soil factor applied 100x

Field blank type: (circle one) Field Blank / Rinsate / Other: Associated Samples: All Soil

Analyte	Blank ID	Sample Identification												
	EB-090413 (SDG: PH101)	Action Limit	No Qualifiers											
Ba	0.00040	0.2												
Ca	0.0346	17.3												
Mn	0.0011	0.55												

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".



QUALITY ASSURANCE SUMMARY
FORM 5A (MS/MSD)
MATRIX SPIKE/MATRIX SPIKE DUPLICATE
SDG No.: PH101
Matrix: SOIL Level: LOW
(low/med):

Background Lab Sample ID: 7186221BKG Matrix Spike Lab Sample ID: 7186222MS Matrix Spike Duplicate Lab Sample ID: 7186223MSD
Batch Id(s): P24837B, P24838B

Analyte	Mass	BKG Sample		MS Sample		MSD Sample		MS Spike Added	MSD Spike Added	Units	MS		MSD		RPD	Control Limit		M
		Result	C	Result	C	Result	C				%R	Q	%R	Q		%R	RPD	
Aluminum		12214.5060		14829.5790		14371.2170		200.0000	200.0000	MG/KG	1308		1078		3		20	P
Antimony		0.7400	U	33.1240		32.7040		50.0000	50.0000	MG/KG	66	N	65	N	1	75 - 125	20	P
Arsenic		3.7570	B	18.7600		18.8090		15.0000	15.0000	MG/KG	100		100		0	75 - 125	20	P
Barium		71.4390		278.7530		270.6240		200.0000	200.0000	MG/KG	104		100		3	75 - 125	20	P
Beryllium		0.4190	B	5.3920		5.3520		5.0000	5.0000	MG/KG	99		99		1	75 - 125	20	P
Boron		21.1970		205.4410		204.1300		200.0000	200.0000	MG/KG	92		91		1	75 - 125	20	P
Cadmium		0.4260	B	5.1930		5.1980		5.0000	5.0000	MG/KG	95		95		0	75 - 125	20	P
Calcium		2970.1230		3705.7160		3550.6850		400.0000	400.0000	MG/KG	184		145		4			P
Chromium		15.9990		36.3120		36.1090		20.0000	20.0000	MG/KG	102		101		1	75 - 125	20	P
Cobalt		3.4450		50.8430		50.7970		50.0000	50.0000	MG/KG	95		95		0	75 - 125	20	P
Copper		9.4610		35.5300		35.0400		25.0000	25.0000	MG/KG	104		102		1	75 - 125	20	P
Iron		18670.6610		20305.8380		19500.2760		100.0000	100.0000	MG/KG	1635		830		4			P
Lead		4.2290		18.6230		18.6510		15.0000	15.0000	MG/KG	96		96		0	75 - 125	20	P
Lithium		20.3290		118.9020		117.2670		100.0000	100.0000	MG/KG	99		97		1	75 - 125	20	P
Magnesium		4006.1720		4552.3000		4360.0840		200.0000	200.0000	MG/KG	273		177		4			P
Manganese		170.1860		251.8330		243.2620		50.0000	50.0000	MG/KG	163	N	146	N	3	75 - 125	20	P
Mercury		0.1058		0.2495		0.2441		0.1648	0.1602	MG/KG	87		86		2	65 - 135	20	CV
Molybdenum		0.1700	U	185.4160		184.7320		200.0000	200.0000	MG/KG	93		92		0	75 - 125	20	P
Nickel		7.8350		56.3120		56.1720		50.0000	50.0000	MG/KG	97		97		0	75 - 125	20	P
Phosphorus		284.5580		393.6280		397.4130		100.0000	100.0000	MG/KG	109		113		1	75 - 125	20	P
Potassium		1574.6650		2801.8910		2759.1690		1000.0000	1000.0000	MG/KG	123		118		2	75 - 125	20	P
Selenium	78	0.1000	U	2.2120		2.0800		2.0000	2.0000	MG/KG	111		104		6	75 - 125	20	MS
Silver	107	0.0613	B	11.6080		10.5560		10.0000	10.0000	MG/KG	115		105		9	75 - 125	20	MS
Sodium		149.7370		1121.4030		1109.2980		1000.0000	1000.0000	MG/KG	97		96		1	75 - 125	20	P
Strontium	88	23.6000		33.5800		29.7400		8.0000	8.0000	MG/KG	125		77		12	75 - 125	20	MS
Thallium	203	0.2174		0.6860		0.6418		0.4000	0.4000	MG/KG	117		106		7	75 - 125	20	MS

Note: Results shown are reported on an as-received basis.

<p>METHODS: P = ICP Atomic Emission Spectrometer CV = Cold Vapor MS = ICP Mass Spectrometry AF = Cold Vapor Atomic Fluorescence</p>	<p>CONCENTRATION QUALIFIERS: U= Below MDL, B= Below LOQ FLAGS: N = Matrix Spike OOS, * = Duplicate OOS</p>
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QUALITY ASSURANCE SUMMARY
 FORM 5A (MS/MSD)
 MATRIX SPIKE/MATRIX SPIKE DUPLICATE
 SDG No.: PH101
 Matrix: SOIL Level: LOW
 (low/med):

Background Lab Sample ID: 7186221BKG Matrix Spike Lab Sample ID: 7186222MS Matrix Spike Duplicate Lab Sample ID: 7186223MSD
 Batch Id(s): P24837B, P24838B

Analyte	Mass	BKG Sample		MS Sample		MSD Sample		MS Spike Added	MSD Spike Added	Units	MS		MSD		Control Limit				
		Result	C	Result	C	Result	C				%R	Q	%R	Q	RPD	Q	%R	RPD	M
Tin		2.7240	B	345.1600		344.3850		400.0000	400.0000	MG/KG	86		85		0	75 - 125	20	P	
Titanium		167.3630	B	1571.6080		1458.4780		100.0000	100.0000	MG/KG	404		291		7			20	P
Vanadium		33.2240		84.8180		83.6580		50.0000	50.0000	MG/KG	103		101		1	75 - 125	20	P	
Zinc		44.1690		95.5330		93.7240		50.0000	50.0000	MG/KG	103		99		2	75 - 125	20	P	
Zirconium		3.7460	B	101.1850		100.3990		100.0000	100.0000	MG/KG	97		97		1	75 - 125	20	P	

Note: Results shown are reported on an as-received basis.

<p>METHODS: P = ICP Atomic Emission Spectrometer CV = Cold Vapor MS = ICP Mass Spectrometry AF = Cold Vapor Atomic Fluorescence</p>	<p>CONCENTRATION QUALIFIERS: U= Below MDL, B= Below LOQ FLAGS: N = Matrix Spike OOS, * = Duplicate OOS</p>
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Background Lab Sample ID: 7186221BKG
 Batch ID(s): P24837B, P24838B
 Concentration Units: MG/KG

Duplicate Lab Sample ID: 7186224DUP

Analyte	Mass	Control Limit	Samples (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum			12214.5060		12742.0500		4		P
Antimony			0.7400	U	0.7400	U			P
Arsenic			3.7570	B	3.7350	B	1		P
Barium			71.4390		75.2070		5		P
Beryllium			0.4190	B	0.4510	B	7		P
Boron		10.0	21.1970		21.7370		3		P
Cadmium			0.4260	B	0.4410	B	3		P
Calcium			2970.1230		3029.5350		2		P
Chromium			15.9990		16.9110		6		P
Cobalt		1.0	3.4450		3.6620		6		P
Copper		2.0	9.4610		9.6610		2		P
Iron			18670.6610		19667.3510		5		P
Lead		3.0	4.2290		4.1970		1		P
Lithium			20.3290		20.2150		1		P
Magnesium			4006.1720		4131.2630		3		P
Manganese			170.1860		178.0960		5		P
Mercury		0.0	0.1058		0.0434		84	*	CV
Molybdenum			0.1700	U	0.1700	U			P
Nickel		2.0	7.8350		8.2290		5		P
Phosphorus			284.5580		277.1660		3		P
Potassium			1574.6650		1566.3320		1		P
Selenium	78		0.1000	U	0.1000	U			MS
Silver	107		0.0613	B	0.0611	B	0		MS
Sodium		100.0	149.7370		154.4260		3		P
Strontium	88		23.6000		22.7200		4		MS
Thallium	203	0.2	0.2174		0.2210		2		MS
Tin			2.7240	B	2.5780	B	6		P
Titanium			1167.3630		1167.3890		0		P
Vanadium			33.2240		35.2550		6		P
Zinc			44.1690		44.5200		1		P
Zirconium			3.7460	B	4.1010	B	9		P

NOTE: An asterisk (*) in column "Q" indicates poor duplicate precision (RPD > 20% OR |(S) - (D)| > LOQ for values < 5x LOQ).

The data are considered to be valid because the laboratory control sample is within the control limits. See the Laboratory Control Sample.

*OK by difference **

Note: Results shown are reported on an as-received basis.

METHODS: P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence	CONCENTRATION QUALIFIERS: U= Below MDL B= Below LOQ FLAGS: * = Duplicate Out of Spec
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**Data Validation Report
Santa Susana Field Laboratory**

Subarea 5D

SDG: PH102

Prepared for

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Prepared by

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December 10, 2013

INTRODUCTION

This Data Validation Report (DVR) presents Level IV data validation results for samples collected on September 5, 2013. Data validation was performed in accordance with 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), Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005), and for Inorganic Data Review (January 2010). Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following methods:

Semivolatiles (SVOCs) by Environmental Protection Agency (EPA) SW 846 Method 8270D utilizing Selective Ion Monitoring (SIM)
Pesticides by EPA SW 846 Method 8081B
Polychlorinated Biphenyls (PCBs) by EPA SW 846 Method 8082A
Metals by EPA SW 846 Method 6010C, 6020A, and 7471B
Herbicides by EPA SW 846 Method 8151A
Perchlorate by EPA Method 6850
Total Petroleum Hydrocarbons (TPH) as Gasoline by EPA SW 846 Method 8015M
TPH as Extractables by EPA SW 846 Method 8015M
Dioxins and Dibenzofurans by EPA Method 1613B

Wet Chemistry:

Fluoride by EPA Method 300.0
Hexavalent Chromium by EPA Method 7199

The sample identification and methods of analyses performed on each sample is presented in Attachment 1. Overall data qualification summary is presented in Attachment II. Automated Data Review outliers are presented in Enclosure I. Method specific Level IV DVRs are presented in Enclosure II.

All sample results were subjected to Level IV data validation, which comprises an evaluation of quality control (QC) summary results for sample holding times, initial and continuing calibrations, initial and continuing calibration blanks (ICB/CCBs), surrogates, internal standards, interference check (ICSA and ICSAB) samples, matrix spike/matrix spike duplicates (MS/MSD), laboratory control sample/laboratory control sample duplicates (LCS/LCSD), ICP serial dilutions, laboratory duplicates, method blanks, trip blanks, equipment blanks, field blanks, and the raw data to confirm sample quantitation and identification.

Automated data review was performed on all QC summary results using the Automated Data Review (ADR) software program (LDC, 2013) with exception of the initial and continuing calibrations, ICB/CCBs, interference check samples, ICP serial dilutions and internal standards (except dioxins) which were validated manually. Quality assurance (QA)/QC criteria specified in the QAPP and CLPNFGs were incorporated with the program's reference library to assess compliance with project requirements.

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.

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 QC criteria.

II. Initial Calibration

All criteria for the initial calibration of each method were met.

III. Continuing Calibration

All criteria for the initial calibration verifications and continuing calibration of each method were met with the exception of several herbicides. The associated sample results were qualified as non-detected estimated (UJ). The details regarding the qualification of data are provided in Enclosures II.

IV. Blanks

Method blanks were performed at the required frequencies. No contaminant concentrations were detected in the method or preparation blanks with the exception of several blanks for dioxins and metals. The associated sample results were qualified as non-detected (U) due to method blank contamination as applicable. The sample results that were not detected or were significantly greater than the concentrations found in the associated blanks were not qualified. The details regarding the qualification of data are provided in Enclosures I and II.

No contaminant concentrations were detected in the initial or continuing calibration blanks with the exception of several metals. The associated sample results were not detected or were significantly greater than the concentrations found in the associated blanks, therefore no data were qualified.

V. 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 exception of five samples for PCBs. No data were qualified due to high %Rs since the associated results were non-detected.

VI. ICP Interference Check Sample (ICS) Analysis

The frequency of analysis was met.

The criteria for analysis were met.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were performed at the required frequency. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the exception of one MS/MSD pair for metals and fluoride. The associated sample results were qualified as detected estimated (J) or non-detected estimated (UJ) as applicable. The details regarding the qualification of data are provided in Enclosure I.

VIII. Laboratory Duplicates Sample

Laboratory duplicates (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

IX. 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 with the exception of one LCS/LCSD pair for herbicides. No data were qualified due to high %Rs since the associated results were non-detected.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. ICP Serial Dilution

ICP serial dilution analysis was performed by the laboratory. The analysis criteria were met.

XII. Compound Quantitation

The laboratory reporting limits were evaluated. All laboratory reporting limits met the specified requirements.

All compounds reported below the RL as detected were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG PH102	All compounds reported as detected below the RL.	J (all detects)	A

XIII. Field Duplicate Samples

No field duplicates were identified in this SDG.

XIV. Field Blank Samples

One trip blank was collected and analyzed for TPH as gasoline. No volatile contaminants were found in the trip blank.

One equipment blank (from SDG PH101) was collected and analyzed for SVOCs, pesticides, PCBs, metals, herbicides, perchlorate, TPH as gasoline, TPH as extractables, dioxins, hexavalent chromium and fluoride. The equipment blank had detections for SVOCs, metals and dioxins. The associated sample results were qualified as non-detected (U) due to equipment blank contamination as applicable. The sample results that were not detected or were significantly greater than the concentrations found in the equipment blanks were not qualified. The equipment blank outlier reports are presented in Enclosure I.

One field blank (from SDG PH029) was collected and analyzed for SVOCs, pesticides, PCBs, metals, herbicides, perchlorate, TPH as gasoline, TPH as extractables, dioxins, hexavalent

chromium, and fluoride. The field blank had detections for SVOCs, metals and dioxins. The associated sample results were qualified as non-detected (U) due to field blank contamination as applicable. The sample results that were not detected or were significantly greater than the concentrations found in the field blank were not qualified. The field blank outlier reports are presented in Enclosure I.

XV. Overall Assessment of Data

No data associated with this sampling event were rejected. The overall assessment of QA/QC data review by automated and manual validation of this sampling event met project requirements and analytical completeness levels with the exceptions noted in the above sections. All data are deemed useable for the intended use.

Data flags are summarized and are presented as Attachment 2.

Attachment 1
Sample Cross Reference

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
05-Sep-2013	SL-559-SA5D-SB-0.0-0.5	7187855	N	3050B	6010C	IV
05-Sep-2013	SL-559-SA5D-SB-0.0-0.5	7187855	N	3050B	6020A	IV
05-Sep-2013	SL-559-SA5D-SB-0.0-0.5	7187855	N	3546	8015M	IV
05-Sep-2013	SL-559-SA5D-SB-0.0-0.5	7187855	N	3546	8081B	IV
05-Sep-2013	SL-559-SA5D-SB-0.0-0.5	7187855	N	3546	8082A	IV
05-Sep-2013	SL-559-SA5D-SB-0.0-0.5	7187855	N	3546	8270D SIM	IV
05-Sep-2013	SL-559-SA5D-SB-0.0-0.5	7187855	N	METHOD	1613B	IV
05-Sep-2013	SL-559-SA5D-SB-0.0-0.5	7187855	N	METHOD	300.0	IV
05-Sep-2013	SL-559-SA5D-SB-0.0-0.5	7187855	N	METHOD	7471B	IV
05-Sep-2013	SL-559-SA5D-SB-6.0-7.0	7187856	N	3050B	6010C	IV
05-Sep-2013	SL-559-SA5D-SB-6.0-7.0	7187856	N	3050B	6020A	IV
05-Sep-2013	SL-559-SA5D-SB-6.0-7.0	7187856	N	3546	8015M	IV
05-Sep-2013	SL-559-SA5D-SB-6.0-7.0	7187856	N	3546	8081B	IV
05-Sep-2013	SL-559-SA5D-SB-6.0-7.0	7187856	N	3546	8082A	IV
05-Sep-2013	SL-559-SA5D-SB-6.0-7.0	7187856	N	3546	8270D SIM	IV
05-Sep-2013	SL-559-SA5D-SB-6.0-7.0	7187856	N	5035A	8015M	IV
05-Sep-2013	SL-559-SA5D-SB-6.0-7.0	7187856	N	METHOD	300.0	IV
05-Sep-2013	SL-559-SA5D-SB-6.0-7.0	7187856	N	METHOD	7471B	IV
05-Sep-2013	TB-090513	7187850	TB	5030B	8015M	IV
05-Sep-2013	SL-555-SA5D-SB-0.0-0.5	7187851	N	3050B	6010C	IV
05-Sep-2013	SL-555-SA5D-SB-0.0-0.5	7187851	N	3050B	6020A	IV
05-Sep-2013	SL-555-SA5D-SB-0.0-0.5	7187851	N	3546	8015M	IV
05-Sep-2013	SL-555-SA5D-SB-0.0-0.5	7187851	N	3546	8081B	IV
05-Sep-2013	SL-555-SA5D-SB-0.0-0.5	7187851	N	3546	8082A	IV
05-Sep-2013	SL-555-SA5D-SB-0.0-0.5	7187851	N	3546	8270D SIM	IV
05-Sep-2013	SL-555-SA5D-SB-0.0-0.5	7187851	N	METHOD	1613B	IV

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
05-Sep-2013	SL-555-SA5D-SB-0.0-0.5	7187851	N	METHOD	300.0	IV
05-Sep-2013	SL-555-SA5D-SB-0.0-0.5	7187851	N	METHOD	7471B	IV
05-Sep-2013	SL-555-SA5D-SB-4.0-5.0	7187852	N	3050B	6010C	IV
05-Sep-2013	SL-555-SA5D-SB-4.0-5.0	7187852	N	3050B	6020A	IV
05-Sep-2013	SL-555-SA5D-SB-4.0-5.0	7187852	N	3546	8015M	IV
05-Sep-2013	SL-555-SA5D-SB-4.0-5.0	7187852	N	3546	8081B	IV
05-Sep-2013	SL-555-SA5D-SB-4.0-5.0	7187852	N	3546	8082A	IV
05-Sep-2013	SL-555-SA5D-SB-4.0-5.0	7187852	N	3546	8270D SIM	IV
05-Sep-2013	SL-555-SA5D-SB-4.0-5.0	7187852	N	5035A	8015M	IV
05-Sep-2013	SL-555-SA5D-SB-4.0-5.0	7187852	N	METHOD	300.0	IV
05-Sep-2013	SL-555-SA5D-SB-4.0-5.0	7187852	N	METHOD	7471B	IV
05-Sep-2013	SL-555-SA5D-SB-4.0-5.0DUP	P187852D221106	DUP	3050B	6010C	IV
05-Sep-2013	SL-555-SA5D-SB-4.0-5.0DUP	P187852D221755	DUP	METHOD	7471B	IV
05-Sep-2013	SL-555-SA5D-SB-4.0-5.0DUP	P187852D222236A	DUP	3050B	6020A	IV
05-Sep-2013	SL-555-SA5D-SB-4.0-5.0DUP	P187852D222236B	DUP	3050B	6020A	IV
05-Sep-2013	SL-555-SA5D-SB-4.0-5.0DUP	P187852D270222A	DUP	METHOD	300.0	IV
05-Sep-2013	SL-555-SA5D-SB-4.0-5.0MSD	P187852M221114	MSD	3050B	6010C	IV
05-Sep-2013	SL-555-SA5D-SB-4.0-5.0MSD	P187852M221759	MSD	METHOD	7471B	IV
05-Sep-2013	SL-555-SA5D-SB-4.0-5.0MSD	P187852M222241A	MSD	3050B	6020A	IV
05-Sep-2013	SL-555-SA5D-SB-4.0-5.0MSD	P187852M222241B	MSD	3050B	6020A	IV
05-Sep-2013	SL-555-SA5D-SB-4.0-5.0MS	P187852R221110	MS	3050B	6010C	IV
05-Sep-2013	SL-555-SA5D-SB-4.0-5.0MS	P187852R221757	MS	METHOD	7471B	IV
05-Sep-2013	SL-555-SA5D-SB-4.0-5.0MS	P187852R222238A	MS	3050B	6020A	IV
05-Sep-2013	SL-555-SA5D-SB-4.0-5.0MS	P187852R222238B	MS	3050B	6020A	IV
05-Sep-2013	SL-555-SA5D-SB-4.0-5.0MS	P187852R270238A	MS	METHOD	300.0	IV
05-Sep-2013	SL-555-SA5D-SB-10.5-11.5	7187853	N	3050B	6010C	IV

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
05-Sep-2013	SL-555-SA5D-SB-10.5-11.5	7187853	N	3050B	6020A	IV
05-Sep-2013	SL-555-SA5D-SB-10.5-11.5	7187853	N	3546	8015M	IV
05-Sep-2013	SL-555-SA5D-SB-10.5-11.5	7187853	N	3546	8081B	IV
05-Sep-2013	SL-555-SA5D-SB-10.5-11.5	7187853	N	3546	8082A	IV
05-Sep-2013	SL-555-SA5D-SB-10.5-11.5	7187853	N	3546	8270D SIM	IV
05-Sep-2013	SL-555-SA5D-SB-10.5-11.5	7187853	N	5035A	8015M	IV
05-Sep-2013	SL-555-SA5D-SB-10.5-11.5	7187853	N	METHOD	300.0	IV
05-Sep-2013	SL-555-SA5D-SB-10.5-11.5	7187853	N	METHOD	7471B	IV
05-Sep-2013	SL-556-SA5D-SB-0.0-0.5	7187854	N	3050B	6010C	IV
05-Sep-2013	SL-556-SA5D-SB-0.0-0.5	7187854	N	3050B	6020A	IV
05-Sep-2013	SL-556-SA5D-SB-0.0-0.5	7187854	N	3060A	7199	IV
05-Sep-2013	SL-556-SA5D-SB-0.0-0.5	7187854	N	3546	8015M	IV
05-Sep-2013	SL-556-SA5D-SB-0.0-0.5	7187854	N	3546	8082A	IV
05-Sep-2013	SL-556-SA5D-SB-0.0-0.5	7187854	N	3546	8270D SIM	IV
05-Sep-2013	SL-556-SA5D-SB-0.0-0.5	7187854	N	3550B	8151A	IV
05-Sep-2013	SL-556-SA5D-SB-0.0-0.5	7187854	N	METHOD	1613B	IV
05-Sep-2013	SL-556-SA5D-SB-0.0-0.5	7187854	N	METHOD	300.0	IV
05-Sep-2013	SL-556-SA5D-SB-0.0-0.5	7187854	N	METHOD	6850	IV
05-Sep-2013	SL-556-SA5D-SB-0.0-0.5	7187854	N	METHOD	7471B	IV
05-Sep-2013	SL-556-SA5D-SB-4.0-5.0	7187858	N	3050B	6010C	IV
05-Sep-2013	SL-556-SA5D-SB-4.0-5.0	7187858	N	3050B	6020A	IV
05-Sep-2013	SL-556-SA5D-SB-4.0-5.0	7187858	N	3060A	7199	IV
05-Sep-2013	SL-556-SA5D-SB-4.0-5.0	7187858	N	3546	8015M	IV
05-Sep-2013	SL-556-SA5D-SB-4.0-5.0	7187858	N	3546	8082A	IV
05-Sep-2013	SL-556-SA5D-SB-4.0-5.0	7187858	N	3546	8270D SIM	IV
05-Sep-2013	SL-556-SA5D-SB-4.0-5.0	7187858	N	3550B	8151A	IV

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
05-Sep-2013	SL-556-SA5D-SB-4.0-5.0	7187858	N	5035A	8015M	IV
05-Sep-2013	SL-556-SA5D-SB-4.0-5.0	7187858	N	METHOD	300.0	IV
05-Sep-2013	SL-556-SA5D-SB-4.0-5.0	7187858	N	METHOD	6850	IV
05-Sep-2013	SL-556-SA5D-SB-4.0-5.0	7187858	N	METHOD	7471B	IV
05-Sep-2013	SL-556-SA5D-SB-11.0-12.0	7187857	N	3050B	6010C	IV
05-Sep-2013	SL-556-SA5D-SB-11.0-12.0	7187857	N	3050B	6020A	IV
05-Sep-2013	SL-556-SA5D-SB-11.0-12.0	7187857	N	3060A	7199	IV
05-Sep-2013	SL-556-SA5D-SB-11.0-12.0	7187857	N	3546	8015M	IV
05-Sep-2013	SL-556-SA5D-SB-11.0-12.0	7187857	N	3546	8082A	IV
05-Sep-2013	SL-556-SA5D-SB-11.0-12.0	7187857	N	3546	8270D SIM	IV
05-Sep-2013	SL-556-SA5D-SB-11.0-12.0	7187857	N	3550B	8151A	IV
05-Sep-2013	SL-556-SA5D-SB-11.0-12.0	7187857	N	5035A	8015M	IV
05-Sep-2013	SL-556-SA5D-SB-11.0-12.0	7187857	N	METHOD	300.0	IV
05-Sep-2013	SL-556-SA5D-SB-11.0-12.0	7187857	N	METHOD	6850	IV
05-Sep-2013	SL-556-SA5D-SB-11.0-12.0	7187857	N	METHOD	7471B	IV
05-Sep-2013	SL-556-SA5D-SB-11.0-12.0D	P187857D271805A	DUP	3060A	7199	IV
05-Sep-2013	SL-556-SA5D-SB-11.0-12.0M	P187857R271715A	MS	3060A	7199	IV
05-Sep-2013	SL-554-SA5D-SB-0.0-0.5	7187859	N	3050B	6010C	IV
05-Sep-2013	SL-554-SA5D-SB-0.0-0.5	7187859	N	3050B	6020A	IV
05-Sep-2013	SL-554-SA5D-SB-0.0-0.5	7187859	N	3546	8015M	IV
05-Sep-2013	SL-554-SA5D-SB-0.0-0.5	7187859	N	3546	8081B	IV
05-Sep-2013	SL-554-SA5D-SB-0.0-0.5	7187859	N	3546	8082A	IV
05-Sep-2013	SL-554-SA5D-SB-0.0-0.5	7187859	N	3546	8270D SIM	IV
05-Sep-2013	SL-554-SA5D-SB-0.0-0.5	7187859	N	METHOD	1613B	IV
05-Sep-2013	SL-554-SA5D-SB-0.0-0.5	7187859	N	METHOD	300.0	IV
05-Sep-2013	SL-554-SA5D-SB-0.0-0.5	7187859	N	METHOD	7471B	IV

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
05-Sep-2013	SL-554-SA5D-SB-4.0-5.0	7187860	N	3050B	6010C	IV
05-Sep-2013	SL-554-SA5D-SB-4.0-5.0	7187860	N	3050B	6020A	IV
05-Sep-2013	SL-554-SA5D-SB-4.0-5.0	7187860	N	3546	8015M	IV
05-Sep-2013	SL-554-SA5D-SB-4.0-5.0	7187860	N	3546	8081B	IV
05-Sep-2013	SL-554-SA5D-SB-4.0-5.0	7187860	N	3546	8082A	IV
05-Sep-2013	SL-554-SA5D-SB-4.0-5.0	7187860	N	3546	8270D SIM	IV
05-Sep-2013	SL-554-SA5D-SB-4.0-5.0	7187860	N	5035A	8015M	IV
05-Sep-2013	SL-554-SA5D-SB-4.0-5.0	7187860	N	METHOD	300.0	IV
05-Sep-2013	SL-554-SA5D-SB-4.0-5.0	7187860	N	METHOD	7471B	IV
05-Sep-2013	SL-554-SA5D-SB-7.0-8.0	7187861	N	3050B	6010C	IV
05-Sep-2013	SL-554-SA5D-SB-7.0-8.0	7187861	N	3050B	6020A	IV
05-Sep-2013	SL-554-SA5D-SB-7.0-8.0	7187861	N	3546	8015M	IV
05-Sep-2013	SL-554-SA5D-SB-7.0-8.0	7187861	N	3546	8081B	IV
05-Sep-2013	SL-554-SA5D-SB-7.0-8.0	7187861	N	3546	8082A	IV
05-Sep-2013	SL-554-SA5D-SB-7.0-8.0	7187861	N	3546	8270D SIM	IV
05-Sep-2013	SL-554-SA5D-SB-7.0-8.0	7187861	N	5035A	8015M	IV
05-Sep-2013	SL-554-SA5D-SB-7.0-8.0	7187861	N	METHOD	300.0	IV
05-Sep-2013	SL-554-SA5D-SB-7.0-8.0	7187861	N	METHOD	7471B	IV

Attachment 2
Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: PH102

Laboratory: LL

EDD Filename: PrepPH102

eQAPP Name: CDM_SSFL_131101_Lan

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

Sample ID: SL-554-SA5D-SB-0.0-0.5 Collected: 9/5/2013 1:15:00 PM Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
FLUORIDE	0.90	J	0.42	MDL	1.0	PQL	mg/Kg	J	Z, Q

Sample ID: SL-554-SA5D-SB-4.0-5.0 Collected: 9/5/2013 1:30:00 PM Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
FLUORIDE	2.0		0.43	MDL	1.1	PQL	mg/Kg	J	Q

Sample ID: SL-555-SA5D-SB-0.0-0.5 Collected: 9/5/2013 8:55:00 AM Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
FLUORIDE	0.83	J	0.42	MDL	1.0	PQL	mg/Kg	J	Z, Q

Sample ID: SL-555-SA5D-SB-10.5-11.5 Collected: 9/5/2013 9:30:00 AM Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
FLUORIDE	2.9		0.44	MDL	1.1	PQL	mg/Kg	J	Q

Sample ID: SL-555-SA5D-SB-4.0-5.0 Collected: 9/5/2013 9:15:00 AM Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
FLUORIDE	2.2		0.44	MDL	1.1	PQL	mg/Kg	J	Q

Sample ID: SL-556-SA5D-SB-0.0-0.5 Collected: 9/5/2013 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
FLUORIDE	0.97	J	0.41	MDL	1.0	PQL	mg/Kg	J	Z, Q

Sample ID: SL-556-SA5D-SB-11.0-12.0 Collected: 9/5/2013 12:40:00 Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
FLUORIDE	2.4		0.42	MDL	1.1	PQL	mg/Kg	J	Q

Sample ID: SL-556-SA5D-SB-4.0-5.0 Collected: 9/5/2013 12:20:00 Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
FLUORIDE	3.0		0.42	MDL	1.1	PQL	mg/Kg	J	Q

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH102

Laboratory: LL

EDD Filename: PrepPH102

eQAPP Name: CDM_SSFL_131101_Lan

Method Category:	GENCHEM	
Method:	300.0	Matrix: SO

Sample ID: SL-559-SA5D-SB-0.0-0.5 Collected: 9/5/2013 7:40:00 AM Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
FLUORIDE	1.3		0.43	MDL	1.1	PQL	mg/Kg	J	Q

Sample ID: SL-559-SA5D-SB-6.0-7.0 Collected: 9/5/2013 7:55:00 AM Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
FLUORIDE	1.5		0.43	MDL	1.1	PQL	mg/Kg	J	Q

Method Category:	METALS	
Method:	6010C	Matrix: SO

Sample ID: SL-554-SA5D-SB-0.0-0.5 Collected: 9/5/2013 1:15:00 PM Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	4.16	U	0.770	MDL	4.16	PQL	mg/Kg	UJ	Q
BERYLLIUM	0.822	J	0.0698	MDL	1.04	PQL	mg/Kg	J	Z
BORON	8.80	J	0.875	MDL	10.4	PQL	mg/Kg	J	Z
CADMIUM	0.281	J	0.0791	MDL	1.04	PQL	mg/Kg	J	Z
MOLYBDENUM	0.366	J	0.177	MDL	2.08	PQL	mg/Kg	U	F
POTASSIUM	4450		8.68	MDL	104	PQL	mg/Kg	J	Q
TIN	3.24	J	0.229	MDL	10.4	PQL	mg/Kg	U	B
Zirconium	4.23	J	0.875	MDL	5.21	PQL	mg/Kg	J	Z

Sample ID: SL-554-SA5D-SB-4.0-5.0 Collected: 9/5/2013 1:30:00 PM Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	4.24	U	0.784	MDL	4.24	PQL	mg/Kg	UJ	Q
BERYLLIUM	0.936	J	0.0710	MDL	1.06	PQL	mg/Kg	J	Z
BORON	8.83	J	0.890	MDL	10.6	PQL	mg/Kg	J	Z
CADMIUM	0.268	J	0.0806	MDL	1.06	PQL	mg/Kg	J	Z
MOLYBDENUM	0.253	J	0.180	MDL	2.12	PQL	mg/Kg	U	F
POTASSIUM	3070		8.84	MDL	106	PQL	mg/Kg	J	Q
TIN	3.48	J	0.233	MDL	10.6	PQL	mg/Kg	U	B
Zirconium	4.78	J	0.890	MDL	5.30	PQL	mg/Kg	J	Z

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Data Qualifier Summary

Lab Reporting Batch ID: PH102

Laboratory: LL

EDD Filename: PrepPH102

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: METALS
Method: 6010C **Matrix:** SO

Sample ID: SL-554-SA5D-SB-7.0-8.0 Collected: 9/5/2013 1:40:00 PM Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	4.26	U	0.788	MDL	4.26	PQL	mg/Kg	UJ	Q
BORON	8.74	J	0.894	MDL	10.6	PQL	mg/Kg	J	Z
CADMIUM	0.185	J	0.0809	MDL	1.06	PQL	mg/Kg	J	Z
POTASSIUM	3810		8.88	MDL	106	PQL	mg/Kg	J	Q
TIN	4.11	J	0.234	MDL	10.6	PQL	mg/Kg	U	B
Zirconium	5.14	J	0.894	MDL	5.32	PQL	mg/Kg	J	Z

Sample ID: SL-555-SA5D-SB-0.0-0.5 Collected: 9/5/2013 8:55:00 AM Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	4.11	U	0.761	MDL	4.11	PQL	mg/Kg	UJ	Q
BERYLLIUM	0.819	J	0.0689	MDL	1.03	PQL	mg/Kg	J	Z
CADMIUM	0.177	J	0.0782	MDL	1.03	PQL	mg/Kg	J	Z
MOLYBDENUM	0.290	J	0.175	MDL	2.06	PQL	mg/Kg	U	F
POTASSIUM	4330		8.58	MDL	103	PQL	mg/Kg	J	Q
SODIUM	101	J	17.2	MDL	103	PQL	mg/Kg	J	Z
TIN	3.06	J	0.226	MDL	10.3	PQL	mg/Kg	U	B
Zirconium	4.90	J	0.864	MDL	5.14	PQL	mg/Kg	J	Z

Sample ID: SL-555-SA5D-SB-10.5-11.5 Collected: 9/5/2013 9:30:00 AM Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	4.29	U	0.794	MDL	4.29	PQL	mg/Kg	UJ	Q
BERYLLIUM	0.875	J	0.0719	MDL	1.07	PQL	mg/Kg	J	Z
BORON	8.84	J	0.901	MDL	10.7	PQL	mg/Kg	J	Z
CADMIUM	0.0891	J	0.0816	MDL	1.07	PQL	mg/Kg	J	Z
MOLYBDENUM	0.205	J	0.182	MDL	2.15	PQL	mg/Kg	U	F
POTASSIUM	2680		8.95	MDL	107	PQL	mg/Kg	J	Q
TIN	3.47	J	0.236	MDL	10.7	PQL	mg/Kg	U	B
Zirconium	4.18	J	0.901	MDL	5.37	PQL	mg/Kg	J	Z

Sample ID: SL-555-SA5D-SB-4.0-5.0 Collected: 9/5/2013 9:15:00 AM Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	4.34	U	0.803	MDL	4.34	PQL	mg/Kg	UJ	Q

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH102

Laboratory: LL

EDD Filename: PrepPH102

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: METALS
Method: 6010C **Matrix:** SO

