REVISED - Technical Memorandum

Phase 3 Chemical Data Gap Investigation and Radionuclide Sampling Results Drainage Sediment Sampling in Area III Santa Susana Field Laboratory Ventura County, California

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I certify that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.



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Table of Contents

Section 1 Introduction 1-1

1.1 Objective and Basis for Data Gap Investigation Sampling for Drainage Sediment Sampling Within Area III 1-1
1.2 Geology 1-2
1.3 Technical Memorandum Organization 1-2

Section 2 Field Sampling and Analytical Methods 2-1

2.1 Dry Drainage Surface Sampling 2-1
2.2 Silvernale Pond Sediment Sampling 2-2
2.3 Sample Handling 2-2
2.4 Field Quality Control Procedures 2-7
2.4.1 Field Duplicates and MS/MSD Samples 2-7
2.4.2 Equipment Rinsate Blank Samples 2-7
2.4.3 Field Blank Samples 2-7
2.4.4 Decontamination of Sampling Equipment 2-7
2.5 Chemical Laboratory Analytical Methods 2-8
2.6 Radiological Analytical Methods 2-8
2.7 Chemical Data Review Processes 2-9
2.8 Radionuclide Data Review Processes 2-10
2.9 Deviations from the Master FSP 2-10
2.9.1 Field Sampling 2-10
2.9.2 Analytical 2-10

Section 3 Area III Sediment Sampling Results - Chemical 3-1

Section 4 Area III Sediment Sampling Results – Radionuclides 4-1

Section 5 Chemical Data Usability Assessment 5-1

5.1 Usability Summary 5-1
5.2 Data Validation Procedures 5-1
5.3 Quality Assurance Objectives 5-2
5.4 Summary of Field and Laboratory QA Activities 5-2
5.5 Field Quality QA/QC 5-3
5.6 Laboratory Quality QA/QC 5-4
5.7 Data Quality Indicators 5-4
5.7.1 Precision 5-5
5.7.2 Accuracy 5-6
5.7.3 Blank Contamination 5-8
5.7.4 Representativeness, Comparability, and Sensitivity 5-9
5.7.4.1 Representativeness 5-9
5.7.4.2 Comparability 5-10
5.7.4.3 Sensitivity 5-10
5.8 Review of Selected Validation Reports 5-11
5.9 Data Completeness 5-11
5.10 Assessment of Data Usability and Reconciliation with WP/FSAP Goals 5-12

Section 6 References 6-1

List of Figures

Figure 2-1 Area III Sediment Sample Locations 2-3

List of Tables

Table 2-1 Sediment Samples Collected within Area III – Phase 3 2-5
Table 3-1 Summary of Analytical Results for Chemicals - Validated Data Sediment Samples – Area III – Phase 3 3-3
Table 4-1 Summary of Analytical Results for Radionuclides – Validated Data Sediments in Area III 4-3
Table 5-1 Sample Delivery Groups and Validation Levels for Phase 3 Drainage Sediment Samples within Area III 5-2
Table 5-2 Field Blank Results for Phase 3 Drainage Sediment Samples within Area III – Detected Results Only 5-3
Table 5-3 Equipment Blank Results for Phase 3 Drainage Sediment Samples within Area III – Detected Results Only 5-3
Table 5-4 Summary of Data Completeness Following Data Validation – Phase 3 Drainage Sediment Area III 5-12

Appendices

Appendix A Analytical Results Tables – Chemical
Appendix B Analytical Results Table - Radionuclides
Appendix C Laboratory Reports
Appendix D Chemical Data Usability Assessment Report and Data Validation Reports
Appendix E The Palladino Company Radionuclide Data Validation Report
Appendix F Master Chemical Database Table
Appendix G USEPA Radionuclide Master Database Table
Appendix H Field Sample Data Sheets and Boring Logs
Appendix I Chain of Custodies

Acronyms and Abbreviations

%D	percent difference/percent drift
%R	percent recovery
mg/L	milligram per liter
ng/kg	nanogram per kilogram
ng/L	nanogram per liter
pg/L	picogram per liter
µg/L	microgram per liter
AOC	Administrative Order on Consent
bgs	below ground surface
CAS	chemical abstract service
CDM Smith	CDM Federal Programs Corporation
CoC	chain of custody
DOE	Department of Energy
DQI	data quality indicator
DQO	data quality objective
DTSC	Department of Toxic Substances Control
DUAR	data usability assessment review
EDL	estimated detection limit
EFH	extractable fuel hydrocarbon
EMAX	EMAX Laboratories, Inc.
FSDS	field sample data sheet
FSP	field sampling plan
FTL	field team leader
GIS	geographic information system
GPS	global positioning system
HSA	Historical Site Assessment
HxCDF	hexachlorodibenzofuran
ICP	inductively coupled plasma
LCS	laboratory control sample
LCSD	laboratory control sample duplicate
LLI	Lancaster Laboratories, Inc.
MDL	method detection limit
MS	matrix spike
MSD	matrix spike duplicate
NDMA	n-Nitrosodimethylamine
PAH	polycyclic aromatic hydrocarbon
PARCCS	precision, accuracy, representativeness, comparability, completeness and sensitivity
PCB	polychlorinated biphenyl
PCT	polychlorinated triphenyl
PID	photoionization detector
QA	quality assurance
QAPP	quality assurance project plan
QC	quality control

RCRA	Resource Conservation and Recovery Act
RL	reporting limit
RPD	relative percent difference
SDG	sample delivery group
SIM	selective ion monitoring
SOP	standard operating procedure
SOW	statement of work
SSFL	Santa Susana Field Laboratory
SVOC	semi-volatile organic compound
TM	technical memorandum
TPH	total petroleum hydrocarbon
USEPA	U.S. Environmental Protection Agency
WP/FSAP	Work Plan/Field Sampling and Analysis Plan

Section 1
Introduction

This Technical Memorandum (TM) presents the results of chemical and radiological analyses of drainage sediment samples collected within Area III of the Santa Susana Field Laboratory (SSFL) in Ventura County, California. Sediment sampling within Area III was conducted jointly with the U.S. Environmental Protection Agency (USEPA). Sediment sampling with USEPA differed from the Phase I sampling in that CDM Federal Programs Corporation (CDM Smith) was responsible for collection of the physical sample with a portion of the sample being provided to USEPA for radiological analysis. CDM Smith was responsible for the chemical analyses.

Collection of sediment samples for chemical analyses was performed under two planning documents:

- *Master Field Sampling Plan for Chemical Data Gap Investigation Sampling at Area IV, Santa Susana Field Laboratory, Ventura County, California* (CDM Smith 2012a) (Master FSP)
- *Addendum No. 3 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, Drainage Sediment Sampling in Area III* (CDM Smith 2012b) (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 2012c), which also includes Appendix B, Quality Assurance Project Plan (QAPP), Appendix C, Worker Safety and Health Program, and Appendix D, Standard Operating Procedures (SOPs).

USEPA managed the soil samples for radiological analyses based on the procedures described in *Field Sample Plan Addendum, Surface Water and Sediment Sampling, Silvernale, R2A, and R2B Retention Ponds and Drainages, Santa Susana Field Laboratory Site* (HydroGeologic, Inc. 2011)

This TM also provides a description of the sampling activities and a discussion of the analytical data review findings for Phase 3 sampling for drainage sediment samples within Area III. The TM does not provide an interpretation of the results. The data provided in this TM are intended to be combined with data collected under the prior Resource Conversation and Recovery Act (RCRA) Facility Investigation and the Phase 1 chemical collocated sampling program to support the Soil Remedial Action Implementation Plan for chemicals in soil in Area IV. The soil and sediment sampling is being performed to address the chemical investigation activities under the Administrative Order on Consent for Remedial Action [Docket Number HSA-CO 10/11-037] between the U.S. Department of Energy [DOE] and the California Environmental Protection Agency, Department of Toxic Substances Control (DTSC).

1.1 Objective and Basis for Data Gap Investigation Sampling for Drainage Sediment Sampling Within Area III

The Administrative Order on Consent (AOC) signed by DOE and DTSC requires DOE to evaluate the extent of contamination that is either contiguous to or emanating from Area IV. The southern portion of Area IV drains to the east and southeast into Area III. The drainage sediment sampling effort was performed to address the migration of contaminants in drainages (the drainage pathway). Therefore,

drainages crossing into Area III and leading to the Silvernale Pond (the major receiving water body for the drainages) were targeted for sampling.

CDM Smith was responsible for all aspects of the field sampling program under Phase 3 of the AOC, including:

- Locating the sample locations selected as a result of the data gap investigation in the field using geographic information system (GIS) coordinates
- Collection of all samples in accordance with the procedures and controls specified in the Master FSP and FSP Addendum, including but not limited to: sample collection, sample container preparation, sample handling, and documentation
- Following applicable SOPs for each activity performed during the field sampling program
- Providing USEPA with sample material for radionuclide analysis
- Sample management and shipment, laboratory coordination, and chemical analyses of the samples
- Data review and validation of the chemical data

USEPA's data validation report is included as Appendix E and radionuclide data as Appendix B and Appendix G of this Report.

1.2 Geology

Drainage sediment sampling in Area III is within the Chatsworth Formation, which is composed predominantly of sandstone interbedded with siltstone and shale. The overlying native soils encountered in Area III range from predominantly silty sands to sandy silts at the surface. Additional information regarding the Area IV geology can be found in Volume I of *Group 5 – Central Portion of Areas III and IV RCRA Facility Investigation Report, Santa Susana Field Laboratory, Ventura County, California* (CH2M Hill 2008).

1.3 Technical Memorandum Organization

This TM includes the following sections:

- **Section 1 - Introduction** – Summarizes the basis and objectives of the Phase 3 drainage sediment sampling within Area III
- **Section 2 - Field Sampling and Analytical Methods** – Provides details regarding field sampling procedures and laboratory analytical methods
- **Section 3 - Soil Sample Analytical Results - Chemical** – Provides a summary of detected analytical results for each chemical; the appendices provide the overall results
- **Section 4 - Soil sample Analytical Results – Radionuclides** – Provides a summary of detected analytical results for each radionuclide; the appendices provide the overall results
- **Section 5 - Data Usability Assessment** – Discusses the results of the data review and validation processes for the chemical data. USEPA's data validation report is provided in Appendix E of this Report.
- **Section 6 - References**

Section 2
Field Sampling and Analytical Methods

Surface sediment samples were collected from 17 locations in Area III between July 17 and July 24, 2012. Thirteen sample locations were collected from dry drainages in Area III. Four locations were collected within the Silvernale Pond under water ranging from 3.2 feet to 5.3 feet. Sample locations for the Phase 3 drainage sediment samples within Area III are shown on Figure 2-1.

Table 2-1 includes the data gap rationale for sampling at each Phase 3 drainage sediment sample location, the location description, sample numbers, sample type, date of sample collection, chemical and radiological analyte, and description of sample. All locations and proposed samples were collected.

All sediment sampling equipment (described in Sections 2.1 and 2.2) that came into contact with sample materials was decontaminated prior to sample collection in accordance with SSFL SOP 12 of the Master FSP. All sediment samples were screened for radioactivity using a Micro R Survey Meter (for gamma radiation) and a Pancake Frisker Detector (for alpha and beta radiation), followed by screening with a photoionization detector (PID) as directed in SOP 7. For each sample collected, the site geologist also completed a field data sample sheet (FSDS) in accordance with SSFL SOP 8. The completed form was reviewed by the field sampler and sample coordinator during sample processing. A boring log was created in accordance with SSFL SOP 9 for each location and reviewed by a state certified Professional Geologist. Silvernale pond samples were collected in accordance with SOP 19, *Sediment Sampling from Standing Water*. The FSDS sheets and associated boring logs are presented in Appendix H.

2.1 Dry Drainage Surface Sampling

Prior to the collection of the Phase 3 dry drainage sediment samples within Area III, the surface of each sample area was prepared by CDM Smith sampling personnel by removing leaves, grass, and any other surface debris. Sediment samples were collected at 13 locations from the ground surface to 6 inches below ground surface (bgs) using a slide hammer equipped with a 2-inch diameter and 6-inch long stainless steel sample liner in accordance with SSFL SOP 2 of the Master FSP. The slide hammer sampler was pounded into the soil until the top of the sampler was flush with the ground surface and then removed from the soil. The sample sleeve was removed from the sampler and both ends capped with a Teflon® liner and a plastic cap.

After the samples were collected and labeled "Top" and "Bottom," adhesive sample labels, completed with all sampling information, were affixed to all sample sleeves and jars. The sample jars were then placed into plastic zip top bags and stored in a cooler with double bagged ice until the samples were relinquished to the project sample coordinator or field team leader (FTL). Each surface sample was analyzed for the methods identified at each sample location as indicated in Table 1 of the Phase 3 Drainage Sediment Area III Data Gap Analysis TM and Table 2-1 of this TM.

Sediment samples intended for radionuclide analyses by USEPA were placed by CDM Smith in one-gallon zip lock baggies provided by USEPA. Upon acceptance of the soil material, USEPA was responsible for sample management and shipment to their radionuclide laboratory (GEL).

2.2 Silvernale Pond Sediment Sampling

Pond sediment samples were collected at four locations within the Silvernale Pond from a rowboat using a Petite Ponar Sampler in accordance with SSFL SOP 19 of the Master FSP. Prior to sampling, the Ponar sampler, rowboat, and all necessary equipment were decontaminated in accordance with Section 5 of SSFL SOP 19. Each sample location was determined to be free of obstructions underwater and depth of water was measured and recorded. The Petite Ponar Sampler was lowered from the rowboat to the pond bottom by a clean Teflon-coated wire rope and sediment was collected in the sampler via a mechanism that closes the sampler jaws to trap sediment. The sampler was carefully lifted from the pond bottom and contents emptied into a stainless steel pan.

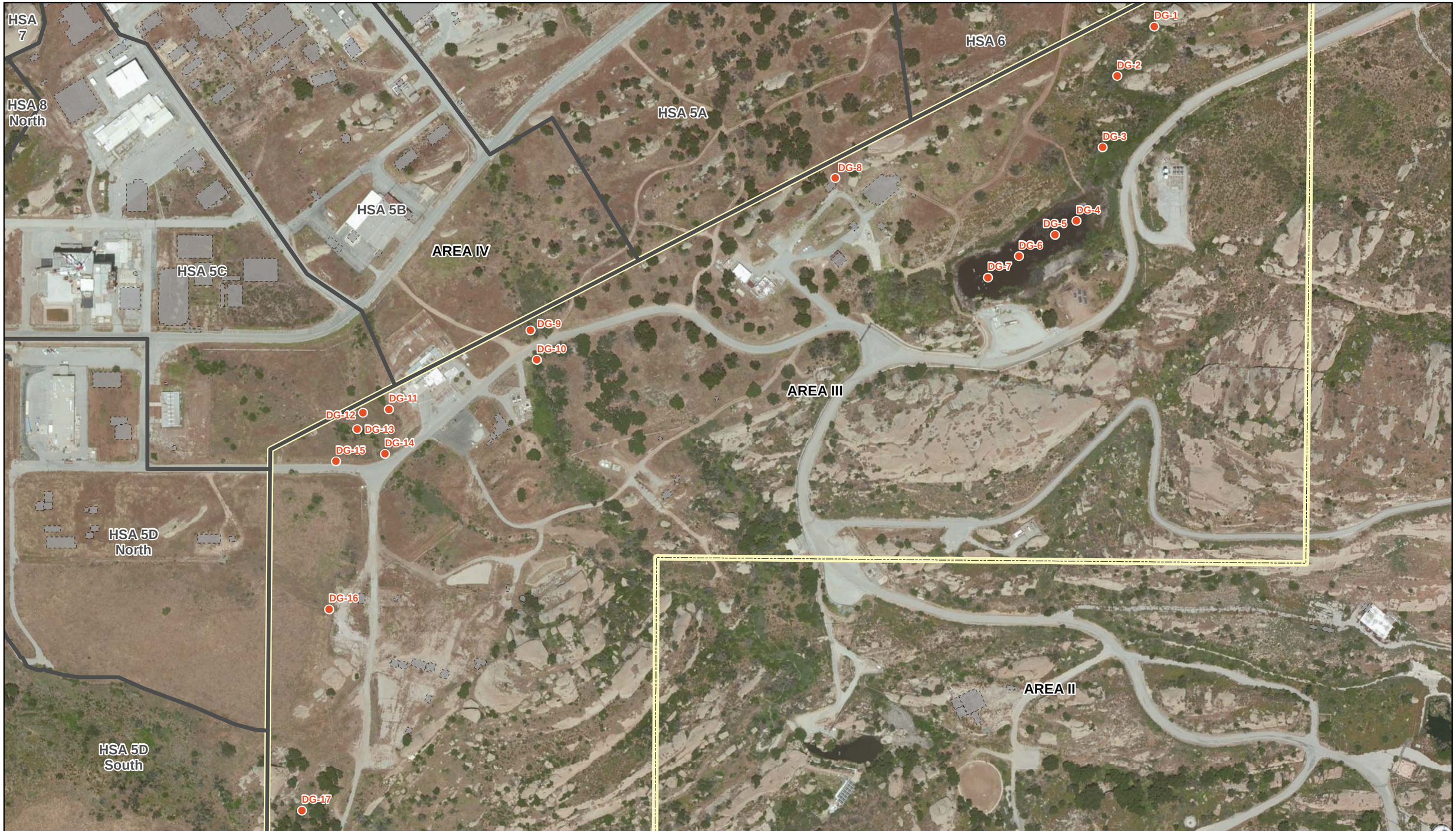
Soil for total petroleum hydrocarbons (TPH) analysis was removed directly from the Ponar sampler prior to emptying and placed in a separate 8-ounce jar. All of the remaining sediment was collected from the pan and placed into glass jars (ranging from 4 ounces to 16 ounces depending on volume of soil needed for the required analyses). Adhesive sample labels were filled out with all sampling information and affixed to each sample jar. The sample jars were then placed into plastic zip top bags. All jars were placed in a cooler with double bagged ice.

2.3 Sample Handling

All soil samples were relinquished by the field sampler or geologist to CDM Smith's FTL or sample coordinator. The FTL or sample coordinator reviewed the completed FSDS for each submitted soil sample and ensured that the sample labels were legible and correct and that they matched the information on the FSDS. Any discrepancies were discussed with the field samplers and corrections to the sample labels and/or FSDS were made as needed. All sample labels were covered with clear tape and the sleeves and jars placed back into their plastic zip top bag and refrigerated.

All sampling information on the FSDS was input into the Scribe electronic database by the sampling coordinator and one or more chain-of-custody (CoC) forms were generated at the end of the day from the database. The FTL reviewed each CoC, corrected any discrepancies, and reprinted the CoC, as needed. All CoCs for the Phase 3 drainage sediment samples within Area III are presented in Appendix I. Each completed CoC was signed by the sampler and the FTL as the individual responsible for release of the samples to the courier. All samples were packed into coolers and shipped in accordance with SSFL SOP 11.

USEPA was responsible for the management and shipping of the sediment material identified for radionuclide analysis.