Sample ID: SL-555-SA5D-SB-4.0-5.0 Collected: 9/5/2013 9:15:00 AM Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BERYLLIUM	0.847	J	0.0727	MDL	1.09	PQL	mg/Kg	J	Z
BORON	10.5	J	0.912	MDL	10.9	PQL	mg/Kg	J	Z
CADMIUM	0.140	J	0.0825	MDL	1.09	PQL	mg/Kg	J	Z
MOLYBDENUM	0.700	J	0.185	MDL	2.17	PQL	mg/Kg	U	F
POTASSIUM	2580		9.05	MDL	109	PQL	mg/Kg	J	Q
TIN	3.51	J	0.239	MDL	10.9	PQL	mg/Kg	U	B
Zirconium	5.26	J	0.912	MDL	5.43	PQL	mg/Kg	J	Z

Sample ID: SL-556-SA5D-SB-0.0-0.5 Collected: 9/5/2013 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
ANTIMONY	3.99	U	0.738	MDL	3.99	PQL	mg/Kg	UJ	Q
BERYLLIUM	0.669	J	0.0669	MDL	0.998	PQL	mg/Kg	J	Z
CADMIUM	0.230	J	0.0758	MDL	0.998	PQL	mg/Kg	J	Z
POTASSIUM	4050		8.32	MDL	99.8	PQL	mg/Kg	J	Q
TIN	2.79	J	0.220	MDL	9.98	PQL	mg/Kg	U	B

Sample ID: SL-556-SA5D-SB-11.0-12.0 Collected: 9/5/2013 12:40:00 Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	4.14	U	0.767	MDL	4.14	PQL	mg/Kg	UJ	Q
BERYLLIUM	0.543	J	0.0694	MDL	1.04	PQL	mg/Kg	J	Z
BORON	5.87	J	0.870	MDL	10.4	PQL	mg/Kg	J	Z
CADMIUM	0.232	J	0.0787	MDL	1.04	PQL	mg/Kg	J	Z
POTASSIUM	2180		8.64	MDL	104	PQL	mg/Kg	J	Q
TIN	3.27	J	0.228	MDL	10.4	PQL	mg/Kg	U	B
Zirconium	2.96	J	0.870	MDL	5.18	PQL	mg/Kg	J	Z

Sample ID: SL-556-SA5D-SB-4.0-5.0 Collected: 9/5/2013 12:20:00 Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	4.23	U	0.783	MDL	4.23	PQL	mg/Kg	UJ	Q
BERYLLIUM	0.709	J	0.0709	MDL	1.06	PQL	mg/Kg	J	Z
BORON	9.88	J	0.889	MDL	10.6	PQL	mg/Kg	J	Z
CADMIUM	0.246	J	0.0804	MDL	1.06	PQL	mg/Kg	J	Z

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH102

Laboratory: LL

EDD Filename: PrepPH102

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: METALS
Method: 6010C **Matrix:** SO

Sample ID: SL-556-SA5D-SB-4.0-5.0 Collected: 9/5/2013 12:20:00 Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
MOLYBDENUM	0.337	J	0.180	MDL	2.12	PQL	mg/Kg	U	F
POTASSIUM	3190		8.83	MDL	106	PQL	mg/Kg	J	Q
TIN	2.83	J	0.233	MDL	10.6	PQL	mg/Kg	U	B
Zirconium	5.14	J	0.889	MDL	5.29	PQL	mg/Kg	J	Z

Sample ID: SL-559-SA5D-SB-0.0-0.5 Collected: 9/5/2013 7:40:00 AM Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	4.23	U	0.783	MDL	4.23	PQL	mg/Kg	UJ	Q
BERYLLIUM	0.841	J	0.0709	MDL	1.06	PQL	mg/Kg	J	Z
CADMIUM	0.469	J	0.0804	MDL	1.06	PQL	mg/Kg	J	Z
MOLYBDENUM	0.329	J	0.180	MDL	2.12	PQL	mg/Kg	U	F
POTASSIUM	5110		8.82	MDL	106	PQL	mg/Kg	J	Q
SODIUM	85.6	J	17.7	MDL	106	PQL	mg/Kg	J	Z
TIN	2.99	J	0.233	MDL	10.6	PQL	mg/Kg	U	B
Zirconium	2.71	J	0.889	MDL	5.29	PQL	mg/Kg	J	Z

Sample ID: SL-559-SA5D-SB-6.0-7.0 Collected: 9/5/2013 7:55:00 AM Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	4.29	U	0.794	MDL	4.29	PQL	mg/Kg	UJ	Q
BERYLLIUM	0.942	J	0.0719	MDL	1.07	PQL	mg/Kg	J	Z
BORON	6.72	J	0.901	MDL	10.7	PQL	mg/Kg	J	Z
CADMIUM	0.323	J	0.0815	MDL	1.07	PQL	mg/Kg	J	Z
MOLYBDENUM	1.35	J	0.182	MDL	2.15	PQL	mg/Kg	U	F
POTASSIUM	3200		8.95	MDL	107	PQL	mg/Kg	J	Q
SODIUM	99.6	J	17.9	MDL	107	PQL	mg/Kg	J	Z
TIN	3.81	J	0.236	MDL	10.7	PQL	mg/Kg	U	B

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH102

Laboratory: LL

EDD Filename: PrepPH102

eQAPP Name: CDM_SSFL_131101_Lan

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

Sample ID: SL-554-SA5D-SB-0.0-0.5 Collected: 9/5/2013 1:15:00 PM Analysis Type: REA Dilution: 2

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SELENIUM	0.206	J	0.104	MDL	0.416	PQL	mg/Kg	J	Z

Sample ID: SL-554-SA5D-SB-4.0-5.0 Collected: 9/5/2013 1:30:00 PM Analysis Type: REA Dilution: 2

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SELENIUM	0.168	J	0.106	MDL	0.424	PQL	mg/Kg	J	Z

Sample ID: SL-554-SA5D-SB-4.0-5.0 Collected: 9/5/2013 1:30:00 PM Analysis Type: RES Dilution: 2

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SILVER	0.0473	J	0.0276	MDL	0.212	PQL	mg/Kg	J	Z

Sample ID: SL-554-SA5D-SB-7.0-8.0 Collected: 9/5/2013 1:40:00 PM Analysis Type: REA Dilution: 2

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SELENIUM	0.273	J	0.106	MDL	0.426	PQL	mg/Kg	J	Z

Sample ID: SL-554-SA5D-SB-7.0-8.0 Collected: 9/5/2013 1:40:00 PM Analysis Type: RES Dilution: 2

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SILVER	0.0431	J	0.0277	MDL	0.213	PQL	mg/Kg	J	Z

Sample ID: SL-555-SA5D-SB-0.0-0.5 Collected: 9/5/2013 8:55:00 AM Analysis Type: REA Dilution: 2

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SELENIUM	0.251	J	0.103	MDL	0.411	PQL	mg/Kg	J	Z

Sample ID: SL-555-SA5D-SB-10.5-11.5 Collected: 9/5/2013 9:30:00 AM Analysis Type: RES Dilution: 2

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SILVER	0.0505	J	0.0279	MDL	0.215	PQL	mg/Kg	J	Z

Sample ID: SL-555-SA5D-SB-4.0-5.0 Collected: 9/5/2013 9:15:00 AM Analysis Type: REA Dilution: 2

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SELENIUM	0.128	J	0.109	MDL	0.434	PQL	mg/Kg	J	Z

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH102

Laboratory: LL

EDD Filename: PrepPH102

eQAPP Name: CDM_SSFL_131101_Lan

Method Category:	METALS	
Method:	6020A	Matrix: SO

Sample ID: SL-555-SA5D-SB-4.0-5.0			Collected: 9/5/2013 9:15:00 AM			Analysis Type: RES		Dilution: 2	
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SILVER	0.0502	J	0.0282	MDL	0.217	PQL	mg/Kg	J	Z

Sample ID: SL-556-SA5D-SB-0.0-0.5			Collected: 9/5/2013 10:20:00			Analysis Type: REA		Dilution: 2	
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SELENIUM	0.235	J	0.0998	MDL	0.399	PQL	mg/Kg	J	Z

Sample ID: SL-556-SA5D-SB-0.0-0.5			Collected: 9/5/2013 10:20:00			Analysis Type: RES		Dilution: 2	
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SILVER	0.0404	J	0.0259	MDL	0.200	PQL	mg/Kg	J	Z

Sample ID: SL-556-SA5D-SB-4.0-5.0			Collected: 9/5/2013 12:20:00			Analysis Type: REA		Dilution: 2	
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SELENIUM	0.221	J	0.106	MDL	0.423	PQL	mg/Kg	J	Z

Sample ID: SL-559-SA5D-SB-0.0-0.5			Collected: 9/5/2013 7:40:00 AM			Analysis Type: REA		Dilution: 2	
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SELENIUM	0.213	J	0.106	MDL	0.423	PQL	mg/Kg	J	Z

Sample ID: SL-559-SA5D-SB-0.0-0.5			Collected: 9/5/2013 7:40:00 AM			Analysis Type: RES		Dilution: 2	
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SILVER	0.0560	J	0.0275	MDL	0.212	PQL	mg/Kg	J	Z

Sample ID: SL-559-SA5D-SB-6.0-7.0			Collected: 9/5/2013 7:55:00 AM			Analysis Type: REA		Dilution: 2	
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SELENIUM	0.216	J	0.107	MDL	0.429	PQL	mg/Kg	J	Z

Sample ID: SL-559-SA5D-SB-6.0-7.0			Collected: 9/5/2013 7:55:00 AM			Analysis Type: RES		Dilution: 2	
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SILVER	0.0312	J	0.0279	MDL	0.215	PQL	mg/Kg	J	Z

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH102

Laboratory: LL

EDD Filename: PrepPH102

eQAPP Name: CDM_SSFL_131101_Lan

Method Category:	METALS	
Method:	6020A	Matrix: SO

Method Category:	METALS	
Method:	7199	Matrix: SO

Sample ID: SL-556-SA5D-SB-11.0-12.0	Collected: 9/5/2013 12:40:00	Analysis Type: RES	Dilution: 1						
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
HEXAVALENT CHROMIUM	0.32	J	0.15	MDL	0.42	PQL	mg/Kg	J	Z

Method Category:	METALS	
Method:	7471B	Matrix: SO

Sample ID: SL-554-SA5D-SB-0.0-0.5	Collected: 9/5/2013 1:15:00 PM	Analysis Type: RES	Dilution: 1						
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
MERCURY	0.0110	J	0.0099	MDL	0.0165	PQL	mg/Kg	J	Z

Sample ID: SL-555-SA5D-SB-0.0-0.5	Collected: 9/5/2013 8:55:00 AM	Analysis Type: RES	Dilution: 1						
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
MERCURY	0.0100	J	0.010	MDL	0.0166	PQL	mg/Kg	J	Z

Sample ID: SL-555-SA5D-SB-10.5-11.5	Collected: 9/5/2013 9:30:00 AM	Analysis Type: RES	Dilution: 1						
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
MERCURY	0.0156	J	0.0104	MDL	0.0173	PQL	mg/Kg	J	Z

Sample ID: SL-555-SA5D-SB-4.0-5.0	Collected: 9/5/2013 9:15:00 AM	Analysis Type: RES	Dilution: 1						
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
MERCURY	0.0131	J	0.0110	MDL	0.0183	PQL	mg/Kg	J	Z

Sample ID: SL-556-SA5D-SB-4.0-5.0	Collected: 9/5/2013 12:20:00	Analysis Type: RES	Dilution: 1						
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
MERCURY	0.0100	J	0.0099	MDL	0.0164	PQL	mg/Kg	J	Z

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Data Qualifier Summary

Lab Reporting Batch ID: PH102

Laboratory: LL

EDD Filename: PrepPH102

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: SVOA
Method: 1613B **Matrix:** SO

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	0.308	JB	0.0328	MDL	5.26	PQL	ng/Kg	U	B
1,2,3,4,6,7,8-HPCDF	0.132	JBQ	0.0155	MDL	5.26	PQL	ng/Kg	U	B
1,2,3,4,7,8,9-HPCDF	0.0465	JB	0.0266	MDL	5.26	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.0372	JBQ	0.0306	MDL	5.26	PQL	ng/Kg	U	B
1,2,3,4,7,8-HXCDF	0.0460	JBQ	0.0168	MDL	5.26	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDD	0.374	J	0.0320	MDL	5.26	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDF	0.0547	JBQ	0.0141	MDL	5.26	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDD	0.588	JB	0.0304	MDL	5.26	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDF	0.939	JB	0.0188	MDL	5.26	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDD	0.168	J	0.0493	MDL	5.26	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDF	0.328	JB	0.0198	MDL	5.26	PQL	ng/Kg	U	B
2,3,4,6,7,8-HXCDF	0.0620	JB	0.0151	MDL	5.26	PQL	ng/Kg	U	B
2,3,4,7,8-PECDF	0.0864	JBQ	0.0197	MDL	5.26	PQL	ng/Kg	U	B
OCDD	2.24	JB	0.0298	MDL	10.5	PQL	ng/Kg	J	Z
OCDF	0.211	JBQ	0.0470	MDL	10.5	PQL	ng/Kg	U	B

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	0.442	JB	0.0380	MDL	5.03	PQL	ng/Kg	J	Z
1,2,3,4,6,7,8-HPCDF	0.103	JB	0.0105	MDL	5.03	PQL	ng/Kg	U	B
1,2,3,4,7,8,9-HPCDF	0.0522	JBQ	0.0172	MDL	5.03	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.0330	JB	0.0278	MDL	5.03	PQL	ng/Kg	U	B
1,2,3,4,7,8-HXCDF	0.0429	JBQ	0.0168	MDL	5.03	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDD	0.489	J	0.0285	MDL	5.03	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDF	0.0640	JBQ	0.0143	MDL	5.03	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDD	0.737	JB	0.0278	MDL	5.03	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDF	0.957	JB	0.0175	MDL	5.03	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDD	0.0837	JQ	0.0380	MDL	5.03	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDF	0.215	JBQ	0.0170	MDL	5.03	PQL	ng/Kg	U	B
2,3,4,6,7,8-HXCDF	0.0475	JB	0.0165	MDL	5.03	PQL	ng/Kg	U	B
2,3,4,7,8-PECDF	0.0590	JBQ	0.0171	MDL	5.03	PQL	ng/Kg	U	B
OCDD	3.55	JB	0.0286	MDL	10.1	PQL	ng/Kg	J	Z
OCDF	0.247	JB	0.0283	MDL	10.1	PQL	ng/Kg	U	B

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH102

Laboratory: LL

EDD Filename: PrepPH102

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: SVOA
Method: 1613B **Matrix:** SO

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	3.07	JB	0.0350	MDL	4.91	PQL	ng/Kg	J	Z
1,2,3,4,6,7,8-HPCDF	0.636	JB	0.0126	MDL	4.91	PQL	ng/Kg	J	Z
1,2,3,4,7,8,9-HPCDF	0.0980	JB	0.0227	MDL	4.91	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.0869	JBQ	0.0353	MDL	4.91	PQL	ng/Kg	U	B
1,2,3,4,7,8-HXCDF	0.174	JB	0.0270	MDL	4.91	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDD	0.281	J	0.0366	MDL	4.91	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDF	0.173	JB	0.0230	MDL	4.91	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDD	0.315	JB	0.0339	MDL	4.91	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDF	0.431	JB	0.0323	MDL	4.91	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDD	0.0995	JQ	0.0378	MDL	4.91	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDF	0.551	JBQ	0.0277	MDL	4.91	PQL	ng/Kg	J	Z
2,3,4,6,7,8-HXCDF	0.186	JB	0.0247	MDL	4.91	PQL	ng/Kg	U	B
2,3,4,7,8-PECDF	0.693	JB	0.0291	MDL	4.91	PQL	ng/Kg	J	Z
2,3,7,8-TCDF	0.231	J	0.0893	MDL	0.983	PQL	ng/Kg	J	Z
OCDF	1.40	JB	0.0323	MDL	9.83	PQL	ng/Kg	J	Z

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	1.83	JB	0.0395	MDL	5.26	PQL	ng/Kg	J	Z
1,2,3,4,6,7,8-HPCDF	0.391	JBQ	0.0201	MDL	5.26	PQL	ng/Kg	J	Z
1,2,3,4,7,8,9-HPCDF	0.0780	JBQ	0.0341	MDL	5.26	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.0569	JB	0.0400	MDL	5.26	PQL	ng/Kg	U	B
1,2,3,4,7,8-HXCDF	0.0943	JBQ	0.0237	MDL	5.26	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDD	0.189	JQ	0.0411	MDL	5.26	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDF	0.0855	JBQ	0.0205	MDL	5.26	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDD	0.301	JB	0.0387	MDL	5.26	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDF	0.147	JBQ	0.0251	MDL	5.26	PQL	ng/Kg	U	B
1,2,3,7,8-PECDD	0.124	JQ	0.0499	MDL	5.26	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDF	0.388	JBQ	0.0247	MDL	5.26	PQL	ng/Kg	J	Z
2,3,4,6,7,8-HXCDF	0.103	JB	0.0217	MDL	5.26	PQL	ng/Kg	U	B
2,3,4,7,8-PECDF	0.193	JBQ	0.0231	MDL	5.26	PQL	ng/Kg	U	B
2,3,7,8-TCDF	0.130	J	0.0697	MDL	1.05	PQL	ng/Kg	J	Z
OCDF	0.663	JB	0.0361	MDL	10.5	PQL	ng/Kg	U	B

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH102

Laboratory: LL

EDD Filename: PrepPH102

eQAPP Name: CDM_SSFL_131101_Lan

Method Category:	SVOA	
Method:	8015M	Matrix: SO

Sample ID: SL-555-SA5D-SB-0.0-0.5	Collected: 9/5/2013 8:55:00 AM	Analysis Type: RES	Dilution: 1						
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
EFH (C21-C30)	4.5	J	2.1	MDL	5.2	PQL	mg/Kg	J	Z
EFH (C30-C40)	7.2	J	4.1	MDL	10	PQL	mg/Kg	J	Z

Sample ID: SL-556-SA5D-SB-4.0-5.0	Collected: 9/5/2013 12:20:00	Analysis Type: REA	Dilution: 1						
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
EFH (C21-C30)	4.8	J	2.1	MDL	5.3	PQL	mg/Kg	J	Z
EFH (C30-C40)	9.8	J	4.2	MDL	11	PQL	mg/Kg	J	Z

Method Category:	SVOA	
Method:	8081B	Matrix: SO

Sample ID: SL-559-SA5D-SB-0.0-0.5	Collected: 9/5/2013 7:40:00 AM	Analysis Type: RES	Dilution: 1						
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
4,4'-DDE	1.2	J	0.35	MDL	1.8	PQL	ug/Kg	J	Z
4,4'-DDT	0.56	J	0.37	MDL	1.8	PQL	ug/Kg	J	Z

Method Category:	SVOA	
Method:	8151A	Matrix: SO

Sample ID: SL-556-SA5D-SB-0.0-0.5	Collected: 9/5/2013 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
DINOSEB	25	U	9.2	MDL	25	PQL	ug/Kg	UJ	C

Sample ID: SL-556-SA5D-SB-11.0-12.0	Collected: 9/5/2013 12:40:00	Analysis Type: RES	Dilution: 1						
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
DINOSEB	26	U	9.6	MDL	26	PQL	ug/Kg	UJ	C

Sample ID: SL-556-SA5D-SB-4.0-5.0	Collected: 9/5/2013 12:20:00	Analysis Type: RES	Dilution: 1						
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
DINOSEB	25	U	9.5	MDL	25	PQL	ug/Kg	UJ	C

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH102

Laboratory: LL

EDD Filename: PrepPH102

eQAPP Name: CDM_SSFL_131101_Lan

Method Category:	SVOA	
Method:	8151A	Matrix: SO

Method Category:	SVOA	
Method:	8270D SIM	Matrix: SO

Sample ID: SL-554-SA5D-SB-0.0-0.5 Collected: 9/5/2013 1:15:00 PM 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	0.73	J	0.70	MDL	1.7	PQL	ug/Kg	J	Z
BENZO(B)FLUORANTHENE	0.92	J	0.70	MDL	1.7	PQL	ug/Kg	J	Z
CHRYSENE	1.1	J	0.35	MDL	1.7	PQL	ug/Kg	J	Z
NAPHTHALENE	0.86	J	0.70	MDL	1.7	PQL	ug/Kg	J	Z

Sample ID: SL-554-SA5D-SB-4.0-5.0 Collected: 9/5/2013 1:30:00 PM 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	0.81	J	0.71	MDL	1.8	PQL	ug/Kg	U	F

Sample ID: SL-554-SA5D-SB-7.0-8.0 Collected: 9/5/2013 1:40:00 PM 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	0.76	J	0.72	MDL	1.8	PQL	ug/Kg	U	F

Sample ID: SL-555-SA5D-SB-0.0-0.5 Collected: 9/5/2013 8:55:00 AM 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	0.76	J	0.35	MDL	1.7	PQL	ug/Kg	J	Z

Sample ID: SL-555-SA5D-SB-4.0-5.0 Collected: 9/5/2013 9:15:00 AM 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	8.1	J	6.5	MDL	20	PQL	ug/Kg	U	F

Sample ID: SL-556-SA5D-SB-0.0-0.5 Collected: 9/5/2013 10:20:00 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-METHYLNAPHTHALENE	0.69	J	0.68	MDL	1.7	PQL	ug/Kg	J	Z
BENZO(B)FLUORANTHENE	0.99	J	0.68	MDL	1.7	PQL	ug/Kg	J	Z
CHRYSENE	1.3	J	0.34	MDL	1.7	PQL	ug/Kg	J	Z
FLUORANTHENE	1.2	J	0.68	MDL	1.7	PQL	ug/Kg	J	Z

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH102

Laboratory: LL

EDD Filename: PrepPH102

eQAPP Name: CDM_SSFL_131101_Lan

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

Sample ID: SL-556-SA5D-SB-0.0-0.5 Collected: 9/5/2013 10:20:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
NAPHTHALENE	0.76	J	0.68	MDL	1.7	PQL	ug/Kg	U	F
PHENANTHRENE	0.74	J	0.68	MDL	1.7	PQL	ug/Kg	J	Z
PYRENE	1.0	J	0.68	MDL	1.7	PQL	ug/Kg	J	Z

Sample ID: SL-556-SA5D-SB-4.0-5.0 Collected: 9/5/2013 12:20:00 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-METHYLNAPHTHALENE	1.0	J	0.70	MDL	1.7	PQL	ug/Kg	J	Z
BENZO(B)FLUORANTHENE	0.83	J	0.70	MDL	1.7	PQL	ug/Kg	J	Z
CHRYSENE	0.92	J	0.35	MDL	1.7	PQL	ug/Kg	J	Z
NAPHTHALENE	1.3	J	0.70	MDL	1.7	PQL	ug/Kg	J	Z

Sample ID: SL-559-SA5D-SB-0.0-0.5 Collected: 9/5/2013 7:40:00 AM 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	0.85	J	0.70	MDL	1.8	PQL	ug/Kg	J	Z
BENZO(B)FLUORANTHENE	0.85	J	0.70	MDL	1.8	PQL	ug/Kg	J	Z
CHRYSENE	1.0	J	0.35	MDL	1.8	PQL	ug/Kg	J	Z
NAPHTHALENE	1.0	J	0.70	MDL	1.8	PQL	ug/Kg	J	Z

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH102

Laboratory: LL

EDD Filename: PrepPH102

eQAPP Name: CDM_SSFL_131101_Lan

Reason Code Legend

<i>Reason Code</i>	<i>Description</i>
B	Method Blank Contamination
C	Continuing Calibration Verification Percent Difference Lower Estimation
E	Laboratory Duplicate Precision
F	Equipment Blank Contamination
F	Field Blank Contamination
L	Laboratory Control Spike Upper Estimation
Q	Laboratory Duplicate Precision
Q	Matrix Spike Lower Estimation
Q	Matrix Spike Lower Rejection
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: 1204-002-001-AL - SSFL Area IV Phase 3

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Enclosure I
EPA Level III ADR Outliers
(Including Manual Review Outliers)

Quality Control Outlier Reports

PH102

Method Blank Outlier Report

Lab Reporting Batch ID: PH102

Laboratory: LL

EDD Filename: PH102

eQAPP Name: CDM_SSFL_131101_Lan

Method: 1613B
Matrix: SO

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples
BLK2540B372247	9/13/2013 10:47:00 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-HXCDF 1,2,3,7,8,9-HXCDD 1,2,3,7,8,9-HXCDF 1,2,3,7,8-PECDF 2,3,4,6,7,8-HXCDF 2,3,4,7,8-PECDF OCDD OCDF	0.0675 ng/Kg 0.0376 ng/Kg 0.0826 ng/Kg 0.0390 ng/Kg 0.0639 ng/Kg 0.0330 ng/Kg 0.0470 ng/Kg 0.0649 ng/Kg 0.0692 ng/Kg 0.0615 ng/Kg 0.0786 ng/Kg 0.281 ng/Kg 0.227 ng/Kg	SL-554-SA5D-SB-0.0-0.5 SL-555-SA5D-SB-0.0-0.5 SL-556-SA5D-SB-0.0-0.5 SL-559-SA5D-SB-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-554-SA5D-SB-0.0-0.5(RES)	1,2,3,4,6,7,8-HPCDD	0.308 ng/Kg	0.308U ng/Kg
SL-554-SA5D-SB-0.0-0.5(RES)	1,2,3,4,6,7,8-HPCDF	0.132 ng/Kg	0.132U ng/Kg
SL-554-SA5D-SB-0.0-0.5(RES)	1,2,3,4,7,8,9-HPCDF	0.0465 ng/Kg	0.0465U ng/Kg
SL-554-SA5D-SB-0.0-0.5(RES)	1,2,3,4,7,8-HxCDD	0.0372 ng/Kg	0.0372U ng/Kg
SL-554-SA5D-SB-0.0-0.5(RES)	1,2,3,4,7,8-HxCDF	0.0460 ng/Kg	0.0460U ng/Kg
SL-554-SA5D-SB-0.0-0.5(RES)	1,2,3,6,7,8-HXCDF	0.0547 ng/Kg	0.0547U ng/Kg
SL-554-SA5D-SB-0.0-0.5(RES)	1,2,3,7,8-PECDF	0.328 ng/Kg	0.328U ng/Kg
SL-554-SA5D-SB-0.0-0.5(RES)	2,3,4,6,7,8-HXCDF	0.0620 ng/Kg	0.0620U ng/Kg
SL-554-SA5D-SB-0.0-0.5(RES)	2,3,4,7,8-PECDF	0.0864 ng/Kg	0.0864U ng/Kg
SL-554-SA5D-SB-0.0-0.5(RES)	OCDF	0.211 ng/Kg	0.211U ng/Kg
SL-555-SA5D-SB-0.0-0.5(RES)	1,2,3,4,6,7,8-HPCDF	0.103 ng/Kg	0.103U ng/Kg
SL-555-SA5D-SB-0.0-0.5(RES)	1,2,3,4,7,8,9-HPCDF	0.0522 ng/Kg	0.0522U ng/Kg
SL-555-SA5D-SB-0.0-0.5(RES)	1,2,3,4,7,8-HxCDD	0.0330 ng/Kg	0.0330U ng/Kg
SL-555-SA5D-SB-0.0-0.5(RES)	1,2,3,4,7,8-HXCDF	0.0429 ng/Kg	0.0429U ng/Kg
SL-555-SA5D-SB-0.0-0.5(RES)	1,2,3,6,7,8-HXCDF	0.0640 ng/Kg	0.0640U ng/Kg
SL-555-SA5D-SB-0.0-0.5(RES)	1,2,3,7,8-PECDF	0.215 ng/Kg	0.215U ng/Kg
SL-555-SA5D-SB-0.0-0.5(RES)	2,3,4,6,7,8-HXCDF	0.0475 ng/Kg	0.0475U ng/Kg
SL-555-SA5D-SB-0.0-0.5(RES)	2,3,4,7,8-PECDF	0.0590 ng/Kg	0.0590U ng/Kg
SL-555-SA5D-SB-0.0-0.5(RES)	OCDF	0.247 ng/Kg	0.247U ng/Kg
SL-556-SA5D-SB-0.0-0.5(RES)	1,2,3,4,7,8,9-HPCDF	0.0980 ng/Kg	0.0980U ng/Kg
SL-556-SA5D-SB-0.0-0.5(RES)	1,2,3,4,7,8-HxCDD	0.0869 ng/Kg	0.0869U ng/Kg
SL-556-SA5D-SB-0.0-0.5(RES)	1,2,3,4,7,8-HXCDF	0.174 ng/Kg	0.174U ng/Kg
SL-556-SA5D-SB-0.0-0.5(RES)	2,3,4,6,7,8-HXCDF	0.186 ng/Kg	0.186U ng/Kg
SL-559-SA5D-SB-0.0-0.5(RES)	1,2,3,4,7,8,9-HPCDF	0.0780 ng/Kg	0.0780U ng/Kg
SL-559-SA5D-SB-0.0-0.5(RES)	1,2,3,4,7,8-HxCDD	0.0569 ng/Kg	0.0569U ng/Kg
SL-559-SA5D-SB-0.0-0.5(RES)	1,2,3,4,7,8-HXCDF	0.0943 ng/Kg	0.0943U ng/Kg
SL-559-SA5D-SB-0.0-0.5(RES)	1,2,3,6,7,8-HXCDF	0.0855 ng/Kg	0.0855U ng/Kg
SL-559-SA5D-SB-0.0-0.5(RES)	1,2,3,7,8,9-HXCDF	0.147 ng/Kg	0.147U ng/Kg
SL-559-SA5D-SB-0.0-0.5(RES)	2,3,4,6,7,8-HXCDF	0.103 ng/Kg	0.103U ng/Kg
SL-559-SA5D-SB-0.0-0.5(RES)	2,3,4,7,8-PECDF	0.193 ng/Kg	0.193U ng/Kg
SL-559-SA5D-SB-0.0-0.5(RES)	OCDF	0.663 ng/Kg	0.663U ng/Kg

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Method Blank Outlier Report

Lab Reporting Batch ID: PH102

Laboratory: LL

EDD Filename: PH102

eQAPP Name: CDM_SSFL_131101_Lan

Method: 6010C
Matrix: SO

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples
P24937AB221049	9/11/2013 10:49:00 AM	CALCIUM ZINC	5.41 mg/Kg 0.466 mg/Kg	SL-554-SA5D-SB-0.0-0.5 SL-554-SA5D-SB-4.0-5.0 SL-554-SA5D-SB-7.0-8.0 SL-555-SA5D-SB-0.0-0.5 SL-555-SA5D-SB-10.5-11.5 SL-555-SA5D-SB-4.0-5.0 SL-556-SA5D-SB-0.0-0.5 SL-556-SA5D-SB-11.0-12.0 SL-556-SA5D-SB-4.0-5.0 SL-559-SA5D-SB-0.0-0.5 SL-559-SA5D-SB-6.0-7.0
P24937AB222006	9/9/2013 8:06:00 PM	LITHIUM TIN	0.43 mg/Kg 1.48 mg/Kg	SL-554-SA5D-SB-0.0-0.5 SL-554-SA5D-SB-4.0-5.0 SL-554-SA5D-SB-7.0-8.0 SL-555-SA5D-SB-0.0-0.5 SL-555-SA5D-SB-10.5-11.5 SL-555-SA5D-SB-4.0-5.0 SL-556-SA5D-SB-0.0-0.5 SL-556-SA5D-SB-11.0-12.0 SL-556-SA5D-SB-4.0-5.0 SL-559-SA5D-SB-0.0-0.5 SL-559-SA5D-SB-6.0-7.0

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-554-SA5D-SB-0.0-0.5(RES)	TIN	3.24 mg/Kg	3.24U mg/Kg
SL-554-SA5D-SB-4.0-5.0(RES)	TIN	3.48 mg/Kg	3.48U mg/Kg
SL-554-SA5D-SB-7.0-8.0(RES)	TIN	4.11 mg/Kg	4.11U mg/Kg
SL-555-SA5D-SB-0.0-0.5(RES)	TIN	3.06 mg/Kg	3.06U mg/Kg
SL-555-SA5D-SB-10.5-11.5(RES)	TIN	3.47 mg/Kg	3.47U mg/Kg
SL-555-SA5D-SB-4.0-5.0(RES)	TIN	3.51 mg/Kg	3.51U mg/Kg
SL-556-SA5D-SB-0.0-0.5(RES)	TIN	2.79 mg/Kg	2.79U mg/Kg
SL-556-SA5D-SB-11.0-12.0(RES)	TIN	3.27 mg/Kg	3.27U mg/Kg
SL-556-SA5D-SB-4.0-5.0(RES)	TIN	2.83 mg/Kg	2.83U mg/Kg
SL-559-SA5D-SB-0.0-0.5(RES)	TIN	2.99 mg/Kg	2.99U mg/Kg
SL-559-SA5D-SB-6.0-7.0(RES)	TIN	3.81 mg/Kg	3.81U mg/Kg

Equipment Rinsate Blank Outlier Report

Lab Reporting Batch ID: PH102

Laboratory: LL

EDD Filename: PrepPH102

eQAPP Name: CDM_SSFL_131101_Lan

Method: 8270D SIM
Matrix: SO

Equipment Blank Sample ID	Collected Date	Analyte	Result	Associated Samples
EB-090413(RES)	9/4/2013 3:00:00 PM	BIS(2-ETHYLHEXYL)PHTHALATE Diethylphthalate Di-n-butylphthalate NAPHTHALENE	1.6 ug/L 0.3 ug/L 0.11 ug/L 0.032 ug/L	SL-554-SA5D-SB-0.0-0.5 SL-554-SA5D-SB-4.0-5.0 SL-554-SA5D-SB-7.0-8.0 SL-555-SA5D-SB-0.0-0.5 SL-555-SA5D-SB-10.5-11.5 SL-555-SA5D-SB-4.0-5.0 SL-556-SA5D-SB-0.0-0.5 SL-556-SA5D-SB-11.0-12.0 SL-556-SA5D-SB-4.0-5.0 SL-559-SA5D-SB-0.0-0.5 SL-559-SA5D-SB-6.0-7.0

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-555-SA5D-SB-4.0-5.0(RES)	BIS(2-ETHYLHEXYL)PHTHALATE	8.1 ug/Kg	20U ug/Kg

Field Blank Outlier Report

Lab Reporting Batch ID: PH102

Laboratory: LL

EDD Filename: PrepPH102

eQAPP Name: CDM_SSFL_131101_Lan

Method: 6010C
Matrix: SO

Field Blank Sample ID	Collected Date	Analyte	Result	Associated Samples
FB-041113(REA2)	4/11/2013 3:00:00 PM	COPPER MOLYBDENUM	0.0036 mg/L 0.0036 mg/L	SL-554-SA5D-SB-0.0-0.5 SL-554-SA5D-SB-4.0-5.0 SL-554-SA5D-SB-7.0-8.0 SL-555-SA5D-SB-0.0-0.5 SL-555-SA5D-SB-10.5-11.5 SL-555-SA5D-SB-4.0-5.0 SL-556-SA5D-SB-0.0-0.5 SL-556-SA5D-SB-11.0-12.0 SL-556-SA5D-SB-4.0-5.0 SL-559-SA5D-SB-0.0-0.5 SL-559-SA5D-SB-6.0-7.0

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-554-SA5D-SB-0.0-0.5(RES)	MOLYBDENUM	0.366 mg/Kg	0.366U mg/Kg
SL-554-SA5D-SB-4.0-5.0(RES)	MOLYBDENUM	0.253 mg/Kg	0.253U mg/Kg
SL-555-SA5D-SB-0.0-0.5(RES)	MOLYBDENUM	0.290 mg/Kg	0.290U mg/Kg
SL-555-SA5D-SB-10.5-11.5(RES)	MOLYBDENUM	0.205 mg/Kg	0.205U mg/Kg
SL-555-SA5D-SB-4.0-5.0(RES)	MOLYBDENUM	0.700 mg/Kg	0.700U mg/Kg
SL-556-SA5D-SB-4.0-5.0(RES)	MOLYBDENUM	0.337 mg/Kg	0.337U mg/Kg
SL-559-SA5D-SB-0.0-0.5(RES)	MOLYBDENUM	0.329 mg/Kg	0.329U mg/Kg
SL-559-SA5D-SB-6.0-7.0(RES)	MOLYBDENUM	1.35 mg/Kg	1.35U mg/Kg