N

Legend

- Sample Location
- Removed Building
- Area IV Subarea
- Area III Site Area

Aerial Source: Bing Maps, (c) 2010 Microsoft Corporation and its data suppliers

Area III Sediment Sample Locations

0 130 260 390 520 Feet

Santa Susana Field Laboratory
Ventura County, California
Figure 2-1

CDM Smith

Y:\SantaSusana\GIS\MXD\SSFL_A3_Sed_Sampling_Locations_20130424.mxd 4/24/2013

Location ID	Location Description	Rationale / Comments	Boring Total Depth (ft bgs)	Fill Description	Sample Date	Sample Type	Sample Number	Laboratory Analyses
A3_Sed_DG-1	Northeast portion of Area III, north of Silvernale pond.	Receives surface water runoff from the Old Conservation and New Conservation Yards and the SRE Pond in Subarea 6 of Area IV.	0.5	None indicated	7/18/12	Sediment	SL-001-A3-SB-0.0-0.5	PAHs, PCBs/PCTs, dioxins, metals, TPH-EFH, terphenyls
A3_Sed_DG-2	Northeast portion of Area III, north of Silvernale pond.	Receives surface water runoff from the Old Conservation and New Conservation Yards and the SRE Pond in Subarea 6 of Area IV.	0.5	Trace gravel (igneous) at surface	7/18/12	Sediment	SL-002-A3-SB-0.0-0.5	PAHs, PCBs/PCTs, dioxins, metals, TPH-EFH, terphenyls
A3_Sed_DG-3	Northeast portion of Area III, north of Silvernale pond.	Receives surface water runoff from the Old Conservation and New Conservation Yards and the SRE Pond in Subarea 6 of Area IV.	0.5	None indicated	7/18/12	Sediment	SL-003-A3-SB-0.0-0.5	PAHs, PCBs/PCTs, dioxins, metals, TPH-EFH, terphenyls
A3_Sed_DG-4	Within Silvernale pond.	Receives surface water runoff from the Old Conservation and New Conservation Yards and the SRE Pond in Subarea 6 of Area IV.	0.5	None indicated	7/24/12	Sediment (Pond)	SL-004-A3-SB-0.0-0.5	PAHs, PCBs/PCTs, dioxins, metals, TPH-EFH, terphenyls
A3_Sed_DG-5	Within Silvernale pond.	Receives surface water runoff from the Old Conservation and New Conservation Yards and the SRE Pond in Subarea 6 of Area IV.	0.5	None indicated	7/24/12	Sediment (Pond)	SL-005-A3-SB-0.0-0.5	PAHs, PCBs/PCTs, dioxins, metals, TPH-EFH, terphenyls
A3_Sed_DG-6	Within Silvernale pond.	Receives surface water runoff from the Old Conservation and New Conservation Yards and the SRE Pond in Subarea 6 of Area IV.	0.5	None indicated	7/24/12	Sediment (Pond)	SL-006-A3-SB-0.0-0.5	PAHs, PCBs/PCTs, dioxins, metals, TPH-EFH, terphenyls
A3_Sed_DG-7	Within Silvernale pond.	Receives surface water runoff from the Old Conservation and New Conservation Yards and the SRE Pond in Subarea 6 of Area IV.	0.5	None indicated	7/24/12	Sediment (Pond)	SL-007-A3-SB-0.0-0.5	PAHs, PCBs/PCTs, dioxins, metals, TPH-EFH, terphenyls
A3_Sed_DG-8	North central portion of Area III, northwest of Silvernale pond on drainage exiting the south central portion of Subarea 5A.	Receives surface water runoff from operational areas in eastern portion of Area IV.	0.5	None indicated	7/18/12	Sediment	SL-008-A3-SB-0.0-0.5	PAHs, PCBs/PCTs, dioxins, metals, TPH-EFH, terphenyls
A3_Sed_DG-9	West central portion of Area III. Drainage exiting the south central portion of Subarea 5B.	Receives surface water runoff from Area IV Subarea 5B, through 17th Street Pond. This location adjacent to 5B_DG-798 identified in Table 3 of Subarea 5B Phase 3 Data Gap Analysis for future collection.	0.5	None indicated	7/18/12	Sediment	SL-009-A3-SB-0.0-0.5	PAHs, PCBs/PCTs, dioxins, metals, TPH-EFH, terphenyls, perchlorate
A3_Sed_DG-10	South of location A3_Sed_DG-9.	Receives surface water runoff from Area IV Subarea 5B, through 17th Street Pond. This location adjacent to 5B_DG-798 identified in Table 3 of Subarea 5B Phase 3 Data Gap Analysis for future collection.	0.5	None indicated	7/18/12	Sediment	SL-010-A3-SB-0.0-0.5	PAHs, PCBs/PCTs, dioxins, metals, TPH-EFH, terphenyls, perchlorate
A3_Sed_DG-11	Northwestern portion of Area III. Drainage exiting the south central portion of Subarea 5B.	Receives surface water runoff originating from PDU and Building 4006 area in Subareas 5B and 5C of Area IV.	0.5	None indicated	7/17/12	Sediment	SL-011-A3-SB-0.0-0.5	PAHs, PCBs/PCTs, dioxins, metals, TPH-EFH, terphenyls, perchlorate
A3_Sed_DG-12	Northwestern portion of Area III. Drainage exiting southeast portion of Subarea 5C.	Receives surface water runoff from most of Area IV Subareas 5B and 5C. This location identified in Table 3 of Subarea 5C Phase 3 Data Gap Analysis as 5C_DG-749 for future collection.	0.5	None indicated	7/17/12	Sediment	SL-012-A3-SB-0.0-0.5	PAHs, PCBs/PCTs, dioxins, metals, TPH-EFH, terphenyls, perchlorate
A3_Sed_DG-13	Northwestern portion of Area III. Drainage originating north of Building 4015, and exiting the southeastern portion of Subarea 5C.	Receives surface water runoff from Area IV Subarea 5C only. This location identified in Table 3 of Subarea 5C Phase 3 Data Gap Analysis as 5C_DG-748 for future collection.	0.5	None indicated	7/17/12	Sediment	SL-013-A3-SB-0.0-0.5	PAHs, PCBs/PCTs, dioxins, metals, TPH-EFH, terphenyls, perchlorate
A3_Sed_DG-14	Northwestern portion of Area III.	Receives surface water runoff from the four drainages on which locations 11, 12, 13, and 15 are located. This location is slightly updrainage of 5C_DG-511 identified in Table 3 of Subarea 5C Phase 3 Data Gap Analysis for future collection.	0.5	Trace gravel (igneous) at surface	7/17/12	Sediment	SL-014-A3-SB-0.0-0.5	PAHs, PCBs/PCTs, dioxins, metals, TPH-EFH, terphenyls, perchlorate

Table 2-1
Sediment Samples Collected from Subarea III - Phase 3

Location ID	Location Description	Rationale / Comments	Boring Total Depth (ft bgs)	Fill Description	Sample Date	Sample Type	Sample Number	Laboratory Analyses
A3_Sed_DG-15	Northwestern corner of Area III.	Receives surface water runoff from Area IV Subarea 5C only. This location identified in Table 3 of Subarea 5C Phase 3 Data Gap Analysis as 5C_DG-753 for future collection.	0.5	Trace gravel (igneous) at surface	7/17/12	Sediment	SL-015-A3-SB-0.0-0.5	PAHs, PCBs/PCTs, dioxins, metals, TPH-EFH, terphenyls, perchlorate
A3_Sed_DG-16	Western portion of Area III.	Receives surface water runoff from areas of surface disturbance and possible container storage in Area IV Subarea 5D.	0.5	None indicated	7/17/12	Sediment	SL-016-A3-SB-0.0-0.5	PAHs, PCBs/PCTs, dioxins, metals, TPH-EFH, terphenyls
				None indicated	7/17/12	Sediment (duplicate)	SL-316-A3-SB-0.0-0.5	PAHs, PCBs/PCTs, dioxins, metals, TPH-EFH, terphenyls
A3_Sed_DG-17	Western portion of Area III.	Receives surface water runoff from areas of surface disturbance from the former borrow site.	0.5	None indicated	7/17/12	Sediment	SL-017-A3-SB-0.0-0.5	PAHs, PCBs/PCTs, dioxins, metals, TPH-EFH, terphenyls

NOTES:
Metals include mercury
PAHs = polycyclic aromatic hydrocarbons
PCBs/PCTs = polycyclic biphenyls/polycyclic triphenyls
PDU = Process Development Unit
SRE = Sodium Reactor Experiment
TPH-EFH = total petroleum hydrocarbons-extractable fuel hydrocarb
ft bgs = foot below ground surface

2.4 Field Quality Control Procedures

Quality control (QC) samples collected in the field included field duplicates, matrix spike (MS)/matrix spike duplicate (MSD) samples, equipment rinsate blanks, and field blanks. Trip blanks filled with laboratory analyte-free water were sent to the site from the laboratory and were submitted unopened with any samples to be analyzed for TPH-extractable fuel hydrocarbons (EFH).

2.4.1 Field Duplicates and MS/MSD Samples

Both the field duplicates and MS/MSD samples were to be collected at a frequency of one per 20 parent soil samples collected. The field duplicate and MS/MSD samples are collected from the same location. The field duplicate samples were submitted to the laboratory as separate blind samples having a unique sample number different from the parent samples. The MS/MSD samples are additional volume of the parent samples collected in double or triple volume depending on the amount of soil needed by the analytical laboratories.

A total of 17 Phase 3 drainage sediment samples in Area III were collected. One MS/MSD and field duplicate sample were collected and submitted to the laboratory for analysis meeting the one per 20 criteria.

2.4.2 Equipment Rinsate Blank Samples

Equipment rinsate blanks were collected weekly for the sediment samples.

2.4.3 Field Blank Samples

Field blanks were collected once for each lot number of ASTM International Type II water that was used for decontamination. One field blank was collected during Phase 3 drainage sediment sampling within Area III.

2.4.4 Decontamination of Sampling Equipment

All sampling equipment was decontaminated by CDM Smith staff before and after completing each sample. This included the hand auger equipment, slide hammer equipment, the rowboat, Petit Ponar Sampler, rope, waders worn by staff, and other sampling equipment. All sampling equipment was cleaned with the triple rinse method described below between sampling of different depths at one location and between locations. The external surfaces of the equipment were washed with potable water and Alconox, or equivalent laboratory-grade detergent. Equipment was scrubbed until all visible dirt, grime, grease, oil, loose paint, rust flakes, etc., was removed. The equipment was then rinsed with potable water.

Any surface sampling equipment that came into contact with soil, including the auger bucket and the slide hammer sampler cup and the cap that holds the stainless steel sleeves in place while sampling were decontaminated as follows:

- Washed with a solution of potable water and Liquinox, or equivalent laboratory-grade detergent
- Rinsed thoroughly with potable water
- Given a final rinse with ASTM International Type II water

If the sampling device was not used immediately after being decontaminated, it was placed in a sealed plastic bag.

2.5 Chemical Laboratory Analytical Methods

The Phase 3 drainage sediment samples within Area III were analyzed using at least one of the following analytical methods:

- Metals using USEPA Methods 6020, 7471A (mercury)
- Soil pH using USEPA Method 9045D
- Polycyclic aromatic hydrocarbons (PAHs) and n-Nitrosodimethylamine (NDMA) using Method 8270C selective ion monitoring (SIM)
- Polychlorinated biphenyls (PCBs)/Polychlorinated triphenyls (PCTs) using USEPA Method 8082
- Dioxins/furans using USEPA Method 1613B
- Perchlorate using USEPA Method 6850
- Formaldehyde using USEPA Method 8315A
- Terphenyls using USEPA Method 8015B
- TPH EFH using USEPA Method 8015B EFH

All of the samples to be analyzed for terphenyls and dioxins were shipped to Lancaster Laboratories, Inc. (LLI) in Lancaster, Pennsylvania. Samples to be analyzed for all other analyses were submitted to EMAX Laboratories, Inc. (EMAX) located in Torrance, California. LLI and EMAX were selected as a result of competitive procurement during the Phase 1 sampling in Area IV.

2.6 Radiological Analytical Methods

USEPA was responsible for procuring and managing the radiological laboratory. The laboratory performing the radiological analyses was GEL LLC of Charleston, South Carolina. Radionuclides by method classification are listed below.

- Gamma Spectroscopy
  - Actinium-227, Actinium 228, Silver-108, Silver-108m, Barium-133, Barium-137m, Bismuth-212, Bismuth-214, Cadmium-113, Californium-249, Cobolt-60, Cesium-134, Cesium-137, Europeum-152, Europeum-154, Holmium-166, Potassium-40, Sodium-22, Niobium-94, Neptuneum-236, Neptuneum-239, Proactinium-231, Lead-212, Lead-214, Radon-220, Radon-222, Antimony-125, Tin-126, Tellurium-125m, Thorium-234, Titanium-208, and Thulium-171
- Alpha Spectroscopy 1
  - Americium-243
- Alpha Spectroscopy 2
  - Americium 241, Curium-243, Curium-244, Curium-245, Curium-246

- Alpha Spectroscopy 3
  - Uranium-233, Uranium-234, Uranium-235, Uranium-236, Uranium-238
- Alpha Spectroscopy 4
  - Thorium-228, Thorium-230, Thorium-232, Thorium-229
- Alpha Spectroscopy 7
  - Plutonium-236, Plutonium-238, Plutonium-239, Plutonium-240, Plutonium-244
- Liquid Scintillation 3
  - Strontium 90, Yiterium-90
- Liquid Scintillation
  - Tritium
- Liquid Scintillation 8
  - Carbon-14
- Liquid Scintillation 6
  - Nickel-63, Nickel-59
- Liquid Scintillation 5
  - Technetium-99
- Liquid Scintillation 4
  - Iodine-129
- Liquid Scintillation 1
  - Promethium-147

2.7 Chemical Data Review Processes

Analytical data produced by the laboratories (LLI and EMAX) were subject to multiple review steps to coincide with the start of distinct tasks. These steps were performed in a timely manner to ensure appropriate feedback and correction of errors. These steps included:

- Cross-reference check of sample CoC documents against the laboratory acknowledgement of sample receipt form. The laboratory acknowledgement of sample receipt was typically transmitted to the data manager via e-mail 2 to 3 days after sample receipt and login and includes a summary of the requested analyses to be performed per sample. Sample log-in errors were identified and corrected at this step.
- Tracking of sample collection, receipt, and laboratory sample delivery group (SDG) numbers on a sample tracking spreadsheet. This spreadsheet also includes field QC sample information, sample location coordinates, and required laboratory deliverables including reports, electronic data deliverables, raw data, and the status of validation.

Upon receipt of the laboratory report (delivered via e-mail), a preliminary review of the data was performed. This review consisted of:

- Reconciliation of the reported analyses against the analyses that were requested on the CoCs.

- Review of the laboratory case narratives. The case narrative identifies and explains quality issues encountered during the analysis of the samples. Quality issues may include (but are not limited to) missed holding times, poor spike recoveries in matrix or batch-specific QC samples, instrument calibration exceedances, and blank contamination. The laboratory consults with the project chemists on these issues and receives instruction on how to proceed before reporting the sample results.
- Review of the laboratory-specific QC data. These data are provided by the laboratory in summary form. Any unanticipated deviations from the project or method-specific criteria are reconciled with the laboratory at this stage.

2.8 Radionuclide Data Review Processes

USEPA was responsible for data review and validation of the radionuclide data. USEPA's data review process is described in *Quality Assurance Project Plan for Groundwater, Surface Water, and Sediment, Area IV Radiological Study, Santa Susana Field Laboratory, Ventura County, California* (HydroGeologic, Inc. 2010). Further details regarding the radiological data review process is provided in Appendix E.

2.9 Deviations from the Master FSP

The deviations from the Master FSP are described below.

2.9.1 Field Sampling

Global Positioning System (GPS) points were not collected for the sample locations on Silvernale Pond due to equipment difficulties. It was determined to be unsafe to take the 6-foot antenna in the rowboat to the sampling locations. The handheld unit was taken on the rowboat to each sample location, but was unable to connect to sufficient satellites to record coordinates for each point. Locations were recorded visually on a map by the FTL with the mapped location information transferred to the GIS data managers for incorporation into the database. The locations in the database therefore reflect the general location of the sample.

2.9.2 Analytical

No analytical deviations were required for the Phase 3 drainage sediment sampling activities within Area III.

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Section 3

Area III Sediment Sampling Results - Chemical

Because this TM only provides the analytical results, data in this section are presented in a summary fashion. Table 3-1 summarizes the results for the Phase 3 drainage sediment surface sample data collected within Area III. The table details the chemicals analyzed, their chemical abstract service (CAS) number and frequency of detection, the minimum and maximum detected concentrations, the range of observed detection limits and reporting limits (RLs), and the sample location where the maximum concentration of each analyte was detected. If two locations for the maximum concentration are listed and only one maximum concentration value is provided, this indicates that the concentration was the same at the specified depth at both locations.

When Phase 3 sampling is complete, DOE will prepare Chemical Data Summary Reports that will evaluate the totality of information collected for Area IV, the Northern Buffer Zone, and adjacent areas. In these reports, DOE will describe the completeness of the investigations and present areas where data illustrate exceedances of proposed cleanup levels, per the AOC requirements. The Chemical Data Summary Reports will form one basis of the Soil Remedial Action Implementation Plans that will describe the soil remedies.

Appendix A provides tables for all chemical validated data by analytical method and sample location. Data validation qualifier codes and their definitions are presented in these tables. Appendix B provides tables for all radionuclide validated data by analytical method and sample location. Data validation qualifier codes and their definitions are presented in these tables. Appendix C provides the summary analytical data reports as received from LLI and EMAX. Appendix D presents the data usability and assessment report (DUAR), which details specific qualifications of chemical sample results along with all validation reports. Appendix E presents the radionuclide validation report. Appendix F is the master database of all chemical sample results including the data validation "flags" (qualifiers). Appendix G is the master database of all radionuclide sample results including the data validation "flags" (qualifiers). Appendix H provides the FSDS and boring logs and Appendix I provides the CoC records for all of the samples submitted to EMAX and LLI.

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Group	Chemical	CAS No	Detection Frequency	Minimum Concentration	Maximum Concentration	Range of Method Detection Limit	Range of Method Reporting Limit	Unit	Location of Maximum Concentration	Lab of Maximum Concentration	Method of Maximum Concentration	Depth of Maximum Concentration
Dioxins	1,2,3,4,6,7,8-Heptachlorodibenzo-p-Dioxin	35822-46-9	17 / 17	21.9	2490 J *#	0.043 - 0.776	4.99 - 16.2	ng/kg	A3_SED_DG-14	LL	1613B	0 - 0.5
Dioxins	1,2,3,4,6,7,8-HPCDF	67562-39-4	17 / 17	4.15 J Z	421	0.0238 - 0.26	4.99 - 16.2	ng/kg	A3_SED_DG-6	LL	1613B	0 - 0.5
Dioxins	1,2,3,4,7,8,9-HPCDF	55673-89-7	16 / 17	0.627 J Z	50.2	0.0317 - 0.334	4.99 - 16.2	ng/kg	A3_SED_DG-6	LL	1613B	0 - 0.5
Dioxins	1,2,3,4,7,8-Hexachlorodibenzo-p-Dioxin	39227-28-6	14 / 17	1.3 J Z	27.1	0.0339 - 0.411	4.99 - 16.2	ng/kg	A3_SED_DG-14	LL	1613B	0 - 0.5
Dioxins	1,2,3,4,7,8-HXCDF	70648-26-9	14 / 17	2.18 J Z	20.4	0.024 - 0.263	4.99 - 16.2	ng/kg	A3_SED_DG-6	LL	1613B	0 - 0.5
Dioxins	1,2,3,6,7,8-Hexachlorodibenzo-p-Dioxin	57653-85-7	17 / 17	1.01 J Z	114	0.0363 - 0.417	4.99 - 16.2	ng/kg	A3_SED_DG-14	LL	1613B	0 - 0.5
Dioxins	1,2,3,6,7,8-HXCDF	57117-44-9	14 / 17	0.923 J Z	27.5	0.0218 - 0.248	4.99 - 16.2	ng/kg	A3_SED_DG-5	LL	1613B	0 - 0.5
Dioxins	1,2,3,7,8,9-Hexachlorodibenzo-p-Dioxin	19408-74-3	17 / 17	0.996 J Z	52.3	0.0339 - 0.408	4.99 - 16.2	ng/kg	A3_SED_DG-14	LL	1613B	0 - 0.5
Dioxins	1,2,3,7,8,9-HXCDF	72918-21-9	8 / 17	1.08 J Z	6.05 J Z	0.0259 - 0.293	4.99 - 16.2	ng/kg	A3_SED_DG-5	LL	1613B	0 - 0.5
Dioxins	1,2,3,7,8-Pentachlorodibenzofuran	57117-41-6	13 / 17	1.54 J Z	29.5	0.0217 - 0.145	4.99 - 16.2	ng/kg	A3_SED_DG-5	LL	1613B	0 - 0.5
Dioxins	1,2,3,7,8-Pentachlorodibenzo-p-Dioxin	40321-76-4	13 / 17	1.02 J Z	11.8	0.0331 - 0.432	4.99 - 16.2	ng/kg	A3_SED_DG-14	LL	1613B	0 - 0.5
Dioxins	2,3,4,6,7,8-HXCDF	60851-34-5	14 / 17	1 J Z	40.8	0.0226 - 0.249	4.99 - 16.2	ng/kg	A3_SED_DG-6	LL	1613B	0 - 0.5
Dioxins	2,3,4,7,8-PECDF	57117-31-4	10 / 17	1.35 J Z	17.4	0.0215 - 0.142	4.99 - 16.2	ng/kg	A3_SED_DG-5	LL	1613B	0 - 0.5
Dioxins	2,3,7,8-TCDD	1746-01-6	9 / 17	0.679 J Z	3.35	0.0312 - 0.224	0.998 - 3.24	ng/kg	A3_SED_DG-6	LL	1613B	0 - 0.5
Dioxins	2,3,7,8-Tetrachlorodibenzofuran	51207-31-9	9 / 17	0.769 J Z	67.9	0.0469 - 0.491	0.998 - 3.24	ng/kg	A3_SED_DG-5	LL	1613B	0 - 0.5
Dioxins	OCDD	3268-87-9	17 / 17	284	26400 J *#	0.0243 - 0.314	9.98 - 32.4	ng/kg	A3_SED_DG-14	LL	1613B	0 - 0.5
Dioxins	OCDF	39001-02-0	17 / 17	12.5	877	0.017 - 0.199	9.98 - 32.4	ng/kg	A3_SED_DG-6	LL	1613B	0 - 0.5
Mercury	Mercury	7439-97-6	6 / 17	0.0639 J Z	0.17 J Z	0.0504 - 0.144	0.101 - 0.288	mg/kg	A3_SED_DG-6	EMAX	7471A	0 - 0.5
Metals	Aluminum	7429-90-5	17 / 17	7400	26600	11.9 - 33.6	99 - 280	mg/kg	A3_SED_DG-4	EMAX	6020	0 - 0.5
Metals	Antimony	7440-36-0	17 / 17	0.156 J Z	0.93 J Z	0.099 - 0.28	0.495 - 1.4	mg/kg	A3_SED_DG-5	EMAX	6020	0 - 0.5
Metals	Arsenic	7440-38-2	17 / 17	3.14	10.6	0.198 - 0.559	0.495 - 1.4	mg/kg	A3_SED_DG-4	EMAX	6020	0 - 0.5
Metals	Barium	7440-39-3	17 / 17	49.4	175	0.198 - 0.559	0.495 - 1.4	mg/kg	A3_SED_DG-4	EMAX	6020	0 - 0.5
Metals	Beryllium	7440-41-7	17 / 17	0.281 J Z	1.26 J Z	0.0495 - 0.14	0.495 - 1.4	mg/kg	A3_SED_DG-4	EMAX	6020	0 - 0.5
Metals	Boron	7440-42-8	12 / 17	2.73 J Z	12.1 J Z	2.47 - 6.99	4.95 - 14	mg/kg	A3_SED_DG-4	EMAX	6020	0 - 0.5
Metals	Cadmium	7440-43-9	17 / 17	0.182 J Z	3.35	0.0495 - 0.14	0.495 - 1.4	mg/kg	A3_SED_DG-4	EMAX	6020	0 - 0.5
Metals	Calcium	7440-70-2	17 / 17	1430	36900	9.9 - 28	19.8 - 55.9	mg/kg	A3_SED_DG-4	EMAX	6020	0 - 0.5
Metals	Chromium	7440-47-3	17 / 17	10.6	47.5	0.198 - 0.559	0.495 - 1.4	mg/kg	A3_SED_DG-4	EMAX	6020	0 - 0.5
Metals	Cobalt	7440-48-4	17 / 17	3.25	17.8	0.0495 - 0.14	0.495 - 1.4	mg/kg	A3_SED_DG-4	EMAX	6020	0 - 0.5
Metals	Copper	7440-50-8	17 / 17	6.23	51.3	0.198 - 0.559	0.495 - 1.4	mg/kg	A3_SED_DG-4	EMAX	6020	0 - 0.5
Metals	Iron	7439-89-6	17 / 17	13500	42700	9.9 - 28	99 - 280	mg/kg	A3_SED_DG-4	EMAX	6020	0 - 0.5
Metals	Lead	7439-92-1	17 / 17	5.96	35.8	0.099 - 0.28	0.495 - 1.4	mg/kg	A3_SED_DG-4	EMAX	6020	0 - 0.5
Metals	Lithium	7439-93-2	17 / 17	12.4	54.3	0.99 - 2.8	1.98 - 5.59	mg/kg	A3_SED_DG-4	EMAX	6020	0 - 0.5
Metals	Magnesium	7439-95-4	17 / 17	3150	9320	4.95 - 14	9.9 - 28	mg/kg	A3_SED_DG-4	EMAX	6020	0 - 0.5
Metals	Manganese	7439-96-5	17 / 17	115	695	0.247 - 0.699	0.495 - 1.4	mg/kg	A3_SED_DG-7	EMAX	6020	0 - 0.5
Metals	Molybdenum	7439-98-7	17 / 17	0.392 J Z	2.33	0.0495 - 0.14	0.495 - 1.4	mg/kg	A3_SED_DG-7	EMAX	6020	0 - 0.5
Metals	Nickel	7440-02-0	17 / 17	7.86	39.6	0.198 - 0.559	0.495 - 1.4	mg/kg	A3_SED_DG-4	EMAX	6020	0 - 0.5
Metals	Phosphorus	7723-14-0	17 / 17	195	785	5.94 - 16.8	11.9 - 33.6	mg/kg	A3_SED_DG-4	EMAX	6020	0 - 0.5
Metals	Potassium	9/7/7440	17 / 17	2010	4830	29.7 - 83.9	99 - 280	mg/kg	A3_SED_DG-4	EMAX	6020	0 - 0.5
Metals	Selenium	7782-49-2	4 / 17	0.276 J Z	0.746 J Z	0.198 - 0.559	0.495 - 1.4	mg/kg	A3_SED_DG-4	EMAX	6020	0 - 0.5
Metals	Silver	7440-22-4	16 / 17	0.056 J Z	39.8	0.0495 - 0.14	0.495 - 1.4	mg/kg	A3_SED_DG-6	EMAX	6020	0 - 0.5
Metals	Sodium	7440-23-5	17 / 17	57.4 J Z	552	49.5 - 140	99 - 280	mg/kg	A3_SED_DG-4	EMAX	6020	0 - 0.5
Metals	Strontium	7440-24-6	17 / 17	13.8	142	0.247 - 0.699	0.495 - 1.4	mg/kg	A3_SED_DG-4	EMAX	6020	0 - 0.5
Metals	Thallium	7440-28-0	17 / 17	0.137 J Z	0.407 J Z	0.0495 - 0.14	0.396 - 1.12	mg/kg	A3_SED_DG-4	EMAX	6020	0 - 0.5
Metals	Tin	7440-31-5	0 / 17	-	-	4.95 - 14	9.9 - 28	mg/kg				
Metals	Titanium	7440-32-6	17 / 17	583	1460	0.495 - 1.4	0.99 - 2.8	mg/kg	A3_SED_DG-4	EMAX	6020	0 - 0.5
Metals	Vanadium	7440-62-2	17 / 17	19.2	58.7	0.0495 - 0.14	0.495 - 1.4	mg/kg	A3_SED_DG-4	EMAX	6020	0 - 0.5
Metals	Zinc	7440-66-6	17 / 17	40.1	335	1.48 - 4.19	4.95 - 14	mg/kg	A3_SED_DG-4	EMAX	6020	0 - 0.5
Metals	Zirconium	7440-67-7	0 / 17	-	-	2.47 - 6.99	4.95 - 14	mg/kg				
Moisture Content	Moisture	MOIST	17 / 17	0.53	69.6	0.5 - 0.5	0.5 - 0.5	%	A3_SED_DG-4	LL	160.3M	0 - 0.5
PAHs	1,1'-Biphenyl	92-52-4	0 / 17	-	-	2.5 - 22	5.1 - 44	µg/kg				
PAHs	1-Methylnaphthalene	90-12-0	0 / 17	-	-	2.5 - 22	10 - 87	µg/kg				
PAHs	2-Methylnaphthalene	91-57-6	1 / 17	3.2 J Z	3.2 J Z	2.5 - 22	10 - 87	µg/kg	A3_SED_DG-9	EMAX	8270C SIM	0 - 0.5
PAHs	Acenaphthene	83-32-9	0 / 17	-	-	2.5 - 22	10 - 87	µg/kg				
PAHs	Acenaphthylene	208-96-8	1 / 17	3 J Z	3 J Z	2.5 - 22	10 - 87	µg/kg	A3_SED_DG-9	EMAX	8270C SIM	0 - 0.5
PAHs	Anthracene	120-12-7	3 / 17	3.7 J Z	6.1 J Z	2.5 - 22	10 - 87	µg/kg	A3_SED_DG-9	EMAX	8270C SIM	0 - 0.5
PAHs	Azobenzene	103-33-3	0 / 17	-	-	2.5 - 22	5.1 - 44	µg/kg				
PAHs	Benzo(a)anthracene	56-55-3	7 / 17	5 J S, Z	27	2.5 - 22	10 - 87	µg/kg	A3_SED_DG-9	EMAX	8270C SIM	0 - 0.5
PAHs	Benzo(a)pyrene	50-32-8	12 / 17	3.1 J Z	150	2.5 - 22	10 - 87	µg/kg	A3_SED_DG-9	EMAX	8270C SIM	0 - 0.5
PAHs	Benzo(b)fluoranthene	205-99-2	16 / 17	3 J Z	220	2.5 - 22	10 - 87	µg/kg	A3_SED_DG-9	EMAX	8270C SIM	0 - 0.5

REVISED - Table 3-1
Summary of Analytical Results for Chemicals - Validated Data
Sediment Samples - Area III - Phase 3

Group	Chemical	CAS No	Detection Frequency	Minimum Concentration	Maximum Concentration	Range of Method Detection Limit	Range of Method Reporting Limit	Unit	Location of Maximum Concentration	Lab of Maximum Concentration	Method of Maximum Concentration	Depth of Maximum Concentration
PAHs	Benzo(e)pyrene	192-97-2	11 / 17	4.8 J Z	200	2.5 - 22	5.1 - 44	µg/kg	A3_SED_DG-9	EMAX	8270C SIM	0 - 0.5
PAHs	Benzo(g,h,i)perylene	191-24-2	15 / 17	2.9 J Z	520	2.5 - 22	10 - 87	µg/kg	A3_SED_DG-9	EMAX	8270C SIM	0 - 0.5
PAHs	Benzo(k)fluoranthene	207-08-9	6 / 17	3.1 J Z	27	2.5 - 22	10 - 87	µg/kg	A3_SED_DG-9	EMAX	8270C SIM	0 - 0.5
PAHs	Chrysene	218-01-9	8 / 17	7.5 J S, Z	57	2.5 - 22	10 - 87	µg/kg	A3_SED_DG-9	EMAX	8270C SIM	0 - 0.5
PAHs	Dibenzo(a,h)anthracene	53-70-3	4 / 17	2.9 J Z	31	2.5 - 22	10 - 87	µg/kg	A3_SED_DG-9	EMAX	8270C SIM	0 - 0.5
PAHs	Fluoranthene	206-44-0	17 / 17	2.9 J Z	63	2.5 - 22	10 - 87	µg/kg	A3_SED_DG-15	EMAX	8270C SIM	0 - 0.5
PAHs	Fluorene	86-73-7	0 / 17	-	-	2.5 - 22	10 - 87	µg/kg				
PAHs	Indeno(1,2,3-cd)pyrene	193-39-5	7 / 17	3.1 J Z	370	2.5 - 22	10 - 87	µg/kg	A3_SED_DG-9	EMAX	8270C SIM	0 - 0.5
PAHs	Naphthalene	91-20-3	1 / 17	2.8 J Z	2.8 J Z	2.5 - 22	10 - 87	µg/kg	A3_SED_DG-9	EMAX	8270C SIM	0 - 0.5
PAHs	N-Nitrosodimethylamine	62-75-9	0 / 17	-	-	2.5 - 22	10 - 87	µg/kg				
PAHs	Phenanthrene	85-01-8	7 / 17	6.6 J Z	30	2.5 - 22	10 - 87	µg/kg	A3_SED_DG-9	EMAX	8270C SIM	0 - 0.5
PAHs	Pyrene	129-00-0	17 / 17	2.9 J Z	77	2.5 - 22	10 - 87	µg/kg	A3_SED_DG-9	EMAX	8270C SIM	0 - 0.5
PCBPCTs	Aroclor 1016	12674-11-2	0 / 17	-	-	10 - 29	20 - 58	µg/kg				
PCBPCTs	Aroclor 1221	11104-28-2	0 / 17	-	-	10 - 29	20 - 58	µg/kg				
PCBPCTs	Aroclor 1232	11141-16-5	0 / 17	-	-	10 - 29	20 - 58	µg/kg				
PCBPCTs	Aroclor 1242	53469-21-9	0 / 17	-	-	10 - 29	20 - 58	µg/kg				
PCBPCTs	Aroclor 1248	12672-29-6	0 / 17	-	-	10 - 29	20 - 58	µg/kg				
PCBPCTs	Aroclor 1254	11097-69-1	11 / 17	30	400	10 - 29	20 - 58	µg/kg	A3_SED_DG-17	EMAX	8082	0 - 0.5
PCBPCTs	Aroclor 1260	11096-82-5	11 / 17	15 J Z	190	10 - 29	20 - 58	µg/kg	A3_SED_DG-6	EMAX	8082	0 - 0.5
PCBPCTs	Aroclor 1262	37324-23-5	0 / 17	-	-	10 - 29	20 - 58	µg/kg				
PCBPCTs	Aroclor 1268	11100-14-4	0 / 17	-	-	10 - 29	20 - 58	µg/kg				
PCBPCTs	Aroclor 5432	63496-31-1	0 / 17	-	-	20 - 58	40 - 120	µg/kg				
PCBPCTs	Aroclor 5442	12642-23-8	0 / 17	-	-	20 - 58	40 - 120	µg/kg				
PCBPCTs	Aroclor 5460	11126-42-4	7 / 17	23 J Z	110	20 - 58	40 - 120	µg/kg	A3_SED_DG-5	EMAX	8082	0 - 0.5
Perchlorate	Perchlorate	14797-73-0	0 / 7	-	-	2.59 - 2.71	5.19 - 5.42	µg/kg				
Terphenyls	m-Terphenyl	92-06-8	0 / 17	-	-	3 - 20	7 - 46	mg/kg				
Terphenyls	o-Terphenyl	84-15-1	0 / 17	-	-	3 - 20	7 - 46	mg/kg				
Terphenyls	p-Terphenyl	92-94-4	0 / 17	-	-	3 - 20	7 - 46	mg/kg				
TPH-EFH	EFH (C12-C14)	PHCC12C14	4 / 17	8.5 J Z	1400	2.5 - 7.3	5.1 - 15	mg/kg	A3_SED_DG-6	EMAX	8015B EFH	0 - 0.5
TPH-EFH	EFH (C15-C20)	PHCC15C20	4 / 17	80	1300	2.5 - 7.3	5.1 - 15	mg/kg	A3_SED_DG-6	EMAX	8015B EFH	0 - 0.5
TPH-EFH	EFH (C21-C30)	PHCC21C30	16 / 17	5.3	610	2.5 - 7.3	5.1 - 15	mg/kg	A3_SED_DG-6	EMAX	8015B EFH	0 - 0.5
TPH-EFH	EFH (C30-C40)	PHCC30C40	16 / 17	5.4 J Z	510	5.1 - 15	10 - 29	mg/kg	A3_SED_DG-5	EMAX	8015B EFH	0 - 0.5
TPH-EFH	EFH (C8-C11)	PHCC8C11	2 / 17	17	71	2.5 - 7.3	5.1 - 15	mg/kg	A3_SED_DG-6	EMAX	8015B EFH	0 - 0.5

µg/kg - microgram per kilogram
mg/kg - milligram per kilogram
ng/kg - nanogram per kilogram
J - Result is an estimated value
S - Surrogates outside of criteria
Z - Analytes reported below the reporting limits and above the method detection limit
*# - Unusual problems found with the quality control data. See validation reports in Appendix C for detail.
LLI - Lancaster Laboratories
EMAX - EMAX Laboratories

Section 4

Area III Sediment Sampling Results – Radionuclides

USEPA released the Area III sediment radionuclide data with the entirety of its documents presenting its radiological studies in December 2013. The Area III sediment documentation included the analytical and data review results, but not a formal report of the Area III investigation. The USEPA data are being reported here to complete the record for the combined chemical and radionuclide sampling of the Area III drainages and Silvernale Pond.

The sediment samples were analyzed by GEL Laboratories, LLC of Charleston, South Carolina. The data were reviewed and validated by The Palladino Company. The radionuclide validation report is included as Appendix E to this Report. The validated results are provided in Appendix B and G.