Method: 8270D SIM
Matrix: SO

Field Blank Sample ID	Collected Date	Analyte	Result	Associated Samples
FB-041113(RES)	4/11/2013 3:00:00 PM	1-METHYLNAPHTHALENE 2-METHYLNAPHTHALENE BIS(2-ETHYLHEXYL)PHTHALATE Diethylphthalate Di-n-butylphthalate NAPHTHALENE	0.019 ug/L 0.024 ug/L 0.082 ug/L 0.18 ug/L 0.17 ug/L 0.17 ug/L	SL-554-SA5D-SB-0.0-0.5 SL-554-SA5D-SB-4.0-5.0 SL-554-SA5D-SB-7.0-8.0 SL-555-SA5D-SB-0.0-0.5 SL-555-SA5D-SB-10.5-11.5 SL-555-SA5D-SB-4.0-5.0 SL-556-SA5D-SB-0.0-0.5 SL-556-SA5D-SB-11.0-12.0 SL-556-SA5D-SB-4.0-5.0 SL-559-SA5D-SB-0.0-0.5 SL-559-SA5D-SB-6.0-7.0

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-554-SA5D-SB-4.0-5.0(RES)	NAPHTHALENE	0.81 ug/Kg	1.8U ug/Kg
SL-554-SA5D-SB-7.0-8.0(RES)	NAPHTHALENE	0.76 ug/Kg	1.8U ug/Kg
SL-556-SA5D-SB-0.0-0.5(RES)	NAPHTHALENE	0.76 ug/Kg	1.7U ug/Kg

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Surrogate Outlier Report

Lab Reporting Batch ID: PH102

Laboratory: LL

EDD Filename: PH102

eQAPP Name: CDM_SSFL_131101_Lan

Method: 8082A

Matrix: SO

<i>Sample ID (Analysis Type)</i>	<i>Surrogate</i>	<i>Sample % Recovery</i>	<i>% Recovery Limits</i>	<i>Affected Compounds</i>	<i>Flag</i>
SL-554-SA5D-SB-4.0-5.0	TETRACHLORO-M-XYLENE	128	45.00-120.00	All Target Analytes	J (all detects)
SL-555-SA5D-SB-0.0-0.5	TETRACHLORO-M-XYLENE	128	45.00-120.00	All Target Analytes	J(all detects)
SL-555-SA5D-SB-4.0-5.0	TETRACHLORO-M-XYLENE	121	45.00-120.00	All Target Analytes	J(all detects)
SL-556-SA5D-SB-0.0-0.5	TETRACHLORO-M-XYLENE	121	45.00-120.00	All Target Analytes	J(all detects)
SL-559-SA5D-SB-0.0-0.5	TETRACHLORO-M-XYLENE	124	45.00-120.00	All Target Analytes	J(all detects)

Matrix Spike/Matrix Spike Duplicate Outlier Report

Lab Reporting Batch ID: PH102

Laboratory: LL

EDD Filename: PH102

eQAPP Name: CDM_SSFL_131101_Lan

Method: 6010C
Matrix: SO

QC Sample ID (Associated Samples)	Compound	MS %R	MSD %R	%R Limits	RPD (Limits)	Affected Compounds	Flag
SL-555-SA5D-SB-4.0-5.0MS (TOT) SL-555-SA5D-SB-4.0-5.0MSD (TOT) (SL-554-SA5D-SB-0.0-0.5 SL-554-SA5D-SB-4.0-5.0 SL-554-SA5D-SB-7.0-8.0 SL-555-SA5D-SB-0.0-0.5 SL-555-SA5D-SB-10.5-11.5 SL-555-SA5D-SB-4.0-5.0 SL-556-SA5D-SB-0.0-0.5 SL-556-SA5D-SB-11.0-12.0 SL-556-SA5D-SB-4.0-5.0 SL-559-SA5D-SB-0.0-0.5 SL-559-SA5D-SB-6.0-7.0)	ALUMINUM CALCIUM MAGNESIUM POTASSIUM TITANIUM	2667 189 342 142 428	3226 194 425 131 388	75.00-125.00 75.00-125.00 75.00-125.00 75.00-125.00 75.00-125.00	- - - - -	ALUMINUM CALCIUM MAGNESIUM POTASSIUM TITANIUM	J (all detects) Al, Ca, Mg, Ti, No Qual, >4x
SL-555-SA5D-SB-4.0-5.0MS (TOT) SL-555-SA5D-SB-4.0-5.0MSD (TOT) (SL-554-SA5D-SB-0.0-0.5 SL-554-SA5D-SB-4.0-5.0 SL-554-SA5D-SB-7.0-8.0 SL-555-SA5D-SB-0.0-0.5 SL-555-SA5D-SB-10.5-11.5 SL-555-SA5D-SB-4.0-5.0 SL-556-SA5D-SB-0.0-0.5 SL-556-SA5D-SB-11.0-12.0 SL-556-SA5D-SB-4.0-5.0 SL-559-SA5D-SB-0.0-0.5 SL-559-SA5D-SB-6.0-7.0)	IRON MANGANESE	- 48	-2361 22	75.00-125.00 75.00-125.00	- -	IRON MANGANESE	No Qual, >4x
SL-555-SA5D-SB-4.0-5.0MS (TOT) SL-555-SA5D-SB-4.0-5.0MSD (TOT) (SL-554-SA5D-SB-0.0-0.5 SL-554-SA5D-SB-4.0-5.0 SL-554-SA5D-SB-7.0-8.0 SL-555-SA5D-SB-0.0-0.5 SL-555-SA5D-SB-10.5-11.5 SL-555-SA5D-SB-4.0-5.0 SL-556-SA5D-SB-0.0-0.5 SL-556-SA5D-SB-11.0-12.0 SL-556-SA5D-SB-4.0-5.0 SL-559-SA5D-SB-0.0-0.5 SL-559-SA5D-SB-6.0-7.0)	ANTIMONY	38	35	75.00-125.00	-	ANTIMONY	J(all detects) UJ(all non-detects)

Method: 300.0
Matrix: SO

QC Sample ID (Associated Samples)	Compound	MS %R	MSD %R	%R Limits	RPD (Limits)	Affected Compounds	Flag
SL-555-SA5D-SB-4.0-5.0MS (SL-554-SA5D-SB-0.0-0.5 SL-554-SA5D-SB-4.0-5.0 SL-555-SA5D-SB-0.0-0.5 SL-555-SA5D-SB-10.5-11.5 SL-555-SA5D-SB-4.0-5.0 SL-556-SA5D-SB-0.0-0.5 SL-556-SA5D-SB-11.0-12.0 SL-556-SA5D-SB-4.0-5.0 SL-559-SA5D-SB-0.0-0.5 SL-559-SA5D-SB-6.0-7.0)	FLUORIDE	12	-	80.00-120.00	-	FLUORIDE	J(all detects) R(all non-detects)

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Lab Duplicate Outlier Report

Lab Reporting Batch ID: PH102

Laboratory: LL

EDD Filename: PH102

eQAPP Name: CDM_SSFL_131101_Lan

Method: 7199

Matrix: SO

QC Sample ID (Associated Sample ID)	Analyte	Sample RPD	eQAPP RPD	Flag
SL-556-SA5D-SB-11.0-12.0DUP (TOT) (SL-556-SA5D-SB-0.0-0.5 SL -556-SA5D-SB-11.0-12.0 SL -556-SA5D-SB-4.0-5.0)	HEXAVALENT CHROMIUM	32	20.00	No Qual, OK by Difference

Method: 6010C

Matrix: SO

QC Sample ID (Associated Sample ID)	Analyte	Sample RPD	eQAPP RPD	Flag
SL-555-SA5D-SB-4.0-5.0DUP (TOT) (SL-554-SA5D-SB-0.0-0.5 SL -554-SA5D-SB-4.0-5.0 SL -554-SA5D-SB-7.0-8.0 SL -555-SA5D-SB-0.0-0.5 SL -555-SA5D-SB-10.5-11.5 SL -555-SA5D-SB-4.0-5.0 SL -556-SA5D-SB-0.0-0.5 SL -556-SA5D-SB-11.0-12.0 SL -556-SA5D-SB-4.0-5.0 SL -559-SA5D-SB-0.0-0.5 SL -559-SA5D-SB-6.0-7.0)	ARSENIC MOLYBDENUM Zirconium	27 93 23	20.00 20.00 20.00	No Qual, OK by Difference

Method: 6020A

Matrix: SO

QC Sample ID (Associated Sample ID)	Analyte	Sample RPD	eQAPP RPD	Flag
SL-555-SA5D-SB-4.0-5.0DUP (TOT) (SL-554-SA5D-SB-0.0-0.5 SL -554-SA5D-SB-4.0-5.0 SL -554-SA5D-SB-7.0-8.0 SL -555-SA5D-SB-0.0-0.5 SL -555-SA5D-SB-10.5-11.5 SL -555-SA5D-SB-4.0-5.0 SL -556-SA5D-SB-0.0-0.5 SL -556-SA5D-SB-11.0-12.0 SL -556-SA5D-SB-4.0-5.0 SL -559-SA5D-SB-0.0-0.5 SL -559-SA5D-SB-6.0-7.0)	SELENIUM SILVER	200 22	20.00 20.00	No Qual, OK by Difference

Lab Control Spike/Lab Control Spike Duplicate Outlier Report

Lab Reporting Batch ID: PH102

Laboratory: LL

EDD Filename: PH102

eQAPP Name: CDM_SSFL_131101_Lan

Method: 8151A

Matrix: SO

QC Sample ID (Associated Samples)	Compound	LCS %R	LCSD %R	%R Limits	RPD (Limits)	Affected Compounds	Flag
P32499AQ240754A (SL-556-SA5D-SB-0.0-0.5 SL-556-SA5D-SB-11.0-12.0 SL-556-SA5D-SB-4.0-5.0)	2,4-DB	138	-	54.00-131.00	-	2,4-DB	J (all detects)

Reporting Limit Outliers

Lab Reporting Batch ID: PH102

Laboratory: LL

EDD Filename: PH102

eQAPP Name: CDM_SSFL_131101_Lan

Method: 1613B

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-554-SA5D-SB-0.0-0.5	1,2,3,4,6,7,8-HPCDD	JB	0.308	5.26	PQL	ng/Kg	J (all detects)
	1,2,3,4,6,7,8-HPCDF	JBQ	0.132	5.26	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JB	0.0465	5.26	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JBQ	0.0372	5.26	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDF	JBQ	0.0460	5.26	PQL	ng/Kg	
	1,2,3,6,7,8-HxCDD	J	0.374	5.26	PQL	ng/Kg	
	1,2,3,6,7,8-HxCDF	JBQ	0.0547	5.26	PQL	ng/Kg	
	1,2,3,7,8,9-HxCDD	JB	0.588	5.26	PQL	ng/Kg	
	1,2,3,7,8,9-HxCDF	JB	0.939	5.26	PQL	ng/Kg	
	1,2,3,7,8-PECDD	J	0.168	5.26	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JB	0.328	5.26	PQL	ng/Kg	
	2,3,4,6,7,8-HxCDF	JB	0.0620	5.26	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JBQ	0.0864	5.26	PQL	ng/Kg	
	OCDD	JB	2.24	10.5	PQL	ng/Kg	
	OCDF	JBQ	0.211	10.5	PQL	ng/Kg	
SL-555-SA5D-SB-0.0-0.5	1,2,3,4,6,7,8-HPCDD	JB	0.442	5.03	PQL	ng/Kg	J (all detects)
	1,2,3,4,6,7,8-HPCDF	JB	0.103	5.03	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JBQ	0.0522	5.03	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JB	0.0330	5.03	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDF	JBQ	0.0429	5.03	PQL	ng/Kg	
	1,2,3,6,7,8-HxCDD	J	0.489	5.03	PQL	ng/Kg	
	1,2,3,6,7,8-HxCDF	JBQ	0.0640	5.03	PQL	ng/Kg	
	1,2,3,7,8,9-HxCDD	JB	0.737	5.03	PQL	ng/Kg	
	1,2,3,7,8,9-HxCDF	JB	0.957	5.03	PQL	ng/Kg	
	1,2,3,7,8-PECDD	JQ	0.0837	5.03	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JBQ	0.215	5.03	PQL	ng/Kg	
	2,3,4,6,7,8-HxCDF	JB	0.0475	5.03	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JBQ	0.0590	5.03	PQL	ng/Kg	
	OCDD	JB	3.55	10.1	PQL	ng/Kg	
	OCDF	JB	0.247	10.1	PQL	ng/Kg	
SL-556-SA5D-SB-0.0-0.5	1,2,3,4,6,7,8-HPCDD	JB	3.07	4.91	PQL	ng/Kg	J (all detects)
	1,2,3,4,6,7,8-HPCDF	JB	0.636	4.91	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JB	0.0980	4.91	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JBQ	0.0869	4.91	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDF	JB	0.174	4.91	PQL	ng/Kg	
	1,2,3,6,7,8-HxCDD	J	0.281	4.91	PQL	ng/Kg	
	1,2,3,6,7,8-HxCDF	JB	0.173	4.91	PQL	ng/Kg	
	1,2,3,7,8,9-HxCDD	JB	0.315	4.91	PQL	ng/Kg	
	1,2,3,7,8,9-HxCDF	JB	0.431	4.91	PQL	ng/Kg	
	1,2,3,7,8-PECDD	JQ	0.0995	4.91	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JBQ	0.551	4.91	PQL	ng/Kg	
	2,3,4,6,7,8-HxCDF	JB	0.186	4.91	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JB	0.693	4.91	PQL	ng/Kg	
	2,3,7,8-TCDF	J	0.231	0.983	PQL	ng/Kg	
	OCDF	JB	1.40	9.83	PQL	ng/Kg	

Reporting Limit Outliers

Lab Reporting Batch ID: PH102

Laboratory: LL

EDD Filename: PH102

eQAPP Name: CDM_SSFL_131101_Lan

Method: 1613B

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-559-SA5D-SB-0.0-0.5	1,2,3,4,6,7,8-HPCDD	JB	1.83	5.26	PQL	ng/Kg	J (all detects)
	1,2,3,4,6,7,8-HPCDF	JBQ	0.391	5.26	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JBQ	0.0780	5.26	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JB	0.0569	5.26	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDF	JBQ	0.0943	5.26	PQL	ng/Kg	
	1,2,3,6,7,8-HxCDD	JQ	0.189	5.26	PQL	ng/Kg	
	1,2,3,6,7,8-HxCDF	JBQ	0.0855	5.26	PQL	ng/Kg	
	1,2,3,7,8,9-HxCDD	JB	0.301	5.26	PQL	ng/Kg	
	1,2,3,7,8,9-HxCDF	JBQ	0.147	5.26	PQL	ng/Kg	
	1,2,3,7,8-PECDD	JQ	0.124	5.26	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JBQ	0.388	5.26	PQL	ng/Kg	
	2,3,4,6,7,8-HxCDF	JB	0.103	5.26	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JBQ	0.193	5.26	PQL	ng/Kg	
	2,3,7,8-TCDF	J	0.130	1.05	PQL	ng/Kg	
OCDF	JB	0.663	10.5	PQL	ng/Kg		

Method: 300.0

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-554-SA5D-SB-0.0-0.5	FLUORIDE	J	0.90	1.0	PQL	mg/Kg	J (all detects)
SL-555-SA5D-SB-0.0-0.5	FLUORIDE	J	0.83	1.0	PQL	mg/Kg	J (all detects)
SL-556-SA5D-SB-0.0-0.5	FLUORIDE	J	0.97	1.0	PQL	mg/Kg	J (all detects)

Method: 6010C

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-554-SA5D-SB-0.0-0.5	BERYLLIUM	J	0.822	1.04	PQL	mg/Kg	J (all detects)
	BORON	J	8.80	10.4	PQL	mg/Kg	
	CADMIUM	J	0.281	1.04	PQL	mg/Kg	
	MOLYBDENUM	J	0.366	2.08	PQL	mg/Kg	
	TIN	J	3.24	10.4	PQL	mg/Kg	
SL-554-SA5D-SB-4.0-5.0	Zirconium	J	4.23	5.21	PQL	mg/Kg	J (all detects)
	BERYLLIUM	J	0.936	1.06	PQL	mg/Kg	
	BORON	J	8.83	10.6	PQL	mg/Kg	
	CADMIUM	J	0.268	1.06	PQL	mg/Kg	
	MOLYBDENUM	J	0.253	2.12	PQL	mg/Kg	
SL-554-SA5D-SB-7.0-8.0	TIN	J	3.48	10.6	PQL	mg/Kg	J (all detects)
	Zirconium	J	4.78	5.30	PQL	mg/Kg	
	BORON	J	8.74	10.6	PQL	mg/Kg	
	CADMIUM	J	0.185	1.06	PQL	mg/Kg	
SL-555-SA5D-SB-0.0-0.5	TIN	J	4.11	10.6	PQL	mg/Kg	J (all detects)
	Zirconium	J	5.14	5.32	PQL	mg/Kg	
	BERYLLIUM	J	0.819	1.03	PQL	mg/Kg	
	CADMIUM	J	0.177	1.03	PQL	mg/Kg	
	MOLYBDENUM	J	0.290	2.06	PQL	mg/Kg	
SL-555-SA5D-SB-0.0-0.5	SODIUM	J	101	103	PQL	mg/Kg	J (all detects)
	TIN	J	3.06	10.3	PQL	mg/Kg	
	Zirconium	J	4.90	5.14	PQL	mg/Kg	

Reporting Limit Outliers

Lab Reporting Batch ID: PH102

Laboratory: LL

EDD Filename: PH102

eQAPP Name: CDM_SSFL_131101_Lan

Method: 6010C
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-555-SA5D-SB-10.5-11.5	BERYLLIUM	J	0.875	1.07	PQL	mg/Kg	J (all detects)
	BORON	J	8.84	10.7	PQL	mg/Kg	
	CADMIUM	J	0.0891	1.07	PQL	mg/Kg	
	MOLYBDENUM	J	0.205	2.15	PQL	mg/Kg	
	TIN	J	3.47	10.7	PQL	mg/Kg	
SL-555-SA5D-SB-4.0-5.0	Zirconium	J	4.18	5.37	PQL	mg/Kg	J (all detects)
	BERYLLIUM	J	0.847	1.09	PQL	mg/Kg	
	BORON	J	10.5	10.9	PQL	mg/Kg	
	CADMIUM	J	0.140	1.09	PQL	mg/Kg	
	MOLYBDENUM	J	0.700	2.17	PQL	mg/Kg	
SL-556-SA5D-SB-0.0-0.5	TIN	J	3.51	10.9	PQL	mg/Kg	J (all detects)
	Zirconium	J	5.26	5.43	PQL	mg/Kg	
	BERYLLIUM	J	0.669	0.998	PQL	mg/Kg	
SL-556-SA5D-SB-11.0-12.0	CADMIUM	J	0.230	0.998	PQL	mg/Kg	J (all detects)
	TIN	J	2.79	9.98	PQL	mg/Kg	
	BERYLLIUM	J	0.543	1.04	PQL	mg/Kg	
SL-556-SA5D-SB-4.0-5.0	BORON	J	5.87	10.4	PQL	mg/Kg	J (all detects)
	CADMIUM	J	0.232	1.04	PQL	mg/Kg	
	TIN	J	3.27	10.4	PQL	mg/Kg	
	Zirconium	J	2.96	5.18	PQL	mg/Kg	
	BERYLLIUM	J	0.709	1.06	PQL	mg/Kg	
SL-559-SA5D-SB-0.0-0.5	BORON	J	9.88	10.6	PQL	mg/Kg	J (all detects)
	CADMIUM	J	0.246	1.06	PQL	mg/Kg	
	MOLYBDENUM	J	0.337	2.12	PQL	mg/Kg	
	TIN	J	2.83	10.6	PQL	mg/Kg	
	Zirconium	J	5.14	5.29	PQL	mg/Kg	
SL-559-SA5D-SB-6.0-7.0	BERYLLIUM	J	0.841	1.06	PQL	mg/Kg	J (all detects)
	CADMIUM	J	0.469	1.06	PQL	mg/Kg	
	MOLYBDENUM	J	0.329	2.12	PQL	mg/Kg	
	SODIUM	J	85.6	106	PQL	mg/Kg	
	TIN	J	2.99	10.6	PQL	mg/Kg	
SL-559-SA5D-SB-0.0-0.5	Zirconium	J	2.71	5.29	PQL	mg/Kg	J (all detects)
	BERYLLIUM	J	0.942	1.07	PQL	mg/Kg	
	BORON	J	6.72	10.7	PQL	mg/Kg	
	CADMIUM	J	0.323	1.07	PQL	mg/Kg	
	MOLYBDENUM	J	1.35	2.15	PQL	mg/Kg	
SL-555-SA5D-SB-10.5-11.5	SODIUM	J	99.6	107	PQL	mg/Kg	J (all detects)
	TIN	J	3.81	10.7	PQL	mg/Kg	

Method: 6020A
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-554-SA5D-SB-0.0-0.5	SELENIUM	J	0.206	0.416	PQL	mg/Kg	J (all detects)
SL-554-SA5D-SB-4.0-5.0	SELENIUM	J	0.168	0.424	PQL	mg/Kg	J (all detects)
	SILVER	J	0.0473	0.212	PQL	mg/Kg	
SL-554-SA5D-SB-7.0-8.0	SELENIUM	J	0.273	0.426	PQL	mg/Kg	J (all detects)
	SILVER	J	0.0431	0.213	PQL	mg/Kg	
SL-555-SA5D-SB-0.0-0.5	SELENIUM	J	0.251	0.411	PQL	mg/Kg	J (all detects)
SL-555-SA5D-SB-10.5-11.5	SILVER	J	0.0505	0.215	PQL	mg/Kg	J (all detects)

Reporting Limit Outliers

Lab Reporting Batch ID: PH102

Laboratory: LL

EDD Filename: PH102

eQAPP Name: CDM_SSFL_131101_Lan

Method: 6020A

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-555-SA5D-SB-4.0-5.0	SELENIUM	J	0.128	0.434	PQL	mg/Kg	J (all detects)
	SILVER	J	0.0502	0.217	PQL	mg/Kg	
SL-556-SA5D-SB-0.0-0.5	SELENIUM	J	0.235	0.399	PQL	mg/Kg	J (all detects)
	SILVER	J	0.0404	0.200	PQL	mg/Kg	
SL-556-SA5D-SB-4.0-5.0	SELENIUM	J	0.221	0.423	PQL	mg/Kg	J (all detects)
SL-559-SA5D-SB-0.0-0.5	SELENIUM	J	0.213	0.423	PQL	mg/Kg	J (all detects)
	SILVER	J	0.0560	0.212	PQL	mg/Kg	
SL-559-SA5D-SB-6.0-7.0	SELENIUM	J	0.216	0.429	PQL	mg/Kg	J (all detects)
	SILVER	J	0.0312	0.215	PQL	mg/Kg	

Method: 7199

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-556-SA5D-SB-11.0-12.0	HEXAVALENT CHROMIUM	J	0.32	0.42	PQL	mg/Kg	J (all detects)

Method: 7471B

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-554-SA5D-SB-0.0-0.5	MERCURY	J	0.0110	0.0165	PQL	mg/Kg	J (all detects)
SL-555-SA5D-SB-0.0-0.5	MERCURY	J	0.0100	0.0166	PQL	mg/Kg	J (all detects)
SL-555-SA5D-SB-10.5-11.5	MERCURY	J	0.0156	0.0173	PQL	mg/Kg	J (all detects)
SL-555-SA5D-SB-4.0-5.0	MERCURY	J	0.0131	0.0183	PQL	mg/Kg	J (all detects)
SL-556-SA5D-SB-4.0-5.0	MERCURY	J	0.0100	0.0164	PQL	mg/Kg	J (all detects)

Method: 8015M

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-555-SA5D-SB-0.0-0.5	EFH (C21-C30)	J	4.5	5.2	PQL	mg/Kg	J (all detects)
	EFH (C30-C40)	J	7.2	10	PQL	mg/Kg	
SL-556-SA5D-SB-4.0-5.0	EFH (C21-C30)	J	4.8	5.3	PQL	mg/Kg	J (all detects)
	EFH (C30-C40)	J	9.8	11	PQL	mg/Kg	

Method: 8081B

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-559-SA5D-SB-0.0-0.5	4,4'-DDE	J	1.2	1.8	PQL	ug/Kg	J (all detects)
	4,4'-DDT	J	0.56	1.8	PQL	ug/Kg	

Reporting Limit Outliers

Lab Reporting Batch ID: PH102

Laboratory: LL

EDD Filename: PH102

eQAPP Name: CDM_SSFL_131101_Lan

Method: 8270D SIM

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-554-SA5D-SB-0.0-0.5	2-METHYLNAPHTHALENE	J	0.73	1.7	PQL	ug/Kg	J (all detects)
	BENZO(B)FLUORANTHENE	J	0.92	1.7	PQL	ug/Kg	
	CHRYSENE	J	1.1	1.7	PQL	ug/Kg	
	NAPHTHALENE	J	0.86	1.7	PQL	ug/Kg	
SL-554-SA5D-SB-4.0-5.0	NAPHTHALENE	J	0.81	1.8	PQL	ug/Kg	J (all detects)
SL-554-SA5D-SB-7.0-8.0	NAPHTHALENE	J	0.76	1.8	PQL	ug/Kg	J (all detects)
SL-555-SA5D-SB-0.0-0.5	CHRYSENE	J	0.76	1.7	PQL	ug/Kg	J (all detects)
SL-555-SA5D-SB-4.0-5.0	BIS(2-ETHYLHEXYL)PHTHALATE	J	8.1	20	PQL	ug/Kg	J (all detects)
SL-556-SA5D-SB-0.0-0.5	2-METHYLNAPHTHALENE	J	0.69	1.7	PQL	ug/Kg	J (all detects)
	BENZO(B)FLUORANTHENE	J	0.99	1.7	PQL	ug/Kg	
	CHRYSENE	J	1.3	1.7	PQL	ug/Kg	
	FLUORANTHENE	J	1.2	1.7	PQL	ug/Kg	
	NAPHTHALENE	J	0.76	1.7	PQL	ug/Kg	
	PHENANTHRENE	J	0.74	1.7	PQL	ug/Kg	
SL-556-SA5D-SB-4.0-5.0	2-METHYLNAPHTHALENE	J	1.0	1.7	PQL	ug/Kg	J (all detects)
BENZO(B)FLUORANTHENE	J	0.83	1.7	PQL	ug/Kg		
CHRYSENE	J	0.92	1.7	PQL	ug/Kg		
NAPHTHALENE	J	1.3	1.7	PQL	ug/Kg		
SL-559-SA5D-SB-0.0-0.5	2-METHYLNAPHTHALENE	J	0.85	1.8	PQL	ug/Kg	J (all detects)
	BENZO(B)FLUORANTHENE	J	0.85	1.8	PQL	ug/Kg	
	CHRYSENE	J	1.0	1.8	PQL	ug/Kg	
	NAPHTHALENE	J	1.0	1.8	PQL	ug/Kg	

Enclosure II

EPA Level IV Data Validation Reports

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Santa Susana Field Laboratory
Collection Date: September 5, 2013
LDC Report Date: November 20, 2013
Matrix: Soil
Parameters: Semivolatiles
Validation Level: Level IV
Laboratory: Eurofins Lancaster Laboratories
Sample Delivery Group (SDG): PH102

Sample Identification

SL-555-SA5D-SB-0.0-0.5
SL-555-SA5D-SB-4.0-5.0
SL-555-SA5D-SB-10.5-11.5
SL-556-SA5D-SB-0.0-0.5
SL-559-SA5D-SB-0.0-0.5
SL-559-SA5D-SB-6.0-7.0
SL-556-SA5D-SB-11.0-12.0
SL-556-SA5D-SB-4.0-5.0
SL-554-SA5D-SB-0.0-0.5
SL-554-SA5D-SB-4.0-5.0
SL-554-SA5D-SB-7.0-8.0

Introduction

This data review covers 11 soil samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270D 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.

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.

Sample EB-090413 (from SDG PH101) was identified as an equipment blank. No semivolatile contaminants were found with the following exceptions:

Blank ID	Sampling Date	Compound	Concentration	Associated Samples
EB-090413	9/4/13	Di-n-butylphthalate Diethylphthalate Bis(2-ethylhexyl)phthalate Naphthalene	0.11 ug/L 0.30 ug/L 1.6 ug/L 0.032 ug/L	All samples in SDG PH102

Sample FB-041113 (from SDG PH029) was identified as a field blank. No semivolatile contaminants were found with the following exceptions:

Blank ID	Sampling Date	Compound	Concentration	Associated Samples
FB-041113	4/11/13	Di-n-butylphthalate Diethylphthalate Bis(2-ethylhexyl)phthalate 1-Methylnaphthalene 2-Methylnaphthalene Naphthalene	0.17 ug/L 0.18 ug/L 0.082 ug/L 0.019 ug/L 0.024 ug/L 0.17 ug/L	All samples in SDG PH102

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
SL-555-SA5D-SB-4.0-5.0	Bis(2-ethylhexyl)phthalate	8.1 ug/Kg	20U ug/Kg
SL-556-SA5D-SB-0.0-0.5	Naphthalene	0.76 ug/Kg	1.7U ug/Kg
SL-554-SA5D-SB-4.0-5.0	Naphthalene	0.81 ug/Kg	1.8U ug/Kg
SL-554-SA5D-SB-7.0-8.0	Naphthalene	0.76 ug/Kg	1.8U ug/Kg

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) 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

All compound quantitations were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG PH102	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
Semivolatiles - Data Qualification Summary - SDG PH102**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
PH102	SL-555-SA5D-SB-0.0-0.5 SL-555-SA5D-SB-4.0-5.0 SL-555-SA5D-SB-10.5-11.5 SL-556-SA5D-SB-0.0-0.5 SL-559-SA5D-SB-0.0-0.5 SL-559-SA5D-SB-6.0-7.0 SL-556-SA5D-SB-11.0-12.0 SL-556-SA5D-SB-4.0-5.0 SL-554-SA5D-SB-0.0-0.5 SL-554-SA5D-SB-4.0-5.0 SL-554-SA5D-SB-7.0-8.0	All compounds reported below the RL.	J (all detects)	A	Compound quantitation (Z)

**Santa Susana Field Laboratory
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG PH102**

No Sample Data Qualified in this SDG

**Santa Susana Field Laboratory
Semivolatiles - Field Blank Data Qualification Summary - SDG PH102**

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
PH102	SL-555-SA5D-SB-4.0-5.0	Bis(2-ethylhexyl)phthalate	20U ug/Kg	A	F
PH102	SL-556-SA5D-SB-0.0-0.5	Naphthalene	1.7U ug/Kg	A	F
PH102	SL-554-SA5D-SB-4.0-5.0	Naphthalene	1.8U ug/Kg	A	F
PH102	SL-554-SA5D-SB-7.0-8.0	Naphthalene	1.8U ug/Kg	A	F

LDC #: 30695E2b

VALIDATION COMPLETENESS WORKSHEET

Date: 11/18/13

SDG #: PH102

Level IV

Page: 1 of 1

Laboratory: Eurofins Lancaster Laboratories

Reviewer: BR

2nd Reviewer: A

METHOD: GC/MS Polynuclear Aromatic Hydrocarbons (EPA SW 846 Method 8270 ^{SVOCs} ~~C~~-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: 9/5/13
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	A	RSD ≤ 30?
IV.	Continuing calibration/ICV	A	100% CV ≤ 25?
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client req.
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	EB = EB-090413 (SDG# PH101) FB = FB-041113 (SDG# PH029)

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: 801

1	SL-555-SA5D-SB-0.0-0.5	11	SL-554-SA5D-SB-7.0-8.0	21		31	SBLK1249
2	SL-555-SA5D-SB-4.0-5.0	12		22		32	
3	SL-555-SA5D-SB-10.5-11.5	13		23		33	
4	SL-556-SA5D-SB-0.0-0.5	14		24		34	
5	SL-559-SA5D-SB-0.0-0.5	15		25		35	
6	SL-559-SA5D-SB-6.0-7.0	16		26		36	
7	SL-556-SA5D-SB-11.0-12.0	17		27		37	
8	SL-556-SA5D-SB-4.0-5.0	18		28		38	
9	SL-554-SA5D-SB-0.0-0.5	19		29		39	
10	SL-554-SA5D-SB-4.0-5.0	20		30		40	

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) $\leq 30\%$ and relative response factors (RRF) ≥ 0.05 ? 20% <u>BR</u>	/			
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) $\leq 20\%$ and relative response factors (RRF) ≥ 0.05 ? <u>25</u>	/			
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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were the performance evaluation (PE) samples within the acceptance limits?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
X. Internal standards				
Were internal standard area counts within -50% or +100% of the associated calibration standard?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were retention times within ± 30 seconds from the associated calibration standard?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
XI. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were chromatogram peaks verified and accounted for?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
XII. Compound quantitation/RLs				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were compound quantitation and RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
XIII. Tentatively identified compounds (TICs)				
Were the major ions (> 10 percent relative intensity) in the reference spectrum evaluated in sample spectrum?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Were relative intensities of the major ions within $\pm 20\%$ between the sample and the reference spectra?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Did the raw data indicate that the laboratory performed a library search for all required peaks in the chromatograms (samples and blanks)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
XIV. System performance				
System performance was found to be acceptable.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
XVI. Field duplicates				
Field duplicate pairs were identified in this SDG.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Target compounds were detected in the field duplicates.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
XVII. Field blanks				
Field blanks were identified in this SDG.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Target compounds were detected in the field blanks.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS SVOA

A. Phenol	T. 4-Chloroaniline	MM. 4-Chlorophenyl-phenyl ether	FFF. Di-n-octylphthalate	YYY. 2,3,5-Trimethylnaphthalene
B. Bis (2-chloroethyl) ether	U. Hexachlorobutadiene	NN. Fluorene	GGG. Benzo(b)fluoranthene	ZZZ. Perylene
C. 2-Chlorophenol	V. 4-Chloro-3-methylphenol	OO. 4-Nitroaniline	HHH. Benzo(k)fluoranthene	AAAA. Dibenzothiophene
D. 1,3-Dichlorobenzene	W. 2-Methylnaphthalene	PP. 4,6-Dinitro-2-methylphenol	III. Benzo(a)pyrene	BBBB. Benzo(a)fluoranthene
E. 1,4-Dichlorobenzene	X. Hexachlorocyclopentadiene	QQ. N-Nitrosodiphenylamine	JJJ. Indeno(1,2,3-cd)pyrene	CCCC. Benzo(b)fluorene
F. 1,2-Dichlorobenzene	Y. 2,4,6-Trichlorophenol	RR. 4-Bromophenyl-phenylether	KKK. Dibenz(a,h)anthracene	DDDD. cis/trans-Decalin
G. 2-Methylphenol	Z. 2,4,5-Trichlorophenol	SS. Hexachlorobenzene	LLL. Benzo(g,h,i)perylene	EEEE. Biphenyl
H. 2,2'-Oxybis(1-chloropropane)	AA. 2-Chloronaphthalene	TT. Pentachlorophenol	MMM. Bis(2-Chloroisopropyl)ether	FFFF. Retene
I. 4-Methylphenol	BB. 2-Nitroaniline	UU. Phenanthrene	NNN. Aniline	GGGG. C30-Hopane
J. N-Nitroso-di-n-propylamine	CC. Dimethylphthalate	VV. Anthracene	OOO. N-Nitrosodimethylamine	HHHH. 1-Methylphenanthrene
K. Hexachloroethane	DD. Acenaphthylene	WW. Carbazole	PPP. Benzoic Acid	IIII. 1,4-Dioxane
L. Nitrobenzene	EE. 2,6-Dinitrotoluene	XX. Di-n-butylphthalate	QQQ. Benzyl alcohol	JJJJ. Acetophenone
M. Isophorone	FF. 3-Nitroaniline	YY. Fluoranthene	RRR. Pyridine	KKKK. Atrazine
N. 2-Nitrophenol	GG. Acenaphthene	ZZ. Pyrene	SSS. Benzidine	LLLL. Benzaldehyde
O. 2,4-Dimethylphenol	HH. 2,4-Dinitrophenol	AAA. Butylbenzylphthalate	TTT. 1-Methylnaphthalene	MMMM. Caprolactam
P. Bis(2-chloroethoxy)methane	II. 4-Nitrophenol	BBB. 3,3'-Dichlorobenzidine	UUU. Benzo(b)thiophene	NNNN.
Q. 2,4-Dichlorophenol	JJ. Dibenzofuran	CCC. Benzo(a)anthracene	VVV. Benzonaphthothiophene	OOOO.
R. 1,2,4-Trichlorobenzene	KK. 2,4-Dinitrotoluene	DDD. Chrysene	WWW. Benzo(e)pyrene	PPPP.
S. Naphthalene	LL. Diethylphthalate	EEE. Bis(2-ethylhexyl)phthalate	XXX. 2,6-Dimethylnaphthalene	QQQQ.

VALIDATION FINDINGS WORKSHEET
Field Blanks

METHOD: GC/MS BNA (EPA SW 846 Method 8270) ^D
 N/A Were field blanks identified in this SDG?
 N/A Were target compounds detected in the field blanks?

FB = FB-041113 (SDG # PH029)

Blank units: ug/L Associated sample units: ug/L
 Sampling date: 4/11/13

Code: F

Field blank type: (circle one) Field Blank / Rinsate / Other: Associated Samples: A11

Compound	Blank ID	Sample Identification							
	FB	5X/10X	4	10	11				
XX	0.17	1.7							
LL	0.18	1.8							
EEE	0.082	0.82							
TTT	0.019	0.095							
W	0.024	0.12							
S	0.17	0.85	0.76/1.7u	0.8/1.8u	0.76/1.8u				

Blank units: ug/L Associated sample units: ug/L
 Sampling date: 9/4/13
 Field blank type: (circle one) Field Blank / Rinsate / Other: EB Associated Samples: A11

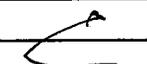
EB = EB-090413 (SDG # PH101) Code: F

Compound	Blank ID	Sample Identification							
	EB	5X/10X	2						
XX	0.11	1.1							
LL	0.30	3.0							
EEE	1.6	1.6	8.1/20u						
S	0.032	0.14							

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 #: 30695E2b

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
 Reviewer BR
 2nd Reviewer 

METHOD: GC/MS SVOA (EPA SW 846 Method 8270DSIM)

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 (IS)	Reported RRF (1 std)	Recalculated RRF (1 std)	Reported Average RRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
1	HP10623	9/6/2013	N-Nitrosodimethylamine (IS1)	1.012	1.012	1.038	1.038	5	5
			Naphthalene (IS2)	1.058	1.058	1.047	1.047	1	1
			Fluorene (IS3)	1.416	1.416	1.341	1.341	3	3
			Anthracene (IS4)	1.193	1.193	1.156	1.156	4	4
			Chrysene (IS5)	1.309	1.309	1.259	1.259	3	3
			Benzo(a)pyrene (IS6)	1.353	1.353	1.252	1.252	5	5

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.

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

METHOD: GC/MS SVOA (EPA SW 846 Method 8270DSIM)

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:

$$\% \text{ Difference} = 100 * (\text{ave. RRF} - \text{RRF}) / \text{ave. RRF}$$

$$\text{RRF} = (\text{Ax})(\text{Cis}) / (\text{Ais})(\text{Cx})$$

Where:

ave. RRF = initial calibration average RRF

RRF = continuing calibration RRF

Ax = Area of compound

Cx = Concentration of compound

Ais = Area of associated internal standard

Cis = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (IS)	Average RRF (Initial RRF)	Reported (CC RRF)	Recalculated (CC RRF)	Reported %D	Recalculated %D
1	ci0231	09/13/13	N-Nitrosodimethylamine (IS1)	1.038	1.040	1.040	0	0
			Naphthalene (IS2)	1.047	1.052	1.052	0	0
			Fluorene (IS3)	1.341	1.343	1.343	0	0
			Anthracene (IS4)	1.156	1.162	1.162	1	1
			Chrysene (IS5)	1.259	1.267	1.267	1	1
			Benzo(a)pyrene (IS6)	1.252	1.271	1.271	1	1

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.

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

METHOD: GC/MS SVOA (EPA SW 846 Method 8270DSIM)

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:

$$\% \text{ Difference} = 100 * (\text{ave. RRF} - \text{RRF}) / \text{ave. RRF}$$

$$\text{RRF} = (\text{Ax})(\text{Cis}) / (\text{Ais})(\text{Cx})$$

Where:

ave. RRF = initial calibration average RRF

RRF = continuing calibration RRF

Ax = Area of compound

Cx = Concentration of compound

Ais = Area of associated internal standard

Cis = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (IS)	Average RRF (Initial RRF)	Reported (CC RRF)	Recalculated (CC RRF)	Reported %D	Recalculated %D
1	ci0281	09/13/13	N-Nitrosodimethylamine (IS1)	1.038	1.032	1.032	1	1
			Naphthalene (IS2)	1.047	1.061	1.061	1	1
			Fluorene (IS3)	1.341	1.345	1.345	0	0
			Anthracene (IS4)	1.156	1.196	1.196	3	3
			Chrysene (IS5)	1.259	1.283	1.283	2	2
			Benzo(a)pyrene (IS6)	1.252	1.278	1.278	2	2

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.

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

METHOD: GC/MS SVOA (EPA SW 846 Method 8270DSIM)

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:

$$\% \text{ Difference} = 100 * (\text{ave. RRF} - \text{RRF}) / \text{ave. RRF}$$

$$\text{RRF} = (\text{Ax})(\text{Cis}) / (\text{Ais})(\text{Cx})$$

Where:

ave. RRF = initial calibration average RRF

RRF = continuing calibration RRF

Ax = Area of compound

Cx = Concentration of compound

Ais = Area of associated internal standard

Cis = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (IS)	Average RRF (Initial RRF)	Reported (CC RRF)	Recalculated (CC RRF)	Reported %D	Recalculated %D
1	ci0311	09/17/13	N-Nitrosodimethylamine (IS1)	1.038	0.986	0.986	5	5
			Naphthalene (IS2)	1.047	1.079	1.079	3	3
			Fluorene (IS3)	1.341	1.305	1.305	3	3
			Anthracene (IS4)	1.156	1.174	1.174	2	2
			Chrysene (IS5)	1.259	1.302	1.302	3	3
			Benzo(a)pyrene (IS6)	1.252	1.307	1.307	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.

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

METHOD: GC/MS Semivolatiles (EPA SW 846 Method 8270C)

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	Fluoranthene-d10 1.00	0.666	67	67	0
2-Fluorobiphenyl	Benzo(a)pyrene-d12 ↓	0.647	65	65	0
Terphenyl-d14	1-Methylanthracene-d10 ↓	0.737	74	74	0
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					

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

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 = |LCS - LCSD| * 2 / (LCS + LCSD)

LCS = Laboratory control sample percent recovery

LCSD = Laboratory control sample duplicate percent recovery

LCS/LCSD samples: 249LDCS

Compound	Spike Added (ug/L)		Spike Concentration (ug/L)		LCS		LCSD		LCS/LCSD	
	LCS	LCSD	LCS	LCSD	Percent Recovery		Percent Recovery		RPD	
					Reported	Recalc.	Reported	Recalc.	Reported	Recalculated
Phenol										
N-Nitroso-di-n-propylamine										
4-Chloro-3-methylphenol										
Acenaphthene	33.33	—	31.93	—	96	96	—	—	—	—
Pentachlorophenol										
Pyrene	33.33	—	32.47	—	97	97	—	—	—	—

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.

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Santa Susana Field Laboratory
Collection Date: September 5, 2013
LDC Report Date: November 20, 2013
Matrix: Soil
Parameters: Chlorinated Pesticides
Validation Level: Level IV
Laboratory: Eurofins Lancaster Laboratories
Sample Delivery Group (SDG): PH102

Sample Identification

SL-555-SA5D-SB-0.0-0.5
SL-555-SA5D-SB-4.0-5.0
SL-555-SA5D-SB-10.5-11.5
SL-559-SA5D-SB-0.0-0.5
SL-559-SA5D-SB-6.0-7.0
SL-554-SA5D-SB-0.0-0.5
SL-554-SA5D-SB-4.0-5.0
SL-554-SA5D-SB-7.0-8.0

Introduction

This data review covers 8 soil samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8081B 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.

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-090413 (from SDG PH101) was identified as an equipment blank. No chlorinated pesticide contaminants were found.

Sample FB-041113 (from SDG PH029) was identified as a field 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

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. 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

All compound quantitations were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG PH102	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 PH102**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
PH102	SL-555-SA5D-SB-0.0-0.5 SL-555-SA5D-SB-4.0-5.0 SL-555-SA5D-SB-10.5-11.5 SL-559-SA5D-SB-0.0-0.5 SL-559-SA5D-SB-6.0-7.0 SL-554-SA5D-SB-0.0-0.5 SL-554-SA5D-SB-4.0-5.0 SL-554-SA5D-SB-7.0-8.0	All compounds reported below the RL.	J (all detects)	A	Compound quantitation (Z)

**Santa Susana Field Laboratory
Chlorinated Pesticides - Laboratory Blank Data Qualification Summary - SDG PH102**

No Sample Data Qualified in this SDG

**Santa Susana Field Laboratory
Chlorinated Pesticides - Field Blank Data Qualification Summary - SDG PH102**

No Sample Data Qualified in this SDG

LDC #: 30695E3a

VALIDATION COMPLETENESS WORKSHEET

Date: 11/18/13

SDG #: PH102

Level IV

Page: 1 of 1

Laboratory: Eurofins Lancaster Laboratories

Reviewer: BK

2nd Reviewer: A

METHOD: GC Chlorinated Pesticides (EPA SW846 Method 8081^B)

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: 7/5/13
II.	GC/ECD Instrument Performance Check	A	
III.	Initial calibration	D	RSD ≤ 20%
IV.	Continuing calibration/ICV	D	ICV/CCV ≤ 20%
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec.
VIII.	Laboratory control samples	A	LCS
IX.	Regional quality assurance and quality control	N	
X.	Florisol cartridge check	N	
XI.	GPC Calibration	N	
XII.	Target compound identification	A	
XIII.	Compound quantitation/RL/LOQ/LODs	A	
XIV.	Overall assessment of data	A	
XV.	Field duplicates	N	
XVI.	Field blanks	ND	EB = EB-090413 (SDG # PH101) FB = FB-041113 (SDG # PH029)

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-555-SA5D-SB-0.0-0.5	11		21		31	PBLK15253
2	SL-555-SA5D-SB-4.0-5.0	12		22		32	
3	SL-555-SA5D-SB-10.5-11.5	13		23		33	
4	SL-559-SA5D-SB-0.0-0.5	14		24		34	
5	SL-559-SA5D-SB-6.0-7.0	15		25		35	
6	SL-554-SA5D-SB-0.0-0.5	16		26		36	
7	SL-554-SA5D-SB-4.0-5.0	17		27		37	
8	SL-554-SA5D-SB-7.0-8.0	18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

LDC #: 30695E31

VALIDATION FINDINGS CHECKLIST

Page: 1 of 2
 Reviewer: SR
 2nd Reviewer: C

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) \leq 20%?	/	X	NA	
Was a curve fit used for evaluation? If Yes, what was the acceptance criteria used?		/	NA	
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? <u>X</u> %D or ___ %R	/			
Were Evaluation mix standards analyzed prior to the initial calibration and sample analysis?	/			
Were endrin and 4,4'-DDT breakdowns \leq 15%.0 for individual breakdown in the Evaluation mix standards?	/			
Was a continuing calibration analyzed daily?	/			
Were all percent differences (%D) \leq 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?	/			
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?			/	

VALIDATION FINDINGS CHECKLIST

Validation Area	Yes	No	NA	Findings/Comments
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?	/			
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. Chlordane
B. beta-BHC	J. 4,4'-DDE	R. Endrin aldehyde	Z. Aroclor-1248	HH. Chlordane (Technical)
C. delta-BHC	K. Endrin	S. alpha-Chlordane	AA. Aroclor-1254	II. Aroclor 1262
D. gamma-BHC	L. Endosulfan II	T. gamma-Chlordane	BB. Aroclor-1260	JJ. Aroclor 1268
E. Heptachlor	M. 4,4'-DDD	U. Toxaphene	CC. 2,4'-DDD	KK. Oxychlordane
F. Aldrin	N. Endosulfan sulfate	V. Aroclor-1016	DD. 2,4'-DDE	LL. trans-Nonachlor
G. Heptachlor epoxide	O. 4,4'-DDT	W. Aroclor-1221	EE. 2,4'-DDT	MM. cis-Nonachlor
H. Endosulfan I	P. Methoxychlor	X. Aroclor-1232	FF. Hexachlorobenzene	NN.

Notes: _____

LDC#: 30695E3a

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
 Reviewer: BR
 2nd Reviewer:

METHOD: GC Pesticides (EPA SW 846 Method 8081B)

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

$$\%RSD = 100 * (S/X)$$

Where

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	Reported RRF (10 std)	Recalculated RRF (10 std)	Reported Average RRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL	9/11/2013	Endosulfan I (RTX-CLP)	225000	283497	233000	233000	5	5
	H919A		Methoxychlor (RTX-CLP)	98749	115891	99194	99194	6	6
			Endosulfan I (RTX-CLPII)	63000	93809	66500	66500	6	6
			Methoxychlor (RTX-CLPII)	33400	43827	34000	34140	3	3

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.

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Calculation Verification

METHOD: GC Pesticides (EPA SW 846 Method 8081)

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:

$\% \text{ Difference} = 100 * (\text{ave. RRF} - \text{RRF}) / \text{ave. RRF}$
 $\text{RRF} = (\text{Ax})(\text{Cis}) / (\text{Ais})(\text{Cx})$

Where:

ave. RRF = initial calibration average RRF
 RRF = continuing calibration RRF
 Ax = Area of compound,

Cx = Concentration of compound,
 Ais = Area of associated internal standard
 Cis = Concentration of internal standard

#	Standard ID	Calibration Date	Compound	Average CF/ Conc	Reported Conc/CF (CC)	Recalculated Conc/CF (CC)	Reported % D	Recalculated %D
1	MIXA3FQ	9/16/2013 19:20	Endosulfan I (RTX-CLP)	10.000	10.42	10.41	4	4
			Methoxychlor (RTX-CLP)	100.000	103.34	103.34	3	3
			Endosulfan I (RTX-CLPII)	10.000	10.60	10.59	6	6
			Methoxychlor (RTX-CLPII)	100.000	109.10	109.10	9	9
2								

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 #: 30695E37

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Page: 1 of 1
Reviewer: BR
2nd reviewer: ⚡

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

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:

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene						
Tetrachloro-m-xylene	10.1	RTXCLPI	8.904217	88	88	0
Decachlorobiphenyl	10.2	↓	9.566636	94	94	0
Decachlorobiphenyl						

Sample ID:

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene						
Tetrachloro-m-xylene						
Decachlorobiphenyl						
Decachlorobiphenyl						

Sample ID:

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene						
Tetrachloro-m-xylene						
Decachlorobiphenyl						
Decachlorobiphenyl						

Sample ID:

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene						
Tetrachloro-m-xylene						
Decachlorobiphenyl						
Decachlorobiphenyl						

Notes: _____

LDC #: 30695E3x

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicate Results Verification

Page: 1 of 1
 Reviewer: BR
 2nd Reviewer: [Signature]

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 = | LCS - LCSD | * 2 / (LCS + LCSD)

LCS = Laboratory control sample percent recovery

LCSD = Laboratory control sample duplicate percent recovery

LCS/LCSD samples: LCS 15253

Compound	Spike Added (ug/kg)		Spiked Sample Concentration (ug/kg)		LCS		LCSD		LCS/LCSD	
	LCS	LCSD	LCS	LCSD	Percent Recovery		Percent Recovery		RPD	
					Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
gamma-BHC	3.42		3.56		104	104				
4,4'-DDT	7.15		8.2		115	115				
Aroclor 1260										

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 #: 31195E3a

VALIDATION FINDINGS WORKSHEET Sample Calculation Verification

Page: 1 of 1
Reviewer: BR
2nd reviewer: A

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

Y N N/A
Y N N/A

Were all reported results recalculated and verified for all level IV samples?

Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Example: RTX-CLP 1.2 ug/lw
Sample I.D. 4 9,4-DDE
Conc. = $\frac{(819068)(10)}{(2.33E5)(30)(0.936)}$
= 2.33364E5
1.249139507 ug/lw

#	Sample ID	Compound	Reported Concentration ()	Calculated Concentration ()	Qualification

Note: _____

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Santa Susana Field Laboratory
Collection Date: September 5, 2013
LDC Report Date: November 20, 2013
Matrix: Soil
Parameters: Polychlorinated Biphenyls
Validation Level: Level IV
Laboratory: Eurofins Lancaster Laboratories

Sample Delivery Group (SDG): PH102

Sample Identification

SL-555-SA5D-SB-0.0-0.5
SL-555-SA5D-SB-4.0-5.0
SL-555-SA5D-SB-10.5-11.5
SL-556-SA5D-SB-0.0-0.5
SL-559-SA5D-SB-0.0-0.5
SL-559-SA5D-SB-6.0-7.0
SL-556-SA5D-SB-11.0-12.0
SL-556-SA5D-SB-4.0-5.0
SL-554-SA5D-SB-0.0-0.5
SL-554-SA5D-SB-4.0-5.0
SL-554-SA5D-SB-7.0-8.0

Introduction

This data review covers 11 soil samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8082A 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.

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-090413 (from SDG PH101) was identified as an equipment blank. No polychlorinated biphenyl contaminants were found.

Sample FB-041113 (from SDG PH029) was identified as a field 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 with the following exceptions:

Sample	Column	Surrogate	%R (Limits)	Compound	Flag	A or P
PBLK26253	ZBmultiR2	Tetrachloro-m-xylene	133 (45-120)	All TCL compounds	J (all detects)	A
SL-555-SA5D-SB-0.0-0.5	ZBmultiR2	Tetrachloro-m-xylene	128 (45-120)	All TCL compounds	J (all detects)	A
SL-555-SA5D-SB-4.0-5.0	ZBmultiR2	Tetrachloro-m-xylene	121 (45-120)	All TCL compounds	J (all detects)	A
SL-556-SA5D-SB-0.0-0.5	ZBmultiR2	Tetrachloro-m-xylene	121 (45-120)	All TCL compounds	J (all detects)	A
SL-559-SA5D-SB-0.0-0.5	ZBmultiR2	Tetrachloro-m-xylene	124 (45-120)	All TCL compounds	J (all detects)	A
SL-554-SA5D-SB-4.0-5.0	ZBmultiR2	Tetrachloro-m-xylene	128 (45-120)	All TCL compounds	J (all detects)	A

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. 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

All compound quantitations were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG PH102	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 PH102**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
PH102	SL-555-SA5D-SB-0.0-0.5 SL-555-SA5D-SB-4.0-5.0 SL-556-SA5D-SB-0.0-0.5 SL-559-SA5D-SB-0.0-0.5 SL-554-SA5D-SB-4.0-5.0	All TCL compounds	J (all detects)	A	Surrogate spikes (%R) (S)
PH102	SL-555-SA5D-SB-0.0-0.5 SL-555-SA5D-SB-4.0-5.0 SL-555-SA5D-SB-10.5-11.5 SL-556-SA5D-SB-0.0-0.5 SL-559-SA5D-SB-0.0-0.5 SL-559-SA5D-SB-6.0-7.0 SL-556-SA5D-SB-11.0-12.0 SL-556-SA5D-SB-4.0-5.0 SL-554-SA5D-SB-0.0-0.5 SL-554-SA5D-SB-4.0-5.0 SL-554-SA5D-SB-7.0-8.0	All compounds reported below the RL.	J (all detects)	A	Compound quantitation (Z)

**Santa Susana Field Laboratory
 Polychlorinated Biphenyls - Laboratory Blank Data Qualification Summary - SDG PH102**

No Sample Data Qualified in this SDG

**Santa Susana Field Laboratory
 Polychlorinated Biphenyls - Field Blank Data Qualification Summary - SDG PH102**

No Sample Data Qualified in this SDG

METHOD: GC Polychlorinated Biphenyls (EPA SW 846 Method 8082A)

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: 9/5/13
II.	GC/ECD Instrument Performance Check	N	
III.	Initial calibration	A	RSD ≤ 20%
IV.	Continuing calibration/ICV	A	CV CV ≤ 20%
V.	Blanks	A	
VI.	Surrogate spikes	SW	
VII.	Matrix spike/Matrix spike duplicates	N	Client spec.
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional quality assurance and quality control	N	
X.	Florisol cartridge check	N	
XI.	GPC Calibration	N	
XII.	Target compound identification	A	
XIII.	Compound quantitation/RL/LOQ/LODs	A	
XIV.	Overall assessment of data	A	
XV.	Field duplicates	N	
XVI.	Field blanks	ND	EB = EB-0704B (SDG # PH101) FB = FB-04113 (SDG # PH029)

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

Validated Samples: Soil

1	SL-555-SA5D-SB-0.0-0.5	11	SL-554-SA5D-SB-7.0-8.0	21		31	PBLK 26253
2	SL-555-SA5D-SB-4.0-5.0	12		22		32	
3	SL-555-SA5D-SB-10.5-11.5	13		23		33	
4	SL-556-SA5D-SB-0.0-0.5	14		24		34	
5	SL-559-SA5D-SB-0.0-0.5	15		25		35	
6	SL-559-SA5D-SB-6.0-7.0	16		26		36	
7	SL-556-SA5D-SB-11.0-12.0	17		27		37	
8	SL-556-SA5D-SB-4.0-5.0	18		28		38	
9	SL-554-SA5D-SB-0.0-0.5	19		29		39	
10	SL-554-SA5D-SB-4.0-5.0	20		30		40	

Notes: _____

LDC #: 30695E36

VALIDATION FINDINGS CHECKLIST

Page: 1 of 2
 Reviewer: KR
 2nd Reviewer: [Signature]

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) \leq 20%?	/			
Was a curve fit used for evaluation? If Yes, what was the acceptance criteria used?		/	/	02
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? <u>/</u> %D or ___ %R	/			
Were Evaluation mix standards analyzed prior to the initial calibration and sample analysis?			/	
Were endrin and 4,4'-DDT breakdowns \leq 15%.0 for individual breakdown in the Evaluation mix standards?			/	
Was a continuing calibration analyzed daily?	/			
Were all percent differences (%D) \leq 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?	/			
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?	/			

Validation Area	Yes	No	NA	Findings/Comments
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?	/			
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. Chlordane
B. beta-BHC	J. 4,4'-DDE	R. Endrin aldehyde	Z. Aroclor-1248	HH. Chlordane (Technical)
C. delta-BHC	K. Endrin	S. alpha-Chlordane	AA. Aroclor-1254	II. Aroclor 1262
D. gamma-BHC	L. Endosulfan II	T. gamma-Chlordane	BB. Aroclor-1260	JJ. Aroclor 1268
E. Heptachlor	M. 4,4'-DDD	U. Toxaphene	CC. 2,4'-DDD	KK. Oxychlordane
F. Aldrin	N. Endosulfan sulfate	V. Aroclor-1016	DD. 2,4'-DDE	LL. trans-Nonachlor
G. Heptachlor epoxide	O. 4,4'-DDT	W. Aroclor-1221	EE. 2,4'-DDT	MM. cis-Nonachlor
H. Endosulfan I	P. Methoxychlor	X. Aroclor-1232	FF. Hexachlorobenzene	NN.

Notes: _____

VALIDATION FINDINGS WORKSHEET
Surrogate Spikes

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

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

Y N N/A Were surrogates spiked into all samples, standards and blanks?

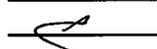
Y N N/A Did all surrogate percent recoveries (%R) meet the QC limits?

#	Date	Sample ID	Column	Surrogate Compound	%R (Limits)		Qualifications
		<u>PKL 26253</u>	<u>ZomultiR2</u>	<u>TCMX</u>	<u>133</u>	<u>(45-120)</u>	<u>Lot: S</u> <u>Just 1/2</u>
					()	()	
		<u>1</u>			<u>128</u>	()	
					()	()	
		<u>2</u>			<u>121</u>	()	
					()	()	
		<u>4</u>			<u>121</u>	()	
					()	()	
		<u>5</u>			<u>124</u>	()	
					()	()	
		<u>10</u>	<u>✓</u>		<u>128</u>	<u>(✓)</u>	<u>✓</u>
					()	()	
					()	()	
					()	()	
					()	()	
					()	()	
					()	()	
					()	()	
					()	()	
					()	()	

(DCB) Decachlorobiphenyl
 (TCMX) Tetrachloro-m-xylene

LDC#: 30695E3b

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
Reviewer: BR
2nd Reviewer: 

METHOD: GC PCBs (EPA SW 846 Method 8082A)

The calibration factors (CF), average CF, and relative standard deviation (%RSD) were recalculated for compounds identified below using the following calculations:

$$CF = A/C$$

average CF = sum of the CF/number of standards

$$\%RSD = 100 * (S/X)$$

Where:

A = Area of compound

C = Concentration of compound

S = Standard deviation of calibration factors

X = Mean of calibration factors

#	Standard ID	Calibration Date	Compound	Reported CF (500 std)	Recalculated CF (500 std)	Reported Average CF (Initial)	Recalculated Average CF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL 17342A	9/10/2013	PCB1260-1 (ZB-MultiR1)	35016	35016	36730	36730	6	6
			PCB1260-1 (ZB-MultiR2I)	56085	56085	58424	58424	3	3

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#: 30695E3b

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Calculation Verification

Page: 1 of 2
Reviewer: BR
2nd Reviewer: 

METHOD: GC PCBs (EPA SW 846 Method 8082)

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration percent difference (%D) values were recalculated for the compounds identified below using the following calculation:

Percent difference (%D) = $100 * (N - C)/N$

Where:

N = Initial Calibration Factor or Nominal Amount

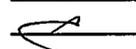
C = Calibration Factor from Continuing Calibration Standard or Calculated Amount

#	Standard ID	Calibration Date	Compound	Conc	Reported Conc (CCV)	Recalculated Conc (CCV)	Reported % D	Recalculated %D
1	AR163IP	9/11/2013	PCB1260 (ZB-MultiR1)	200	194.06	194.06	3	3
		19:08	PCB1260 (ZB-MultiR2)	200	189.76	189.76	5	5

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#: 30695E3b

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Calculation Verification

Page: 2 of 2
Reviewer: BR
2nd Reviewer: 

METHOD: GC PCBs (EPA SW 846 Method 8082)

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration percent difference (%D) values were recalculated for the compounds identified below using the following calculation:

Percent difference (%D) = $100 * (N - C)/N$

Where:

N = Initial Calibration Factor or Nominal Amount

C = Calibration Factor from Continuing Calibration Standard or Calculated Amount

#	Standard ID	Calibration Date	Compound	Conc	Reported Conc (CCV)	Recalculated Conc (CCV)	Reported % D	Recalculated %D
1	AR163IQ	9/12/2013	PCB1260 (ZB-MultiR1)	200	193.39	193.39	3	3
		2:31	PCB1260 (ZB-MultiR2)	200	186.87	186.87	7	7

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 #: 30695E3

VALIDATION FINDINGS WORKSHEET Surrogate Results Verification

Page: 1 of 1
 Reviewer: BK
 2nd reviewer: C

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

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	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene						
Tetrachloro-m-xylene	<u>ZB MultiR2</u>	<u>ZB 625.0 10</u>	<u>12.73936</u>	<u>128</u>	<u>127.9</u>	<u>0.5</u>
Decachlorobiphenyl	<u>J</u>	<u>W10 J</u>	<u>11.31996</u>	<u>113</u>	<u>113</u>	<u>0</u>
Decachlorobiphenyl						

Sample ID: _____

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene						
Tetrachloro-m-xylene						
Decachlorobiphenyl						
Decachlorobiphenyl						

Sample ID: _____

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene						
Tetrachloro-m-xylene						
Decachlorobiphenyl						
Decachlorobiphenyl						

Sample ID: _____

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene						
Tetrachloro-m-xylene						
Decachlorobiphenyl						
Decachlorobiphenyl						

Notes: _____

LDC #: 30695221

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicate Results Verification

Page: 1 of 1
 Reviewer: BR
 2nd Reviewer: [Signature]

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 = $|LCS - LCSD| * 2 / (LCS + LCSD)$

LCS = Laboratory control sample percent recovery

LCSD = Laboratory control sample duplicate percent recovery

LCS/LCSD samples: LCS26253

Compound	Spike Added <i>(181.58)</i>		Spiked Sample Concentration <i>(181.58)</i>		LCS		LCSD		LCS/LCSD	
	LCS	LCSD	LCS	LCSD	Percent Recovery		Percent Recovery		RPD	
					Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
gamma-BHC										
4,4'-DDT										
Aroclor 1260	<i>167</i>	<i>-</i>	<i>181.58</i>	<i>-</i>	<i>109</i>	<i>109</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>

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 #: 30695 E3L

VALIDATION FINDINGS WORKSHEET Sample Calculation Verification

Page: 1 of 1
Reviewer: BR
2nd reviewer: [Signature]

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

Y N N/A
Y N N/A

Were all reported results recalculated and verified for all level IV samples?

Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

LCS 26253

$$PCB-1260 = 181.38 \text{ ug/kg}$$

$$1260-1 = \frac{(19969915)(10)}{(36730)(30)} = 181.2316544$$

$$1260-2 = 173.197312$$

$$1260-3 = 186.157478$$

$$1260-4 = 177.863177$$

$$1260-5 = 194.291588$$

$$1260-6 = 175.556686$$

$$\text{Average} = 181.3830292 \text{ ug/kg}$$

Example:

Sample I.D. AN ND:

Conc. = _____

=

#	Sample ID	Compound	Reported Concentration ()	Calculated Concentration ()	Qualification

Note: _____

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Santa Susana Field Laboratory
Collection Date: September 5, 2013
LDC Report Date: November 14, 2013
Matrix: Soil
Parameters: Metals
Validation Level: Level IV
Laboratory: Eurofins Lancaster Laboratories

Sample Delivery Group (SDG): PH102

Sample Identification

SL-555-SA5D-SB-0.0-0.5
SL-555-SA5D-SB-4.0-5.0
SL-555-SA5D-SB-10.5-11.5
SL-556-SA5D-SB-0.0-0.5
SL-559-SA5D-SB-0.0-0.5
SL-559-SA5D-SB-6.0-7.0
SL-556-SA5D-SB-11.0-12.0
SL-556-SA5D-SB-4.0-5.0
SL-554-SA5D-SB-0.0-0.5
SL-554-SA5D-SB-4.0-5.0
SL-554-SA5D-SB-7.0-8.0
SL-555-SA5D-SB-4.0-5.0MS
SL-555-SA5D-SB-4.0-5.0MSD
SL-555-SA5D-SB-4.0-5.0DUP

Introduction

This data review covers 14 soil samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6010C, 6020A, and 7471B for Metals. The metals analyzed were Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Phosphorus, 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

The initial and continuing calibrations were performed at the required frequency.

The calibration standards criteria 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 with the following exceptions:

Method Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Lithium Tin Calcium Zinc	0.425 mg/Kg 1.476 mg/Kg 5.41 mg/Kg 0.466 mg/Kg	All samples in SDG PH102
ICB/CCB	Cadmium Lithium	0.41 ug/L 3.1 ug/L	All samples in SDG PH102
ICB/CCB	Iron	42.8 ug/L	SL-555-SA5D-SB-0.0-0.5 SL-555-SA5D-SB-10.5-11.5 SL-556-SA5D-SB-0.0-0.5 SL-559-SA5D-SB-0.0-0.5 SL-559-SA5D-SB-6.0-7.0 SL-556-SA5D-SB-11.0-12.0 SL-556-SA5D-SB-4.0-5.0 SL-554-SA5D-SB-0.0-0.5 SL-554-SA5D-SB-4.0-5.0 SL-554-SA5D-SB-7.0-8.0

Data qualification by the initial, continuing and preparation blanks (ICB/CCB/PBs) was based on the maximum contaminant concentration in the ICB/CCB/PBs in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
SL-555-SA5D-SB-0.0-0.5	Tin	3.06 mg/Kg	3.06U mg/Kg
SL-555-SA5D-SB-4.0-5.0	Tin	3.51 mg/Kg	3.51U mg/Kg
SL-555-SA5D-SB-10.5-11.5	Tin	3.47 mg/Kg	3.47U mg/Kg
SL-556-SA5D-SB-0.0-0.5	Tin	2.79 mg/Kg	2.79U mg/Kg
SL-559-SA5D-SB-0.0-0.5	Tin	2.99 mg/Kg	2.99U mg/Kg
SL-559-SA5D-SB-6.0-7.0	Tin	3.81 mg/Kg	3.81U mg/Kg
SL-556-SA5D-SB-11.0-12.0	Tin	3.27 mg/Kg	3.27U mg/Kg
SL-556-SA5D-SB-4.0-5.0	Tin	2.83 mg/Kg	2.83U mg/Kg
SL-554-SA5D-SB-0.0-0.5	Tin	3.24 mg/Kg	3.24U mg/Kg
SL-554-SA5D-SB-4.0-5.0	Tin	3.48 mg/Kg	3.48U mg/Kg
SL-554-SA5D-SB-7.0-8.0	Tin	4.11 mg/Kg	4.11U mg/Kg

Sample EB-090413 (from SDG PH101) was identified as an equipment blank. No metal contaminants were found with the following exceptions:

Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
EB-090413	8/28/13	Barium Calcium Manganese	0.00040 mg/L 0.0346 mg/L 0.0011 mg/L	All samples in SDG PH102

Sample FB-041113 (from SDG PH029) was identified as a field blank. No metal contaminants were found with the following exceptions:

Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
FB-041113	4/11/13	Copper Molybdenum	0.0036 mg/L 0.0036 mg/L	All samples in SDG PH102

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 with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
SL-555-SA5D-SB-0.0-0.5	Molybdenum	0.290 mg/Kg	0.290U mg/Kg
SL-555-SA5D-SB-4.0-5.0	Molybdenum	0.700 mg/Kg	0.700U mg/Kg
SL-555-SA5D-SB-10.5-11.5	Molybdenum	0.205 mg/Kg	0.205U mg/Kg
SL-559-SA5D-SB-0.0-0.5	Molybdenum	0.329 mg/Kg	0.329U mg/Kg
SL-559-SA5D-SB-6.0-7.0	Molybdenum	1.35 mg/Kg	1.35U mg/Kg
SL-556-SA5D-SB-4.0-5.0	Molybdenum	0.337 mg/Kg	0.337U mg/Kg
SL-554-SA5D-SB-0.0-0.5	Molybdenum	0.366 mg/Kg	0.366U mg/Kg
SL-554-SA5D-SB-4.0-5.0	Molybdenum	0.253 mg/Kg	0.253U mg/Kg

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-555-SA5D-SB-4.0-5.0MS/MSD (All samples in SDG PH102)	Antimony	38 (75-125)	35 (75-125)	-	J (all detects) UJ (all non-detects)	A
SL-555-SA5D-SB-4.0-5.0MS/MSD (All samples in SDG PH102)	Potassium	142 (75-125)	131 (75-125)	-	J (all detects)	A

VII. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) 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 PH102	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 PH102**

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
PH102	SL-555-SA5D-SB-0.0-0.5 SL-555-SA5D-SB-4.0-5.0 SL-555-SA5D-SB-10.5-11.5 SL-556-SA5D-SB-0.0-0.5 SL-559-SA5D-SB-0.0-0.5 SL-559-SA5D-SB-6.0-7.0 SL-556-SA5D-SB-11.0-12.0 SL-556-SA5D-SB-4.0-5.0 SL-554-SA5D-SB-0.0-0.5 SL-554-SA5D-SB-4.0-5.0 SL-554-SA5D-SB-7.0-8.0	Antimony	J (all detects) UJ (all non-detects)	A	Matrix spike/Matrix spike duplicate (%R) (Q)
PH102	SL-555-SA5D-SB-0.0-0.5 SL-555-SA5D-SB-4.0-5.0 SL-555-SA5D-SB-10.5-11.5 SL-556-SA5D-SB-0.0-0.5 SL-559-SA5D-SB-0.0-0.5 SL-559-SA5D-SB-6.0-7.0 SL-556-SA5D-SB-11.0-12.0 SL-556-SA5D-SB-4.0-5.0 SL-554-SA5D-SB-0.0-0.5 SL-554-SA5D-SB-4.0-5.0 SL-554-SA5D-SB-7.0-8.0	Potassium	J (all detects)	A	Matrix spike/Matrix spike duplicate (%R) (Q)
PH102	SL-555-SA5D-SB-0.0-0.5 SL-555-SA5D-SB-4.0-5.0 SL-555-SA5D-SB-10.5-11.5 SL-556-SA5D-SB-0.0-0.5 SL-559-SA5D-SB-0.0-0.5 SL-559-SA5D-SB-6.0-7.0 SL-556-SA5D-SB-11.0-12.0 SL-556-SA5D-SB-4.0-5.0 SL-554-SA5D-SB-0.0-0.5 SL-554-SA5D-SB-4.0-5.0 SL-554-SA5D-SB-7.0-8.0	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 PH102**