The sediment samples were analyzed for gamma spectroscopy emitters (Actinium-227/228, Silver 108m, Barium-133, Bismuth 212/214, Cadmium-113m, Californium-249, Cobalt 60, Cesium-134/137, Europium 152/154/155, Holmium-166m, Potassium 40, Sodium 22, Niobium-94, Neptuneum-236/239, Proactinium-231, Lead-212/214, Antimony-125, Tin-126, Tellurium-125m, Thorium-234, Titanium-208, and Thulium-171), alpha spectroscopy emitters (Americium-241/243, Curium-243/244, Uranium-233/234/235/236/238, Thorium-228/229/230/232/234, Plutonium-238/239/240), Liquid Scintillation (Carbon-14, Iodine-129, Nickel-59/63, Promethium-147, Tectium-99, and Tritium), and Gas Flow Proportional Counting (Strontium/Yttrium-90).

Table 4-1 provides a summary of the radionuclides detected, frequency of detection, and the range of detected concentrations. Figure 2-1 illustrates the locations where the samples were collected in Area III.

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Table 4-1
Summary of Analytical Results for Radionuclides - Validated Data
Sediments in Area III

Group	Analyte	Detection Frequency	Minimum Activity Concentration	Count Uncertainty for Minimum Activity Concentration	Maximum Activity Concentration	Count Uncertainty For Maximum Activity Concentration	Minimum Detectable Concentration*	Range of Minimum Detectable Concentration	Range of Count Uncertainty	EPA Radiological Reference Concentrations[1]	Unit	Location of Maximum Activity Concentration
RADs	Ac-227	0 / 17	-	-	-	-	-	0.155 - 0.377	0.0464 - 0.112	0.205	pCi/g	
RADs	Ac-228	17 / 17	0.802	0.0341	2.18	0.0856	0.206	0.0745 - 0.206	0.0341 - 0.0858	2.68	pCi/g	SL-005-A3
RADs	Ag-108m	0 / 17	0.0208 J R	0.00879	0.0208 J R	0.00879	0.028	0.0125 - 0.0327	0.00394 - 0.0109	NE	pCi/g	
RADs	Am-241	15 / 17	0	0.00257	0.0135	0.0058	0.00524	0.00473 - 0.0251	0.00257 - 0.0086	0.0386	pCi/g	SL-013-A3
RADs	Am-243	8 / 17	0.00703	0.00524	0.0231	0.00738	0.0153	0.00635 - 0.0283	0.00412 - 0.0087	0.0252	pCi/g	SL-003-A3
RADs	Ba-133	0 / 17	0.0175 J R	0.00855	0.0182 J R	0.00877	0.0258	0.0159 - 0.0391	0.00547 - 0.0133	NE	pCi/g	
RADs	Bi-212	17 / 17	0.45	0.0686	1.78	0.173	0.279	0.101 - 0.279	0.0575 - 0.173	2.38	pCi/g	SL-005-A3
RADs	Bi-214	17 / 17	0.71	0.0266	**2.08** Y	0.0799	0.0655	0.0251 - 0.0655	0.0266 - 0.0799	1.83	pCi/g	SL-005-A3
RADs	C-14	2 / 17	0.439	0.205	0.482	0.202	0.658	0.621 - 0.699	0.186 - 0.206	2.96	pCi/g	SL-015-A3
RADs	Cd-113m	0 / 17	-	-	-	-	-	104 - 241	30.4 - 75.8	3440	pCi/g	
RADs	Cf-249	0 / 17	0.0422 J R	0.0339	0.129 J R	0.0559	0.152	0.069 - 0.163	0.025 - 0.0743	NE	pCi/g	
RADs	Cm-243/Cm-244	10 / 17	0.00182	0.00316	0.0192	0.00767	0.0178	0.00492 - 0.0355	0.00315 - 0.0115	0.0396	pCi/g	SL-017-A3
RADs	Co-60	4 / 17	0.00818 J	0.00458	0.011 J	0.00559	0.0201	0.014 - 0.0361	0.00407 - 0.0107	0.0363	pCi/g	SL-002-A3
RADs	Cs-134	4 / 17	0.00648 J JSK	0.00407	0.0221 J JSK	0.0063	0.0145	0.0121 - 0.0331	0.00402 - 0.0116	0.0431	pCi/g	SL-010-A3
RADs	Cs-137	17 / 17	0.0166	0.00486	**0.324** Y	0.0223	0.0383	0.0138 - 0.0383	0.00486 - 0.0228	0.225	pCi/g	SL-005-A3
RADs	Eu-152	0 / 17	-	-	-	-	-	0.0392 - 0.0922	0.012 - 0.0323	0.0739	pCi/g	
RADs	Eu-154	0 / 17	-	-	-	-	-	0.0759 - 0.209	0.023 - 0.0617	0.198	pCi/g	
RADs	Eu-155	15 / 17	0.0341 J JSK	0.017	0.215 SK	0.0469	0.0957	0.0541 - 0.123	0.017 - 0.0498	0.231	pCi/g	SL-005-A3
RADs	Ho-166m	0 / 17	-	-	-	-	-	0.0212 - 0.0582	0.00625 - 0.0168	0.0514	pCi/g	
RADs	I-129	1 / 17	0.0677 J	0.0285	0.0677 J	0.0285	0.165	0.123 - 0.208	0.0285 - 0.0561	2.42	pCi/g	SL-001-A3
RADs	K-40	17 / 17	16.9	0.826	23.3	1.01	0.151	0.0963 - 0.317	0.801 - 1.01	35.5	pCi/g	SL-016-A3
RADs	Na-22	0 / 17	-	-	-	-	-	0.0161 - 0.0421	0.00494 - 0.0127	0.0468	pCi/g	
RADs	Nb-94	4 / 17	0.00797 J JSK	0.00371	0.0283 J JSK Z	0.011	0.0387	0.0127 - 0.0387	0.00371 - 0.011	0.875	pCi/g	SL-005-A3
RADs	Ni-59	0 / 17	-	-	-	-	-	0.672 - 2.59	0.167 - 0.762	0.875	pCi/g	
RADs	Ni-63	1 / 17	0.566	0.236	0.566	0.236	0.77	0.752 - 1.3	0.222 - 0.384	1.34	pCi/g	SL-003-A3
RADs	Np-236	0 / 17	-	-	-	-	-	0.0299 - 0.0677	0.00916 - 0.0209	0.0599	pCi/g	
RADs	Np-239	0 / 17	-	-	-	-	-	0.106 - 0.247	0.0306 - 0.0739	0.167	pCi/g	
RADs	Pa-231	1 / 17	0.473 J J	0.257	0.473 J J	0.257	0.789	0.654 - 1.6	0.192 - 0.471	1.22	pCi/g	SL-009-A3
RADs	Pb-212	17 / 17	0.926	0.0418	2.61	0.118	0.0587	0.0264 - 0.0606	0.0418 - 0.125	3.11	pCi/g	SL-005-A3
RADs	Pb-214	17 / 17	0.802	0.0276	2.41 Y	0.0792	0.0659	0.0271 - 0.0659	0.0276 - 0.0792	1.96	pCi/g	SL-005-A3
RADs	Pm-147	0 / 17	-	-	-	-	-	6.21 - 7.5	1.79 - 2.18	14.5	pCi/g	
RADs	Pu-238	3 / 17	0	0.00284	0.0058	0.00579	0.00785	0.00536 - 0.0206	0.00284 - 0.0058	0.0254	pCi/g	SL-003-A3
RADs	Pu-239/Pu-240	7 / 17	0.00201	0.00347	0.0087	0.00647	0.00784	0.00408 - 0.0246	0.00347 - 0.008	0.023	pCi/g	SL-003-A3
RADs	Sb-125	1 / 17	0.025 J JSK	0.0125	0.025 J JSK	0.0125	0.0425	0.0359 - 0.0902	0.0107 - 0.0268	0.374	pCi/g	SL-014-A3
RADs	Sn-126	0 / 17	-	-	-	-	-	0.0135 - 0.0382	0.00419 - 0.0117	0.0309	pCi/g	
RADs	Sr-90	3 / 17	0.267	0.11	**0.817**	0.0911	0.156	0.142 - 0.347	0.0356 - 0.11	0.117	pCi/g	SL-016-A3
RADs	Tc-99	0 / 17	-	-	-	-	-	1.05 - 1.48	0.31 - 0.436	0.619	pCi/g	
RADs	Th-228	17 / 17	0.761	0.0747	2.07 J	0.162	0.29	0.0779 - 0.299	0.0746 - 0.162	4.27	pCi/g	SL-005-A3
RADs	Th-229	8 / 17	0.0301	0.0213	0.0839	0.0246	0.0487	0.0417 - 0.131	0.0193 - 0.0425	0.0741	pCi/g	SL-003-A3
RADs	Th-230	17 / 17	0.599	0.0626	1.65 J	0.126	0.099	0.0395 - 0.119	0.0623 - 0.126	2.38	pCi/g	SL-005-A3
RADs	Th-232	17 / 17	0.76	0.0693	1.95	0.0991	0.0367	0.0135 - 0.0778	0.0693 - 0.134	3.44	pCi/g	SL-004-A3
RADs	Th-234	17 / 17	1.02	0.121	3.46 Y	0.269	0.46	0.218 - 0.58	0.11 - 0.343	3.54	pCi/g	SL-004-A3
RADs	Tl-208	17 / 17	0.277	0.0162	0.834	0.0439	0.0361	0.0134 - 0.0361	0.0148 - 0.0439	NE	pCi/g	SL-005-A3
RADs	Tm-171	1 / 17	8.69 J J	4.23	8.69 J J	4.23	12.6	9.18 - 30.8	3.08 - 10.5	76.7	pCi/g	SL-005-A3
RADs	Tritium	5 / 17	2.96	1.8	4.43	1.88	5.96	5.38 - 5.96	1.54 - 1.88	8.59	pCi/g	SL-001-A3
RADs	U-233/U-234	17 / 17	0.48	0.0451	1.87	0.0987	0.075	0.0591 - 0.157	0.0451 - 0.134	2.18	pCi/g	SL-007-A3
RADs	U-235/U-236	16 / 17	0.0194	0.0146	0.136	0.0322	0.0428	0.0192 - 0.131	0.0146 - 0.0429	0.152	pCi/g	SL-005-A3

Table 4-1
Summary of Analytical Results for Radionuclides - Validated Data
Sediments in Area III

Group	Analyte	Detection Frequency	Minimum Activity Concentration	Count Uncertainty for Minimum Activity Concentration	Maximum Activity Concentration	Count Uncertainty For Maximum Activity Concentration	Minimum Detectable Concentration*	Range of Minimum Detectable Concentration	Range of Count Uncertainty	EPA Radiological Reference Concentrations[1]	Unit	Location of Maximum Activity Concentration
RADs	U-238	17 / 17	0.518	0.0517	1.75	0.0948	0.0547	0.0338 - 0.112	0.0461 - 0.118	1.96	pCi/g	SL-007-A3
RADs	Y-90	3 / 17	0.267	0.11	**0.817**	0.0911	0.156	0.142 - 0.347	0.0356 - 0.11	0.117	pCi/g	SL-016-A3

Notes:
* - Value is associated with Maximum Activity Concentration
Minimum Detectable Concentration (MDC): The MDC is the net concentration that has a specified chance of being detected. It as an estimate of the detection capability of a measuring protocol and is calculated before measurements are taken. The detection limit is the lowest net response level, in counts, that you expect to be seen with a fixed level of certainty, customarily 95%. The MDC is the detection limit expressed as an activity concentration. If the activity concentration in a sample is equal to the MDC, then there is a 95% chance that radioactive material in the sample will be detected.

Activity Concentration: The activity per unit mass or volume of the material in which the radionuclides are essentially uniformly distributed.

Count Uncertainty: Uncertainty is defined as the range of values within which the true value is estimated to reside. The uncertainty associated with a result shall be reported. Uncertainty is commonly used in the radiochemical analyses to express method and counting error. The estimate of possible uncertainty consists of systematic and random variability. Each contributing source of uncertainty is expected to be distributed over its range.
RADs = Radionuclides
pCi/g = picocuries per gram
J = The analyte was detected at the reported concentration: the quantitation is an estimate.
R = The result is rejected due to serious deficines in the ability to analyze the sample and meet the quailty control criteria.
K = Analyte present. Reported value may be biased high. Actual value is expected to be lower.

S = Analyte result is subject to spectral interference. Unless otherwise qualified the data may be used for its intended purpose provided that on-site analyses use the same gamma spectrometry library and follow the same analytical protocols.
Y = Result has been confirmed and has been qualified with a Y flag.

Z = Result has not been confirmed and has been qualified with a Z flag.

1 = USEPA Radiological Reference Concentrations as provided in *Development and Use of Radiological Reference Concentrations* November 2012
NE = No Radiological reference concentration established by USEPA

Section 5
Chemical Data Usability Assessment

The purposes of the DUAR provided in Appendix D and summarized here are to: (1) describe the data validation processes performed on the chemical data sets[1] and (2) determine whether the sample results meet the data quality objectives (DQOs) outlined in the Phase 3 Master FSP (CDM Smith 2012a) and QAPP (CDM Smith 2012c).

5.1 Usability Summary

For the Phase 3 drainage sediment Area III chemical data usability assessment, eight data sets, or SDGs, were reviewed via one or more independent processes. An SDG consists of 20 or fewer samples grouped together by analytical method for analyses based on when the samples were received by the laboratory. The analyses performed are discussed in Section 2.5.

Samples were collected and analyzed in accordance with the Master FSP (CDM Smith 2012a), and Addendum to the Master FSP for Phase 3 drainage sediment sampling within Area III with the exception of deviations during the field investigation as stated in Section 2.9.

The validated data for Phase 3 drainage sediment samples within Area III are usable as reported. No sample results were rejected during validation. Specific details are provided in the validation reports in Appendix C and Section 5.7.

5.2 Data Validation Procedures

Data were validated by the independent data validation firm Laboratory Data Consultants, Inc. All data validation was conducted in accordance with *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 followed planning documents with 10 percent of the data validated according to USEPA Level IV protocols (all QC parameters and raw data) and the remaining 90 percent validated according to USEPA Level III protocols (all QC parameters except calibrations and raw data).

Table 5-1 presents all of the Phase 3 drainage sediment Area III SDGs and their corresponding level of validation (Level III or Level IV) and confirmatory review (described below). Some SDGs contain samples from other subareas, but all samples in an SDG were validated together. An index of samples associated with each SDG is presented at the beginning of Appendix D.

[1] The data review of the USEPA radionuclide data is provided in Appendix E. No further review of the radionuclide results is provided in this TM.

Table 5-1 Sample Delivery Groups and Validation Levels for Phase 3 Drainage Sediment Samples within Area III

Sample Delivery Group	Level of Validation Performed	CDM Smith Review
12G123	Level III	
12G140	Level IV	Yes
12G198	Level III	
PH020	Level IV	
PH024	Level III	Yes
PT022	Level IV	Yes
PT024	Level III	
PT029	Level IV	Yes

Note: Some SDGs may contain samples from other subareas, but all samples in an SDG were validated together.

To evaluate the quality of the laboratory data and the validation process, CDM Smith's chemists reviewed 10 percent or greater of the Phase 3 drainage sediment Area III SDGs. The SDGs reviewed are chosen based on methods and level of validation performed by the validation firm. The purpose of the review was to identify any laboratory QC issues 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. The results of this review are provided in Section 5.8.

5.3 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 whether or not DQOs 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 detection 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 that a determination of impact on data quality as a result of these deviations were made

The data validation review determines if the collected data are of sufficient quality (except for the rejected results) to support their intended use.

5.4 Summary of Field and Laboratory QA Activities

CDM Smith completed sampling activities in the Phase 3 drainage sediment Area III sampling area in accordance with the approved Master FSP (CDM Smith 2012a) and Addendum to the Master FSP (CDM Smith 2012b). A total of 17 soil samples were collected from 17 locations in the Phase 3

drainage sediment Area III. Table 2-1 provides a summary of the samples collected and the laboratory analyses requested. Associated sampling QA activities are described below.

5.5 Field Quality QA/QC

The field QC samples were to be collected at a frequency of 1 per 20 samples (5 percent) for MS/MSDs and field duplicates. One MS/MSD and field duplicate sample were collected at one Phase 3 drainage sediment Area III locations; this met the required criteria.

Sections 2.4.2 and 2.4.3 discuss the field blank and equipment blanks collected in association with the Phase 3 drainage sediment Area III samples. During the validation process, qualifiers were applied as required. Field blank samples were collected from each lot number of ASTM International water used for decontamination. One field blank and two equipment blank samples were collected in the Phase 3 drainage sediment Area III. The analytical results for the field blank and equipment blanks are presented in Appendix D and a summary of the detected results is shown in Tables 5-2 and 5-3, respectively. Analytes detected above the RL are highlighted in yellow.

Table 5-2 Field Blank Results for Phase 3 Drainage Sediment Samples within Area III – Detected Results Only

FB-062012 A3-SED-DG-FB 6/20/2012			
Analyte	**Units**	**Concentration/RL**	**Final Qualifier**
1,2,3,4,7,8-Hexachlorodibenzo-p-Dioxin	pg/L	1.05/9.83	J
1,2,3,7,8-Pentachlorodibenzo-p-Dioxin	pg/L	0.97/9.83	J
Aluminum	mg/L	0.0271/0.1	J
Boron	mg/L	0.00916/0.01	J
Calcium	mg/L	0.0438/0.1	J
Copper	mg/L	0.00112/0.001	

Notes:
Blank result greater than RL
RL = Reporting Limit
mg/L = milligram per liter
pg/L = picogram per liter
J = Result is an estimated value

Table 5-3 Equipment Blank Results for Phase 3 Drainage Sediment Samples within Area III – Detected Results Only

EB-071812 A3-SED-DG-EB 7/18/2012			
Analyte	**Units**	**Concentration/RL**	**Final Qualifier**
1,2,3,4,7,8-HxCDF	pg/L	0.594/10.5	J
1,2,3,7,8-Pentachlorodibenzo-p-Dioxin	pg/L	0.457/10.5	J
Acenaphthylene	µg/L	0.15/0.2	J
Boron	mg/L	0.00918/1.01	J
Copper	mg/L	0.000594/0.001	J
Naphthalene	µg/L	0.17/0.2	J

Table 5-3 Equipment Blank Results for Phase 3 Drainage Sediment Samples within Area III – Detected Results Only

EB-072412 A3-SED-DG-EB 7/24/2012			
Analyte	**Units**	**Concentration/RL**	**Final Qualifier**
Acenaphthylene	µg/L	0.21/0.19	
Aluminum	mg/L	0.0331/0.1	J
Boron	mg/L	0.00942/0.01	J
Calcium	mg/L	0.0262/0.1	J
Copper	mg/L	0.0018/0.001	
Manganese	mg/L	0.000742/0.001	J
Naphthalene	µg/L	0.23/0.19	
Sodium	mg/L	0.0521/0.1	J

Notes:
Blank result greater than RL
HxCDF = hexachlorodibenzofuran
RL = Reporting Limit
µg/L = microgram per liter
pg/L = picogram per liter
mg/L = milligram per liter
J = Result is an estimated value

No trip blank samples were collected during the Phase 3 drainage sediment Area III sampling activities as no volatile organic analyses utilizing Encore samples was required.

Data qualifications based on all blank detections and impacts to the data due to contaminants detected in the blanks are discussed in Section 5.7.3 and in the Appendix D validation reports. Temperature blanks were to be included with each shipment of samples. Based on validation results, all temperature blanks submitted with the Phase 3 drainage sediment Area III samples met criteria.

The number of field QC samples collected satisfies the minimum requirements for the Phase 3 drainage sediment Area III sampling program. Field QA/QC objectives were also attained through the use of appropriate sampling techniques.

5.6 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. All laboratory QC sample criteria met project requirements with the appropriate qualifiers applied as indicated in the data validation reports in Appendix D. No sample results were rejected.

5.7 Data Quality Indicators

This section summarizes the validation performed. Individual SDG validation reports with specific sample detail are provided in Appendix D.

Achievement of the DQOs was determined in part by the use of data quality indicators (DQIs) described in the DUAR in Appendix D. 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.

5.7.1 Precision

Precision is the measurement of the ability to obtain the same value on re-analysis of a sample carried through the entire analytical process. The closer the measurement results are to each other, the greater the precision. Precision has nothing to do with accuracy or true values of the sample. Instead, it is focused on random errors inherent in the analysis that stem from the measurement process and are compounded by the non-homogeneous nature of some samples. Precision is measured by analyzing two portions of the sample (sample and duplicate) and then comparing the results. This comparison can be expressed in terms of relative percent difference (RPD). RPD is calculated as the absolute difference between the two measurements divided by the average of the two measurements.

$$RPD = \frac{[(A-B)/(A+B)]}{2} \times 100$$

The problem with this formula is that it depends on the average of the two measurements and the magnitude of the calculated RPD is intimately linked to the magnitude of the results. When sample results are close to the RL, the RPD is greater but does not necessarily indicate that the precision is out of control limits, just that the sample concentrations are low.

RPD as a measure of precision works very well in those cases where the same level of analyte is present in all samples; however, it does not work well as a quantitative tool when varying levels are present. Analysis of sample duplicates is valuable as a quantitative measure of precision but is not useful as a quantitative measure in environmental sample analyses. Another option that is used for evaluating the differences between sample results that are close to the RL is calculating the absolute difference between the results. In this situation, the difference between the sample results is compared to the RL (two times the RL for soils) and if the difference is greater, the sample results are qualified as estimated "J."

Because of these problems, precision is normally calculated on spike samples, either on a MS and MSD or on a LCS and laboratory control sample duplicate (LCSD). In this case, a known concentration of analyte has been created in each sample and long- and short-term evaluations of RPD can be made that are applicable to the reality of the measurement. The drawback is that the precision measurement is only applicable to the particular spike level used.

For the Phase 3 drainage sediment Area III data set, precision was evaluated by reviewing RPD results for MS/MSDs, LCS/LCSDs, laboratory duplicates, and field duplicates.

Laboratory RPD control limits are presented in the Master FSP (CDM Smith 2012a) or they 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 value equal to the RL was used for comparison.

The field duplicate RPD criterion is 50 percent. Field duplicates for this project were validated as follows: If one result is non-detect and the other result is above the RL, the RPD result is reported at 200 percent and the field duplicate sample and parent sample results are qualified as estimated "J" for a detect value or "UJ" for a non-detect value. If the field duplicate RPD is above the 50 percent criterion (and both sample results are above the RL) the field duplicate and parent sample results for that analyte are 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 of the validation and the number of analytes qualified are provided in the DUAR and laboratory validation reports in Appendix C.

No Phase 3 drainage sediment Area III individual analyte results required qualification based on precision criteria.

Field duplicate precision criteria required the qualification of one result for dioxins and one result for metals for Phase 3 drainage sediment Area III samples. No results were rejected based on field duplicate precision criteria. All field duplicate RPD results are presented in Appendix D. In summary, sample results that have been qualified as estimated "J/UJ" due to precision criteria are usable for project decisions but should be used with a degree of caution.

There was no discernible pattern or reason for the laboratory and field duplicate sample RPD exceedances identified. No field sampling issues were identified that would cause the RPD results that were outside of criteria. These exceedances are reasonable for this type of sampling activity.

5.7.2 Accuracy

Accuracy is a concept from quantitative analysis that attempts to address the question of how close the analytical result is to the true value of the analyte in the sample. Accuracy is determined through a spike procedure, where a known amount of the target analyte is added to a portion of the sample then the sample and the spiked sample are analyzed. The quantitative measure of accuracy is percent recovery (%R) calculated as follows:

$$\text{Percent Recovery} = \frac{(\text{Total Analyte Found} - \text{Analyte Originally Present})}{\text{Analyte Added}} \times 100$$

Each measurement performed on a sample is subject to random and systematic error. Accuracy is related to the systematic error. Attempts to assess systematic error are always complicated by the inherent random error of the measurement.

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 USEPA method and approved field and analytical standard operating procedures.

The following QC samples are used to assess laboratory accuracy:

> Matrix Spikes: MSs are samples with a known amount of a target analyte added to them. Analysis of the sample that has been spiked and comparison with the results from the unspiked sample (background) gives information about the ability of the test procedure to generate a correct result from the sample.

Post Digestion Spikes: Post digestion spikes are performed after the sample has been prepared and are ready for analysis. These are also termed "analytical spikes." The technique is used in conjunction with a MS to provide data that can separate interferences produced as part of the sample preparation from interferences that are innate qualities of the sample.

Laboratory Control Samples: LCSs consist of a portion of analyte-free water or solid phase sample that is spiked with target analytes at a known concentration.

Surrogates: Surrogate recovery is a QC measure limited to use in organics analysis. Surrogates are compounds added to every sample at the beginning of the sample preparation to monitor the success of the sample preparation and analytical procedures on an individual sample basis. Individual compounds used as surrogates are selected based on their ability to mimic the behavior of specific target analytes held to be particularly sensitive to the sample preparation manipulations.

Interference Check Samples: Interference check sample analysis is a QC measure unique to metals analysis using inductively coupled plasma (ICP) atomic emission spectrometry. This QC sample verifies the analytical instrument's ability to overcome interferences typical of those found in samples.

Calibrations: Method requirements for satisfactory instrument calibration are established to ensure that the instrument is capable of producing acceptable quantitative data for metals. Initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of the analytical run. Continuing calibrations demonstrate that the initial calibration is still valid by checking the performance of the instrument on a continuing basis.

Internal Standards: Internal standards measure the gas chromatograph/ mass spectrometer sensitivity and response stability during each analysis.

Serial Dilution: Serial dilutions are performed on at least one sample from every batch of analyses for metals to determine if physical or chemical interferences exist in the analyte determinations.

For the Phase 3 drainage sediment Area III data set, accuracy was evaluated by reviewing the %R values and relative response factors of initial and continuing calibrations (percent difference or percent drift [%D] for organic analyses), internal standards, surrogate spikes (organic analyses only), MS/MSD, LCS/LCSD, ICP interferences, and by performing serial dilution checks during metals analyses, in conjunction with method blank, calibration blank, equipment rinsate blank, and trip blank results. These QC results assist in identifying the type and magnitude of effects that may have contributed to system error introduced from field and/or laboratory procedures.

Qualifiers were applied to applicable sample results during the validation process based on laboratory accuracy results. Details of the validation and the number of analytes qualified are discussed in detail in the DUAR and laboratory validation reports in Appendix D.

The following Phase 3 drainage sediment Area III individual analyte results were qualified as estimated "J/UJ" based on accuracy criteria:

- Some of the metals results due to MSs
- Some of the semi-volatile organic compound (SVOC) SIM results due to surrogates

- Some of the dioxin results based on confirmation %Ds

Sample preservation, handling, and holding times are additional measures of accuracy of the data. Holding times are defined as the amount of time that elapses between collection of the sample in the field to the start of the analysis. Preservation is defined as techniques used to maintain the target analytes at concentrations representative of the source sampled. Published holding times are viewed as valid as long as the associated preservation and container requirements have been met. All holding times, sample preservation, and handling criteria were met.

In summary, sample results that have been qualified as estimated "J/UJ" due to accuracy criteria are usable for project decisions.

5.7.3 Blank Contamination

Blanks are used to determine the level of laboratory and field contamination introduced into the samples, independent of the level of target analytes found in the sample source. Sources of sample contamination can include the containers and equipment used to collect the sample, preservatives added to the sample, other samples in transport coolers and laboratory sample storage refrigerators, standards and solutions used to calibrate instruments, glassware and reagents used to process samples, airborne contamination in the laboratory preparation area and the analytical instrument sample introduction equipment, and contamination in the field from cross contamination or engine exhaust. Each analyte group has its own particular suite of common laboratory contaminants. Active measures must be performed to continually measure the ambient contamination level and steps taken to discover the source of the contamination to eliminate or minimize the levels. Random spot contamination can also occur from analytes that are not common laboratory problems but that can arise as a problem for a specific project or over a short period of time. Sample equipment decontamination practices are discussed in Section 2.4.4. Field blanks, equipment blanks, trip blanks, and laboratory method blanks are analyzed to identify possible sources of contamination. The DUAR and laboratory validation reports in Appendix D discuss the results that were qualified based on field and laboratory blank contamination.

In summary, for Phase 3 drainage sediment Area III samples, 17 percent of the dioxin results were qualified as non-detect "U" due to laboratory blank contamination criteria. No other analytes were qualified as non-detect based on laboratory blank contamination.

For the dioxins, the method detection limits (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 5-2 and 5-3 provide a summary of analytes observed in the field blank and equipment blank samples. Most of the detected compounds in the equipment blanks were below the RLs but above the method detection limits (MDLs). Compounds detected above the RL in field and equipment blanks are highlighted yellow in the associated tables.

ASTM International Type II water is not typically certified "clean" to the RLs established for the low level methods used for Phase 3 Area III sampling. As shown in Table 5-2, low levels of dioxin and metals were detected in the field blank; dioxin results were all below the RL. No analytes were qualified as non-detect based on field blank contamination. The evaluation of ASTM International Type II water used in the field will continue throughout the sampling program. The ASTM International Type II water is being analyzed before sampling starts to ensure that the decontamination water is as clean as possible.

A review of the Phase 3 drainage sediment Area III equipment blanks 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. No qualification of sample results for equipment blank contamination was required during the validation process. To date, chemical detections in equipment blank samples appear to be random occurrences.

5.7.4 Representativeness, Comparability, and Sensitivity

Representativeness, comparability, and sensitivity are achieved by using USEPA-approved sampling procedures and analytical methodologies. By following the procedures described in the Work Plan/Field Sampling and Analysis Plan (WP/FSAP) 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 USEPA analytical methods and standardized reporting units are employed.

5.7.4.1 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 performing field audits. For this report, a detailed review was performed on the CoC forms, laboratory sample confirmation logs, and data validation packages. Laboratory QA/QC requirements were included in the WP/FSAP (CDM Smith 2012c) and laboratory statements of work (SOWs) to ensure that the laboratory analytical results were representative of true field conditions.

The most significant measure of representativeness is the accuracy of the sampling network and selection of appropriate locations and depths, etc. Field sampling accuracy was attained through adherence to the approved WP/FSAP for sample location and collection and by using approved SOPs for field data collection. Therefore, 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 generated analytical data generated that have not been rejected are viewed to be a representative characterization of the project area.

5.7.4.2 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, reporting units, 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 DTSC-reviewed analytical methods were utilized by CDM Smith. The sample analyses were performed by LLI and EMAX. Utilizing such procedures and methods enables the current data to be comparable with previous and future data sets generated using similar methods.

5.7.4.3 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

The MDL study attempts to answer the question, "What is the lowest level of analyte in a sample that will result in a signal different than zero"? The study is based upon repetitive analysis of an interference-free sample spiked with a known amount of the target analyte. The MDL is a measure of the ability of the test procedure to generate a positive response for the target analyte in the absence of any other interference from the sample.

The RL is generally defined as the lowest concentration at which an analyte can be detected in a sample and its concentration reported with a reasonable degree of accuracy and precision. For samples that do not pose a particular matrix problem, the RL is typically about three to five times higher than the MDL.

Laboratory results are reported according to rules that provide established certainty of detection and RLs. The result for an analyte is flagged with a "U" if that analyte was not detected, or qualified with a "J" flag if associated QC results fall outside the appropriate tolerance limits. Also, 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.

Qualifiers were applied to applicable sample results by the laboratory and identified during the validation process based on sample results being reported as detected below the RL/MDL. This does not indicate a deficiency with the data but simply that the results are below the RLs/MDLs. Details of the validation and the number of results qualified are discussed in detail in the DUAR and laboratory validation reports in Appendix D.

In summary, for all methods analyzed for Phase 3 drainage sediment Area III, results for some of the analytes were qualified as estimated due to RL criteria for dioxins, metals, mercury, TPH EFH, PCBs/PCTs and SVOC SIM results. For the data validated in this TM, RLs for the sample results were low enough to compare to the RLs stated in the WP/FSAP (CDM Smith 2012c).

5.8 Review of Selected Validation Reports

CDM Smith performed a review of the validation reports identified in Table 4-1. This review involved comparing the validation report results against the laboratory data packages as well as the validation guidance documents. All validation report results were verified against the laboratory data packages and validation guidance documents were followed as required.

5.9 Data Completeness

Completeness of the data collection program is defined as the percentage of samples planned for collection as listed in the WP/FSAP (CDM Smith 2012c) 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).

Equation A.

$$\%\text{Completeness} = Cx\frac{100}{n}$$

Where:

C = actual number of samples collected
n = total number of samples planned

Equation B.

$$\%\text{Completeness} = Vx\frac{100}{n'}$$

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 this sampling event is 90 percent for each analytical test for all project data.

A total of 18 Phase 3 drainage sediment Area III samples including the field duplicate were collected and analyzed. The completeness goal for the actual number of samples collected compared to the number of samples planned is considered acceptable.

The completeness goal achieved for acceptable data was 100 percent of the number of measurements judged to be valid versus the total number of measurements made for all Phase 3 drainage sediment Area III samples analyzed. Table 5-4 summarizes all results that were estimated.

Table 5-4 Summary of Data Completeness Following Data Validation – Phase 3 Drainage Sediment Area III

	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	146	90		52	1	289	100
Perchlorate-6850				7		7	100
Metals	359	98		40	13	510	100
Mercury		6		11		17	100
TPH EFH	38	4		43		85	100
Terphenyls				51		51	100
PCBs/PCTs	23	6		175		204	100
SVOCs SIM	48	85		199	42	374	100
Completeness Total for All Phase 3 Drainage Sediment Area III Samples Collected and Judged Valid							**100**

Sampling deviations from procedures described in the WP/FSAP (CDM Smith 2012c) are discussed in Section 2.9 of this 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 WP/FSAP (CDM Smith 2012c) 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.

5.10 Assessment of Data Usability and Reconciliation with WP/FSAP Goals

One hundred percent of the data validated for Phase 3 drainage sediment Area III, and reported in this TM, are suitable for their intended use for site characterization. No sample results were rejected. The RLs reported generally met the expected limits proposed by the analytical laboratory in their subcontract agreement with CDM Smith.

Sample results that were qualified as estimated are usable for project decisions. This data is considered usable.

Field duplicate precision also met criteria the 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.

Section 6
References

CDM Smith. 2012a. *Master Field Sampling Plan for Chemical Data Gap Investigation, Phase 3 Soil Chemical Sampling at Area IV, Santa Susana Field Laboratory, Ventura County, California.* April 11.

CDM Smith. 2012b. *Addendum No. 3 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, Drainage Sediment Sampling in Area III .* June 12.

CDM Smith. 2012c. *Work Plan for Chemical Data Gap Investigation, Phase 3 Soil Chemical Sampling at Area IV, Santa Susana Field Laboratory, Ventura County, California*. April 11.

CH2M Hill. 2008. *Group 5 – Central Portion of Areas III and IV RCRA Facility Investigation Report, Santa Susana Field Laboratory, Ventura County, California*. November.

Department of Toxic Substance and Control. 2010. Administrative Order on Consent for RA, Docket Number HAS-CO 10/11-037. December 6.

EPA. 2008. EPA *Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review*.

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EPA. 2004. *EPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review.*

HydroGeologic, Inc. 2010. *Quality Assurance Project Plan for Groundwater, Surface Water, and Sediment, Area IV Radiological Study, Santa Susana Field Laboratory, Ventura County, California*.

HydroGeologic, Inc. 2011. *Field Sample Plan Addendum, Surface Water and Sediment Sampling, Silvernale, R2A, and R2B Retention Ponds and Drainages, Santa Susana Field Laboratory Site*.

Palladino Company, Inc. 2012. *Data Validation Report*.

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Appendix A
Analytical Results Tables - Chemical

SSFL Main Qualification Definitions and Notes

NOTE: In the Appendix A tables, samples that were analyzed by Lancaster Laboratories are identified with the letter "N" in the sample type code and samples analyzed by EMAX are identified with the word "Split" in the sample type code.

U – The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

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

R – The data are unusable. The sample results are rejected due to serious deficiencies in meeting quality control criteria. The analyte may or may not be present in the sample.

UJ – The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

SSFL Specific Qualification Definitions

Qualifier	Organics	Inorganics
H	Holding times were exceeded.	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.	The sequence or number of standards used for the calibration was incorrect.
C	Calibration %RSD, r, r2 or %D were noncompliant	Correlation coefficient is <0.995.
R	Calibration RRF was <0.05.	%R for calibration is not within control limits
B	Presumed contamination from preparation (method blank)	Presumed contamination from preparation (method) blank or calibration blank
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R was not within control limits	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits
Q	MS/MSD recovery was poor; RPD	MS/MSD recovery was poor.
E	LCS/LCSD RPD	MS/MSD or Duplicate RPD or difference was high.
I	Internal standard performance was unsatisfactory	ICP ICS results were unsatisfactory.
A	Not applicable.	ICP Serial Dilution %D were not within control limits
M	Instrument Performance Check (BFB or DFTPP) was noncompliant	Not applicable.
T	Presumed contamination from trip blank.	Not applicable.
F	Presumed contamination from FB or ER.	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor	Post Digestion Spike recovery was not within control limits
K	EMPC	Not applicable
Z	Compounds reported below the RL	Analytes reported below the RL and above the MDL
***#**	Unusual problems found with the data that have been described in Section 2, "Data Validation Findings." The number following the asterisk (*) will indicate the section in the validation report where a description of the problem can be found.	Unusual problems found with the data that have been described in Section 2, "Data Validation Findings." The number following the asterisk (*) will indicate the section in the validation report where a description of the problem can be found.