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
PH102	SL-555-SA5D-SB-0.0-0.5	Tin	3.06U mg/Kg	A	B
PH102	SL-555-SA5D-SB-4.0-5.0	Tin	3.51U mg/Kg	A	B
PH102	SL-555-SA5D-SB-10.5-11.5	Tin	3.47U mg/Kg	A	B
PH102	SL-556-SA5D-SB-0.0-0.5	Tin	2.79U mg/Kg	A	B
PH102	SL-559-SA5D-SB-0.0-0.5	Tin	2.99U mg/Kg	A	B

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
PH102	SL-559-SA5D-SB-6.0-7.0	Tin	3.81U mg/Kg	A	B
PH102	SL-556-SA5D-SB-11.0-12.0	Tin	3.27U mg/Kg	A	B
PH102	SL-556-SA5D-SB-4.0-5.0	Tin	2.83U mg/Kg	A	B
PH102	SL-554-SA5D-SB-0.0-0.5	Tin	3.24U mg/Kg	A	B
PH102	SL-554-SA5D-SB-4.0-5.0	Tin	3.48U mg/Kg	A	B
PH102	SL-554-SA5D-SB-7.0-8.0	Tin	4.11U mg/Kg	A	B

**Santa Susana Field Laboratory
Metals - Field Blank Data Qualification Summary - SDG PH102**

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
PH102	SL-555-SA5D-SB-0.0-0.5	Molybdenum	0.290U mg/Kg	A	F
PH102	SL-555-SA5D-SB-4.0-5.0	Molybdenum	0.700U mg/Kg	A	F
PH102	SL-555-SA5D-SB-10.5-11.5	Molybdenum	0.205U mg/Kg	A	F
PH102	SL-559-SA5D-SB-0.0-0.5	Molybdenum	0.329U mg/Kg	A	F
PH102	SL-559-SA5D-SB-6.0-7.0	Molybdenum	1.35U mg/Kg	A	F
PH102	SL-556-SA5D-SB-4.0-5.0	Molybdenum	0.337U mg/Kg	A	F
PH102	SL-554-SA5D-SB-0.0-0.5	Molybdenum	0.366U mg/Kg	A	F
PH102	SL-554-SA5D-SB-4.0-5.0	Molybdenum	0.253U mg/Kg	A	F

LDC #: 30695E4

VALIDATION COMPLETENESS WORKSHEET

Date: 11/11/13

SDG #: PH102

Level IV

Page: 1 of 1

Laboratory: Eurofins Lancaster Laboratories

74713

Reviewer: [Signature]

2nd Reviewer: [Signature]

METHOD: Metals (EPA SW 846 Method 6010C/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	A	Sampling dates: 9/5/13
II.	ICP/MS Tune	A	
III.	Calibration	A	
IV.	Blanks	SW	
V.	ICP Interference Check Sample (ICS) Analysis	A	
VI.	Matrix Spike Analysis	SW	MS/D
VII.	Duplicate Sample Analysis	A	Dup
VIII.	Laboratory Control Samples (LCS)	A	LCS
IX.	Internal Standard (ICP-MS)	A	
X.	Furnace Atomic Absorption QC	N	
XI.	ICP Serial Dilution	A	
XII.	Sample Result Verification	A	
XIII.	Overall Assessment of Data	A	
XIV.	Field Duplicates	N	
XV.	Field Blanks	SW	EB = EB-090413 FB = FB-041113

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

(PH101)
(PH029)

Validated Samples:

50

1	SL-555-SA5D-SB-0.0-0.5	11	SL-554-SA5D-SB-7.0-8.0	21		31	
2	SL-555-SA5D-SB-4.0-5.0	12	(n2) MS	22		32	
3	SL-555-SA5D-SB-10.5-11.5	13	↓ MSD	23		33	
4	SL-556-SA5D-SB-0.0-0.5	14	↓ Dup	24		34	
5	SL-559-SA5D-SB-0.0-0.5	15		25		35	
6	SL-559-SA5D-SB-6.0-7.0	16		26		36	
7	SL-556-SA5D-SB-11.0-12.0	17		27		37	
8	SL-556-SA5D-SB-4.0-5.0	18		28		38	
9	SL-554-SA5D-SB-0.0-0.5	19		29		39	
10	SL-554-SA5D-SB-4.0-5.0	20		30		40	

Notes: _____

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.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Cooler temperature criteria was met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
II. ICP/MS Tune				
Were all isotopes in the tuning solution mass resolution within 0.1 amu?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were %RSD of isotopes in the tuning solution $\leq 5\%$?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
III. Calibration				
Were all instruments calibrated daily, each set-up time?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were the proper number of standards used?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all initial and continuing calibration verification %Rs within the 90-110% (80-120% for mercury) QC limits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all initial calibration correlation coefficients ≥ 0.995 ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
IV. Blanks				
Was a method blank associated with every sample in this SDG?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
V. ICP Interference Check Sample				
Were ICP interference check samples performed daily?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were the AB solution percent recoveries (%R) with the 80-120% QC limits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were the MS/MSD or duplicate relative percent differences (RPD) $\leq 20\%$ for waters and $\leq 35\%$ for soil samples? A control limit of $\pm RL$ ($\pm 2X RL$ for soil) was used for samples that were $\leq 5X$ the RL, including when only one of the duplicate sample values were $\leq 5X$ the RL.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
VII. Laboratory control samples				
Was an LCS analyzed for this SDG?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was an LCS analyzed per extraction batch?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

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 analyses 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.	✓			

**VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES**

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)
 Sample Concentration units, unless otherwise noted: mg/Kg

Soil preparation factor applied: 100x Reason: B
 Associated Samples: All

					Sample Identification											
Analyte	Maximum PB ^a (mg/Kg)	Maximum PB ^a (ug/l)	Maximum ICB/CCB ^a (ug/l)	Action Level	1	2	3	4	5	6	7	8	9	10	11	
Cd			0.41	0.205												
Li	0.425		3.1	2.125												
Sn	1.476			7.38	3.06	3.51	3.47	2.79	2.99	3.81	3.27	2.83	3.24	3.48	4.11	
Ca	5.41			27.05												
Zn	0.466			2.33												

Sample Concentration units, unless otherwise noted: mg/Kg Associated Samples: 1, 3-11

					Sample Identification											
Analyte	Maximum PB ^a (mg/Kg)	Maximum PB ^a (ug/l)	Maximum ICB/CCB ^a (ug/l)	Action Level	No Qualifiers											
Fe			42.8	42.8												

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".
 Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

VALIDATION FINDINGS WORKSHEET
Field Blanks

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

Blank units: mg/L **Associated sample units:** mg/Kg Reason: F

Sampling date: 4/11/13 Soil factor applied 100x

Field blank type: (circle one) Field Blank / Rinsate / Other: _____ **Associated Samples:** All ~~Soil~~

Analyte	Blank ID	Sample Identification												
	FB-041113 (SDG: PH029)	Action Limit	1	2	3	5	6	8	9	10				
Cu	0.0036	1.8												
Mo	0.0036	1.8	0.290	0.700	0.205	0.329	1.35	0.337	0.366	0.253				

Sampling date: 8/28/13 Soil factor applied 100x

Field blank type: (circle one) Field Blank / Rinsate / Other: _____ **Associated Samples:** All ~~Soil~~

Analyte	Blank ID	Sample Identification												
	EB-090413 (SDG: PH101)	Action Limit	No Qualifiers											
Ba	0.00040	0.2												
Ca	0.0346	17.3												
Mn	0.0011	0.55												

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 #: 30095E7

VALIDATION FINDINGS WORKSHEET
Initial and Continuing Calibration Calculation Verification

Page: 1 of 1
 Reviewer: GR
 2nd Reviewer: [Signature]

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:

$$\%R = \frac{\text{Found}}{\text{True}} \times 100$$

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	Reported	Acceptable (Y/N)
					%R	%R	
ICV	ICP (Initial calibration)	Pb	588.50	600	98.1	98.1	Y
ICV	ICP/MS (Initial calibration)	Sr	51.76	50	103.5	103.5	
ICV	CVAA (Initial calibration)	Hg	2.55	2.5	102.0	102.0	
CCV2	ICP (Continuing calibration)	Ti	509.73	500	101.9	101.9	
CCV2	ICP/MS (Continuing calibration)	As	26.35	25	105.4	105.4	
CCV2	CVAA (Continuing calibration)	Hg	1.05	1.0	105.0	105.0	
	GFAA (Initial calibration)						
	GFAA (Continuing calibration)						

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.

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

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:

$$\%R = \frac{\text{Found}}{\text{True}} \times 100$$
 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	Reported	Acceptable (Y/N)
					%R / RPD / %D	%R / RPD / %D	
<u>ICSA07</u>	ICP interference check	<u>Pb</u>	<u>504.0</u>	<u>500</u>	<u>100.8</u>	<u>100.8</u>	Y
<u>LC5</u>	Laboratory control sample	<u>Li</u>	<u>106507</u>	<u>100000</u>	<u>107</u>	<u>107</u>	
<u>12</u>	Matrix spike	<u>Sb</u>	(SSR-SR) <u>18.8584</u>	<u>49.5050</u>	<u>38</u>	<u>38</u>	
<u>14</u>	Duplicate	<u>Sr</u>	<u>273267</u>	<u>273137</u>	<u>0</u>	<u>0</u>	
<u>2</u>	ICP serial dilution	<u>Co</u>	<u>78.07</u>	<u>85.25</u>	<u>9</u>	<u>9</u>	

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.

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

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 Fe were recalculated and verified using the following equation:

Concentration = $\frac{(RD)(FV)(Dil)}{(In. Vol.)}$

Recalculation:

- RD = Raw data concentration
- FV = Final volume (ml)
- In. Vol. = Initial volume (ml) or weight (G)
- Dil = Dilution factor

$1 = \frac{100\text{ mL}(2)(149.72803\text{ mg/L})}{0.953(1.028)} = 30806.3\text{ mg/L}$

#	Sample ID	Analyte	Reported Concentration (mg/kg)	Calculated Concentration (mg/kg)	Acceptable (Y/N)
	1	Fe	30800	30800	Y
	2	Se	0.13	0.13	Y
	3	Hg	0.016	0.016	
	4	Li	28.8	28.8	
	5	Ag	0.056	0.056	
	6	Cr	27.2	27.2	
	7	Sr	18.2	18.2	
	8	Hg	0.010	0.010	
	9	V	58.1	58.1	
	10	Tl	0.33	0.33	
	11	Ca	6220	6220	

Note: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Santa Susana Field Laboratory
Collection Date: September 5, 2013
LDC Report Date: November 20, 2013
Matrix: Soil
Parameters: Herbicides
Validation Level: Level IV
Laboratory: Eurofins Lancaster Laboratories

Sample Delivery Group (SDG): PH102

Sample Identification

SL-556-SA5D-SB-0.0-0.5
SL-556-SA5D-SB-11.0-12.0
SL-556-SA5D-SB-4.0-5.0

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 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.

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 was performed 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. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds with the following exceptions:

Date	Standard	Column	Compound	%D	Associated Samples	Flag	A or P
9/10/13	HERB3PH	ZB-XLB	Dinoseb	21	PBLK29249	J (all detects) UJ (all non-detects)	A
9/10/13	HERB3PH	ZB35	Dinoseb	32	PBLK29249	J (all detects) UJ (all non-detects)	A
9/10/13	HERB3PI	ZB35	Dinoseb	41	SL-556-SA5D-SB-0.0-0.5 SL-556-SA5D-SB-11.0-12.0 SL-556-SA5D-SB-4.0-5.0	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.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No herbicide contaminants were found in the method blanks.

Sample EB-090413 (from SDG PH101) was identified as an equipment blank. No herbicide contaminants were found.

Sample FB-041113 (from SDG PH029) was identified as a field blank. No herbicide 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 Duplicate

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 (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits with the following exceptions:

LCS ID	Compound	%R (Limits)	Associated Samples	Flag	A or P
LCS29249	2,4-DB	138 (54-131)	All samples in SDG PH102	J (all detects)	P

VIII. Target Compound Identification

All target compound identifications were within validation criteria.

IX. Compound Quantitation

All compound quantitations were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG PH102	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 PH102**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
PH102	SL-556-SA5D-SB-0.0-0.5 SL-556-SA5D-SB-11.0-12.0 SL-556-SA5D-SB-4.0-5.0	Dinoseb	J (all detects) UJ (all non-detects)	A	Continuing calibration (%D) (C)
PH102	SL-556-SA5D-SB-0.0-0.5 SL-556-SA5D-SB-11.0-12.0 SL-556-SA5D-SB-4.0-5.0	2,4-DB	J (all detects)	P	Laboratory control samples (%R) (L)
PH102	SL-556-SA5D-SB-0.0-0.5 SL-556-SA5D-SB-11.0-12.0 SL-556-SA5D-SB-4.0-5.0	All compounds reported below the RL.	J (all detects)	A	Compound quantitation (Z)

**Santa Susana Field Laboratory
Herbicides - Laboratory Blank Data Qualification Summary - SDG PH102**

No Sample Data Qualified in this SDG

**Santa Susana Field Laboratory
Herbicides - Field Blank Data Qualification Summary - SDG PH102**

No Sample Data Qualified in this SDG

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: 9/5/13
II.	Initial calibration	A	RSD ≤ 20?
III.	Calibration verification/ICV	SW	ICV / CV = 20?
IV.	Blanks	A	
V.	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	Client spec.
VII.	Laboratory control samples	SW	LCS
VIII.	Target compound identification	A	
IX.	Compound quantitation/RL/LOQ/LODs	A	
X.	System Performance	A	
XI.	Overall assessment of data	A	Internal ctrl = A
XII.	Field duplicates	N	
XIII.	Field blanks	ND	EB = EB-090413 (SDG # PH101) FB = FB-041113 (SDG # PH029)

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-556-SA5D-SB-0.0-0.5	11		21		31	PBLK29249
2	SL-556-SA5D-SB-11.0-12.0	12		22		32	
3	SL-556-SA5D-SB-4.0-5.0	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 #: 30695E5

VALIDATION FINDINGS CHECKLIST

Page: 1 of 2
Reviewer: BR
2nd Reviewer: [Signature]Method: X 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?	/			
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?	/			
IV. Continuing calibration				
What type of continuing calibration calculation was performed? <u>X</u> %D or ___ %R	/			
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) 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?			/	
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?		/		

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VALIDATION FINDINGS CHECKLIST

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Reviewer: BR
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Validation Area	Yes	No	NA	Findings/Comments
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 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: GC HPLC

8310	8330	8151	8141	8141(Con't)	8021B
A. Acenaphthene	A. HMX	A. 2,4-D	A. Dichlorvos	V. Fensulfothion	V. Benzene
B. Acenaphthylene	B. RDX	B. 2,4-DB	B. Mevinphos	W. Bolstar	CC. Toluene
C. Anthracene	C. 1,3,5-Trinitrobenzene	C. 2,4,5-T	C. Demeton-O	X. EPN	EE. Ethyl Benzene
D. Benzo(a)anthracene	D. 1,3-Dinitrobenzene	D. 2,4,5-TP	D. Demeton-S	Y. Azinphos-methyl	SSS. O-Xylene
E. Benzo(a)pyrene	E. Tetryl	E. Dinoseb	E. Ethoprop	Z. Coumaphos	RRR. MP-Xylene
F. Benzo(b)fluoranthene	F. Nitrobenzene	F. Dichlorprop	F. Naled	AA. Parathion	GG. Total Xylene
G. Benzo(g,h,i)perylene	G. 2,4,6-Trinitrotoluene	G. Dicamba	G. Sulfotep	BB. Trichloronate	
H. Benzo(k)fluoranthene	H. 4-Amino-2,6-dinitrotoluene	H. Dalapon	H. Phorate	CC. Trichlorinate	
I. Chrysene	I. 2-Amino-4,6-dinitrotoluene	I. MCPP	I. Dimethoate	DD. Trifluralin	
J. Dibenz(a,h)anthracene	J. 2,4-Dinitrotoluene	J. MCPA	J. Diazinon	EE. Def	
K. Fluoranthene	K. 2,6-Dinitrotoluene	K. Pentachlorophenol	K. Disulfoton	FF. Prowl	
L. Fluorene	L. 2-Nitrotoluene	L. 2,4,5-TP (silvex)	L. Parathion-methyl	GG. Ethion	
M. Irideno(1,2,3-cd)pyrene	M. 3-Nitrotoluene	M. Silvex	M. Ronnel	HH. Tetrachlorvinphos	
N. Naphthalene	N. 4-Nitrotoluene		N. Malathion	II. Sulprofos	
O. Phenanthrene	O.		O. Chlorpyrifos		
P. Pyrene	P.		P. Fenthion		
Q.	Q.		Q. Parathion-ethyl		
R.			R. Trichloronate		
S.			S. Merphos		
			T. Stirofos		
			U. Tokuthion		

Notes: _____

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VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

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 Reviewer: BR
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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 RRF X = Mean of the RRFs

#	Standard ID	Calibration Date	Compound	Reported	Recalculated	Reported	Recalculated	Reported	Recalculated
				RRF (RRF 176 std)	RRF (RRF 176 std)	Average RRF (Initial)	Average RRF (Initial)	%RSD	%RSD
1	ICAL	9/9/2013	2,4-D (DB XLB)	1.04E-03	1.04E-03	1.13E-03	1.13E-03	15	15
	19850A		Dinoseb (DB XLB)	1.26E-03	1.26E-03	1.38E-03	1.38E-03	9	9
			2,4-D (DB 35)	1.21E-03	1.21E-03	1.28E-03	1.28E-03	12	12
			Dinoseb (DB 35)	1.07E-03	1.07E-03	1.15E-03	1.15E-03	8	8

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#: 30695E5

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Calculation Verification

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 Reviewer: BR
 2nd Reviewer: ←

METHOD: GC Pesticides (EPA SW 846 Method 8081)

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 = $100 * (ave. RRF - RRF) / ave. RRF$
 $RRF = (Ax)(Cis) / (Ais)(Cx)$

Where: ave. RRF = initial calibration average RRF
 RRF = continuing calibration RRF
 Ax = Area of compound,
 Cx = Concentration of compound,
 Ais = Area of associated internal standard
 Cis = Concentration of internal standard

#	Standard ID	Calibration Date	Compound	Average RRF (Initial)	Reported	Recalculated	Reported	Recalculated
					RRF (CC)	RRF (CC)	% D	%D
1	HERB3PH	9/10/2013 6:33	2,4-D (DB XLB)	176.00	184.11	184.24	5	5
			Dinoseb (DB XLB)	100.70	122.33	122.33	21	21
			2,4-D (DB 35)	176.00	183.96	183.81	5	5
			Dinoseb (DB 35)	100.70	133.25	133.02	32	32
2	HERB3PI	9/10/2013 11:09	2,4-D (DB XLB)	176.00	181.63	181.76	3	3
			Dinoseb (DB XLB)	100.70	121.09	121.09	20	20
			2,4-D (DB 35)	176.00	183.27	183.11	4	4
			Dinoseb (DB 35)	100.70	141.52	141.28	41	41

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 #: 36695#5

VALIDATION FINDINGS WORKSHEET Surrogate Results Verification

Page: 1 of 1
Reviewer: BR
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	
2,4-Dichlorophenylacetic acid	DBXLB	66.9	39.764288	59	59	0

Sample ID: _____

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	

Sample ID: _____

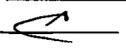
Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	

LDC #: 30695ES

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Reviewer: BR

2nd Reviewer: 

METHOD: GC HPLC

The percent recoveries (%R) and relative percent differences (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
LCS = Laboratory Control Sample

SC = Sample concentration

LCSD = Laboratory Control Sample duplicate

RPD = (((SSCLCS - SSCLCSD) * 2) / (SSCLCS + SSCLCSD)) * 100

.CS/LCSD samples: LCS 29249

Compound	Spike Added (<i>ug/kg</i>)		Spike Sample Concentration (<i>ug/kg</i>)		LCS		LCSD		LCS/LCSD	
	LCS	LCSD	LCS	LCSD	Percent Recovery		Percent Recovery		RPD	
					Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline (8015)										
Diesel (8015)										
Benzene (8021B)										
Methane (RSK-175)										
2,4-D (8151)	83.7	—	96.8	—	114	115	—	—	—	—
Dinoseb (8151)	142	—	30.52	—	21	21.5	—	—	—	—
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 #: 30695E5

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
 Reviewer: BR
 2nd Reviewer: [Signature]

METHOD: GC HPLC

N N/A Were all reported results recalculated and verified for all level IV samples?
 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: A11 Compound Name: ND
LCS 29249 : 2,4-D = 96.8 DB-XLB
 Concentration = $\frac{(2835255)(0.033)(10)}{(8613640)(0.0013267)(30)}$
= 96.86835079 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: September 5, 2013
LDC Report Date: November 14, 2013
Matrix: Soil
Parameters: Wet Chemistry
Validation Level: Level IV
Laboratory: Eurofins Lancaster Laboratories
Sample Delivery Group (SDG): PH102

Sample Identification

SL-555-SA5D-SB-0.0-0.5
SL-555-SA5D-SB-4.0-5.0
SL-555-SA5D-SB-10.5-11.5
SL-556-SA5D-SB-0.0-0.5
SL-559-SA5D-SB-0.0-0.5
SL-559-SA5D-SB-6.0-7.0
SL-556-SA5D-SB-11.0-12.0
SL-556-SA5D-SB-4.0-5.0
SL-554-SA5D-SB-0.0-0.5
SL-554-SA5D-SB-4.0-5.0
SL-554-SA5D-SB-7.0-8.0
SL-555-SA5D-SB-4.0-5.0MS
SL-555-SA5D-SB-4.0-5.0DUP
SL-556-SA5D-SB-11.0-12.0MS
SL-556-SA5D-SB-11.0-12.0DUP

Introduction

This data review covers 15 soil samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 300.0 for Fluoride and EPA SW 846 Method 7199 for Hexavalent Chromium.

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-090413 (from SDG PH101) was identified as an equipment blank. No contaminant concentrations were found.

Sample FB-041113 (from SDG PH029) was identified as a field blank. No contaminant concentrations were found.

V. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) analyses were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Analyte	%R (Limits)	Flag	A or P
SL-555-SA5D-SB-4.0-5.0MS/MSD (All samples in SDG PH102)	Fluoride	12 (80-120)	J (all detects) R (all non-detects)	A

VI. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) 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 PH102	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 PH102**

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
PH102	SL-555-SA5D-SB-0.0-0.5 SL-555-SA5D-SB-4.0-5.0 SL-555-SA5D-SB-10.5-11.5 SL-556-SA5D-SB-0.0-0.5 SL-559-SA5D-SB-0.0-0.5 SL-559-SA5D-SB-6.0-7.0 SL-556-SA5D-SB-11.0-12.0 SL-556-SA5D-SB-4.0-5.0 SL-554-SA5D-SB-0.0-0.5 SL-554-SA5D-SB-4.0-5.0 SL-554-SA5D-SB-7.0-8.0	Fluoride	J (all detects) R (all non-detects)	A	Matrix spike (%R) (Q)
PH102	SL-555-SA5D-SB-0.0-0.5 SL-555-SA5D-SB-4.0-5.0 SL-555-SA5D-SB-10.5-11.5 SL-556-SA5D-SB-0.0-0.5 SL-559-SA5D-SB-0.0-0.5 SL-559-SA5D-SB-6.0-7.0 SL-556-SA5D-SB-11.0-12.0 SL-556-SA5D-SB-4.0-5.0 SL-554-SA5D-SB-0.0-0.5 SL-554-SA5D-SB-4.0-5.0 SL-554-SA5D-SB-7.0-8.0	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 PH102**

No Sample Data Qualified in this SDG

**Santa Susana Field Laboratory
Wet Chemistry - Field Blank Data Qualification Summary - SDG PH102**

No Sample Data Qualified in this SDG

LDC #: 30695E6

VALIDATION COMPLETENESS WORKSHEET

Date: 11/11/13

SDG #: PH102

Level IV

Page: 1 of 1

Laboratory: Eurofins Lancaster Laboratories

Reviewer: [Signature]

2nd Reviewer: [Signature]

METHOD: (Analyte) Fluoride (EPA Method 300.0), Hexavalent Chromium (EPA SW846 Method 7199)

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: 9/5/13
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	A	
IV	Matrix Spike/Matrix Spike Duplicates	SW MS	
V	Duplicates	A	Dup (Cr ⁶⁺ ok by difference)
VI.	Laboratory control samples	A	LCS
VII.	Sample result verification	A	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X	Field blanks	ND	EB = EB-090113 FB = FB-041113

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

(PH102)
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

(PH029)

Validated Samples:

Soil

1	SL-555-SA5D-SB-0.0-0.5	11	SL-554-SA5D-SB-7.0-8.0	21		31	
2	SL-555-SA5D-SB-4.0-5.0	12	(X2) MS	22		32	
3	SL-555-SA5D-SB-10.5-11.5	13	↓ DUP	23		33	
4	SL-556-SA5D-SB-0.0-0.5	14	(X7) MS	24		34	
5	SL-559-SA5D-SB-0.0-0.5	15	↓ DUP	25		35	
6	SL-559-SA5D-SB-6.0-7.0	16		26		36	
7	SL-556-SA5D-SB-11.0-12.0	17		27		37	
8	SL-556-SA5D-SB-4.0-5.0	18		28		38	
9	SL-554-SA5D-SB-0.0-0.5	19		29		39	
10	SL-554-SA5D-SB-4.0-5.0	20		30		40	

Notes: _____

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 analyzed 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?			✓	

LDC #: 3069566

VALIDATION FINDINGS CHECKLIST

Page: 2 of 2
Reviewer: [Signature]
2nd Reviewer: [Signature]

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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were detection limits < RL?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
VIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
IX. Field duplicates				
Field duplicate pairs were identified in this SDG.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Target analytes were detected in the field duplicates.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
X. Field blanks				
Field blanks were identified in this SDG.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Target analytes were detected in the field blanks.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

LDC #: 30695E6

Validation Findings Worksheet
Initial and Continuing Calibration Calculation Verification

Page: 01 of 1
 Reviewer: CR
 2nd Reviewer: W

Method: Inorganics, Method See Cover

The correlation coefficient (r) for the calibration of F was recalculated. Calibration date: 9/16/13

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	Reported	Acceptable (Y/N)
					r or r ²	r or r ²	
Initial calibration	F	s1	0.1	0.018901	0.9997308	0.9997309	Y
		s2	0.4	0.062348			
		s3	1	0.180154			
		s4	2	0.374022			
		s5	3	0.567923			
Calibration verification	↓	ICV	1.5	1,549,313	103	103	Y
Calibration verification	CO ₂	CCV	200	189,838	95	95	
Calibration verification	↓	↓	↓	191,467	96	96	

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.

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

METHOD: Inorganics, Method see cover

Percent recoveries (%R) for a laboratory control sample and a matrix spike sample were recalculated using the following formula:

$$\%R = \frac{\text{Found}}{\text{True}} \times 100$$
 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	Reported	Acceptable (Y/N)
					%R / RPD	%R / RPD	
LCS	Laboratory control sample	F	4.95	5	99	99	Y
14	Matrix spike sample	Cr ⁶⁺	(SSR-SR) 37.45	40	94	94	Y
13	Duplicate sample	F	2.05	1.91	7	7	Y

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.

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

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 F reported with a positive detect were recalculated and verified using the following equation:

Concentration =

Recalculation:

$$y = 0.1913x - 0.0081$$

$$\frac{0.07 + 0.0081}{0.1913} \times \frac{50 \text{ mL}}{0.02 \text{ g (0.912)}} = 2.23 \text{ mg/kg}$$

#	Sample ID	Analyte	Reported Concentration (mg/kg)	Calculated Concentration (mg/kg)	Acceptable (Y/N)
	1	F	0.83	0.83	Y
	2		2.2	2.2	
	3	↓	2.9	2.9	
	4	C _{OT}	0.62	0.62	
	5	F	1.3	1.3	
	6	↓	1.5	1.5	
	7	C _{OT}	0.32	0.32	
	8	C _{OT}	0.55	0.55	
	9	F	0.90	0.90	
	10	F	2.0	2.0	
	11	F	1.8	1.8	

Note: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Santa Susana Field Laboratory
Collection Date: September 5, 2013
LDC Report Date: November 20, 2013
Matrix: Soil/Water
Parameters: Total Petroleum Hydrocarbons as Gasoline
Validation Level: Level IV
Laboratory: Eurofins Lancaster Laboratories
Sample Delivery Group (SDG): PH102

Sample Identification

TB-090513
SL-555-SA5D-SB-4.0-5.0
SL-555-SA5D-SB-10.5-11.5
SL-559-SA5D-SB-6.0-7.0
SL-556-SA5D-SB-11.0-12.0
SL-556-SA5D-SB-4.0-5.0
SL-554-SA5D-SB-4.0-5.0
SL-554-SA5D-SB-7.0-8.0

Introduction

This data review covers 7 soil samples and one water 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-090513 was identified as a trip blank. No total petroleum hydrocarbons as gasoline contaminants were found.

Sample EB-090413 (from SDG PH101) was identified as an equipment blank. No total petroleum hydrocarbons as gasoline contaminants were found.

Sample FB-041113 (from SDG PH029) was identified as a field blank. No total petroleum hydrocarbons as gasoline 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

All compound quantitations were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG PH102	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
 PH102**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
PH102	TB-090513 SL-555-SA5D-SB-4.0-5.0 SL-555-SA5D-SB-10.5-11.5 SL-559-SA5D-SB-6.0-7.0 SL-556-SA5D-SB-11.0-12.0 SL-556-SA5D-SB-4.0-5.0 SL-554-SA5D-SB-4.0-5.0 SL-554-SA5D-SB-7.0-8.0	All compounds reported below the RL.	J (all detects)	A	Compound quantitation (Z)

**Santa Susana Field Laboratory
 Total Petroleum Hydrocarbons as Gasoline - Laboratory Blank Data Qualification
 Summary - SDG PH102**

No Sample Data Qualified in this SDG

**Santa Susana Field Laboratory
 Total Petroleum Hydrocarbons as Gasoline - Field Blank Data Qualification
 Summary - SDG PH102**

No Sample Data Qualified in this SDG

LDC #: 30695E7

VALIDATION COMPLETENESS WORKSHEET

Date: 11/18/13

SDG #: PH102

Level IV

Page: 1 of 1

Laboratory: Eurofins Lancaster Laboratories

Reviewer: BR

2nd Reviewer: [Signature]

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: 9/5/13
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 spec.
VII.	Laboratory control samples	A	LCS/D
VIII.	Target compound identification	A	
IX.	Compound quantitation/RI/LOQ/LODs	A	
X.	System Performance	A	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	ND	TB = 1 EB = EB-090413 (SDG # PH101)

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

FB = FB-041113 (SDG # PH102)
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: Water + soil

1	TB-090513	W	11		21		31	BLK SX
2	SL-555-SA5D-SB-4.0-5.0		12		22		32	BLK SW
3	SL-555-SA5D-SB-10.5-11.5		13		23		33	
4	SL-559-SA5D-SB-6.0-7.0		14		24		34	
5	SL-556-SA5D-SB-11.0-12.0		15		25		35	
6	SL-556-SA5D-SB-4.0-5.0		16		26		36	
7	SL-554-SA5D-SB-4.0-5.0		17		27		37	
8	SL-554-SA5D-SB-7.0-8.0		18		28		38	
9			19		29		39	
10			20		30		40	

Notes: _____

LDC #: 3069527

VALIDATION FINDINGS CHECKLIST

Page: 1 of 2
 Reviewer: BR
 2nd Reviewer: [Signature]

Method: GC HPLC

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Cooler temperature criteria was met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
II. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was a linear fit used for evaluation? If yes, were all percent relative standard deviations (%RSD) < 20%?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was a curve fit used for evaluation? If Yes, what was the acceptance criteria used?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Did the initial calibration meet the curve fit acceptance criteria?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Were the RT windows properly established?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
IV. Continuing calibration				
What type of continuing calibration calculation was performed? <input checked="" type="checkbox"/> %D or <input type="checkbox"/> %R	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was a continuing calibration analyzed daily?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all percent differences (%D) < 20%.0 or percent recoveries 80-120%?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all the retention times within the acceptance windows?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
V. Blanks				
Was a method blank associated with every sample in this SDG?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was a method blank analyzed for each matrix and concentration?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
VI. Surrogate spikes				
Were all surrogate %R within the QC limits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
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.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Was a MS/MSD analyzed every 20 samples of each matrix?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was an LCS analyzed per extraction batch?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

LDC #: 3069527

VALIDATION FINDINGS CHECKLIST

Page: 2 of 2
 Reviewer: BR
 2nd Reviewer: [Signature]

Validation Area	Yes	No	NA	Findings/Comments
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 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 #: 30695E7

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page 1 of 1

Reviewer: BR

2nd Reviewer: 

METHOD: GC X HPLC _____

The calibration factors (CF), average CF, and relative standard deviation (%RSD) were recalculated for compounds identified below using the following calculations:

$CF = A/C$

average CF = sum of the CF/number of standards

$\%RSD = 100 * (S/X)$

Where:

A = Area of compound

C = Concentration of compound

S = Standard deviation of calibration factors

X = Mean of calibration factors

#	Standard ID	Calibration Date	Compound	Reported CF (550 std)	Recalculated CF (550 std)	Reported Average CF (Initial)	Recalculated Average CF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL 11379F J&W DB-MTB	5/23/2013	GRO	61486	61486	61516	61516	3	3

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 #: 30695E7

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page 1 of 1

Reviewer: BR

2nd Reviewer: 

METHOD: GC X HPLC _____

The calibration factors (CF), average CF, and relative standard deviation (%RSD) were recalculated for compounds identified below using the following calculations:

$$CF = A/C$$

$$\text{average CF} = \text{sum of the CF/number of standards}$$

$$\%RSD = 100 * (S/X)$$

Where:

A = Area of compound

C = Concentration of compound

S = Standard deviation of calibration factors

X = Mean of calibration factors

#	Standard ID	Calibration Date	Compound	Reported CF (550 std)	Recalculated CF (550 std)	Reported Average CF (Initial)	Recalculated Average CF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL 16394F Restek VRX	9/22/2011	GRO	24480	24480	24482	24482	7.0	7.0

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 #: 30695E7

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Calculation Verification

Page: (of)
Reviewer: BR
2nd Reviewer: 

METHOD: GC _____ HPLC _____

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration percent difference (%D) values were recalculated for the compounds identified below using the following calculation:

Percent difference (%D) = $100 * (N - C)/N$

Where: N = Initial Calibration Factor or Nominal Amount
C = Calibration Factor from Continuing Calibration Standard or Calculated Amount

#	Standard ID	Calibration Date	Compound	CCV Conc/CF	Reported Conc/CF	Recalculated Conc/CF	Reported % D	Recalculated %D
1	16252B002	9/9/2013	GRO	220.00	195.14	195.13	11	11
	11379F	4:06						
2	94252CB.0026	9/10/2013	GRO	550.00	612.59	612.59	11	11
		7:32						
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 #: 30695E

VALIDATION FINDINGS WORKSHEET Surrogate Results Verification

Page: 1 of 1
Reviewer: BR
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	
Trifluorotoluene	D13-VRX	30	21.5932	72	72	0

Sample ID: 2

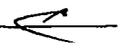
Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Trifluorotoluene	NS	648-9	439.2920	68	68	0

Sample ID: _____

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	

LDC #: 30695E7

VALIDATION FINDINGS WORKSHEET

Page: 1 of 1Laboratory Control Sample/Laboratory Control Sample Duplicates Results VerificationReviewer: BR2nd Reviewer: METHOD: GC HPLC

The percent recoveries (%R) and relative percent differences (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

$$\% \text{Recovery} = 100 * (\text{SSC} - \text{SC}) / \text{SA}$$

Where SSC = Spiked sample concentration

SC = Sample concentration

SA = Spike added

LCS = Laboratory Control Sample

LCSD = Laboratory Control Sample duplicate

$$\text{RPD} = ((\text{SSCLCS} - \text{SSCLCSD}) * 2) / (\text{SSCLCS} + \text{SSCLCSD}) * 100$$

.CS/LCSD samples: LCSAu

Compound	Spike Added (mg/kg)		Spike Sample Concentration (mg/kg)		LCS		LCSD		LCS/LCSD	
	LCS	LCSD	LCS	LCSD	Percent Recovery		Percent Recovery		RPD	
					Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline (8015)	8.38	—	8.38	—	76	76	—	—	—	—
Diesel (8015)	11									
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 #: 30695E7

VALIDATION FINDINGS WORKSHEET Sample Calculation Verification

Page: 1 of 1
Reviewer: BR
2nd Reviewer: [Signature]

METHOD: X 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 = $\frac{(A)(Fv)(Df)}{(RF)(Vs \text{ or } Ws)(\%S/100)}$

Example:
Sample ID: A11 Compound Name ND

- 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

Concentration = _____
$$LCSAU = \cancel{77} 8.38 \text{ mg/kg} \quad 25$$
$$= \frac{(23540450 - 2915988)(\cancel{100})}{(6.1516)(1)(1000)} = 8.381747028 \text{ mg/kg}$$

#	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: September 5, 2013
LDC Report Date: November 20, 2013
Matrix: Soil
Parameters: Total Petroleum Hydrocarbons as Extractables
Validation Level: Level IV
Laboratory: Eurofins Lancaster Laboratories
Sample Delivery Group (SDG): PH102

Sample Identification

SL-555-SA5D-SB-0.0-0.5
SL-555-SA5D-SB-4.0-5.0
SL-555-SA5D-SB-10.5-11.5
SL-556-SA5D-SB-0.0-0.5
SL-559-SA5D-SB-0.0-0.5
SL-559-SA5D-SB-6.0-7.0
SL-556-SA5D-SB-11.0-12.0
SL-556-SA5D-SB-4.0-5.0
SL-554-SA5D-SB-0.0-0.5
SL-554-SA5D-SB-4.0-5.0
SL-554-SA5D-SB-7.0-8.0

Introduction

This data review covers 11 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-090413 (from SDG PH101) was identified as an equipment blank. No total petroleum hydrocarbons as extractable contaminants were found.

Sample FB-041113 (from SDG PH029) was identified as a field blank. No total petroleum hydrocarbons as extractable 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) were within QC limits.

VIII. Target Compound Identification

All target compound identifications were within validation criteria.

IX. Compound Quantitation

All compound quantitations were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG PH102	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 PH102**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
PH102	SL-555-SA5D-SB-0.0-0.5 SL-555-SA5D-SB-4.0-5.0 SL-555-SA5D-SB-10.5-11.5 SL-556-SA5D-SB-0.0-0.5 SL-559-SA5D-SB-0.0-0.5 SL-559-SA5D-SB-6.0-7.0 SL-556-SA5D-SB-11.0-12.0 SL-556-SA5D-SB-4.0-5.0 SL-554-SA5D-SB-0.0-0.5 SL-554-SA5D-SB-4.0-5.0 SL-554-SA5D-SB-7.0-8.0	All compounds reported below the RL.	J (all detects)	A	Compound quantitation (Z)

**Santa Susana Field Laboratory
 Total Petroleum Hydrocarbons as Extractables - Laboratory Blank Data
 Qualification Summary - SDG PH102**

No Sample Data Qualified in this SDG

**Santa Susana Field Laboratory
 Total Petroleum Hydrocarbons as Extractables - Field Blank Data Qualification
 Summary - SDG PH102**

No Sample Data Qualified in this SDG

LDC #: 30695E8

VALIDATION COMPLETENESS WORKSHEET

Date: 11/18/13

SDG #: PH102

Level IV

Page: 1 of 1

Laboratory: Eurofins Lancaster Laboratories

Reviewer: BX

2nd Reviewer: [Signature]

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: 9/5/13
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 spec
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-090413 (SD6 #PH101) FB = FB-041113 (SD6 #PH029)

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-555-SA5D-SB-0.0-0.5	11	SL-554-SA5D-SB-7.0-8.0	21	31	PBLK39253
2	SL-555-SA5D-SB-4.0-5.0	12		22	32	
3	SL-555-SA5D-SB-10.5-11.5	13		23	33	
4	SL-556-SA5D-SB-0.0-0.5	14		24	34	
5	SL-559-SA5D-SB-0.0-0.5	15		25	35	
6	SL-559-SA5D-SB-6.0-7.0	16		26	36	
7	SL-556-SA5D-SB-11.0-12.0	17		27	37	
8	SL-556-SA5D-SB-4.0-5.0	18		28	38	
9	SL-554-SA5D-SB-0.0-0.5	19		29	39	
10	SL-554-SA5D-SB-4.0-5.0	20		30	40	

Notes: _____

LDC #: 3069528

VALIDATION FINDINGS CHECKLIST

Page: 1 of 2
Reviewer: BR
2nd Reviewer: AMethod: GC HPLC

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Cooler temperature criteria was met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
II. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was a linear fit used for evaluation? If yes, were all percent relative standard deviations (%RSD) < 20%?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was a curve fit used for evaluation? If Yes, what was the acceptance criteria used?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Did the initial calibration meet the curve fit acceptance criteria?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were the RT windows properly established?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
IV. Continuing calibration				
What type of continuing calibration calculation was performed? <input checked="" type="checkbox"/> %D or <input type="checkbox"/> %R	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was a continuing calibration analyzed daily?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all percent differences (%D) < 20%.0 or percent recoveries 80-120%?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all the retention times within the acceptance windows?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
V. Blanks				
Was a method blank associated with every sample in this SDG?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was a method blank analyzed for each matrix and concentration?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
VI. Surrogate spikes				
Were all surrogate %R within the QC limits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
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.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Was a MS/MSD analyzed every 20 samples of each matrix?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was an LCS analyzed per extraction batch?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

LDC #: 30695E8

VALIDATION FINDINGS CHECKLIST

Page: 2 of 2
 Reviewer: BR
 2nd Reviewer: ↙

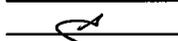
Validation Area	Yes	No	NA	Findings/Comments
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		/		
Were the performance evaluation (PE) samples within the acceptance limits?			/	
X. Target compound identification				
Were the retention times of reported detects within the RT windows?	/			
XI. Compound quantitation/CRQLs				
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions 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 #: 30695E8

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page 1 of 1

Reviewer: BR

2nd Reviewer: 

METHOD: GC X HPLC _____

The calibration factors (CF), average CF, and relative standard deviation (%RSD) were recalculated for compounds identified below using the following calculations:

$CF = A/C$

average CF = sum of the CF/number of standards

$\%RSD = 100 * (S/X)$

Where:

A = Area of compound

C = Concentration of compound

S = Standard deviation of calibration factors

X = Mean of calibration factors

#	Standard ID	Calibration Date	Compound	Reported CF (144 std)	Recalculated CF (144 std)	Reported Average CF (Initial)	Recalculated Average CF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL CP23-19879A ZB-5	8/19/2013	C8-C40	22576	22576	22983	22983	7	7

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 #: 30695E8

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Calculation Verification

Page: (of 1
Reviewer: BR
2nd Reviewer: ←

METHOD: GC _____ HPLC _____

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration percent difference (%D) values were recalculated for the compounds identified below using the following calculation:

$$\text{Percent difference (\%D)} = 100 * (N - C)/N$$

Where:

N = Initial Calibration Factor or Nominal Amount

C = Calibration Factor from Continuing Calibration Standard or Calculated Amount

#	Standard ID	Calibration Date	Compound	CCV Conc/CF	Reported Conc/CF	Recalculated Conc/CF	Reported % D	Recalculated %D
1	J253.0056	9/11/2013 23:02	C8-C40	288.01	286.37	286.37	1	1
2								
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 #: 30695E

VALIDATION FINDINGS WORKSHEET Surrogate Results Verification

Page: 1 of 1
Reviewer: BR
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 Difference
				Reported	Recalculated	
Chlorobenzene	ZB-5	1.973684	2.0080	102	102	0
ortho-terphenyl	↓	↓	1.7509	89	89	0

Sample ID: _____

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery		Percent Difference
				Reported	Recalculated	

Sample ID: _____

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery		Percent Difference
				Reported	Recalculated	

LDC #: 30695E8

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Reviewer: BR

2nd Reviewer: 

METHOD: X GC HPLC

The percent recoveries (%R) and relative percent differences (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

$\% \text{Recovery} = 100 * (\text{SSC} - \text{SC}) / \text{SA}$

Where SSC = Spiked sample concentration
SA = Spike added
LCS = Laboratory Control Sample

SC = Sample concentration

LCSD = Laboratory Control Sample duplicate

$\text{RPD} = ((\text{SSCLCS} - \text{SSCLCSD}) * 2) / (\text{SSCLCS} + \text{SSCLCSD}) * 100$

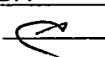
.CS/LCSD samples: LCS 3923

Compound	Spike Added (mg/kg)		Spike Sample Concentration (mg/kg)		LCS		LCSD		LCS/LCSD	
	LCS	LCSD	LCS	LCSD	Percent Recovery		Percent Recovery		RPD	
					Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline (8015)										
Diesel <u>G30-G40</u> (8015)	5.01	—	4.84	—	97	97	—	—	—	—
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 #: 30695E8

VALIDATION FINDINGS WORKSHEET Sample Calculation Verification

Page: 1 of 1
Reviewer: BR
2nd Reviewer: 

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 = $\frac{(A)(Fv)(Df)}{(RF)(Vs \text{ or } Ws)(\%S/100)}$

Example:

Sample ID: 1 Compound Name C30-C40

- 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

Concentration = $\frac{(4769416)(1000)}{(22983)(30.4)(0.953)(100)}$
= 7.142951375 mg/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: September 5, 2013
LDC Report Date: November 20, 2013
Matrix: Soil
Parameters: Dioxins/Dibenzofurans
Validation Level: Level IV
Laboratory: Eurofins Lancaster Laboratories
Sample Delivery Group (SDG): PH102

Sample Identification

SL-555-SA5D-SB-0.0-0.5
SL-556-SA5D-SB-0.0-0.5
SL-559-SA5D-SB-0.0-0.5
SL-554-SA5D-SB-0.0-0.5

Introduction

This data review covers 4 soil samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1613B for Polychlorinated Dioxins/Dibenzofurans.

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 the USEPA Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005).

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. HRGC/HRMS Instrument Performance Check

Instrument performance was checked at the required daily frequency.

The chromatographic resolution between 2,3,7,8-TCDD and the peaks representing any other unlabeled TCDD isomers was resolved with a valley of less than or equal to 25%.

PFK and static resolving power were within validation criteria.

III. Initial Calibration

A five point initial calibration was performed as required by the method.

Percent relative standard deviations (%RSD) were less than or equal to 20.0% for unlabeled compounds and less than or equal to 35.0% for labeled compounds.

The ion abundance ratios for all PCDDs and PCDFs were within validation criteria.

The minimum S/N ratio was greater than or equal to 10 for each unlabeled compound and labeled compound.

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 within QC limits.

The percent differences (%D) of the second source calibration standard were within QC limits.

The ion abundance ratios for all PCDDs and PCDFs were within validation criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated dioxin/dibenzofuran contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound	Concentration	Associated Samples
BLK254002	9/11/13	1,2,3,4,7,8-HxCDD 1,2,3,7,8,9-HxCDD 1,2,3,4,6,7,8-HpCDD OCDD 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,7,8,9-HxCDF 1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF OCDF	0.0390 ng/Kg 0.0470 ng/Kg 0.0675 ng/Kg 0.281 ng/Kg 0.0692 ng/Kg 0.0786 ng/Kg 0.0639 ng/Kg 0.0330 ng/Kg 0.0615 ng/Kg 0.0649 ng/Kg 0.0376 ng/Kg 0.0826 ng/Kg 0.227 ng/Kg	All samples in SDG PH102

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
SL-555-SA5D-SB-0.0-0.5	1,2,3,4,7,8-HxCDD 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF OCDF	0.0330 ng/Kg 0.215 ng/Kg 0.0590 ng/Kg 0.0429 ng/Kg 0.0640 ng/Kg 0.0475 ng/Kg 0.103 ng/Kg 0.0522 ng/Kg 0.247 ng/Kg	0.0330U ng/Kg 0.215U ng/Kg 0.0590U ng/Kg 0.0429U ng/Kg 0.0640U ng/Kg 0.0475U ng/Kg 0.103U ng/Kg 0.0522U ng/Kg 0.247U ng/Kg
SL-556-SA5D-SB-0.0-0.5	1,2,3,4,7,8-HxCDD 1,2,3,4,7,8-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,4,7,8,9-HpCDF	0.0869 ng/Kg 0.174 ng/Kg 0.186 ng/Kg 0.0980 ng/Kg	0.0869U ng/Kg 0.174U ng/Kg 0.186U ng/Kg 0.0980U ng/Kg
SL-559-SA5D-SB-0.0-0.5	1,2,3,4,7,8-HxCDD 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,7,8,9-HxCDF 1,2,3,4,7,8,9-HpCDF OCDF	0.0569 ng/Kg 0.193 ng/Kg 0.0943 ng/Kg 0.0855 ng/Kg 0.103 ng/Kg 0.147 ng/Kg 0.0780 ng/Kg 0.663 ng/Kg	0.0569U ng/Kg 0.193U ng/Kg 0.0943U ng/Kg 0.0855U ng/Kg 0.103U ng/Kg 0.147U ng/Kg 0.0780U ng/Kg 0.663U ng/Kg
SL-554-SA5D-SB-0.0-0.5	1,2,3,4,7,8-HxCDD 1,2,3,4,6,7,8-HpCDD 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF OCDF	0.0372 ng/Kg 0.308 ng/Kg 0.328 ng/Kg 0.0864 ng/Kg 0.0460 ng/Kg 0.0547 ng/Kg 0.0620 ng/Kg 0.132 ng/Kg 0.0465 ng/Kg 0.211 ng/Kg	0.0372U ng/Kg 0.308U ng/Kg 0.328U ng/Kg 0.0864U ng/Kg 0.0460U ng/Kg 0.0547U ng/Kg 0.0620U ng/Kg 0.132U ng/Kg 0.0465U ng/Kg 0.211U ng/Kg

Sample EB-090413 (from SDG PH101) was identified as an equipment blank. No polychlorinated dioxin/dibenzofuran contaminants were found with the following exceptions:

Blank ID	Sampling Date	Compound	Concentration	Associated Samples
EB-090413	9/4/13	1,2,3,7,8-PeCDD 1,2,3,4,7,8-HxCDD 1,2,3,6,7,8-HxCDD 1,2,3,7,8,9-HxCDD 1,2,3,4,6,7,8-HpCDD OCDD 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,7,8,9-HxCDF 1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF OCDF	0.517 pg/L 0.254 pg/L 0.212 pg/L 0.136 pg/L 0.554 pg/L 0.962 pg/L 0.614 pg/L 0.211 pg/L 0.194 pg/L 0.179 pg/L 0.236 pg/L 0.278 pg/L 0.461 pg/L 0.305 pg/L 0.878 pg/L	All samples in SDG PH102

Sample FB-041113 (from SDG PH029) was identified as a field blank. No perchlorate was found with the following exceptions:

Blank ID	Sampling Date	Compound	Concentration	Associated Samples
FB-041113	4/11/13	1,2,3,4,7,8-HxCDD 1,2,3,7,8,9-HxCDD 1,2,3,4,6,7,8-HpCDD 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 1,2,3,7,8,9-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,4,6,7,8-HpCDF OCDF	0.125 pg/L 0.134 pg/L 0.402 pg/L 0.398 pg/L 0.316 pg/L 0.324 pg/L 0.221 pg/L 0.211 pg/L 0.149 pg/L 0.254 pg/L 0.840 pg/L	All samples in SDG PH102

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X for other contaminants) than the concentrations found in the associated field blanks.

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. Ongoing Precision Recovery (OPR)

Ongoing precision recovery samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Regional Quality Assurance and Quality Control

Not applicable.

IX. Internal Standards

All internal standard recoveries were within QC limits.

X. Target Compound Identifications

All target compound identifications were within validation criteria.

XI. Compound Quantitation

All compound quantitations were within validation criteria with the following exceptions:

Sample	Compound	Finding	Criteria	Flag	A or P
SL-556-SA5D-SB-0.0-0.5 SL-559-SA5D-SB-0.0-0.5	2,3,7,8-TCDF	2nd column confirmation was not performed for this compound.	This compound must be confirmed on the 2nd column per the method.	None	P

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG PH102	All compounds reported below the RL.	J (all detects)	A

XII. System Performance

The system performance was acceptable.

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
Dioxins/Dibenzofurans - Data Qualification Summary - SDG PH102**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
PH102	SL-556-SA5D-SB-0.0-0.5 SL-559-SA5D-SB-0.0-0.5	2,3,7,8-TCDF	None	P	Compound quantitation (column confirmation) (*XI)
PH102	SL-555-SA5D-SB-0.0-0.5 SL-556-SA5D-SB-0.0-0.5 SL-559-SA5D-SB-0.0-0.5 SL-554-SA5D-SB-0.0-0.5	All compounds reported below the RL.	J (all detects)	A	Compound quantitation (Z)

**Santa Susana Field Laboratory
Dioxins/Dibenzofurans - Laboratory Blank Data Qualification Summary - SDG PH102**

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
PH102	SL-555-SA5D-SB-0.0-0.5	1,2,3,4,7,8-HxCDD 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF OCDF	0.0330U ng/Kg 0.215U ng/Kg 0.0590U ng/Kg 0.0429U ng/Kg 0.0640U ng/Kg 0.0475U ng/Kg 0.103U ng/Kg 0.0522U ng/Kg 0.247U ng/Kg	A	B
PH102	SL-556-SA5D-SB-0.0-0.5	1,2,3,4,7,8-HxCDD 1,2,3,4,7,8-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,4,7,8,9-HpCDF	0.0869U ng/Kg 0.174U ng/Kg 0.186U ng/Kg 0.0980U ng/Kg	A	B
PH102	SL-559-SA5D-SB-0.0-0.5	1,2,3,4,7,8-HxCDD 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,7,8,9-HxCDF 1,2,3,4,7,8,9-HpCDF OCDF	0.0569U ng/Kg 0.193U ng/Kg 0.0943U ng/Kg 0.0855U ng/Kg 0.103U ng/Kg 0.147U ng/Kg 0.0780U ng/Kg 0.663U ng/Kg	A	B
PH102	SL-554-SA5D-SB-0.0-0.5	1,2,3,4,7,8-HxCDD 1,2,3,4,6,7,8-HpCDD 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF OCDF	0.0372U ng/Kg 0.308U ng/Kg 0.328U ng/Kg 0.0864U ng/Kg 0.0460U ng/Kg 0.0547U ng/Kg 0.0620U ng/Kg 0.132U ng/Kg 0.0465U ng/Kg 0.211U ng/Kg	A	B

Santa Susana Field Laboratory
Dioxins/Dibenzofurans - Field Blank Data Qualification Summary - SDG PH102

No Sample Data Qualified in this SDG

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA Method 1613B)

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: 9/5/13
II.	HRGC/HRMS Instrument performance check	A	
III.	Initial calibration	A	↳ 20/35
IV.	Continuing Calibration	A	QC limits
V.	Blanks	SW	
VI.	Matrix spike/Matrix spike duplicates	N	client
VII.	Laboratory control samples	A	OPR
VIII.	Regional quality assurance and quality control	N	
IX.	Internal standards	A	
X.	Target compound identifications	A	
XI.	Compound quantitation/RL/LOQ/LOD _s	SW	
XII.	System performance	A	
XIII.	Overall assessment of data	A	
XIV.	Field duplicates	N	
XV.	Field blanks	SW	EB = EB-090413 (PH101) FB = FB-041113 (PH029)

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-555-SA5D-SB-0.0-0.5	11		21		31	
2	SL-556-SA5D-SB-0.0-0.5	12		22		32	
3	SL-559-SA5D-SB-0.0-0.5	13		23		33	
4	SL-554-SA5D-SB-0.0-0.5	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	BLK 254002	30		40	

Notes: _____

Method: HRGC/HRMS Dioxins/Dibenzofurans (EPA Method 1613B)

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				
Was PFK exact mass 380.9760 verified?	/			
Were the retention time windows established for all homologues?	/			
Was the chromatographic resolution between 2,3,7,8-TCDD and peaks representing any other unlabeled TCDD isomers < 25% ?	/			
Is the static resolving power at least 10,000 (10% valley definition)?	/			
Was the mass resolution adequately check with PFK?	/			
Was the presence of 1,2,8,9-TCDD and 1,3,4,6,8-PeCDF verified?	/			
III. Initial calibration				
Was the initial calibration performed at 5 concentration levels?	/			
Were all percent relative standard deviations (%RSD) ≤ 20% for unlabeled compounds and ≤ 35% for labeled compounds ?	/			
Did all calibration standards meet the Ion Abundance Ratio criteria?	/			
Was the signal to noise ratio for each target compound ≥ 2.5 and for each recovery and internal standard ≥ 10?	/			
IV. Continuing calibration				
Was a routine calibration performed at the beginning and end of each 12 hour period?	/			
Were all the concentrations for the unlabeled compounds and labeled compounds within the QC limits (Method 1613B, Table 6)?	/			
Did all routine calibration standards meet the Ion Abundance Ratio criteria?	/			
V. Blanks				
Was a method blank associated with every sample in this SDG?	/			
Was a method blank performed for each matrix and concentration?			/	
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet?	/			
VI. 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.			/	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			/	
VII. 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?	/			

VALIDATION FINDINGS CHECKLIST

Validation Area	Yes	No	NA	Findings/Comments
VIII. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?			/	
Were the performance evaluation (PE) samples within the acceptance limits?			/	
IX. Internal standards				
Were internal standard recoveries within the 25-150% criteria?	/			
Was the minimum S/N ratio of all internal standard peaks > 10?				
X. Target compound identification				
For 2,3,7,8 substituted congeners with associated labeled standards, were the retention times of the two quantitation peaks within -1 to 3 sec. of the RT of the labeled standard?	/			
For 2,3,7,8 substituted congeners without associated labeled standards, were the relative retention times of the two quantitation peaks within 0.005 time units of the RRT measured in the routine calibration?	/			
For non-2,3,7,8 substituted congeners, were the retention times of the two quantitation peaks within RT established in the performance check solution?			/	
Did compound spectra contain all characteristic ions listed in the table attached?	/			
Was the Ion Abundance Ratio for the two quantitation ions within criteria?	X	0		
Was the signal to noise ratio for each target compound and labeled standard ≥ 2.5 ?	/			
Does the maximum intensity of each specified characteristic ion coincide within ± 2 seconds (includes labeled standards)?	/			
For PCDF identification, was any signal ($S/N \geq 2.5$, at \pm seconds RT) detected in the corresponding PCDPE channel?	/	/		
Was an acceptable lock mass recorded and monitored?	/			
XI. 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?	/			
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: HRGC/HRMS Dioxins/Dibenzofurans (EPA Method 1613B)

A. 2,3,7,8-TCDD	F. 1,2,3,4,6,7,8-HpCDD	K. 1,2,3,4,7,8-HxCDF	P. 1,2,3,4,7,8,9-HpCDF	U. Total HpCDD
B. 1,2,3,7,8-PeCDD	G. OCDD	L. 1,2,3,6,7,8-HxCDF	Q. OCDF	V. Total TCDF
C. 1,2,3,4,7,8-HxCDD	H. 2,3,7,8-TCDF	M. 2,3,4,6,7,8-HxCDF	R. Total TCDD	W. Total PeCDF
D. 1,2,3,6,7,8-HxCDD	I. 1,2,3,7,8-PeCDF	N. 1,2,3,7,8,9-HxCDF	S. Total PeCDD	X. Total HxCDF
E. 1,2,3,7,8,9-HxCDD	J. 2,3,4,7,8-PeCDF	O. 1,2,3,4,6,7,8-HpCDF	T. Total HxCDD	Y. Total HpCDF

Notes: _____

VALIDATION FINDINGS WORKSHEET

Blanks

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA Method 1613B)

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

 N N/A Were all samples associated with a method blank?

 Y N N/A Was a method blank performed for each matrix and whenever a sample extraction was performed?

 Y N N/A Was the method blank contaminated?

Blank extraction date: 09/11/13 **Blank analysis date:** 09/13/13 **Associated samples:** All Qual U (B)

Conc. units: ng/kg

Compound	Blank ID	Sample Identification							
		5x	1	2	3	4			
	BLK254002								
C	0.0390*	0.195	0.0330	0.0869*	0.0569	0.0372*			
E	0.0470*	0.235							
F	0.0675*	0.338				0.308			
G	0.281*	1.41							
I	0.0692*	0.346	0.215*			0.328			
J	0.0786	0.393	0.0590*		0.193*	0.0864*			
K	0.0639*	0.320	0.0429*	0.174	0.0943*	0.0460*			
L	0.0330*	0.165	0.0640*		0.0855*	0.0547*			
M	0.0615*	0.308	0.0475	0.186	0.103	0.0620*			
N	0.0649	0.325			0.147*				
O	0.0376*	0.188	0.103			0.132*			
P	0.0826*	0.413	0.0522*	0.0980	0.0780*	0.0465			
Q	0.227*	1.14	0.247		0.663	0.211*			

*EMPC

 CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
 All contaminants within five times the method blank concentration were qualified as not detected, "U".

VALIDATION FINDINGS WORKSHEET
Field Blanks

METHOD: HRGC/HRMS Dioxins (EPA Method 1613B)

Blank units: pg/L **Associated sample units:** ng/kg

Sampling date: 09/04/13

Field blank type: (circle one) Field Blank / Rinsate / Other: EB **Associated Samples:** All >5x

Compound	Blank ID	Sample Identification							
		5X							
	EB-090413								
B	0.517*	0.00259							
C	0.254*	0.00127							
D	0.212*	0.00106							
E	0.136*	0.00068							
F	0.554*	0.00277							
G	0.962*	0.00481							
I	0.614*	0.00307							
J	0.211*	0.00106							
K	0.194*	0.00097							
L	0.179*	0.00090							
M	0.236	0.00118							
N	0.278*	0.00139							
O	0.461*	0.00231							
P	0.305	0.00153							
Q	0.878*	0.00439							

* EMPC

EB-090413 (PH101)

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
 All contaminants within five times the blank concentration were qualified as not detected, "U".

VALIDATION FINDINGS WORKSHEET
Field Blanks

METHOD: HRGC/HRMS Dioxins (EPA Method 1613B)

Blank units: pg/L **Associated sample units:** ng/kg

Sampling date: 04/11/13

Field blank type: (circle one) Field Blank / Rinsate / Other: FB **Associated Samples:** All >5x

Compound	Blank ID	Sample Identification							
		5X							
	FB-041113	5X							
C	0.125	0.00063							
E	0.134*	0.00067							
F	0.402*	0.00201							
I	0.398*	0.00199							
J	0.316*	0.00158							
K	0.324	0.00162							
L	0.221	0.00111							
N	0.211*	0.00106							
M	0.149	0.00075							
O	0.254*	0.00127							
Q	0.840*	0.00420							

* EMPC

FB-041113 (PH029)

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the blank concentration were qualified as not detected, "U".

VALIDATION FINDINGS WORKSHEET
Compound Quantitation and Reported RLs

METHOD: GC/MS Dioxins/Dibenzofurans (EPA Method 1613B)

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

- N N/A Were the correct internal standard (IS), quantitation ions and relative response factors (RRF) used to quantitate the compound?
- N N/A Compound quantitation and RLs were adjusted to reflect all sample dilutions and dry weight factors (if necessary).

#	Date	Compound	Finding	Associated Samples	Qualifications
		H	No 2,3,7,8-TCDF confirmation analysis	2, 3	None/P

Comments: See sample calculation verification worksheet for recalculations

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA Method 1613B)

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	Recalculated	Reported	Recalculated	Reported	Recalculated
				Average RRF (initial)	Average RRF (initial)	RRF (CS3 std)	RRF (CS3 std)	%RSD	%RSD
1	ICAL	08/21/2013	2,3,7,8-TCDF (¹³ C-2,3,7,8-TCDF)	1.049	1.049	1.022	1.022	6.08	6.08
			2,3,7,8-TCDD (¹³ C-2,3,7,8-TCDD)	1.127	1.1275	1.126	1.126	6.68	6.68
			1,2,3,6,7,8-HxCDD (¹³ C-1,2,3,6,7,8-HxCDD)	0.963	0.963	0.998	0.9975	3.50	3.52
			1,2,3,4,6,7,8-HpCDD (¹³ C-1,2,4,6,7,8,-HpCDD)	1.053	1.053	1.085	1.085	2.15	2.15
			OCDF (¹³ C-OCDF)	0.993	0.993	1.015	1.014	3.31	3.32
2			2,3,7,8-TCDF (¹³ C-2,3,7,8-TCDF)						
			2,3,7,8-TCDD (¹³ C-2,3,7,8-TCDD)						
			1,2,3,6,7,8-HxCDD (¹³ C-1,2,3,6,7,8-HxCDD)						
			1,2,3,4,6,7,8-HpCDD (¹³ C-1,2,4,6,7,8,-HpCDD)						
			OCDF (¹³ C-OCDF)						
3			2,3,7,8-TCDF (¹³ C-2,3,7,8-TCDF)						
			2,3,7,8-TCDD (¹³ C-2,3,7,8-TCDD)						
			1,2,3,6,7,8-HxCDD (¹³ C-1,2,3,6,7,8-HxCDD)						
			1,2,3,4,6,7,8-HpCDD (¹³ C-1,2,4,6,7,8,-HpCDD)						
			OCDF (¹³ C-OCDF)						

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.

VALIDATION FINDINGS WORKSHEET
Routine Calibration Results Verification

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA Method 1613B)

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:

$$\% \text{ Difference} = 100 * (\text{ave. RRF} - \text{RRF}) / \text{ave. RRF}$$

$$\text{RRF} = (A_x)(C_{is}) / (A_{is})(C_x)$$

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)	Spiked Conc (ng/mL)	Reported	Recalculated	Reported	Recalculated
					Conc (ng/mL)	Conc (ng/mL)	%R	%R
1	CS3CC02	9-13-13 19:57	2,3,7,8-TCDF (¹³ C-2,3,7,8-TCDF)	10	9.45	9.45	95	95
			2,3,7,8-TCDD (¹³ C-2,3,7,8-TCDD)	10	10.15	10.15	101	101.5
			1,2,3,6,7,8-HxCDD (¹³ C-1,2,3,6,7,8-HxCDD)	50	48.68	48.68	97	97
			1,2,3,4,6,7,8-HpCDD (¹³ C-1,2,4,6,7,8,-HpCDD)	50	50.24	50.24	100	100
			OCDF (¹³ C-OCDF)	100	94.63	94.62	95	95
2	CS3CC02	9-16-13 14:44	2,3,7,8-TCDF (¹³ C-2,3,7,8-TCDF)	10	10.31	10.31	103	103
			2,3,7,8-TCDD (¹³ C-2,3,7,8-TCDD)	10	10.85	10.85	108	108.5
			1,2,3,6,7,8-HxCDD (¹³ C-1,2,3,6,7,8-HxCDD)	50	54.31	54.31	109	109
			1,2,3,4,6,7,8-HpCDD (¹³ C-1,2,4,6,7,8,-HpCDD)	50	53.66	53.65	107	107
			OCDF (¹³ C-OCDF)	100	96.83	96.81	97	97
3			2,3,7,8-TCDF (¹³ C-2,3,7,8-TCDF)	10				
			2,3,7,8-TCDD (¹³ C-2,3,7,8-TCDD)	10				
			1,2,3,6,7,8-HxCDD (¹³ C-1,2,3,6,7,8-HxCDD)	50				
			1,2,3,4,6,7,8-HpCDD (¹³ C-1,2,4,6,7,8,-HpCDD)	50				
			OCDF (¹³ C-OCDF)	100				

Comments: Refer to Routine Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 30695E21

VALIDATION FINDINGS WORKSHEET Laboratory Control Sample Results Verification

Page: 1 of 1
Reviewer: [Signature]
2nd Reviewer: [Signature]

METHOD: GC/MS Dioxins/Dibenzofurans (EPA Method 1613B)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratory 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 = Laboratory control sample percent recovery LCSD = Laboratory control sample duplicate percent recovery

LCS ID: OPR254002

Compound	Spike Added (ng/Kg)		Spiked Sample Concentration (ng/Kg)		LCS		LCSD		LCS/LCSD	
	LCS	LCSD	LCS	LCSD	Percent Recovery		Percent Recovery		RPD	
					Reported	Recalc.	Reported	Recalc.	Reported	Recalculated
2,3,7,8-TCDD	20.0	NA	20.3	NA	101	101				
1,2,3,7,8-PeCDD	100		103		103	103				
1,2,3,4,7,8-HxCDD	100		105		105	105				
1,2,3,4,7,8,9-HpCDF	100		92.1		92	92				
OCDF	200		183		91	91				

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.

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Santa Susana Field Laboratory
Collection Date: September 5, 2013
LDC Report Date: November 20, 2013
Matrix: Soil
Parameters: Perchlorate
Validation Level: Level IV
Laboratory: Eurofins Lancaster Laboratories
Sample Delivery Group (SDG): PH102

Sample Identification

SL-556-SA5D-SB-0.0-0.5
SL-556-SA5D-SB-11.0-12.0
SL-556-SA5D-SB-4.0-5.0

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 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.

Sample EB-090413 (from SDG PH101) was identified as an equipment blank. No perchlorate was found.

Sample FB-041113 (from SDG PH029) was identified as a field blank. No perchlorate was found.

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) 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

All compound quantitations were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG PH102	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
Perchlorate - Data Qualification Summary - SDG PH102**

SDG	Sample	Compound	Flag	A or P	Reason (Code)
PH102	SL-556-SA5D-SB-0.0-0.5 SL-556-SA5D-SB-11.0-12.0 SL-556-SA5D-SB-4.0-5.0	All compounds reported below the RL.	J (all detects)	A	Compound quantitation (Z)

**Santa Susana Field Laboratory
Perchlorate - Laboratory Blank Data Qualification Summary - SDG PH102**

No Sample Data Qualified in this SDG

**Santa Susana Field Laboratory
Perchlorate - Field Blank Data Qualification Summary - SDG PH102**

No Sample Data Qualified in this SDG

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: 9/5/13
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	A	RSD 1.20% re
IV.	Continuing calibration/ICV	A	ICV/CCV ≤ 15/50 LODV ≤ 50?
V.	Blanks	A	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates	N	Client spec.
VIII.	Laboratory control samples	A	LCB
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 = EB-090413 (SD6 # PH101) FB = FB-041113 (SD6 # PH029)

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-556-SA5D-SB-0.0-0.5	11		21		31	PBLK19252
2	SL-556-SA5D-SB-11.0-12.0	12		22		32	
3	SL-556-SA5D-SB-4.0-5.0	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 #: 30695E27

VALIDATION FINDINGS CHECKLIST

Page: 1 of 2
Reviewer: BR
2nd Reviewer: AMethod: X GC LC/MS

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	/			
Cooler temperature criteria was met.	/			
II. LC/MS Instrument performance check				
Were the instrument performance 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) \leq 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) \leq 15%?	/			
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. 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?			/	
VII. 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?	/			
XIII. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		/		
Were the performance evaluation (PE) samples within the acceptance limits?			/	

LDC #: 3069SEBT

VALIDATION FINDINGS CHECKLIST

Page: 2 of 2
Reviewer: BR
2nd Reviewer: A

Validation Area	Yes	No	NA	Findings/Comments
IX. 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?	/			
X. Target compound identification				
Were relative retention times (RRT's) within + 0.06 RRT units of the standard?	/		/ BR	
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	/		/ RP	
Were chromatogram peaks verified and accounted for?	/			
XI. 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?	/			
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.		/		
Target compounds were detected in the field blanks.		/		

LDC#: 30695E87

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
 Reviewer: BR
 2nd Reviewer: 

METHOD: LC/MS Perchlorate (EPA SW 846 Method 6850)

Calibration Date	Instrument	Compound	Standard	(Y) Response Ratio	(X) Concentration Ratio
9/11/2013	Instrument1 ESI	Perchlorate	1	0.045150078	0.400
			2	0.105807173	1.000
			3	0.193683892	2.000
			4	0.44789086	4.000
			5	1.135611832	10.000
			6	2.945989639	25.000

CF
 0.1129
 0.1058
 0.0968
 0.1120
 0.1136
 0.1178
 Ave 0.1098

Regression Output	Calculated	Reported
Constant	c = -2.426234E-02	-0.0087000
Std Err of Y Est		
R Squared	r ² = 0.9997337	0.9984083
Degrees of Freedom		
X Coefficient(s)	m = 0.11839	0.11620
Std Err of Coef.		
Correlation Coefficient	1.000	
Coefficient of Determination (r ²)	1.000	0.998

LDC#:30695E87

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Calculation Verification

Page: 1 (of 1)

Reviewer: [Signature]

2nd Reviewer: [Signature]

METHOD: LCMS X HPLC

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration percent difference (%D) values were recalculated for the compounds identified below using the following calculation:

Percent difference (%D) = $100 * (N - C)/N$

Where:

N = Initial Calibration Factor or Nominal Amount

C = Calibration Factor from Continuing Calibration Standard or Calculated Amount

#	Standard ID	Calibration Date	Compound	CCV Conc	Reported Conc	Recalculated Conc	Reported % D	Recalculated %D
1	MS5P25313032	9/10/2013	Perchlorate	4	3.7	3.6	8	8
2	MSP25313041	9/10/2013	Perchlorate	0.4	0.5	0.5	25	25

Comments: Refer to Continuing 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 #: 30695E87

VALIDATION FINDINGS WORKSHEET

Page: 1 of 1

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Reviewer: BR

2nd Reviewer: [Signature]

METHOD: LC/MS Perchlorate (EPA SW 846 Method 6850/6860)

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 = |LCS - LCSD| * 2 / (LCS + LCSD)

LCS = Laboratory control sample percent recovery

LCSD = Laboratory control sample duplicate percent recovery

LCS/LCSD samples: LCS19252

Compound	Spike Added		Spike Concentration		LCS		LCSD		LCS/LCSD	
	LCS	LCSD	LCS	LCSD	Percent Recovery		Percent Recovery		RPD	
					Reported	Recalc	Reported	Recalc	Reported	Recalc
Perchlorate	100	—	86.3	—	86	86	—	—	—	—

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.