Appendix A1
Analytical Method, CAS Number and Chemical Name
Area III

Analytical Method	CAS Number	Chemical Name	Alternative Chemical Name
300	14797-55-8	Nitrate [as N]	
300	14797-55-8	Nitrate	
300	16984-48-8	Fluoride	
9012B	57-12-5	Cyanide	
6020	7429-90-5	Aluminum	
6020	7439-89-6	Iron	
6020	7439-92-1	Lead	
6020	7439-93-2	Lithium	
6020	7439-95-4	Magnesium	
6020	7439-96-5	Manganese	
7471A	7439-97-6	Mercury	
6020	7439-98-7	Molybdenum	
6020	7440-02-0	Nickel	
6020	7440-09-7	Potassium	
6020	7440-22-4	Silver	
6020	7440-23-5	Sodium	
6020	7440-24-6	Strontium	
6020	7440-28-0	Thallium	
6020	7440-31-5	Tin	
6020	7440-32-6	Titanium	
6020	7440-36-0	Antimony	
6020	7440-38-2	Arsenic	
6020	7440-41-7	Beryllium	
6020	7440-39-3	Barium	
6020	7440-42-8	Boron	
6020	7440-43-9	Cadmium	
6020	7440-47-3	Chromium	
6020	7440-48-4	Cobalt	
6020	7440-50-8	Copper	
6020	7440-62-2	Vanadium	
6020	7440-66-6	Zinc	
6020	7440-67-7	Zirconium	
6020	7440-70-2	Calcium	
6020	7723-14-0	Phosphorus	
6020	7782-49-2	Selenium	
7199	18540-29-9	Chromium (Hexavalent Compounds)	Chromium VI
314	14797-73-0	Perchlorate	
6850	14797-73-0	Perchlorate	
160.3M	MOIST	Percent Moisture	
9045M	pH	pH	
8315A	60-34-4	Methylhydrazine	
8315A	57-14-7	1,1-Dimethylhydrazine	
8015B	64-17-5	Ethanol	
8015B	67-56-1	Methanol	
8015B	67-63-0	2-Propanol	
8015M	107-21-1	Ethylene Glycol	
8015M	111-46-6	Diethylene Glycol	
8015M	57-55-6	Propylene glycol	
8015B	84-15-1	o-Terphenyl	
8015B	92-06-8	m-Terphenyl	
8015B	92-94-4	p-terphenyl	
8315A	50-00-0	Formaldehyde	
8330A	606-20-2	2,6-Dinitrotoluene	
8330A	118-96-7	2,4,6-Trinitrotoluene	
8330A	121-82-4	1,3,5-Trinitroperhydro-1,3,5-triazine	RDX
8330A	19406-51-0	4-Amino-2,6-Dinitrotoluene	
8330A	2691-41-0	Octahydro-1,3,5,7-Tetranitro-1,3,5,7-Tetrazocine	HMX
8330A	35572-78-2	2-Amino-4,6-Dinitrotoluene	
8330A	479-45-8	2,4,6-Trinitrophenylmethylnitramin	Tetryl
8330A	55-63-0	Nitroglycerin	
8330A	59229-75-3	2,6-Diamino-4-nitrotoluene	
8330A	6629-29-4	2,4-Diamino-6-nitrotoluene	

Appendix A1
Analytical Method, CAS Number and Chemical Name
Area III

Analytical Method	CAS Number	Chemical Name	Alternative Chemical Name
8330A	78-11-5	Pentaerythritol Tetranitrate	
8330A	88-72-2	2-Nitrotoluene	
8330A	99-08-1	3-Nitrotoluene	
8330A	99-35-4	1,3,5-Trinitrobenzene	
8330A	99-99-0	4-Nitrotoluene	
8330A	121-14-2	2,4-Dinitrotoluene	
8330A	98-95-3	Nitrobenzene	
8330A	99-65-0	m-Dinitrobenzene	
8151A	120-36-5	Dichlorprop	
8151A	1918-00-9	Dicamba	
8151A	75-99-0	2,2-Dichlor-Propionic Acid	
8151A	88-85-7	Dinitrobutyl Phenol	
8151A	93-65-2	Methylchlorophenoxypropionic acid	MCPP
8151A	93-72-1	2,4,5-Trichlorophenoxyacetic acid	Silvex (2,4,5-TP)
8151A	93-76-5	2,4,5-Trichlorophenoxyacetic Acid	2,4,5-T
8151A	94-74-6	2-Methyl-4-Chlorophenoxyacetic Acid	MCPA
8151A	94-75-7	Dichlorophenoxyacetic Acid	2,4-D
8151A	94-82-6	4-(2,4-dichlorophenoxy)butanoic acid	2,4 DB
8081A	8001-35-2	Chlorinated Camphene	Toxaphene
8081A	1024-57-3	Heptachlor Epoxide	
8081A	1031-07-8	Endosulfan Sulfate	
8081A	2385-85-5	Mirex	
8081A	309-00-2	Aldrin	
8081A	319-84-6	Alpha-BHC	
8081A	319-85-7	Beta-BHC	
8081A	319-86-8	Delta-BHC	
8081A	33213-65-9	Endosulfan II	
8081A	50-29-3	4,4'-DDT	
8081A	53494-70-5	Endrin Ketone	
8081A	57-74-9	Chlordane	
8081A	58-89-9	Gamma-BHC (Lindane)	
8081A	60-57-1	Dieldrin	
8081A	72-20-8	Endrin	
8081A	72-43-5	Methoxychlor	
8081A	72-54-8	4,4'-DDD	
8081A	72-55-9	4,4'-DDE	
8081A	7421-93-4	Endrin Aldehyde	
8081A	76-44-8	Heptachlor	
8081A	959-98-8	Endosulfan I	
1613B	1746-01-6	2,3,7,8-Tetrachlorodibenzo-p-dioxin	2,3,7,8-TCDD
1613B	19408-74-3	1,2,3,7,8,9-Hexachlorodibenzo-p-Dioxin	1,2,3,7,8,9-HxCDD
1613B	3268-87-9	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin	OCDD
1613B	35822-46-9	1,2,3,4,6,7,8-Heptachlorodibenzo-p-Dioxin	1,2,3,4,6,7,8-HpCDD
1613B	39001-02-0	1,2,3,4,6,7,8,9-Octachlorodibenzofuran	OCDF
1613B	39227-28-6	1,2,3,4,7,8-Hexachlorodibenzo-p-Dioxin	1,2,3,4,7,8-HxCDD
1613B	40321-76-4	1,2,3,7,8-Pentachlorodibenzo-p-Dioxin	1,2,3,7,8-PeCDD
1613B	51207-31-9	2,3,7,8-Tetrachlorodibenzofuran	2,3,7,8-TCDF
1613B	55673-89-7	1,2,3,4,7,8,9-Heptachlorodibenzofuran	1,2,3,4,7,8,9-HpCDF
1613B	57117-31-4	2,3,4,7,8-Pentachlorodibenzofuran	2,3,4,7,8-PeCDF
1613B	57117-41-6	1,2,3,7,8-Pentachlorodibenzofuran	1,2,3,7,8-PeCDF
1613B	57117-44-9	1,2,3,6,7,8-Hexachlorodibenzofuran	1,2,3,6,7,8-HxCDF
1613B	57653-85-7	1,2,3,6,7,8-Hexachlorodibenzo-p-Dioxin	1,2,3,6,7,8-HxCDD
1613B	60851-34-5	2,3,4,6,7,8-Hexachlorodibenzofuran	2,3,4,6,7,8-HxCDF
1613B	67562-39-4	1,2,3,4,6,7,8-Heptachlorodibenzofuran	1,2,3,4,6,7,8-HpCDF
1613B	70648-26-9	1,2,3,4,7,8-Hexachlorodibenzofuran	1,2,3,4,7,8-HxCDF
1613B	72918-21-9	1,2,3,7,8,9-Hexachlorodibenzofuran	1,2,3,7,8,9-HxCDF
8082	11096-82-5	Aroclor 1260	
8082	11097-69-1	Aroclor 1254	
8082	11100-14-4	Aroclor 1268	
8082	11104-28-2	Aroclor 1221	
8082	11126-42-4	Aroclor 5460	
8082	11141-16-5	Aroclor 1232	

Appendix A1
Analytical Method, CAS Number and Chemical Name
Area III

Analytical Method	CAS Number	Chemical Name	Alternative Chemical Name
8082	12642-23-8	Aroclor 5442	
8082	12672-29-6	Aroclor 1248	
8082	12674-11-2	Aroclor 1016	
8082	37324-23-5	Aroclor 1262	
8082	53469-21-9	Aroclor 1242	
8082	63496-31-1	Aroclor 5432	
1625C	62-75-9	N-Nitrosodimethylamine	
8270C SIM	62-75-9	N-Nitrosodimethylamine	
8270C	121-14-2	2,4-Dinitrotoluene	
8270C	98-95-3	Nitrobenzene	
8270C	106-46-7	1,4-Dichlorobenzene	
8270C	120-82-1	1,2,4-Trichlorobenzene	
8270C	541-73-1	1,3-Dichlorobenzene	
8270C	87-68-3	Hexachlorobutadiene	
8270C	95-50-1	1,2-Dichlorobenzene	
8270C	100-01-6	4-Nitroaniline	
8270C	100-02-7	4-Nitrophenol	
8270C	101-55-3	4-Bromophenyl Phenyl Ether	
8270C	105-67-9	2,4-Dimethylphenol	
8270C	106-44-5	4-Methylphenol	
8270C	106-47-8	4-Chloroaniline	
8270C	108-68-9	3,5-Dimethylphenol	
8270C	108-95-2	Phenol	
8270C	111-44-4	Bis(2-Chloroethyl) ether	
8270C	111-91-1	Bis(2-Chloroethoxy) methane	
8270C	117-81-7	Bis(2-Ethylhexyl) phthalate	
8270C SIM	117-81-7	Bis(2-Ethylhexyl) phthalate	
8270C	117-84-0	Di-N-Octyl Phthalate	
8270C SIM	117-84-0	Di-N-Octyl Phthalate	
8270C	118-74-1	Hexachlorobenzene	
8270C SIM	120-12-7	Anthracene	
8270C	120-83-2	2,4-Dichlorophenol	
8270C	122-66-7	1,2-Diphenylhydrazine	
8270C	129-00-0	Pyrene	
8270C SIM	129-00-0	Pyrene	
8270C	131-11-3	Dimethylphthalate	
8270C SIM	131-11-3	Dimethylphthalate	
8270C	132-64-9	Dibenzofuran	
8270C	191-24-2	Benzo(g,h,i)perylene	
8270C SIM	191-24-2	Benzo(g,h,i)perylene	
8270C	193-39-5	Indeno(1,2,3-Cd)Pyrene	
8270C SIM	193-39-5	Indeno(1,2,3-Cd)Pyrene	
8270C	205-99-2	Benzo(b)fluoranthene	
8270C SIM	205-99-2	Benzo(b)fluoranthene	
8270C	206-44-0	Fluoranthene	
8270C SIM	206-44-0	Fluoranthene	
8270C	207-08-9	Benzo(k)fluoranthene	
8270C SIM	207-08-9	Benzo(k)fluoranthene	
8270C SIM	208-96-8	Acenaphthylene	
8270C	218-01-9	Chrysene	
8270C SIM	218-01-9	Chrysene	
8270C	39638-32-9	bis(2-Chloroisopropyl) ether	
8270C	50-32-8	Benzo(a)pyrene	
8270C SIM	50-32-8	Benzo(a)pyrene	
8270C	51-28-5	2,4-Dinitrophenol	
8270C	534-52-1	4,6-Dinitro-2-Methylphenol	
8270C	53-70-3	Dibenzo(a,h)anthracene	
8270C SIM	53-70-3	Dibenzo(a,h)anthracene	
8270C	56-55-3	Benzo(a)anthracene	
8270C SIM	56-55-3	Benzo(a)anthracene	
8270C	59-50-7	4-Chloro-3-Methylphenol	
8270C	621-64-7	N-Nitroso-Di-N-Propylamine	

Appendix A1
Analytical Method, CAS Number and Chemical Name
Area III

Analytical Method	CAS Number	Chemical Name	Alternative Chemical Name
8270C	62-53-3	Aniline	
8270C	65-85-0	Benzoic Acid	
8270C	67-72-1	Hexachloroethane	
8270C	7005-72-3	4-Chlorophenyl Phenylether	
8270C	77-47-4	Hexachlorocyclopentadiene	
8270C	78-59-1	Isophorone	
8270C SIM	83-32-9	Acenaphthene	
8270C	84-66-2	Diethylphthalate	
8270C SIM	84-66-2	Diethylphthalate	
8270C	84-74-2	Di-N-Butylphthalate	
8270C SIM	84-74-2	Di-N-Butylphthalate	
8270C	85-01-8	Phenanthrene	
8270C SIM	85-01-8	Phenanthrene	
8270C	85-68-7	Butylbenzylphthalate	
8270C SIM	85-68-7	Butylbenzylphthalate	
8270C	86-30-6	N-Nitrosodiphenylamine	
8270C SIM	86-73-7	Fluorene	
8270C	86-74-8	Carbazole	
8270C	87-86-5	Pentachlorophenol	
8270C	88-06-2	2,4,6-Trichlorophenol	
8270C	88-74-4	2-Nitroaniline	
8270C	88-75-5	2-Nitrophenol	
8270C	90-12-0	1-Methylnaphthalene	
8270C SIM	90-12-0	1-Methylnaphthalene	
8270C	91-20-3	Naphthalene	
8270C SIM	91-20-3	Naphthalene	
8270C	91-57-6	2-Methylnaphthalene	
8270C SIM	91-57-6	2-Methylnaphthalene	
8270C	91-58-7	2-Chloronaphthalene	
8270C	91-94-1	3,3`-Dichlorobenzidine	
8270C	92-87-5	Benzidine	
8270C	95-48-7	2-Methylphenol	
8270C	95-57-8	2-Chlorophenol	
8270C	95-95-4	2,4,5-Trichlorophenol	
8270C	99-09-2	3-Nitroaniline	
8270C	100-51-6	Benzyl Alcohol	
8270C	606-20-2	2,6-Dinitrotoluene	
8015B	GROC5C12	Gasoline Range Organices (C5-C12)	GRO (C5-C12)
8015B	PHCC15C20	Extractable Fuel Hydrocarbons (C15-C20)	EFH (C15-C20)
8015B	PHCC21C30	Extractable Fuel Hydrocarbons (C21-C30)	EFH (C21-C30)
8015B	PHCC30C40	Extractable Fuel Hydrocarbons (C30-C40)	EFH (C30-C40)
8015B	PHCC8C11	Extractable Fuel Hydrocarbons (C8-C11)	EFH (C8-C11)
8260B	106-46-7	1,4-Dichlorobenzene	
8260B	120-82-1	1,2,4-Trichlorobenzene	
8260B	541-73-1	1,3-Dichlorobenzene	
8260B	87-68-3	Hexachlorobutadiene	
8260B	95-50-1	1,2-Dichlorobenzene	
8260B	99-87-6	Isopropyltoluene	
8260B	100-41-4	Ethylbenzene	
8260B	100-42-5	Styrene	
8260B	10061-01-5	cis-1,3-Dichloropropene	
8260B	10061-02-6	trans-1,3-Dichloropropene	
8260B	103-65-1	N-Propylbenzene	
8260B	104-51-8	N-Butylbenzene	
8260B	106-43-4	4-Chlorotoluene	
8260B	106-93-4	1,2-Dibromoethane	
8260B	107-06-2	1,2-Dichloroethane	
8260B	108-10-1	4-Methyl-2-Pentanone	
8260B	108-67-8	1,3,5-Trimethylbenzene	
8260B	108-86-1	Bromobenzene	
8260B	108-88-3	Toluene	
8260B	108-90-7	Chlorobenzene	

Appendix A1
Analytical Method, CAS Number and Chemical Name
Area III

Analytical Method	CAS Number	Chemical Name	Alternative Chemical Name
8260B	110-75-8	2-Chloroethyl Vinyl Ether	
8260B SIM	123-91-1	1,4-Dioxane	
8260B	124-48-1	Dibromochloromethane	
8260B	127-18-4	Tetrachloroethene	
8260B	135-98-8	sec-Butylbenzene	
8260B	142-28-9	1,3-Dichloropropane	
8260B	156-59-2	cis-1,2-Dichloroethene	
8260B	156-60-5	trans-1,2-Dichloroethene	
8260B	1634-04-4	Methyl tert-Butyl Ether	
8260B	179601-23-1	m,p-Xylene	
8260B	56-23-5	Carbon tetrachloride	
8260B	563-58-6	1,1-Dichloropropene	
8260B	591-78-6	2-Hexanone	
8260B	594-20-7	2,2-Dichloropropane	
8260B	630-20-6	1,1,1,2-Tetrachloroethane	
8260B	67-64-1	Acetone	
8260B	67-66-3	Chloroform	
8260B	71-43-2	Benzene	
8260B	71-55-6	1,1,1-Trichloroethane	
8260B	74-83-9	Bromomethane	
8260B	74-87-3	Chloromethane	
8260B	74-95-3	Dibromomethane	
8260B	74-97-5	Bromochloromethane	
8260B	75-00-3	Chloroethane	
8260B	75-01-4	Vinyl Chloride	
8260B	75-09-2	Methylene chloride	
8260B	75-25-2	Bromoform	
8260B	75-27-4	Bromodichloromethane	
8260B	75-34-3	1,1-Dichloroethane	
8260B	75-35-4	1,1-Dichloroethene	
8260B	75-69-4	Trichlorofluoromethane	
8260B	75-71-8	Dichlorodifluoromethane	
8260B	75-88-7	1,1,1-Trichloro-2,2,2-trifluoroethane	Freon 113a
8260B	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	Freon 113
8260B	78-87-5	1,2-Dichloropropane	
8260B	78-93-3	2-Butanone	
8260B	79-00-5	1,1,2-Trichloroethane	
8260B	79-01-6	Trichloroethene	
8260B	79-34-5	1,1,2,2-Tetrachloroethane	
8260B	79-38-9	Chlorotrifluoroethene	
8260B	87-61-6	1,2,3-Trichlorobenzene	
8260B	95-47-6	o-Xylene	
8260B	95-49-8	2-Chlorotoluene	
8260B	95-63-6	1,2,4-Trimethylbenzene	
8260B	96-12-8	1,2-Dibromo-3-chloropropane	
8260B	96-18-4	1,2,3-Trichloropropane	
8260B	98-06-6	tert-Butylbenzene	
8260B	98-82-8	Isopropylbenzene	