**Data Validation Report
Santa Susana Field Laboratory**

Subarea 5D

SDG: PH103

Prepared for

CDM Smith
555 17th Street, Suite 1100
Denver, CO 80202

Prepared by

Laboratory Data Consultants, Inc
2701 Loker Ave West, Suite 220
Carlsbad, California 92010

December 10, 2013

INTRODUCTION

This Data Validation Report (DVR) presents Level III data validation results for samples collected on September 6, 2013. Data validation was performed in accordance with 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), Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005) and for Inorganic Data Review (January 2010). Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following methods:

Semivolatiles (SVOCs) by EPA SW 846 Method 8270D utilizing Selective Ion Monitoring (SIM)
Pesticides by EPA SW 846 Method 8081B
Polychlorinated Biphenyls (PCBs) by EPA SW 846 Method 8082A
Metals by EPA SW 846 Method 6010C, 6020A and 7471B
Perchlorate by EPA SW 846 Method 6850
Total Petroleum Hydrocarbons (TPH) as Gasoline by EPA SW 846 Method 8015M
TPH as Extractables by EPA SW 846 Method 8015M
Dioxins and Dibenzofurans by EPA Method 1613B

Wet Chemistry:

Fluoride by EPA Method 300.0

The sample identification and methods of analyses performed on each sample is presented in Attachment 1. Overall data qualification summary is presented in Attachment II. Level III Automated Data Review outliers are presented in Enclosure I.

All sample results were subjected to Level III data validation, which comprises an evaluation of quality control (QC) summary results for sample holding times, initial and continuing calibration blanks (ICB/CCBs), surrogates, internal standards (dioxins only), matrix spike/matrix spike duplicates (MS/MSD), laboratory duplicates (DUP), laboratory control sample/laboratory control sample duplicates (LCS/LCSD), ICP serial dilutions, method blanks, trip blanks, equipment blanks, field blanks and field duplicates. No samples in this SDG were subjected to Level IV evaluation.

Automated data review was performed on all QC summary results using the Automated Data Review (ADR) software program (LDC, 2013) with exception of ICB/CCBs and ICP serial dilutions, which were validated manually. Quality assurance (QA)/QC criteria specified in the QAPP and CLPNFGs were incorporated with the program's reference library to assess compliance with project requirements.

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.

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 QC criteria.

II. Initial Calibration

Initial Calibration data were not reviewed for level III.

III. Continuing Calibration

Continuing calibration data were not reviewed for level III.

IV. Blanks

Method blanks were performed at the required frequencies. No contaminant concentrations were detected in the method or preparation blanks with the exception of two blanks for metals and dioxins. The associated sample results were qualified as non-detected (U) due to method blank contamination as applicable. The sample results that were not detected or were significantly greater than the concentrations found in the associated blanks were not qualified. The details regarding the qualification of data are provided in Enclosure I.

No contaminant concentrations were detected in the initial or continuing calibration blanks.

V. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. ICP Interference Check Sample (ICS) Analysis

ICP interference check data were not reviewed for level III.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were performed at the required frequency. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the exception of two MS/MSD pairs for metals, perchlorate, TPH as extractables and fluoride. The associated sample results were qualified as detected estimated (J) or non-detected estimated (UJ) as applicable. The details regarding the qualification of data are provided in Enclosure I.

VIII. Laboratory Duplicates Sample

Laboratory duplicates (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

IX. 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 with the exception of one LCS/LCSD pair for PCBs. No data were qualified due to high %Rs since the associated results were non-detected.

X. Internal Standards

Internal standards were reviewed for dioxins. Percent recoveries (%R) were within QC limits.

XI. ICP Serial Dilution

ICP serial dilution analysis was performed by the laboratory. The analysis criteria were met with the following exceptions:

Diluted Sample	Analyte	%D (Limits)	Associated Samples	Flag	A or P
SL-550-SA5D-SB-4.0-5.0	Cobalt	12 (≤ 10)	All soil samples in SDG PH103	J (all detects) UJ (all non-detects)	A

The associated sample results were qualified as detected estimated (J).

XII. Compound Quantitation

The laboratory reporting limits were evaluated. All laboratory reporting limits met the specified requirements.

All compounds reported below the RL as detected were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG PH103	All compounds reported as detected below the RL.	J (all detects)	A

XIII. Field Duplicate Samples

Two field duplicate pairs were collected and analyzed for SVOCs, PCBs, metals, perchlorate, TPH as gasoline, TPH as extractables and fluoride. All RPDs were within QC limits with the exception of several SVOCs, pesticides and metals. No data was qualified on the basis of field duplicate RPDs outside the QC limits. The field duplicate result comparisons are provided in Enclosure I.

XIV. Field Blank Samples

One trip blank was collected and analyzed for TPH as gasoline. No volatile contaminants were found in the trip blank.

One equipment blank (from SDG PH101) was collected and analyzed for SVOCs, pesticides,

PCBs, metals, perchlorate, TPH as gasoline, TPH as extractables, dioxins and fluoride. The equipment blank had detections for SVOCs, metals and dioxins. The associated sample results were not detected or were significantly greater than the concentrations found in the equipment blanks, therefore no data were qualified.

One field blank (from SDG PH029) was collected and analyzed for SVOCs, pesticides, PCBs, metals, perchlorate, TPH as gasoline, TPH as extractables and dioxins. The field blank had detections for SVOCs, metals, dioxins, and fluoride. The associated sample results were qualified as non-detected (U) due to field blank contamination as applicable. The sample results that were not detected or were significantly greater than the concentrations found in the field blank were not qualified. The field blank outlier reports are presented in Enclosure I.

XV. Overall Assessment of Data

No data associated with this sampling event were rejected. The overall assessment of QA/QC data review by automated and manual validation of this sampling event met project requirements and analytical completeness levels with the exceptions noted in the above sections. All data are deemed useable for the intended use.

Data flags are summarized and are presented as Attachment 2.

Attachment 1

Sample Cross Reference

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
06-Sep-2013	TB-090613	7189526	TB	5030B	8015M	III
06-Sep-2013	SL-550-SA5D-SB-0.0-0.5	7189527	N	3050B	6010C	III
06-Sep-2013	SL-550-SA5D-SB-0.0-0.5	7189527	N	3050B	6020A	III
06-Sep-2013	SL-550-SA5D-SB-0.0-0.5	7189527	N	3546	8015M	III
06-Sep-2013	SL-550-SA5D-SB-0.0-0.5	7189527	N	3546	8082A	III
06-Sep-2013	SL-550-SA5D-SB-0.0-0.5	7189527	N	3546	8270D SIM	III
06-Sep-2013	SL-550-SA5D-SB-0.0-0.5	7189527	N	METHOD	1613B	III
06-Sep-2013	SL-550-SA5D-SB-0.0-0.5	7189527	N	METHOD	7471B	III
06-Sep-2013	SL-550-SA5D-SB-4.0-5.0	7189528	N	3050B	6010C	III
06-Sep-2013	SL-550-SA5D-SB-4.0-5.0	7189528	N	3050B	6020A	III
06-Sep-2013	SL-550-SA5D-SB-4.0-5.0	7189528	N	3546	8015M	III
06-Sep-2013	SL-550-SA5D-SB-4.0-5.0	7189528	N	3546	8082A	III
06-Sep-2013	SL-550-SA5D-SB-4.0-5.0	7189528	N	3546	8270D SIM	III
06-Sep-2013	SL-550-SA5D-SB-4.0-5.0	7189528	N	5035A	8015M	III
06-Sep-2013	SL-550-SA5D-SB-4.0-5.0	7189528	N	METHOD	7471B	III
06-Sep-2013	SL-550-SA5D-SB-4.0-5.0MS	7189529	MS	3050B	6010C	III
06-Sep-2013	SL-550-SA5D-SB-4.0-5.0MS	7189529	MS	3050B	6020A	III
06-Sep-2013	SL-550-SA5D-SB-4.0-5.0MS	7189529	MS	3546	8015M	III
06-Sep-2013	SL-550-SA5D-SB-4.0-5.0MS	7189529	MS	3546	8082A	III
06-Sep-2013	SL-550-SA5D-SB-4.0-5.0MS	7189529	MS	3546	8270D SIM	III
06-Sep-2013	SL-550-SA5D-SB-4.0-5.0MS	7189529	MS	5035A	8015M	III
06-Sep-2013	SL-550-SA5D-SB-4.0-5.0MS	7189529	MS	METHOD	7471B	III
06-Sep-2013	SL-550-SA5D-SB-4.0-5.0MSD	7189530	MSD	3050B	6010C	III
06-Sep-2013	SL-550-SA5D-SB-4.0-5.0MSD	7189530	MSD	3050B	6020A	III
06-Sep-2013	SL-550-SA5D-SB-4.0-5.0MSD	7189530	MSD	3546	8015M	III
06-Sep-2013	SL-550-SA5D-SB-4.0-5.0MSD	7189530	MSD	3546	8082A	III

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
06-Sep-2013	SL-550-SA5D-SB-4.0-5.0MSD	7189530	MSD	3546	8270D SIM	III
06-Sep-2013	SL-550-SA5D-SB-4.0-5.0MSD	7189530	MSD	5035A	8015M	III
06-Sep-2013	SL-550-SA5D-SB-4.0-5.0MSD	7189530	MSD	METHOD	7471B	III
06-Sep-2013	SL-550-SA5D-SB-4.0-5.0DUP	7189531	DUP	3050B	6010C	III
06-Sep-2013	SL-550-SA5D-SB-4.0-5.0DUP	7189531	DUP	3050B	6020A	III
06-Sep-2013	SL-550-SA5D-SB-4.0-5.0DUP	7189531	DUP	METHOD	7471B	III
06-Sep-2013	SL-850-SA5D-SB-4.0-5.0	7189532	FD	3050B	6010C	III
06-Sep-2013	SL-850-SA5D-SB-4.0-5.0	7189532	FD	3050B	6020A	III
06-Sep-2013	SL-850-SA5D-SB-4.0-5.0	7189532	FD	3546	8015M	III
06-Sep-2013	SL-850-SA5D-SB-4.0-5.0	7189532	FD	3546	8082A	III
06-Sep-2013	SL-850-SA5D-SB-4.0-5.0	7189532	FD	3546	8270D SIM	III
06-Sep-2013	SL-850-SA5D-SB-4.0-5.0	7189532	FD	5035A	8015M	III
06-Sep-2013	SL-850-SA5D-SB-4.0-5.0	7189532	FD	METHOD	7471B	III
06-Sep-2013	SL-590-SA5D-SB-0.0-0.5	7189535	N	METHOD	300.0	III
06-Sep-2013	SL-590-SA5D-SB-0.0-0.5	7189535	N	METHOD	6850	III
06-Sep-2013	SL-590-SA5D-SB-4.0-5.0	7189536	N	METHOD	300.0	III
06-Sep-2013	SL-590-SA5D-SB-4.0-5.0	7189536	N	METHOD	6850	III
06-Sep-2013	SL-590-SA5D-SB-4.0-5.0MS	7189537	MS	METHOD	300.0	III
06-Sep-2013	SL-590-SA5D-SB-4.0-5.0MS	7189537	MS	METHOD	6850	III
06-Sep-2013	SL-590-SA5D-SB-4.0-5.0MSD	7189538	MSD	METHOD	6850	III
06-Sep-2013	SL-590-SA5D-SB-4.0-5.0DUP	7189539	DUP	METHOD	300.0	III
06-Sep-2013	SL-890-SA5D-SB-4.0-5.0	7189540	FD	METHOD	300.0	III
06-Sep-2013	SL-890-SA5D-SB-4.0-5.0	7189540	FD	METHOD	6850	III
06-Sep-2013	SL-590-SA5D-SB-11.0-12.0	7189541	N	METHOD	300.0	III
06-Sep-2013	SL-590-SA5D-SB-11.0-12.0	7189541	N	METHOD	6850	III
06-Sep-2013	SL-552-SA5D-SB-0.0-0.5	7189533	N	3050B	6010C	III

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
06-Sep-2013	SL-552-SA5D-SB-0.0-0.5	7189533	N	3050B	6020A	III
06-Sep-2013	SL-552-SA5D-SB-0.0-0.5	7189533	N	3546	8015M	III
06-Sep-2013	SL-552-SA5D-SB-0.0-0.5	7189533	N	3546	8081B	III
06-Sep-2013	SL-552-SA5D-SB-0.0-0.5	7189533	N	3546	8082A	III
06-Sep-2013	SL-552-SA5D-SB-0.0-0.5	7189533	N	3546	8270D SIM	III
06-Sep-2013	SL-552-SA5D-SB-0.0-0.5	7189533	N	METHOD	1613B	III
06-Sep-2013	SL-552-SA5D-SB-0.0-0.5	7189533	N	METHOD	7471B	III
06-Sep-2013	SL-552-SA5D-SB-4.0-5.0	7189534	N	3050B	6010C	III
06-Sep-2013	SL-552-SA5D-SB-4.0-5.0	7189534	N	3050B	6020A	III
06-Sep-2013	SL-552-SA5D-SB-4.0-5.0	7189534	N	3546	8015M	III
06-Sep-2013	SL-552-SA5D-SB-4.0-5.0	7189534	N	3546	8081B	III
06-Sep-2013	SL-552-SA5D-SB-4.0-5.0	7189534	N	3546	8082A	III
06-Sep-2013	SL-552-SA5D-SB-4.0-5.0	7189534	N	3546	8270D SIM	III
06-Sep-2013	SL-552-SA5D-SB-4.0-5.0	7189534	N	5035A	8015M	III
06-Sep-2013	SL-552-SA5D-SB-4.0-5.0	7189534	N	METHOD	7471B	III

Attachment 2
Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: PH103

Laboratory: LL

EDD Filename: PrepPH103

eQAPP Name: CDM_SSFL_131101_Lan

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

Sample ID: SL-590-SA5D-SB-0.0-0.5 Collected: 9/6/2013 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
FLUORIDE	0.92	J	0.41	MDL	1.0	PQL	mg/Kg	J	Z, Q

Sample ID: SL-590-SA5D-SB-11.0-12.0 Collected: 9/6/2013 12:20:00 Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
FLUORIDE	9.1		0.43	MDL	1.1	PQL	mg/Kg	J	Q

Sample ID: SL-590-SA5D-SB-4.0-5.0 Collected: 9/6/2013 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
FLUORIDE	14.2		0.44	MDL	1.1	PQL	mg/Kg	J	Q

Sample ID: SL-890-SA5D-SB-4.0-5.0 Collected: 9/6/2013 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
FLUORIDE	13.4		0.43	MDL	1.1	PQL	mg/Kg	J	Q

Method Category: METALS
Method: 6010C **Matrix:** SO

Sample ID: SL-550-SA5D-SB-0.0-0.5 Collected: 9/6/2013 8:40:00 AM Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	4.03	U	0.746	MDL	4.03	PQL	mg/Kg	UJ	Q
BERYLLIUM	0.712	J	0.0675	MDL	1.01	PQL	mg/Kg	J	Z
BORON	5.31	J	0.847	MDL	10.1	PQL	mg/Kg	J	Z
CADMIUM	0.190	J	0.0766	MDL	1.01	PQL	mg/Kg	J	Z
CHROMIUM	28.5		0.161	MDL	3.02	PQL	mg/Kg	J	Q
COBALT	7.96		0.0998	MDL	1.01	PQL	mg/Kg	J	A
MOLYBDENUM	0.354	J	0.171	MDL	2.02	PQL	mg/Kg	U	F
PHOSPHORUS	441		2.91	MDL	10.1	PQL	mg/Kg	J	Q
POTASSIUM	4970		8.41	MDL	101	PQL	mg/Kg	J	Q
SODIUM	100	J	16.8	MDL	101	PQL	mg/Kg	J	Z
TIN	2.37	J	0.222	MDL	10.1	PQL	mg/Kg	U	B

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH103

Laboratory: LL

EDD Filename: PrepPH103

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: METALS
Method: 6010C **Matrix:** SO

Sample ID: SL-550-SA5D-SB-4.0-5.0 Collected: 9/6/2013 9:00:00 AM Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	4.33	U	0.802	MDL	4.33	PQL	mg/Kg	UJ	Q
BERYLLIUM	0.865	J	0.0726	MDL	1.08	PQL	mg/Kg	J	Z
BORON	4.63	J	0.910	MDL	10.8	PQL	mg/Kg	J	Z
CADMIUM	0.119	J	0.0824	MDL	1.08	PQL	mg/Kg	J	Z
CHROMIUM	31.4		0.173	MDL	3.25	PQL	mg/Kg	J	Q
COBALT	8.28		0.107	MDL	1.08	PQL	mg/Kg	J	A
MOLYBDENUM	0.304	J	0.184	MDL	2.17	PQL	mg/Kg	U	F
PHOSPHORUS	344		3.13	MDL	10.8	PQL	mg/Kg	J	Q
POTASSIUM	3430		9.04	MDL	108	PQL	mg/Kg	J	Q
SODIUM	99.0	J	18.1	MDL	108	PQL	mg/Kg	J	Z
TIN	2.82	J	0.238	MDL	10.8	PQL	mg/Kg	U	B

Sample ID: SL-552-SA5D-SB-0.0-0.5 Collected: 9/6/2013 1:10:00 PM Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	4.19	U	0.776	MDL	4.19	PQL	mg/Kg	UJ	Q
BERYLLIUM	0.686	J	0.0702	MDL	1.05	PQL	mg/Kg	J	Z
BORON	4.88	J	0.881	MDL	10.5	PQL	mg/Kg	J	Z
CADMIUM	0.189	J	0.0797	MDL	1.05	PQL	mg/Kg	J	Z
CHROMIUM	32.1		0.168	MDL	3.14	PQL	mg/Kg	J	Q
COBALT	8.63		0.104	MDL	1.05	PQL	mg/Kg	J	A
MOLYBDENUM	0.284	J	0.178	MDL	2.10	PQL	mg/Kg	U	F
PHOSPHORUS	595		3.03	MDL	10.5	PQL	mg/Kg	J	Q
POTASSIUM	5400		8.74	MDL	105	PQL	mg/Kg	J	Q
SODIUM	87.4	J	17.5	MDL	105	PQL	mg/Kg	J	Z
TIN	2.58	J	0.231	MDL	10.5	PQL	mg/Kg	U	B

Sample ID: SL-552-SA5D-SB-4.0-5.0 Collected: 9/6/2013 1:25:00 PM Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	4.48	U	0.829	MDL	4.48	PQL	mg/Kg	UJ	Q
BERYLLIUM	0.820	J	0.0750	MDL	1.12	PQL	mg/Kg	J	Z
BORON	3.94	J	0.941	MDL	11.2	PQL	mg/Kg	J	Z
CADMIUM	0.0885	J	0.0851	MDL	1.12	PQL	mg/Kg	J	Z
CHROMIUM	38.9		0.179	MDL	3.36	PQL	mg/Kg	J	Q

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH103

Laboratory: LL

EDD Filename: PrepPH103

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: METALS
Method: 6010C **Matrix:** SO

Sample ID: SL-552-SA5D-SB-4.0-5.0 Collected: 9/6/2013 1:25:00 PM Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
COBALT	9.45		0.111	MDL	1.12	PQL	mg/Kg	J	A
MOLYBDENUM	0.253	J	0.190	MDL	2.24	PQL	mg/Kg	U	F
PHOSPHORUS	489		3.24	MDL	11.2	PQL	mg/Kg	J	Q
POTASSIUM	3710		9.34	MDL	112	PQL	mg/Kg	J	Q
SODIUM	100	J	18.7	MDL	112	PQL	mg/Kg	J	Z
TIN	2.90	J	0.246	MDL	11.2	PQL	mg/Kg	U	B

Sample ID: SL-850-SA5D-SB-4.0-5.0 Collected: 9/6/2013 9:10:00 AM Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	4.34	U	0.804	MDL	4.34	PQL	mg/Kg	UJ	Q
BERYLLIUM	0.925	J	0.0728	MDL	1.09	PQL	mg/Kg	J	Z
BORON	5.46	J	0.912	MDL	10.9	PQL	mg/Kg	J	Z
CADMIUM	0.0934	J	0.0825	MDL	1.09	PQL	mg/Kg	J	Z
CHROMIUM	35.2		0.174	MDL	3.26	PQL	mg/Kg	J	Q
COBALT	8.55		0.108	MDL	1.09	PQL	mg/Kg	J	A
MOLYBDENUM	0.275	J	0.185	MDL	2.17	PQL	mg/Kg	U	F
PHOSPHORUS	390		3.14	MDL	10.9	PQL	mg/Kg	J	Q
POTASSIUM	3660		9.06	MDL	109	PQL	mg/Kg	J	Q
SODIUM	108	J	18.1	MDL	109	PQL	mg/Kg	J	Z
TIN	2.96	J	0.239	MDL	10.9	PQL	mg/Kg	U	B

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

Sample ID: SL-550-SA5D-SB-0.0-0.5 Collected: 9/6/2013 8:40:00 AM Analysis Type: REA Dilution: 2

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SELENIUM	0.224	J	0.101	MDL	0.403	PQL	mg/Kg	J	Z

Sample ID: SL-550-SA5D-SB-0.0-0.5 Collected: 9/6/2013 8:40:00 AM Analysis Type: RES Dilution: 2

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SILVER	0.0269	J	0.0262	MDL	0.202	PQL	mg/Kg	J	Z

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH103

Laboratory: LL

EDD Filename: PrepPH103

eQAPP Name: CDM_SSFL_131101_Lan

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

Sample ID: SL-550-SA5D-SB-4.0-5.0 Collected: 9/6/2013 9:00:00 AM Analysis Type: REA Dilution: 2

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SELENIUM	0.142	J	0.108	MDL	0.433	PQL	mg/Kg	J	Z

Sample ID: SL-550-SA5D-SB-4.0-5.0 Collected: 9/6/2013 9:00:00 AM Analysis Type: RES Dilution: 2

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SILVER	0.0367	J	0.0282	MDL	0.217	PQL	mg/Kg	J	Z

Sample ID: SL-552-SA5D-SB-0.0-0.5 Collected: 9/6/2013 1:10:00 PM Analysis Type: REA Dilution: 2

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SELENIUM	0.183	J	0.105	MDL	0.419	PQL	mg/Kg	J	Z

Sample ID: SL-552-SA5D-SB-4.0-5.0 Collected: 9/6/2013 1:25:00 PM Analysis Type: REA Dilution: 2

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SELENIUM	0.162	J	0.112	MDL	0.448	PQL	mg/Kg	J	Z

Sample ID: SL-850-SA5D-SB-4.0-5.0 Collected: 9/6/2013 9:10:00 AM Analysis Type: REA Dilution: 2

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SELENIUM	0.135	J	0.109	MDL	0.434	PQL	mg/Kg	J	Z

Sample ID: SL-850-SA5D-SB-4.0-5.0 Collected: 9/6/2013 9:10:00 AM Analysis Type: RES Dilution: 2

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SILVER	0.0360	J	0.0282	MDL	0.217	PQL	mg/Kg	J	Z

Method Category: SVOA
Method: 1613B **Matrix:** SO

Sample ID: SL-550-SA5D-SB-0.0-0.5 Collected: 9/6/2013 8:40:00 AM 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	1.89	J	0.0866	MDL	5.06	PQL	ng/Kg	J	Z
1,2,3,4,6,7,8-HPCDF	0.357	JB	0.0355	MDL	5.06	PQL	ng/Kg	J	Z

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH103

Laboratory: LL

EDD Filename: PrepPH103

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: SVOA

Method: 1613B

Matrix: SO

Sample ID: SL-550-SA5D-SB-0.0-0.5

Collected: 9/6/2013 8:40:00 AM

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	0.0610	JBQ	0.0562	MDL	5.06	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.108	JQ	0.0531	MDL	5.06	PQL	ng/Kg	J	Z
1,2,3,4,7,8-HXCDF	0.104	JQ	0.0457	MDL	5.06	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HxCDD	0.599	J	0.0555	MDL	5.06	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDF	0.229	J	0.0442	MDL	5.06	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HxCDD	0.747	J	0.0518	MDL	5.06	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDF	1.38	J	0.0515	MDL	5.06	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDD	0.217	JQ	0.0719	MDL	5.06	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDF	0.403	JQ	0.0574	MDL	5.06	PQL	ng/Kg	J	Z
2,3,4,6,7,8-HXCDF	0.0947	JBQ	0.0402	MDL	5.06	PQL	ng/Kg	U	B
2,3,4,7,8-PECDF	0.0913	JQ	0.0543	MDL	5.06	PQL	ng/Kg	J	Z
OCDF	0.772	JB	0.0971	MDL	10.1	PQL	ng/Kg	J	Z

Sample ID: SL-552-SA5D-SB-0.0-0.5

Collected: 9/6/2013 1:10:00 PM

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	3.18	J	0.124	MDL	5.23	PQL	ng/Kg	J	Z
1,2,3,4,6,7,8-HPCDF	0.546	JB	0.0419	MDL	5.23	PQL	ng/Kg	J	Z
1,2,3,4,7,8,9-HPCDF	0.0773	JBQ	0.0626	MDL	5.23	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.0823	J	0.0782	MDL	5.23	PQL	ng/Kg	J	Z
1,2,3,4,7,8-HXCDF	0.0940	JQ	0.0547	MDL	5.23	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HxCDD	0.514	J	0.0856	MDL	5.23	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDF	0.0544	JQ	0.0499	MDL	5.23	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HxCDD	0.723	J	0.0807	MDL	5.23	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDF	1.12	J	0.0532	MDL	5.23	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDF	0.250	J	0.0634	MDL	5.23	PQL	ng/Kg	J	Z
2,3,4,6,7,8-HXCDF	0.0952	JBQ	0.0512	MDL	5.23	PQL	ng/Kg	U	B
OCDF	1.54	JB	0.0972	MDL	10.5	PQL	ng/Kg	J	Z

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Data Qualifier Summary

Lab Reporting Batch ID: PH103

Laboratory: LL

EDD Filename: PrepPH103

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: SVOA
Method: 6850 **Matrix:** SO

Sample ID: SL-590-SA5D-SB-11.0-12.0 Collected: 9/6/2013 12:20:00 Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
PERCHLORATE	3.4	J	2.2	MDL	5.3	PQL	ug/Kg	J	Z

Sample ID: SL-590-SA5D-SB-4.0-5.0 Collected: 9/6/2013 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
PERCHLORATE	8.2		2.3	MDL	5.5	PQL	ug/Kg	J	Q

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

Sample ID: SL-552-SA5D-SB-0.0-0.5 Collected: 9/6/2013 1:10:00 PM Analysis Type: RES Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
4,4'-DDE	0.46	J	0.35	MDL	1.8	PQL	ug/Kg	J	Z

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

Sample ID: SL-550-SA5D-SB-0.0-0.5 Collected: 9/6/2013 8:40:00 AM 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	0.74	J	0.69	MDL	1.7	PQL	ug/Kg	J	Z
CHRYSENE	0.88	J	0.35	MDL	1.7	PQL	ug/Kg	J	Z

Sample ID: SL-552-SA5D-SB-0.0-0.5 Collected: 9/6/2013 1:10:00 PM 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	0.78	J	0.70	MDL	1.7	PQL	ug/Kg	J	Z
BENZO(B)FLUORANTHENE	1.4	J	0.70	MDL	1.7	PQL	ug/Kg	J	Z
CHRYSENE	1.6	J	0.35	MDL	1.7	PQL	ug/Kg	J	Z
PHENANTHRENE	1.4	J	0.70	MDL	1.7	PQL	ug/Kg	J	Z
PYRENE	1.5	J	0.70	MDL	1.7	PQL	ug/Kg	J	Z

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Data Qualifier Summary

Lab Reporting Batch ID: PH103

Laboratory: LL

EDD Filename: PrepPH103

eQAPP Name: CDM_SSFL_131101_Lan

Reason Code Legend

<i>Reason Code</i>	<i>Description</i>
*#	Professional Judgment
A	ICP Serial Dilution
B	Method Blank Contamination
E	Matrix Spike Precision
F	Field Blank Contamination
L	Laboratory Control Spike Upper Estimation
Q	Matrix Spike Lower Estimation
Q	Matrix Spike Lower Rejection
Q	Matrix Spike Precision
Q	Matrix Spike Upper Estimation
Z	Reporting Limit Trace Value

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Enclosure I
EPA Level III ADR Outliers
(Including Manual Review Outliers)

Quality Control Outlier Reports

PH103

Method Blank Outlier Report

Lab Reporting Batch ID: PH103

Laboratory: LL

EDD Filename: PH103

eQAPP Name: CDM_SSFL_131101_Lan

Method: 1613B
Matrix: SO

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples
BLK2550B370931	9/14/2013 9:31:00 AM	1,2,3,4,6,7,8-HPCDF 1,2,3,4,7,8,9-HPCDF 2,3,4,6,7,8-HXCDF OCDD OCDF	0.0282 ng/Kg 0.0482 ng/Kg 0.0500 ng/Kg 0.194 ng/Kg 0.0941 ng/Kg	SL-550-SA5D-SB-0.0-0.5 SL-552-SA5D-SB-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-550-SA5D-SB-0.0-0.5(RES)	1,2,3,4,7,8,9-HPCDF	0.0610 ng/Kg	0.0610U ng/Kg
SL-550-SA5D-SB-0.0-0.5(RES)	2,3,4,6,7,8-HXCDF	0.0947 ng/Kg	0.0947U ng/Kg
SL-552-SA5D-SB-0.0-0.5(RES)	1,2,3,4,7,8,9-HPCDF	0.0773 ng/Kg	0.0773U ng/Kg
SL-552-SA5D-SB-0.0-0.5(RES)	2,3,4,6,7,8-HXCDF	0.0952 ng/Kg	0.0952U ng/Kg

Method: 6010C
Matrix: SO

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples
P25037BB220352	9/11/2013 3:52:00 AM	CALCIUM TIN ZINC	4.05 mg/Kg 1.50 mg/Kg 0.454 mg/Kg	SL-550-SA5D-SB-0.0-0.5 SL-550-SA5D-SB-4.0-5.0 SL-552-SA5D-SB-0.0-0.5 SL-552-SA5D-SB-4.0-5.0 SL-850-SA5D-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-550-SA5D-SB-0.0-0.5(RES)	TIN	2.37 mg/Kg	2.37U mg/Kg
SL-550-SA5D-SB-4.0-5.0(RES)	TIN	2.82 mg/Kg	2.82U mg/Kg
SL-552-SA5D-SB-0.0-0.5(RES)	TIN	2.58 mg/Kg	2.58U mg/Kg
SL-552-SA5D-SB-4.0-5.0(RES)	TIN	2.90 mg/Kg	2.90U mg/Kg
SL-850-SA5D-SB-4.0-5.0(RES)	TIN	2.96 mg/Kg	2.96U mg/Kg

Field Blank Outlier Report

Lab Reporting Batch ID: PH103

Laboratory: LL

EDD Filename: PH103

eQAPP Name: CDM_SSFL_131101_Lan

Method: 6010C
Matrix: SO

Field Blank Sample ID	Collected Date	Analyte	Result	Associated Samples
FB-041113(REA2)	4/11/2013 3:00:00 PM	COPPER MOLYBDENUM	0.0036 mg/L 0.0036 mg/L	SL-550-SA5D-SB-0.0-0.5 SL-550-SA5D-SB-4.0-5.0 SL-552-SA5D-SB-0.0-0.5 SL-552-SA5D-SB-4.0-5.0 SL-590-SA5D-SB-0.0-0.5 SL-590-SA5D-SB-11.0-12.0 SL-850-SA5D-SB-4.0-5.0 SL-890-SA5D-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-550-SA5D-SB-0.0-0.5(RES)	MOLYBDENUM	0.354 mg/Kg	0.354U mg/Kg
SL-550-SA5D-SB-4.0-5.0(RES)	MOLYBDENUM	0.304 mg/Kg	0.304U mg/Kg
SL-552-SA5D-SB-0.0-0.5(RES)	MOLYBDENUM	0.284 mg/Kg	0.284U mg/Kg
SL-552-SA5D-SB-4.0-5.0(RES)	MOLYBDENUM	0.253 mg/Kg	0.253U mg/Kg
SL-850-SA5D-SB-4.0-5.0(RES)	MOLYBDENUM	0.275 mg/Kg	0.275U mg/Kg

Matrix Spike/Matrix Spike Duplicate Outlier Report

Lab Reporting Batch ID: PH103

Laboratory: LL

EDD Filename: PH103

eQAPP Name: CDM_SSFL_131101_Lan

Method: 6850

Matrix: SO

QC Sample ID (Associated Samples)	Compound	MS %R	MSD %R	%R Limits	RPD (Limits)	Affected Compounds	Flag
SL-590-SA5D-SB-4.0-5.0MS SL-590-SA5D-SB-4.0-5.0MSD (SL-590-SA5D-SB-4.0-5.0)	PERCHLORATE	77	74	80.00-120.00	-	PERCHLORATE	J (all detects) UJ (all non-detects)

Method: 8015M

Matrix: SO

QC Sample ID (Associated Samples)	Compound	MS %R	MSD %R	%R Limits	RPD (Limits)	Affected Compounds	Flag
SL-550-SA5D-SB-4.0-5.0MS (SL-550-SA5D-SB-4.0-5.0)	GASOLINE RANGE ORGANICS (67	-	69.00-123.00	-	GASOLINE RANGE ORGANICS	No Qual, Diluted Out
SL-550-SA5D-SB-4.0-5.0MSD (SL-550-SA5D-SB-4.0-5.0)	EFH (C15-C20) EFH (C21-C30)	- -	128 132	49.00-123.00 49.00-123.00	27 (20.00) 27 (20.00)	EFH (C15-C20) EFH (C21-C30)	J(all detects)

Method: 6010C

Matrix: SO

QC Sample ID (Associated Samples)	Compound	MS %R	MSD %R	%R Limits	RPD (Limits)	Affected Compounds	Flag
SL-550-SA5D-SB-4.0-5.0MS (TOT)	ALUMINUM	3315	3521	75.00-125.00	-	ALUMINUM	J(all detects) Al, Ca, Fe, Mg, Mn, Ti, No Qual, >4x
SL-550-SA5D-SB-4.0-5.0MSD (TOT)	CALCIUM	206	193	75.00-125.00	-	CALCIUM	
(SL-550-SA5D-SB-0.0-0.5)	CHROMIUM	126	127	75.00-125.00	-	CHROMIUM	
SL-550-SA5D-SB-4.0-5.0	IRON	2419	402	75.00-125.00	-	IRON	
SL-552-SA5D-SB-0.0-0.5	MAGNESIUM	312	414	75.00-125.00	-	MAGNESIUM	
SL-552-SA5D-SB-4.0-5.0	MANGANESE	136	129	75.00-125.00	-	MANGANESE	
SL-850-SA5D-SB-4.0-5.0	PHOSPHORUS	140	-	75.00-125.00	-	PHOSPHORUS	
SL-850-SA5D-SB-4.0-5.0)	POTASSIUM	159	193	75.00-125.00	-	POTASSIUM	
	TITANIUM	530	471	75.00-125.00	-	TITANIUM	
SL-550-SA5D-SB-4.0-5.0MS (TOT)	ANTIMONY	27	23	75.00-125.00	-	ANTIMONY	
SL-550-SA5D-SB-4.0-5.0MSD (TOT)							
(SL-550-SA5D-SB-0.0-0.5)							
SL-550-SA5D-SB-4.0-5.0							
SL-552-SA5D-SB-0.0-0.5							
SL-552-SA5D-SB-4.0-5.0							
SL-850-SA5D-SB-4.0-5.0)							

Method: 300.0

Matrix: SO

QC Sample ID (Associated Samples)	Compound	MS %R	MSD %R	%R Limits	RPD (Limits)	Affected Compounds	Flag
SL-590-SA5D-SB-4.0-5.0MS (SL-590-SA5D-SB-0.0-0.5 SL-590-SA5D-SB-11.0-12.0 SL-590-SA5D-SB-4.0-5.0 SL-890-SA5D-SB-4.0-5.0)	FLUORIDE	365	-	80.00-120.00	-	FLUORIDE	J(all detects)

Lab Control Spike/Lab Control Spike Duplicate Outlier Report

Lab Reporting Batch ID: PH103

Laboratory: LL

EDD Filename: PH103

eQAPP Name: CDM_SSFL_131101_Lan

Method: 8082A

Matrix: SO

QC Sample ID (Associated Samples)	Compound	LCS %R	LCSD %R	%R Limits	RPD (Limits)	Affected Compounds	Flag
P32552AQ242023A P32552AY242004A (SL-550-SA5D-SB-0.0-0.5 SL-550-SA5D-SB-4.0-5.0 SL-552-SA5D-SB-0.0-0.5 SL-552-SA5D-SB-4.0-5.0 SL-850-SA5D-SB-4.0-5.0)	Aroclor 5442	91	90	62.00-87.00	-	Aroclor 5432 Aroclor 5442 Aroclor 5460	J (all detects)

Field Duplicate RPD Report

Lab Reporting Batch ID: PH103

Laboratory: LL

EDD Filename: PH103

eQAPP Name: CDM_SSFL_131101_Lan

Method: 160.3M

Matrix: SO

Analyte	Concentration (%)		Sample RPD	eQAPP RPD	Flag
	SL-550-SA5D-SB-4.0-5.0	SL-850-SA5D-SB-4.0-5.0			
MOISTURE	10.4	10.6	2		No Qualifiers Applied

Analyte	Concentration (%)		Sample RPD	eQAPP RPD	Flag
	SL-590-SA5D-SB-4.0-5.0	SL-890-SA5D-SB-4.0-5.0			
MOISTURE	8.3	8.1	2		No Qualifiers Applied

Method: 300.0

Matrix: SO

Analyte	Concentration (mg/Kg)		Sample RPD	eQAPP RPD	Flag
	SL-590-SA5D-SB-4.0-5.0	SL-890-SA5D-SB-4.0-5.0			
FLUORIDE	14.2	13.4	6	50.00	No Qualifiers Applied

Method: 6010C

Matrix: SO

Analyte	Concentration (mg/Kg)		Sample RPD	eQAPP RPD	Flag
	SL-550-SA5D-SB-4.0-5.0 (TOT)	SL-850-SA5D-SB-4.0-5.0 (TOT)			
ALUMINUM	22600	24600	8	50.00	No Qualifiers Applied
ARSENIC	5.72	6.06	6	50.00	
BARIUM	113	115	2	50.00	
BERYLLIUM	0.865	0.925	7	50.00	
BORON	4.63	5.46	16	50.00	
CADMIUM	0.119	0.0934	24	50.00	
CALCIUM	3350	3570	6	50.00	
CHROMIUM	31.4	35.2	11	50.00	
COBALT	8.28	8.55	3	50.00	
COPPER	13.8	14.1	2	50.00	
IRON	29400	28200	4	50.00	
LEAD	7.37	8.02	8	50.00	
LITHIUM	28.8	30.2	5	50.00	
MAGNESIUM	6460	6830	6	50.00	
MANGANESE	359	387	8	50.00	
MOLYBDENUM	0.304	0.275	10	50.00	
NICKEL	18.1	18.8	4	50.00	
PHOSPHORUS	344	390	13	50.00	
POTASSIUM	3430	3660	6	50.00	
SODIUM	99.0	108	9	50.00	
TIN	2.82	2.96	5	50.00	
TITANIUM	1010	1240	20	50.00	
VANADIUM	56.8	63.8	12	50.00	
ZINC	62.3	62.1	0	50.00	
Zirconium	7.16	8.09	12	50.00	

Field Duplicate RPD Report

Lab Reporting Batch ID: PH103

Laboratory: LL

EDD Filename: PH103

eQAPP Name: CDM_SSFL_131101_Lan

Method: 6020A

Matrix: SO

Analyte	Concentration (mg/Kg)		Sample RPD	eQAPP RPD	Flag
	SL-550-SA5D-SB-4.0-5.0 (TOT)	SL-850-SA5D-SB-4.0-5.0 (TOT)			
SELENIUM	0.142	0.135	5	50.00	No Qualifiers Applied
SILVER	0.0367	0.0360	2	50.00	
STRONTIUM	28.2	28.3	0	50.00	
THALLIUM	0.295	0.290	2	50.00	

Method: 6850

Matrix: SO

Analyte	Concentration (ug/Kg)		Sample RPD	eQAPP RPD	Flag
	SL-590-SA5D-SB-4.0-5.0	SL-890-SA5D-SB-4.0-5.0			
PERCHLORATE	8.2	7.5	9	50.00	No Qualifiers Applied

Method: 9045M

Matrix: SO

Analyte	Concentration (pH unit)		Sample RPD	eQAPP RPD	Flag
	SL-550-SA5D-SB-4.0-5.0	SL-850-SA5D-SB-4.0-5.0			
PH	7.74	7.63	1	50.00	No Qualifiers Applied

Analyte	Concentration (pH unit)		Sample RPD	eQAPP RPD	Flag
	SL-590-SA5D-SB-4.0-5.0	SL-890-SA5D-SB-4.0-5.0			
PH	7.23	7.27	1	50.00	No Qualifiers Applied

Reporting Limit Outliers

Lab Reporting Batch ID: PH103

Laboratory: LL

EDD Filename: PH103

eQAPP Name: CDM_SSFL_131101_Lan

Method: 1613B

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-550-SA5D-SB-0.0-0.5	1,2,3,4,6,7,8-HPCDD	J	1.89	5.06	PQL	ng/Kg	J (all detects)
	1,2,3,4,6,7,8-HPCDF	JB	0.357	5.06	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JBQ	0.0610	5.06	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JQ	0.108	5.06	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JQ	0.104	5.06	PQL	ng/Kg	
	1,2,3,6,7,8-HxCDD	J	0.599	5.06	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	J	0.229	5.06	PQL	ng/Kg	
	1,2,3,7,8,9-HxCDD	J	0.747	5.06	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	J	1.38	5.06	PQL	ng/Kg	
	1,2,3,7,8-PECDD	JQ	0.217	5.06	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JQ	0.403	5.06	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JBQ	0.0947	5.06	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JQ	0.0913	5.06	PQL	ng/Kg	
OCDF	JB	0.772	10.1	PQL	ng/Kg		
SL-552-SA5D-SB-0.0-0.5	1,2,3,4,6,7,8-HPCDD	J	3.18	5.23	PQL	ng/Kg	J (all detects)
	1,2,3,4,6,7,8-HPCDF	JB	0.546	5.23	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JBQ	0.0773	5.23	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	J	0.0823	5.23	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JQ	0.0940	5.23	PQL	ng/Kg	
	1,2,3,6,7,8-HxCDD	J	0.514	5.23	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JQ	0.0544	5.23	PQL	ng/Kg	
	1,2,3,7,8,9-HxCDD	J	0.723	5.23	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	J	1.12	5.23	PQL	ng/Kg	
	1,2,3,7,8-PECDF	J	0.250	5.23	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JBQ	0.0952	5.23	PQL	ng/Kg	
	OCDF	JB	1.54	10.5	PQL	ng/Kg	

Method: 300.0

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-590-SA5D-SB-0.0-0.5	FLUORIDE	J	0.92	1.0	PQL	mg/Kg	J (all detects)

Method: 6010C

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-550-SA5D-SB-0.0-0.5	BERYLLIUM	J	0.712	1.01	PQL	mg/Kg	J (all detects)
	BORON	J	5.31	10.1	PQL	mg/Kg	
	CADMIUM	J	0.190	1.01	PQL	mg/Kg	
	MOLYBDENUM	J	0.354	2.02	PQL	mg/Kg	
	SODIUM	J	100	101	PQL	mg/Kg	
	TIN	J	2.37	10.1	PQL	mg/Kg	

Reporting Limit Outliers

Lab Reporting Batch ID: PH103

Laboratory: LL

EDD Filename: PH103

eQAPP Name: CDM_SSFL_131101_Lan

Method: 6010C

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-550-SA5D-SB-4.0-5.0	BERYLLIUM	J	0.865	1.08	PQL	mg/Kg	J (all detects)
	BORON	J	4.63	10.8	PQL	mg/Kg	
	CADMIUM	J	0.119	1.08	PQL	mg/Kg	
	MOLYBDENUM	J	0.304	2.17	PQL	mg/Kg	
	SODIUM	J	99.0	108	PQL	mg/Kg	
TIN	J	2.82	10.8	PQL	mg/Kg		
SL-552-SA5D-SB-0.0-0.5	BERYLLIUM	J	0.686	1.05	PQL	mg/Kg	J (all detects)
	BORON	J	4.88	10.5	PQL	mg/Kg	
	CADMIUM	J	0.189	1.05	PQL	mg/Kg	
	MOLYBDENUM	J	0.284	2.10	PQL	mg/Kg	
	SODIUM	J	87.4	105	PQL	mg/Kg	
TIN	J	2.58	10.5	PQL	mg/Kg		
SL-552-SA5D-SB-4.0-5.0	BERYLLIUM	J	0.820	1.12	PQL	mg/Kg	J (all detects)
	BORON	J	3.94	11.2	PQL	mg/Kg	
	CADMIUM	J	0.0885	1.12	PQL	mg/Kg	
	MOLYBDENUM	J	0.253	2.24	PQL	mg/Kg	
	SODIUM	J	100	112	PQL	mg/Kg	
TIN	J	2.90	11.2	PQL	mg/Kg		
SL-850-SA5D-SB-4.0-5.0	BERYLLIUM	J	0.925	1.09	PQL	mg/Kg	J (all detects)
	BORON	J	5.46	10.9	PQL	mg/Kg	
	CADMIUM	J	0.0934	1.09	PQL	mg/Kg	
	MOLYBDENUM	J	0.275	2.17	PQL	mg/Kg	
	SODIUM	J	108	109	PQL	mg/Kg	
TIN	J	2.96	10.9	PQL	mg/Kg		

Method: 6020A

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-550-SA5D-SB-0.0-0.5	SELENIUM	J	0.224	0.403	PQL	mg/Kg	J (all detects)
	SILVER	J	0.0269	0.202	PQL	mg/Kg	
SL-550-SA5D-SB-4.0-5.0	SELENIUM	J	0.142	0.433	PQL	mg/Kg	J (all detects)
	SILVER	J	0.0367	0.217	PQL	mg/Kg	
SL-552-SA5D-SB-0.0-0.5	SELENIUM	J	0.183	0.419	PQL	mg/Kg	J (all detects)
SL-552-SA5D-SB-4.0-5.0	SELENIUM	J	0.162	0.448	PQL	mg/Kg	J (all detects)
SL-850-SA5D-SB-4.0-5.0	SELENIUM	J	0.135	0.434	PQL	mg/Kg	J (all detects)
	SILVER	J	0.0360	0.217	PQL	mg/Kg	

Method: 6850

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-590-SA5D-SB-11.0-12.0	PERCHLORATE	J	3.4	5.3	PQL	ug/Kg	J (all detects)

Reporting Limit Outliers

Lab Reporting Batch ID: PH103

Laboratory: LL

EDD Filename: PH103

eQAPP Name: CDM_SSFL_131101_Lan

Method: 8081B

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-552-SA5D-SB-0.0-0.5	4,4'-DDE	J	0.46	1.8	PQL	ug/Kg	J (all detects)

Method: 8270D SIM

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-550-SA5D-SB-0.0-0.5	BENZO(B)FLUORANTHENE	J	0.74	1.7	PQL	ug/Kg	J (all detects)
	CHRYSENE	J	0.88	1.7	PQL	ug/Kg	
SL-552-SA5D-SB-0.0-0.5	2-METHYLNAPHTHALENE	J	0.78	1.7	PQL	ug/Kg	J (all detects)
	BENZO(B)FLUORANTHENE	J	1.4	1.7	PQL	ug/Kg	
	CHRYSENE	J	1.6	1.7	PQL	ug/Kg	
	PHENANTHRENE	J	1.4	1.7	PQL	ug/Kg	
	PYRENE	J	1.5	1.7	PQL	ug/Kg	

LDC #: 30695F4

VALIDATION COMPLETENESS WORKSHEET

SDG #: PH103

ADR

Laboratory: Eurofins Lancaster Laboratories

Date: 11/11/13

Page: 1 of 1

Reviewer: [Signature]

2nd Reviewer: [Signature]

METHOD: Metals (EPA SW 846 Method 6010C/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: 9/6/13
II.	ICP/MS Tune	—	
III.	Calibration	—	
IV.	Blanks	A	
V.	ICP Interference Check Sample (ICS) Analysis	—	
VI.	Matrix Spike Analysis	SW MS/D	
VII.	Duplicate Sample Analysis	SW Dup	
VIII.	Laboratory Control Samples (LCS)	A LCS	
IX.	Internal Standard (ICP-MS)	N	
X.	Furnace Atomic Absorption QC	N	
XI.	ICP Serial Dilution	SW	Co: 12% - All Soil J/US/A (A)
XII.	Sample Result Verification	N	
XIII.	Overall Assessment of Data	N	
XIV.	Field Duplicates	—	(2/3)
XV.	Field Blanks	SW	FB = FB-041113 EB = EB-040413

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

(PH103)
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: soil

1	SL-550-SA5D-SB-0.0-0.5	11		21		31	
2	SL-550-SA5D-SB-4.0-5.0	12		22		32	
3	SL-850-SA5D-SB-4.0-5.0	13		23		33	
4	SL-552-SA5D-SB-0.0-0.5	14		24		34	
5	SL-552-SA5D-SB-4.0-5.0	15		25		35	
6	SL-550-SA5D-SB-4.0-5.0MS	16		26		36	
7	SL-550-SA5D-SB-4.0-5.0MSD	17		27		37	
8	SL-550-SA5D-SB-4.0-5.0DUP	18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

VALIDATION FINDINGS WORKSHEET
Field Blanks

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

Blank units: mg/L **Associated sample units:** mg/Kg Reason: F

Sampling date: 4/11/13 Soil factor applied 100x

Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: All

Analyte	Blank ID	Sample Identification												
	FB-041113 (SDG: PH029)	Action Limit	1	2	3	4	5							
Cu	0.0036	1.8												
Mo	0.0036	1.8	0.354	0.304	0.275	0.284	0.253							

Sampling date: 8/28/13 Soil factor applied 100x

Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: All

Analyte	Blank ID	Sample Identification												
	EB-090413 (SDG: PH101)	Action Limit	No Qualifiers											
Ba	0.00040	0.2												
Ca	0.0346	17.3												
Mn	0.0011	0.55												

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".



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QUALITY ASSURANCE SUMMARY

FORM 5A (MS/MSD)

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

SDG No.: PH103

Matrix: SOIL

Level

(low/med):

LOW

Background Lab Sample ID: 7189528BKG Matrix Spike Lab Sample ID: 7189529MS Matrix Spike Duplicate Lab Sample ID: 7189530MSD
Batch Id(s): P25037B, P25038B

Analyte	Mass	BKG Sample		MS Sample		MSD Sample		MS Spike Added	MSD Spike Added	Units	MS		MSD		RPD	Control Limit		M		
		Result	C	Result	C	Result	C				%R	Q	%R	Q		%R	RPD			
Aluminum		20276.0126		26713.8612		27318.3420		194.1748	200.0000	MG/KG	3315		3521		2			20	P	
Antimony		0.7184	U	13.0340		11.6300		48.5437	50.0000	MG/KG	27	N	26	N	11			75 - 125	20	P
Arsenic		5.1214		20.9369		20.1730		14.5631	15.0000	MG/KG	109		100		4			75 - 125	20	P
Barium		101.5748		298.2000		307.8270		194.1748	200.0000	MG/KG	101		103		3			75 - 125	20	P
Beryllium		0.7748	B	5.7388		5.9440		4.8544	5.0000	MG/KG	102		103		4			75 - 125	20	P
Boron		4.1485	B	190.7631		199.0340		194.1748	200.0000	MG/KG	96		97		4			75 - 125	20	P
Cadmium		0.1068	B	4.6466		4.8690		4.8544	5.0000	MG/KG	94		95		5			75 - 125	20	P
Calcium		2997.9155		3799.7291		3771.3740		388.3495	400.0000	MG/KG	206		193		1				20	P
Chromium		28.1505		52.6874		53.6330		19.4175	20.0000	MG/KG	126	N	127	N	2			75 - 125	20	P
Cobalt		7.4214		52.4272		55.0310		48.5437	50.0000	MG/KG	93		95		5			75 - 125	20	P
Copper		12.4087		37.9670		39.5250		24.2718	25.0000	MG/KG	105		108		4			75 - 125	20	P
Iron		26313.8233		28662.6854		26715.6920		97.0874	100.0000	MG/KG	2419		402		7				20	P
Lead		6.6000		20.7650		20.9300		14.5631	15.0000	MG/KG	97		96		1			75 - 125	20	P
Lithium		25.7806		126.3883		131.0910		97.0874	100.0000	MG/KG	104		105		4			75 - 125	20	P
Magnesium		5788.4699		6394.4505		6617.1600		194.1748	200.0000	MG/KG	312		414		3				20	P
Manganese		321.7136		387.7078		386.3130		48.5437	50.0000	MG/KG	136		129	*	0				20	P
Mercury		0.0099	U	0.1760		0.1785		0.1597	0.1601	MG/KG	110		111		1			65 - 135	20	CV
Molybdenum		0.2728	B	176.6126		184.4770		194.1748	200.0000	MG/KG	91		92		4			75 - 125	20	P
Nickel		16.1835		62.3126		64.7300		48.5437	50.0000	MG/KG	95		97		4			75 - 125	20	P
Phosphorus		307.9466		443.6252		431.4810		97.0874	100.0000	MG/KG	140	N	124		3			75 - 125	20	P
Potassium		3074.1893		4621.5447		5002.2930		970.8738	1000.0000	MG/KG	159	N	193	N	8			75 - 125	20	P
Selenium	78	0.1268	B	2.0544		2.0540		1.9417	2.0000	MG/KG	99		96		0			75 - 125	20	MS
Silver	107	0.0329	B	9.6932		9.7360		9.7087	10.0000	MG/KG	100		97		0			75 - 125	20	MS
Sodium		88.6845	B	1043.9068		1087.9660		970.8738	1000.0000	MG/KG	98		100		4			75 - 125	20	P
Strontium	88	25.2621		32.9320		32.0600		7.7670	8.0000	MG/KG	99		85		3			75 - 125	20	MS
Thallium	203	0.2641		0.7045		0.6924		0.3883	0.4000	MG/KG	113		107		2			75 - 125	20	MS

Note: Results shown are reported on an as-received basis.

<p>METHODS:</p> <p>P = ICP Atomic Emission Spectrometer CV = Cold Vapor</p> <p>MS = ICP Mass Spectrometry AF = Cold Vapor Atomic Fluorescence</p>	<p>CONCENTRATION QUALIFIERS:</p> <p>U= Below MDL, B= Below LOQ</p> <p>FLAGS:</p> <p>N = Matrix Spike OOS, * = Duplicate OOS</p>
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QUALITY ASSURANCE SUMMARY

FORM 5A (MS/MSD)

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

SDG No.: PH103

Matrix: SOIL Level: LOW
(low/med):

Background Lab Sample ID: 7189528BKG Matrix Spike Lab Sample ID: 7189529MS Matrix Spike Duplicate Lab Sample ID: 7189530MSD
Batch Id(s): P25037B, P25038B

Analyte	Mass	BKG Sample		MS Sample		MSD Sample		MS Spike Added	MSD Spike Added	Units	MS		MSD		Control Limit					
		Result	C	Result	C	Result	C				%R	Q	%R	Q	RPD	Q	%R	RPD	M	
Tin		2.5243	B	326.3874		342.3470		388.3495	400.0000	MG/KG	83		85		5		75 - 125	20	P	
Titanium		901.9641		1416.1961		1373.1830		97.0874	100.0000	MG/KG	530		471		3				20	P
Vanadium		50.8738		109.3388		111.7900		48.5437	50.0000	MG/KG	120		122		2		75 - 125	20	P	
Zinc		55.8068		105.1573		109.1330		48.5437	50.0000	MG/KG	102		107		4		75 - 125	20	P	
Zirconium		6.4184		101.3262		106.4280		97.0874	100.0000	MG/KG	98		100		5		75 - 125	20	P	

Note: Results shown are reported on an as-received basis.

<p>METHODS: P = ICP Atomic Emission Spectrometer CV = Cold Vapor MS = ICP Mass Spectrometry AF = Cold Vapor Atomic Fluorescence</p>	<p>CONCENTRATION QUALIFIERS: U = Below MDL, B = Below LOQ FLAGS: N = Matrix Spike OOS, * = Duplicate OOS</p>
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Background Lab Sample ID: 7189528BKG
 Batch ID(s): P25037B, P25038B
 Concentration Units: MG/KG

Duplicate Lab Sample ID: 7189531DUP

Analyte	Mass	Control Limit	Samples (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum			20276.0126		21555.7050		6		P
Antimony			-1.1854	B	-1.6139	B	-31		P
Arsenic		3.9	5.1214		5.5228		8		P
Barium			101.5748		104.3802		3		P
Beryllium			0.7748	B	0.8099	B	4		P
Boron			4.1485	B	3.8099	B	9		P
Cadmium			0.1068	B	0.0901	B	17		P
Calcium			2997.9155		3094.0871		3		P
Chromium			28.1505		29.1604		4		P
Cobalt			7.4214		7.3535		1		P
Copper			12.4087		12.9485		4		P
Iron			26313.8233		27161.7822		3		P
Lead		2.9	6.6000		6.6426		1		P
Lithium			25.7806		26.8812		4		P
Magnesium			5788.4699		5937.2515		3		P
Manganese			321.7136		324.1802		1		P
Mercury			0.0099	U	0.0098	U			CV
Molybdenum			0.2728	B	0.2376	B	14		P
Nickel			16.1835		16.7614		4		P
Phosphorus			307.9466		320.9455		4		P
Potassium			3074.1893		3269.4683		6		P
Selenium	78		0.1268	B	0.1074	B	17		MS
Silver	107		0.0329	B	0.0389	B	17		MS
Sodium			88.6845	B	92.7693	B	5		P
Strontium	88		25.2621		25.3861		0		MS
Thallium	203	0.2	0.2641		0.3018		13		MS
Tin			2.5243	B	2.6842	B	6		P
Titanium			901.9641		981.5327		8		P
Vanadium			50.8738		52.7297		4		P
Zinc			55.8068		57.1267		2		P
Zirconium		4.9	6.4184		7.3426		13		P

NOTE: An asterisk (*) in column "Q" indicates poor duplicate precision (RPD > 20% OR |(S) - (D)| > LOQ for values < 5x LOQ).
 The data are considered to be valid because the laboratory control sample is within the control limits. See the Laboratory Control Sample.

ok by reference

Note: Results shown are reported on an as-received basis.

METHODS: P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence	CONCENTRATION QUALIFIERS: U= Below MDL B= Below LOQ FLAGS: Duplicate Out of Spec
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**Data Validation Report
Santa Susana Field Laboratory**

Subarea 5D

SDG: PH104

Prepared for

CDM Smith
555 17th Street, Suite 1100
Denver, CO 80202

Prepared by

Laboratory Data Consultants, Inc
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December 10, 2013

INTRODUCTION

This Data Validation Report (DVR) presents Level III data validation results for samples collected on September 9, 2013. Data validation was performed in accordance with 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), Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005) and for Inorganic Data Review (January 2010). Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following methods:

Semivolatiles (SVOCs) by EPA SW 846 Method 8270D utilizing Selective Ion Monitoring (SIM)
Pesticides by EPA SW 846 Method 8081B
Polychlorinated Biphenyls (PCBs) by EPA SW 846 Method 8082A
Metals by EPA SW 846 Method 6010C, 6020A and 7471B
Total Petroleum Hydrocarbons (TPH) as Gasoline by EPA SW 846 Method 8015M
TPH as Extractables by EPA SW 846 Method 8015M
Dioxins and Dibenzofurans by EPA Method 1613B

Wet Chemistry:

Fluoride by EPA Method 300.0

The sample identification and methods of analyses performed on each sample is presented in Attachment 1. Overall data qualification summary is presented in Attachment II. Level III Automated Data Review outliers are presented in Enclosure I.

All sample results were subjected to Level III data validation, which comprises an evaluation of quality control (QC) summary results for sample holding times, initial and continuing calibration blanks (ICB/CCBs), surrogates, internal standards (dioxins only), matrix spike/matrix spike duplicates (MS/MSD), laboratory duplicates (DUP), laboratory control sample/laboratory control sample duplicates (LCS/LCSD), ICP serial dilutions, method blanks, trip blanks, equipment blanks, field blanks and field duplicates. No samples in this SDG were subjected to Level IV evaluation.

Automated data review was performed on all QC summary results using the Automated Data Review (ADR) software program (LDC, 2013) with exception of ICB/CCBs and ICP serial dilutions, which were validated manually. Quality assurance (QA)/QC criteria specified in the QAPP and CLPNFGs were incorporated with the program's reference library to assess compliance with project requirements.

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.

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 QC criteria.

II. Initial Calibration

Initial Calibration data were not reviewed for level III.

III. Continuing Calibration

Continuing calibration data were not reviewed for level III.

IV. Blanks

Method blanks were performed at the required frequencies. No contaminant concentrations were detected in the method or preparation blanks with the exception of two blanks for metals and dioxins. The associated sample results were qualified as non-detected (U) due to method blank contamination as applicable. The sample results that were not detected or were significantly greater than the concentrations found in the associated blanks were not qualified. The details regarding the qualification of data are provided in Enclosure I.

No contaminant concentrations were detected in the initial or continuing calibration blanks.

V. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. ICP Interference Check Sample (ICS) Analysis

ICP interference check data were not reviewed for level III.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were performed at the required frequency. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the exception of two MS/MSD pairs for SVOCs, metals, TPH as extractables and fluoride. The associated sample results were qualified as detected estimated (J) or non-detected estimated (UJ) as applicable. The details regarding the qualification of data are provided in Enclosure I.

VIII. Laboratory Duplicates Sample

Laboratory duplicates (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

IX. 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 with the exception of one LCS/LCSD pair for SVOCs. No data were qualified due to high %Rs since the associated results were non-detected.

X. Internal Standards

Internal standards were reviewed for dioxins. Percent recoveries (%R) were within QC limits.

XI. ICP Serial Dilution

ICP serial dilution analysis was performed by the laboratory. The analysis criteria were met with the following exceptions:

Diluted Sample	Analyte	%D (Limits)	Associated Samples	Flag	A or P
SL-515-SA5D-SB-0.0-0.5	Cobalt Strontium	11 (≤ 10) 24 (≤ 10)	All soil samples in SDG PH104	J (all detects) UJ (all non-detects)	A

The associated sample results were qualified as detected estimated (J).

XII. Compound Quantitation

The laboratory reporting limits were evaluated. All laboratory reporting limits met the specified requirements.

All compounds reported below the RL as detected were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG PH104	All compounds reported as detected below the RL.	J (all detects)	A

XIII. Field Duplicate Samples

One field duplicate pair was collected and analyzed for SVOCs, pesticides, PCBs, metals, TPH as extractables, dioxins, and fluoride. All RPDs were within QC limits with the exception of SVOCs, metals, TPH as extractables and dioxins. In these duplicate pairs, the associated sample results were qualified as detected estimated (J) or non-detected estimated (UJ) as applicable. The field duplicate result comparisons are provided in Enclosure I.

XIV. Field Blank Samples

One trip blank was collected and analyzed for TPH as gasoline. No volatile contaminants were found in the trip blank.

One equipment blank (from SDG PH106) was collected and analyzed for SVOCs, pesticides,

PCBs, metals, TPH as gasoline, TPH as extractables, dioxins and fluoride. The equipment blank had detections for SVOCs, metals and dioxins. The associated sample results were qualified as non-detected (U) due to equipment blank contamination as applicable. The sample results that were not detected or were significantly greater than the concentrations found in the equipment blanks were not qualified. The equipment blank outlier reports are presented in Enclosure I.

One field blank (from SDG PH029) was collected and analyzed for SVOCs, pesticides, PCBs, metals, TPH as gasoline, TPH as extractables, dioxins and fluoride. The field blank had detections for SVOCs, metals and dioxins. The associated sample results were qualified as non-detected (U) due to field blank contamination as applicable. The sample results that were not detected or were significantly greater than the concentrations found in the field blank were not qualified. The field blank outlier reports are presented in Enclosure I.

XV. Overall Assessment of Data

No data associated with this sampling event were rejected. The overall assessment of QA/QC data review by automated and manual validation of this sampling event met project requirements and analytical completeness levels with the exceptions noted in the above sections. All data are deemed useable for the intended use.

Data flags are summarized and are presented as Attachment 2.

Attachment 1

Sample Cross Reference

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
09-Sep-2013	SL-599-SA5D-SB-0.0-0.5	7191090	N	METHOD	300.0	III
09-Sep-2013	SL-599-SA5D-SB-4.0-5.0	7191091	N	METHOD	300.0	III
09-Sep-2013	TB-090913	7191081	TB	5030B	8015M	III
09-Sep-2013	SL-599-SA5D-SB-9.0-10.0	7191092	N	METHOD	300.0	III
09-Sep-2013	SL-599-SA5D-SB-14.0-15.0	7191093	N	METHOD	300.0	III
09-Sep-2013	SL-599-SA5D-SB-19.0-20.0	7191094	N	METHOD	300.0	III
09-Sep-2013	SL-599-SA5D-SB-22.0-23.0	7191095	N	METHOD	300.0	III
09-Sep-2013	SL-599-SA5D-SB-22.0-23.0D	P191095D270403B	DUP	METHOD	300.0	III
09-Sep-2013	SL-599-SA5D-SB-22.0-23.0M	P191095R270419B	MS	METHOD	300.0	III
09-Sep-2013	SL-515-SA5D-SB-0.0-0.5	7191082	N	3050B	6010C	III
09-Sep-2013	SL-515-SA5D-SB-0.0-0.5	7191082	N	3050B	6020A	III
09-Sep-2013	SL-515-SA5D-SB-0.0-0.5	7191082	N	3546	8015M	III
09-Sep-2013	SL-515-SA5D-SB-0.0-0.5	7191082	N	3546	8081B	III
09-Sep-2013	SL-515-SA5D-SB-0.0-0.5	7191082	N	3546	8082A	III
09-Sep-2013	SL-515-SA5D-SB-0.0-0.5	7191082	N	3546	8270D SIM	III
09-Sep-2013	SL-515-SA5D-SB-0.0-0.5	7191082	N	METHOD	1613B	III
09-Sep-2013	SL-515-SA5D-SB-0.0-0.5	7191082	N	METHOD	300.0	III
09-Sep-2013	SL-515-SA5D-SB-0.0-0.5	7191082	N	METHOD	7471B	III
09-Sep-2013	SL-515-SA5D-SB-0.0-0.5MS	7191083	MS	3050B	6010C	III
09-Sep-2013	SL-515-SA5D-SB-0.0-0.5MS	7191083	MS	3050B	6020A	III
09-Sep-2013	SL-515-SA5D-SB-0.0-0.5MS	7191083	MS	3546	8015M	III
09-Sep-2013	SL-515-SA5D-SB-0.0-0.5MS	7191083	MS	3546	8081B	III
09-Sep-2013	SL-515-SA5D-SB-0.0-0.5MS	7191083	MS	3546	8082A	III
09-Sep-2013	SL-515-SA5D-SB-0.0-0.5MS	7191083	MS	3546	8270D SIM	III
09-Sep-2013	SL-515-SA5D-SB-0.0-0.5MS	7191083	MS	METHOD	1613B	III
09-Sep-2013	SL-515-SA5D-SB-0.0-0.5MS	7191083	MS	METHOD	300.0	III

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
09-Sep-2013	SL-515-SA5D-SB-0.0-0.5MS	7191083	MS	METHOD	7471B	III
09-Sep-2013	SL-515-SA5D-SB-0.0-0.5MSD	7191084	MSD	3050B	6010C	III
09-Sep-2013	SL-515-SA5D-SB-0.0-0.5MSD	7191084	MSD	3050B	6020A	III
09-Sep-2013	SL-515-SA5D-SB-0.0-0.5MSD	7191084	MSD	3546	8015M	III
09-Sep-2013	SL-515-SA5D-SB-0.0-0.5MSD	7191084	MSD	3546	8081B	III
09-Sep-2013	SL-515-SA5D-SB-0.0-0.5MSD	7191084	MSD	3546	8082A	III
09-Sep-2013	SL-515-SA5D-SB-0.0-0.5MSD	7191084	MSD	3546	8270D SIM	III
09-Sep-2013	SL-515-SA5D-SB-0.0-0.5MSD	7191084	MSD	METHOD	1613B	III
09-Sep-2013	SL-515-SA5D-SB-0.0-0.5MSD	7191084	MSD	METHOD	7471B	III
09-Sep-2013	SL-515-SA5D-SB-0.0-0.5DUP	7191085	DUP	3050B	6010C	III
09-Sep-2013	SL-515-SA5D-SB-0.0-0.5DUP	7191085	DUP	3050B	6020A	III
09-Sep-2013	SL-515-SA5D-SB-0.0-0.5DUP	7191085	DUP	METHOD	300.0	III
09-Sep-2013	SL-515-SA5D-SB-0.0-0.5DUP	7191085	DUP	METHOD	7471B	III
09-Sep-2013	SL-815-SA5D-SB-0.0-0.5	7191086	FD	3050B	6010C	III
09-Sep-2013	SL-815-SA5D-SB-0.0-0.5	7191086	FD	3050B	6020A	III
09-Sep-2013	SL-815-SA5D-SB-0.0-0.5	7191086	FD	3546	8015M	III
09-Sep-2013	SL-815-SA5D-SB-0.0-0.5	7191086	FD	3546	8081B	III
09-Sep-2013	SL-815-SA5D-SB-0.0-0.5	7191086	FD	3546	8082A	III
09-Sep-2013	SL-815-SA5D-SB-0.0-0.5	7191086	FD	3546	8270D SIM	III
09-Sep-2013	SL-815-SA5D-SB-0.0-0.5	7191086	FD	METHOD	1613B	III
09-Sep-2013	SL-815-SA5D-SB-0.0-0.5	7191086	FD	METHOD	300.0	III
09-Sep-2013	SL-815-SA5D-SB-0.0-0.5	7191086	FD	METHOD	7471B	III
09-Sep-2013	SL-515-SA5D-SB-4.0-5.0	7191087	N	3050B	6010C	III
09-Sep-2013	SL-515-SA5D-SB-4.0-5.0	7191087	N	3050B	6020A	III
09-Sep-2013	SL-515-SA5D-SB-4.0-5.0	7191087	N	3546	8015M	III
09-Sep-2013	SL-515-SA5D-SB-4.0-5.0	7191087	N	3546	8081B	III