			Sample Name	SL-001-A3-SB-0.0-0.5	SL-002-A3-SB-0.0-0.5	SL-003-A3-SB-0.0-0.5	SL-004-A3-SB-0.0-0.5	SL-005-A3-SB-0.0-0.5	SL-006-A3-SB-0.0-0.5
			Sample Type	N	N	N	N	N	N
			Sample Date	07/18/2012	07/18/2012	07/18/2012	07/24/2012	07/24/2012	07/24/2012
			SDG	PH024	PH024	PH024	PH024	PH024	PH024
			Start Depth	0	0	0	0	0	0
			End Depth	0.5	0.5	0.5	0.5	0.5	0.5
Analytic Method	CAS Number	Chemical Name	Unit						
1613B	1746-01-6	2,3,7,8-TCDD	ng/kg	0.717 J Z	1.01 U B	0.679 J Z	2.17 J Z	2.91	3.35
1613B	19408-74-3	1,2,3,7,8,9-Hexachlorodibenzo-p-Dioxin	ng/kg	11	2.17 J Z	8.62	32.8	42.5	47.7
1613B	3268-87-9	OCDD	ng/kg	3930	1080	3880	12600	18100 J *#	18400 J *#
1613B	35822-46-9	1,2,3,4,6,7,8-Heptachlorodibenzo-p-Dioxin	ng/kg	485	113	412	1400	2080	2260
1613B	39001-02-0	OCDF	ng/kg	214	49.5	207	550	796	877
1613B	39227-28-6	1,2,3,4,7,8-Hexachlorodibenzo-p-Dioxin	ng/kg	8.17	1.30 J Z	6.91	18.1	22	25.7
1613B	40321-76-4	1,2,3,7,8-Pentachlorodibenzo-p-Dioxin	ng/kg	3.10 J Z	5.06 U B	2.88 J Z	9.26 J Z	10.0 J Z	11.3 J Z
1613B	51207-31-9	2,3,7,8-Tetrachlorodibenzofuran	ng/kg	3.19	1.01 U B	1.62	56.6	67.9	28.3
1613B	55673-89-7	1,2,3,4,7,8,9-HPCDF	ng/kg	7.21	2.11 J Z	7.16	27	41.4	50.2
1613B	57117-31-4	2,3,4,7,8-PECDF	ng/kg	3.17 J Z	5.06 U B	5.33 U B	15.1 J Z	17.4	12.8
1613B	57117-41-6	1,2,3,7,8-Pentachlorodibenzofuran	ng/kg	7.99	5.06 U B	13.6	25	29.5	10.6 J Z
1613B	57117-44-9	1,2,3,6,7,8-HXCDF	ng/kg	4.75 J Z	1.10 J Z	3.83 J Z	19.4	27.5	26.4
1613B	57653-85-7	1,2,3,6,7,8-Hexachlorodibenzo-p-Dioxin	ng/kg	19.3	4.72 J Z	17.6	60.6	88.6	99.9
1613B	60851-34-5	2,3,4,6,7,8-HXCDF	ng/kg	5.05 J Z	1.37 J Z	4.78 J Z	22.5	35.3	40.8
1613B	67562-39-4	1,2,3,4,6,7,8-HPCDF	ng/kg	72.6	20.2	73.9	237	348	421
1613B	70648-26-9	1,2,3,4,7,8-HXCDF	ng/kg	9.48	2.18 J Z	8.35	15.2 J Z	18.9	20.4
1613B	72918-21-9	1,2,3,7,8,9-HXCDF	ng/kg	5.56 U	5.06 U B	1.08 J Z	4.72 J Z	6.05 J Z	5.97 J Z

U - Compound not detected above the reporting limit
J - Result is an estimated value
R - Result is rejected

REVISED - Appendix A-2
Dioxins - Validated Data
Drainage Sediment Samples in Area III - Phase 3

			Sample Name	SL-007-A3-SB-0.0-0.5	SL-008-A3-SB-0.0-0.5	SL-009-A3-SB-0.0-0.5	SL-010-A3-SB-0.0-0.5	SL-011-A3-SB-0.0-0.5	SL-012-A3-SB-0.0-0.5
			Sample Type	N	N	N	N	N	N
			Sample Date	07/24/2012	07/18/2012	07/18/2012	07/18/2012	07/17/2012	07/17/2012
			SDG	PH024	PH024	PH024	PH024	PH020	PH020
			Start Depth	0	0	0	0	0	0
			End Depth	0.5	0.5	0.5	0.5	0.5	0.5
Analytic Method	CAS Number	Chemical Name	Unit						
1613B	1746-01-6	2,3,7,8-TCDD	ng/kg	1.39 J Z	0.998 U	0.765 J Z	0.726 J Z	1.04 U B	1.02 U B
1613B	19408-74-3	1,2,3,7,8,9-Hexachlorodibenzo-p-Dioxin	ng/kg	22.2	0.996 J Z	32	21.3	3.44 J Z	17.1
1613B	3268-87-9	OCDD	ng/kg	9740	403	14200 J *#	5480 J *#	1020	6400 J *#
1613B	35822-46-9	1,2,3,4,6,7,8-Heptachlorodibenzo-p-Dioxin	ng/kg	1070	29.9	1290	463	107	800
1613B	39001-02-0	OCDF	ng/kg	405	31.4	475	173	32.7	200
1613B	39227-28-6	1,2,3,4,7,8-Hexachlorodibenzo-p-Dioxin	ng/kg	11.7 J Z	4.99 U B	16.9	10.6	1.49 J Z	8.57
1613B	40321-76-4	1,2,3,7,8-Pentachlorodibenzo-p-Dioxin	ng/kg	5.17 J Z	4.99 U B	6.36	5.73	1.02 J Z	3.64 J Z
1613B	51207-31-9	2,3,7,8-Tetrachlorodibenzofuran	ng/kg	13.2	0.998 U B	1.07	1.04 U B	1.04 U B	1.02 U B
1613B	55673-89-7	1,2,3,4,7,8,9-HPCDF	ng/kg	19.1	0.627 J Z	13.9	5.32	1.28 J Z	8.9
1613B	57117-31-4	2,3,4,7,8-PECDF	ng/kg	6.95 J Z	4.99 U B	2.01 J Z	5.18 U B	5.19 U B	1.35 J Z
1613B	57117-41-6	1,2,3,7,8-Pentachlorodibenzofuran	ng/kg	4.21 J Z	4.99 U B	4.49 J Z	5.18 U B	4.97 J Z	2.32 J Z
1613B	57117-44-9	1,2,3,6,7,8-HXCDF	ng/kg	10.3 J Z	4.99 U B	6.92	3.81 J Z	0.923 J Z	3.46 J Z
1613B	57653-85-7	1,2,3,6,7,8-Hexachlorodibenzo-p-Dioxin	ng/kg	44.5	1.01 J Z	56.3	18.1	5.11 J Z	39.8
1613B	60851-34-5	2,3,4,6,7,8-HXCDF	ng/kg	15.8	4.99 U B	11.4	5.64	1.00 J Z	5.49
1613B	67562-39-4	1,2,3,4,6,7,8-HPCDF	ng/kg	171	6.34	184	79.5	13.4	86
1613B	70648-26-9	1,2,3,4,7,8-HXCDF	ng/kg	9.90 J Z	4.99 U B	10.1	3.37 J Z	2.44 J Z	3.47 J Z
1613B	72918-21-9	1,2,3,7,8,9-HXCDF	ng/kg	2.45 J Z	4.99 U B	1.94 J Z	5.18 U B	5.19 U B	5.11 U B

U - Compound not detected above the reporting limit
J - Result is an estimated value
R - Result is rejected

			Sample Name	SL-013-A3-SB-0.0-0.5	SL-014-A3-SB-0.0-0.5	SL-015-A3-SB-0.0-0.5	SL-016-A3-SB-0.0-0.5	SL-316-A3-SB-0.0-0.5	SL-017-A3-SB-0.0-0.5
			Sample Type	N	N	N	N	FD	N
			Sample Date	07/17/2012	07/17/2012	07/17/2012	07/17/2012	07/17/2012	07/17/2012
			SDG	PH020	PH020	PH020	PH020	PH020	PH020
			Start Depth	0	0	0	0	0	0
			End Depth	0.5	0.5	0.5	0.5	0.5	0.5
Analytic Method	CAS Number	Chemical Name	Unit						
1613B	1746-01-6	2,3,7,8-TCDD	ng/kg	1.04 U B	1.23	1.00 U B	1.01 UJ B, FD	0.981 UJ FD	1.03 U B
1613B	19408-74-3	1,2,3,7,8,9-Hexachlorodibenzo-p-Dioxin	ng/kg	11.9	52.3	27	1.90 J Z	2.08 J Z	1.20 J Z
1613B	3268-87-9	OCDD	ng/kg	3210	26400 J *#	21300 J *#	805	954	284
1613B	35822-46-9	1,2,3,4,6,7,8-Heptachlorodibenzo-p-Dioxin	ng/kg	356	2490 J *#	941	57.7	63.3	21.9
1613B	39001-02-0	OCDF	ng/kg	107	760	256	63.5	68	12.5
1613B	39227-28-6	1,2,3,4,7,8-Hexachlorodibenzo-p-Dioxin	ng/kg	6.64	27.1	13.3	5.03 U B	1.01 J Z	5.15 U B
1613B	40321-76-4	1,2,3,7,8-Pentachlorodibenzo-p-Dioxin	ng/kg	4.18 J Z	11.8	6.66	5.03 U B	0.667 J Z	5.15 U B
1613B	51207-31-9	2,3,7,8-Tetrachlorodibenzofuran	ng/kg	0.810 J Z	1.05 U B	1.00 U B	1.01 U B	0.981 U B	0.769 J Z
1613B	55673-89-7	1,2,3,4,7,8,9-HPCDF	ng/kg	4.46 J Z	21.4	5.63	1.28 J Z	1.35 J Z	5.15 U B
1613B	57117-31-4	2,3,4,7,8-PECDF	ng/kg	1.52 J Z	2.98 J Z	5.01 U B	5.03 U B	4.90 U B	1.49 J Z
1613B	57117-41-6	1,2,3,7,8-Pentachlorodibenzofuran	ng/kg	6.17	12	1.63 J Z	5.03 U B	4.90 U B	1.54 J Z
1613B	57117-44-9	1,2,3,6,7,8-HXCDF	ng/kg	1.91 J Z	7.36	2.33 J Z	5.03 U B	4.90 U B	5.15 U B
1613B	57653-85-7	1,2,3,6,7,8-Hexachlorodibenzo-p-Dioxin	ng/kg	17.5	114	39.8	1.92 J Z	2.17 J Z	1.23 J Z
1613B	60851-34-5	2,3,4,6,7,8-HXCDF	ng/kg	2.71 J Z	13.5	3.32 J Z	5.03 U B	4.90 U B	5.15 U B
1613B	67562-39-4	1,2,3,4,6,7,8-HPCDF	ng/kg	38.1	254	68.8	11	11.9	4.15 J Z
1613B	70648-26-9	1,2,3,4,7,8-HXCDF	ng/kg	3.36 J Z	9.52	4.18 J Z	5.03 U B	4.90 U B	5.15 U
1613B	72918-21-9	1,2,3,7,8,9-HXCDF	ng/kg	5.22 U B	2.36 J Z	1.57 J Z	5.03 U B	4.90 U B	5.15 U B

U - Compound not detected above the reporting limit
J - Result is an estimated value
R - Result is rejected

			Sample Name	SL-001-A3-SB-0.0-0.5	SL-002-A3-SB-0.0-0.5	SL-003-A3-SB-0.0-0.5	SL-004-A3-SB-0.0-0.5	SL-005-A3-SB-0.0-0.5	SL-006-A3-SB-0.0-0.5	SL-007-A3-SB-0.0-0.5
			Sample Type	N	N	N	N	N	N	N
			Sample Date	07/18/2012	07/18/2012	07/18/2012	07/24/2012	07/24/2012	07/24/2012	07/24/2012
			SDG	12G140	12G140	12G140	12G198	12G198	12G198	12G198
			Start Depth	0	0	0	0	0	0	0
			End Depth	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Analytic Method	CAS Number	Chemical Name	Unit							
7471A	7439-97-6	Mercury	mg/kg	0.101 U	0.101 U	0.0657 J Z	0.288 U	0.161 J Z	0.170 J Z	0.246 U

U - Compound not detected above the reporting limit
J - Result is an estimated value
R - Result is rejected

Appendix A-3
Mercury - Validated Data
Drainage Sediment Samples in Area III - Phase 3

			Sample Name	SL-008-A3-SB-0.0-0.5	SL-009-A3-SB-0.0-0.5	SL-010-A3-SB-0.0-0.5	SL-011-A3-SB-0.0-0.5	SL-012-A3-SB-0.0-0.5	SL-013-A3-SB-0.0-0.5	SL-014-A3-SB-0.0-0.5
			Sample Type	N	N	N	N	N	N	N
			Sample Date	07/18/2012	07/18/2012	07/18/2012	07/17/2012	07/17/2012	07/17/2012	07/17/2012
			SDG	12G140	12G140	12G140	12G123	12G123	12G123	12G123
			Start Depth	0	0	0	0	0	0	0
			End Depth	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Analytic Method	CAS Number	Chemical Name	Unit							
7471A	7439-97-6	Mercury	mg/kg	0.101 U	0.0712 J Z	0.107 U	0.0639 J Z	0.0875 J Z	0.104 U	0.105 U

U - Compound not detected above the reporting limit
J - Result is an estimated value
R - Result is rejected

			Sample Name	SL-015-A3-SB-0.0-0.5	SL-016-A3-SB-0.0-0.5	SL-316-A3-SB-0.0-0.5	SL-017-A3-SB-0.0-0.5
			Sample Type	N	N	FD	N
			Sample Date	07/17/2012	07/17/2012	07/17/2012	07/17/2012
			SDG	12G123	12G123	12G123	12G123
			Start Depth	0	0	0	0
			End Depth	0.5	0.5	0.5	0.5
Analytic Method	CAS Number	Chemical Name	Unit				
7471A	7439-97-6	Mercury	mg/kg	0.104 U	0.103 U	0.101 U	0.105 U

U - Compound not detected above the reporting limit
J - Result is an estimated value
R - Result is rejected

Appendix A-4
Metals - Validated Data
Drainage Sediment Samples in Area III - Phase 3

				Sample Name	SL-001-A3-SB-0.0-0.5	SL-002-A3-SB-0.0-0.5	SL-003-A3-SB-0.0-0.5	SL-004-A3-SB-0.0-0.5	SL-005-A3-SB-0.0-0.5	SL-006-A3-SB-0.0-0.5	SL-007-A3-SB-0.0-0.5
				Sample Type	N	N	N	N	N	N	N
				Sample Date	07/18/2012	07/18/2012	07/18/2012	07/24/2012	07/24/2012	07/24/2012	07/24/2012
				SDG	12G140	12G140	12G140	12G198	12G198	12G198	12G198
				Start Depth	0	0	0	0	0	0	0
				End Depth	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Analytic Method	CAS Number	Chemical Name	Unit								
6020	7429-90-5	Aluminum	mg/kg	7400	8530	13300	26600	20800	23100	12800
6020	7439-89-6	Iron	mg/kg	13800	13500	19900	42700	32100	32400	20600
6020	7439-92-1	Lead	mg/kg	8.59	17	21.5	35.8	28.9	24.8	17.4
6020	7439-93-2	Lithium	mg/kg	16.6	18.4	25.5	54.3	46.8	46.9	24.1
6020	7439-95-4	Magnesium	mg/kg	3160	3310	5920	9320	7270	7570	4490
6020	7439-96-5	Manganese	mg/kg	161	115	321	656	564	671	695
6020	7439-98-7	Molybdenum	mg/kg	0.498	0.703	0.584	1.38 J Z	1.88	2.1	2.33
6020	7440-02-0	Nickel	mg/kg	7.86	8.34	13.4	39.6	28.9	28.3	16.3
6020	7440-09-07	Potassium	mg/kg	2010	2180	3720	4830	4210	4070	2410
6020	7440-22-4	Silver	mg/kg	1.24	1.62	1.89	25.4	39.6	39.8	12.8
6020	7440-23-5	Sodium	mg/kg	75.4 J Z	75.2 J Z	354	552	387	321	274
6020	7440-24-6	Strontium	mg/kg	21.2	14.8	65.1	142	122	105	118
6020	7440-28-0	Thallium	mg/kg	0.137 J Z	0.164 J Z	0.254 J Z	0.407 J Z	0.372 J Z	0.338 J Z	0.198 J Z
6020	7440-31-5	Tin	mg/kg	9.90 U	10.0 U	10.4 U	28.0 U	27.6 U	20.7 U	24.5 U
6020	7440-32-6	Titanium	mg/kg	583	634	917	1460	1130	1320	730
6020	7440-36-0	Antimony	mg/kg	0.168 J Z	0.243 J Z	0.294 J Z	0.878 J Z	0.930 J Z	0.698 J Z	0.485 J Z
6020	7440-38-2	Arsenic	mg/kg	4.06	3.14	5.67	10.6	8.69	9.19	5.87
6020	7440-39-3	Barium	mg/kg	49.4	58.6	113	175	139	141	92.1
6020	7440-41-7	Beryllium	mg/kg	0.281 J Z	0.369 J Z	0.563	1.26 J Z	0.958 J Z	0.924 J Z	0.524 J Z
6020	7440-42-8	Boron	mg/kg	4.95 U	5.00 U	10	12.1 J Z	10.4 J Z	8.18 J Z	12.3 U
6020	7440-43-9	Cadmium	mg/kg	0.350 J Z	0.672	0.761	3.35	2.26	1.98	1.06 J Z
6020	7440-47-3	Chromium	mg/kg	10.6	12	19.4	47.5	40	45.2	22.2
6020	7440-48-4	Cobalt	mg/kg	4.97	3.25	5.76	17.8	11.9	11.4	6.31
6020	7440-50-8	Copper	mg/kg	6.76	10.6	12.3	51.3	43.7	43	21.9
6020	7440-62-2	Vanadium	mg/kg	19.2	20.5	32.1	58.7	50.8	51.1	30.4
6020	7440-66-6	Zinc	mg/kg	68	56.1	94.6	335	202	173	101
6020	7440-67-7	Zirconium	mg/kg	4.95 UJ Q	5.00 UJ Q	5.21 UJ Q	14.0 U	13.8 U	10.3 U	12.3 U
6020	7440-70-2	Calcium	mg/kg	1600	1740	11100	36900	32900	26500	36200
6020	7723-14-0	Phosphorus	mg/kg	352	264	401	785	784	749	599
6020	7782-49-2	Selenium	mg/kg	0.495 U	0.500 U	0.521 U	0.746 J Z	0.576 J Z	0.477 J Z	1.23 U

U - Compound not detected above the reporting limit
J - Result is an estimated value
R - Result is rejected

				Sample Name	SL-008-A3-SB-0.0-0.5	SL-009-A3-SB-0.0-0.5	SL-010-A3-SB-0.0-0.5	SL-011-A3-SB-0.0-0.5	SL-012-A3-SB-0.0-0.5	SL-013-A3-SB-0.0-0.5	SL-014-A3-SB-0.0-0.5
				Sample Type	N	N	N	N	N	N	N
				Sample Date	07/18/2012	07/18/2012	07/18/2012	07/17/2012	07/17/2012	07/17/2012	07/17/2012
				SDG	12G140	12G140	12G140	12G123	12G123	12G123	12G123
				Start Depth	0	0	0	0	0	0	0
				End Depth	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Analytic Method	CAS Number	Chemical Name	Unit								
6020	7429-90-5	Aluminum	mg/kg	10200	9690	13200	18100	16100	17300	14200
6020	7439-89-6	Iron	mg/kg	14000	14200	17700	19300	18500	22200	18900
6020	7439-92-1	Lead	mg/kg	5.96	12	15.1	14.4	18.9	11.7	11.2
6020	7439-93-2	Lithium	mg/kg	12.4	18	21.7	19.9	19.9	18.8	20.3
6020	7439-95-4	Magnesium	mg/kg	3150	3450	4090	4330	3920	5000	4280
6020	7439-96-5	Manganese	mg/kg	200	201	263	304	151	342	215
6020	7439-98-7	Molybdenum	mg/kg	0.441 J Z	0.497 J Z	0.517 J Z	0.625	0.460 J Z	0.392 J Z	0.448 J Z
6020	7440-02-0	Nickel	mg/kg	8.38	11	12.4	13.5	17.7	14.3	12.1
6020	7440-09-07	Potassium	mg/kg	2580	2160	2890	2650	2270	3670	2940
6020	7440-22-4	Silver	mg/kg	0.0560 J Z	1.4	1.11	0.187 J Z	0.248 J Z	0.148 J Z	0.107 J Z
6020	7440-23-5	Sodium	mg/kg	57.4 J Z	182	114	97.0 J Z	91.6 J Z	78.5 J Z	110
6020	7440-24-6	Strontium	mg/kg	13.8	24.4	22.9	23.2	37.2	46.9	29.2
6020	7440-28-0	Thallium	mg/kg	0.186 J Z	0.188 J Z	0.223 J Z	0.222 J Z	0.199 J Z	0.249 J Z	0.209 J Z
6020	7440-31-5	Tin	mg/kg	9.90 U	10.3 U	10.5 U	10.4 U	10.2 U	10.4 U	10.1 U
6020	7440-32-6	Titanium	mg/kg	655	644	816	783	751	691	793
6020	7440-36-0	Antimony	mg/kg	0.156 J Z	0.261 J Z	0.424 J Z	0.229 J Q, Z	0.296 J Q, Z	0.312 J Q, Z	0.293 J Q, Z
6020	7440-38-2	Arsenic	mg/kg	3.61	5.02	9.14	4.63	4.71	5.45	4.48
6020	7440-39-3	Barium	mg/kg	77	68	98.7	109	99	99.2	85.9
6020	7440-41-7	Beryllium	mg/kg	0.380 J Z	0.340 J Z	0.503 J Z	0.577	0.569	0.704	0.453 J Z
6020	7440-42-8	Boron	mg/kg	4.95 U	4.14 J Z	2.73 J Z	5.20 U	3.12 J Z	4.70 J Z	3.15 J Z
6020	7440-43-9	Cadmium	mg/kg	0.182 J Z	0.569	0.414 J Z	0.568	0.794	0.478 J Z	0.395 J Z
6020	7440-47-3	Chromium	mg/kg	13.1	16	18.7	20.7	22.2	22	18
6020	7440-48-4	Cobalt	mg/kg	4.28	4.93	5.48	6.57	5.69	8.46	5.58
6020	7440-50-8	Copper	mg/kg	6.23	11.4	10.1	11	23.9	12.3	21.5
6020	7440-62-2	Vanadium	mg/kg	24	23.7	30.8	36.3 J Q	31.2 J Q	43.4 J Q	33.4 J Q
6020	7440-66-6	Zinc	mg/kg	40.1	202	169	198	314	109	148
6020	7440-67-7	Zirconium	mg/kg	4.95 UJ Q	5.14 UJ Q	5.26 UJ Q	5.20 UJ Q	5.11 UJ Q	5.20 UJ Q	5.03 UJ Q
6020	7440-70-2	Calcium	mg/kg	1430	3410	3750	3500	15600	18400	5070
6020	7723-14-0	Phosphorus	mg/kg	230	286	246	247	195	314	428
6020	7782-49-2	Selenium	mg/kg	0.495 U	0.514 U	0.526 U	0.520 U	0.511 U	0.520 U	0.503 U

U - Compound not detected above the reporting limit
J - Result is an estimated value
R - Result is rejected

Appendix A-4
Metals - Validated Data
Drainage Sediment Samples in Area III - Phase 3

				Sample Name	SL-015-A3-SB-0.0-0.5	SL-016-A3-SB-0.0-0.5	SL-316-A3-SB-0.0-0.5	SL-017-A3-SB-0.0-0.5
				Sample Type	N	N	FD	N
				Sample Date	07/17/2012	07/17/2012	07/17/2012	07/17/2012
				SDG	12G123	12G123	12G123	12G123
				Start Depth	0	0	0	0
				End Depth	0.5	0.5	0.5	0.5
Analytic Method	CAS Number	Chemical Name	Unit					
6020	7429-90-5	Aluminum	mg/kg		19000	19000	20200	16600
6020	7439-89-6	Iron	mg/kg		20600	24300	24900	22800
6020	7439-92-1	Lead	mg/kg		11.3	10.3	11.4	18.8
6020	7439-93-2	Lithium	mg/kg		20.2	25.6	26.3	25
6020	7439-95-4	Magnesium	mg/kg		4970	6090	5970	6520
6020	7439-96-5	Manganese	mg/kg		285	344	365	313
6020	7439-98-7	Molybdenum	mg/kg		0.394 J Z	0.74	0.824	0.470 J Z
6020	7440-02-0	Nickel	mg/kg		13	16.4	17.1	12.6
6020	7440-09-07	Potassium	mg/kg		3290	4680	4920	4490
6020	7440-22-4	Silver	mg/kg		0.134 J Z	0.399 J Z	0.274 J Z	0.526 U
6020	7440-23-5	Sodium	mg/kg		84.5 J Z	113	113	96.9 J Z
6020	7440-24-6	Strontium	mg/kg		27.8	24.8	26	30.7
6020	7440-28-0	Thallium	mg/kg		0.243 J Z	0.313 J Z	0.318 J Z	0.243 J Z
6020	7440-31-5	Tin	mg/kg		10.2 U	10.2 U	10.2 U	10.5 U
6020	7440-32-6	Titanium	mg/kg		837	957	1020	674
6020	7440-36-0	Antimony	mg/kg		0.177 J Q, Z	0.203 J Q, Z	0.267 J Q, Z	0.258 J Q, Z
6020	7440-38-2	Arsenic	mg/kg		5.22	6.28	6.28	4.22
6020	7440-39-3	Barium	mg/kg		110	119	127	86.5
6020	7440-41-7	Beryllium	mg/kg		0.581	0.708	0.751	0.549
6020	7440-42-8	Boron	mg/kg		2.89 J Z	4.00 J Z	3.73 J Z	6.69
6020	7440-43-9	Cadmium	mg/kg		0.359 J Z	0.400 J Z	0.402 J Z	0.319 J Z
6020	7440-47-3	Chromium	mg/kg		21.4	25.5	26.9	25.2
6020	7440-48-4	Cobalt	mg/kg		6.47	8.43	8.73	6.86
6020	7440-50-8	Copper	mg/kg		17.3	13.3	13.5	10.6
6020	7440-62-2	Vanadium	mg/kg		39.3 J Q	43.7 J Q	46.3 J Q	46.7 J Q
6020	7440-66-6	Zinc	mg/kg		84.4	75.6	76.9	67.6
6020	7440-67-7	Zirconium	mg/kg		5.08 UJ Q	5.08 UJ FD, Q	2.65 J FD, Q, Z	5.26 UJ Q
6020	7440-70-2	Calcium	mg/kg		3530	3680	3510	8550
6020	7723-14-0	Phosphorus	mg/kg		283	453	436	620
6020	7782-49-2	Selenium	mg/kg		0.508 U	0.508 U	0.509 U	0.276 J Z

U - Compound not detected above the reporting limit
J - Result is an estimated value
R - Result is rejected

			Sample Name	SL-001-A3-SB-0.0-0.5	SL-002-A3-SB-0.0-0.5	SL-003-A3-SB-0.0-0.5	SL-004-A3-SB-0.0-0.5	SL-005-A3-SB-0.0-0.5	SL-006-A3-SB-0.0-0.5	SL-007-A3-SB-0.0-0.5
			Sample Type	N	N	N	N	N	N	N
			Sample Date	07/18/2012	07/18/2012	07/18/2012	07/24/2012	07/24/2012	07/24/2012	07/24/2012
			SDG	PH024	PH024	PH024	PT029	PT029	PT029	PT029
			Start Depth	0	0	0	0	0	0	0
			End Depth	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Analytic Method	CAS Number	Chemical Name	Unit							
160.3M	MOIST	Moisture	%	10.5	1.3	6.7	69.6	62.8	58.7	60.6

Appendix A-5
Moisture Content - Validated Data
Drainage Sediment Samples in Area III - Phase 3

			Sample Name	SL-008-A3-SB-0.0-0.5	SL-009-A3-SB-0.0-0.5	SL-010-A3-SB-0.0-0.5	SL-011-A3-SB-0.0-0.5	SL-012-A3-SB-0.0-0.5	SL-013-A3-SB-0.0-0.5	SL-014-A3-SB-0.0-0.5
			Sample Type	N	N	N	N	N	N	N
			Sample Date	07/18/2012	07/18/2012	07/18/2012	07/17/2012	07/17/2012	07/17/2012	07/17/2012
			SDG	PH024	PH024	PH024	PH020	PH020	PH020	PH020
			Start Depth	0	0	0	0	0	0	0
			End Depth	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Analytic Method	CAS Number	Chemical Name	Unit							
160.3M	MOIST	Moisture	%	0.53	3.9	7.1	5.5	3.7	5.2	6

			Sample Name	SL-015-A3-SB-0.0-0.5	SL-016-A3-SB-0.0-0.5	SL-316-A3-SB-0.0-0.5	SL-017-A3-SB-0.0-0.5
			Sample Type	N	N	FD	N
			Sample Date	07/17/2012	07/17/2012	07/17/2012	07/17/2012
			SDG	PH020	PH020	PH020	PH020
			Start Depth	0	0	0	0
			End Depth	0.5	0.5	0.5	0.5
Analytic Method	CAS Number	Chemical Name	Unit				
160.3M	MOIST	Moisture	%	3.5	1.7	1.7	5.4

Appendix A-6
PAHs - Validated Data
Drainage Sediment Samples in Area III - Phase 3

			Sample Name	SL-001-A3-SB-0.0-0.5	SL-002-A3-SB-0.0-0.5	SL-003-A3-SB-0.0-0.5	SL-004-A3-SB-0.0-0.5	SL-005-A3-SB-0.0-0.5	SL-006-A3-SB-0.0-0.5
			Sample Type	N	N	N	N	N	N
			Sample Date	07/18/2012	07/18/2012	07/18/2012	07/24/2012	07/24/2012	07/24/2012
			SDG	12G140	12G140	12G140	12G198	12G198	12G198
			Start Depth	0	0	0	0	0	0
			End Depth	0.5	0.5	0.5	0.5	0.5	0.5
Analytic Method	CAS Number	Chemical Name	Unit						
8270C SIM	103-33-3	Azobenzene	µg/kg	5.1 U	5.1 U	5.4 U	44 U	43 U	32 U
8270C SIM	120-12-7	Anthracene	µg/kg	10 U	10 U	11 UJ S	87 U	86 UJ S	63 U
8270C SIM	129-00-0	Pyrene	µg/kg	5.1 J Z	5.0 J Z	14 J S	42 J Z	44 J S, Z	49 J Z
8270C SIM	191-24-2	Benzo(g,h,i)perylene	µg/kg	5.6 J Z	5.5 J Z	7.4 J S, Z	32 J Z	24 J S, Z	36 J Z
8270C SIM	192-97-2	Benzo(e)pyrene	µg/kg	4.8 J Z	4.8 J Z	7.7 J S	44 U	43 UJ S	17 J Z
8270C SIM	193-39-5	Indeno(1,2,3-cd)pyrene	µg/kg	10 U	3.1 J Z	5.0 J S, Z	87 U	86 UJ S	63 U
8270C SIM	205-99-2	Benzo(b)fluoranthene	µg/kg	6.1 J Z	6.3 J Z	13 J S	32 J Z	25 J S, Z	24 J Z
8270C SIM	206-44-0	Fluoranthene	µg/kg	4.1 J Z	4.5 J Z	15 J S	37 J Z	35 J S, Z	35 J Z
8270C SIM	207-08-9	Benzo(k)fluoranthene	µg/kg	10 U	10 U	3.5 J S, Z	87 U	86 UJ S	63 U
8270C SIM	208-96-8	Acenaphthylene	µg/kg	10 U	10 U	11 UJ S	87 U	86 UJ S	63 U
8270C SIM	218-01-9	Chrysene	µg/kg	10 U	10 U	7.5 J S, Z	87 U	86 UJ S	63 U
8270C SIM	50-32-8	Benzo(a)pyrene	µg/kg	3.1 J Z	3.2 J Z	8.3 J S, Z	23 J Z	86 UJ S	17 J Z
8270C SIM	53-70-3	Dibenzo(a,h)anthracene	µg/kg	10 U	10 U	11 UJ S	87 U	86 UJ S	63 U
8270C SIM	56-55-3	Benzo(a)anthracene	µg/kg	10 U	10 U	5.0 J S, Z	87 U	86 UJ S	63 U
8270C SIM	62-75-9	N-Nitrosodimethylamine	µg/kg	10 U	10 U	11 UJ S	87 U	86 UJ S	63 U
8270C SIM	83-32-9	Acenaphthene	µg/kg	10 U	10 U	11 UJ S	87 U	86 UJ S	63 U
8270C SIM	85-01-8	Phenanthrene	µg/kg	10 U	10 U	7.5 J S, Z	87 U	86 UJ S	63 U
8270C SIM	86-73-7	Fluorene	µg/kg	10 U	10 U	11 UJ S	87 U	86 UJ S	63 U
8270C SIM	90-12-0	1-Methylnaphthalene	µg/kg	10 U	10 U	11 UJ S	87 U	86 UJ S	63 U
8270C SIM	91-20-3	Naphthalene	µg/kg	10 U	10 U	11 UJ S	87 U	86 UJ S	63 U
8270C SIM	91-57-6	2-Methylnaphthalene	µg/kg	10 U	10 U	11 UJ S	87 U	86 UJ S	63 U
8270C SIM	92-52-4	1,1'-Biphenyl	µg/kg	5.1 U	5.1 U	5.4 U	44 U	43 U	32 U

U - Compound not detected above the reporting limit
J - Result is an estimated value
R - Result is rejected

				Sample Name	SL-007-A3-SB-0.0-0.5	SL-008-A3-SB-0.0-0.5	SL-009-A3-SB-0.0-0.5	SL-010-A3-SB-0.0-0.5	SL-011-A3-SB-0.0-0.5	SL-012-A3-SB-0.0-0.5
				Sample Type	N	N	N	N	N	N
				Sample Date	07/24/2012	07/18/2012	07/18/2012	07/18/2012	07/17/2012	07/17/2012
				SDG	12G198	12G140	12G140	12G140	12G123	12G123
				Start Depth	0	0	0	0	0	0
				End Depth	0.5	0.5	0.5	0.5	0.5	0.5
Analytic Method	CAS Number	Chemical Name	Unit							
8270C SIM	103-33-3	Azobenzene	µg/kg	37 U	5.1 U	5.2 U	5.4 U	5.3 U	10 U	
8270C SIM	120-12-7	Anthracene	µg/kg	74 UJ S	10 U	6.1 J Z	3.7 J Z	11 U	21 U	
8270C SIM	129-00-0	Pyrene	µg/kg	28 J S, Z	2.9 J Z	77	21	22	13 J Z	
8270C SIM	191-24-2	Benzo(g,h,i)perylene	µg/kg	24 J S, Z	10 U	520	82	13	11 J Z	
8270C SIM	192-97-2	Benzo(e)pyrene	µg/kg	37 UJ S	5.1 U	200	40	15	13	
8270C SIM	193-39-5	Indeno(1,2,3-cd)pyrene	µg/kg	74 UJ S	10 U	370	56	8.7 J Z	21 U	
8270C SIM	205-99-2	Benzo(b)fluoranthene	µg/kg	74 UJ S	3.0 J Z	220	48	25	13 J Z	
8270C SIM	206-44-0	Fluoranthene	µg/kg	22 J S, Z	2.9 J Z	62	23	24	13 J Z	
8270C SIM	207-08-9	Benzo(k)fluoranthene	µg/kg	74 UJ S	10 U	27	8.7 J Z	7.5 J Z	21 U	
8270C SIM	208-96-8	Acenaphthylene	µg/kg	74 UJ S	10 U	3.0 J Z	11 U	11 U	21 U	
8270C SIM	218-01-9	Chrysene	µg/kg	74 UJ S	10 U	57	22	21	8.0 J Z	
8270C SIM	50-32-8	Benzo(a)pyrene	µg/kg	74 UJ S	10 U	150	29	15	8.2 J Z	
8270C SIM	53-70-3	Dibenzo(a,h)anthracene	µg/kg	74 UJ S	10 U	31	11	2.9 J Z	21 U	
8270C SIM	56-55-3	Benzo(a)anthracene	µg/kg	74 UJ S	10 U	27	11	11	6.2 J Z	
8270C SIM	62-75-9	N-Nitrosodimethylamine	µg/kg	74 UJ S	10 U	10 U	11 U	11 U	21 U	
8270C SIM	83-32-9	Acenaphthene	µg/kg	74 UJ S	10 U	10 U	11 U	11 U	21 U	
8270C SIM	85-01-8	Phenanthrene	µg/kg	74 UJ S	10 U	30	12	8.5 J Z	21 U	
8270C SIM	86-73-7	Fluorene	µg/kg	74 UJ S	10 U	10 U	11 U	11 U	21 U	
8270C SIM	90-12-0	1-Methylnaphthalene	µg/kg	74 UJ S	10 U	10 U	11 U	11 U	21 U	
8270C SIM	91-20-3	Naphthalene	µg/kg	74 UJ S	10 U	2.8 J Z	11 U	11 U	21 U	
8270C SIM	91-57-6	2-Methylnaphthalene	µg/kg	74 UJ S	10 U	3.2 J Z	11 U	11 U	21 U	
8270C SIM	92-52-4	1,1'-Biphenyl	µg/kg	37 U	5.1 U	5.2 U	5.4 U	5.3 U	10 U	

U - Compound not detected above the reporting limit
J - Result is an estimated value
R - Result is rejected

Appendix A-6
PAHs - Validated Data
Drainage Sediment Samples in Area III - Phase 3

			Sample Name	SL-013-A3-SB-0.0-0.5	SL-014-A3-SB-0.0-0.5	SL-015-A3-SB-0.0-0.5	SL-016-A3-SB-0.0-0.5	SL-316-A3-SB-0.0-0.5	SL-017-A3-SB-0.0-0.5
			Sample Type	N	N	N	N	FD	N
			Sample Date	07/17/2012	07/17/2012	07/17/2012	07/17/2012	07/17/2012	07/17/2012
			SDG	12G123	12G123	12G123	12G123	12G123	12G123
			Start Depth	0	0	0	0	0	0
			End Depth	0.5	0.5	0.5	0.5	0.5	0.5
Analytic Method	CAS Number	Chemical Name	Unit						
8270C SIM	103-33-3	Azobenzene	µg/kg	5.3 U	16 U	5.2 U	5.1 U	5.1 U	5.3 U
8270C SIM	120-12-7	Anthracene	µg/kg	11 U	31 U	4.6 J Z	10 U	10 U	11 U
8270C SIM	129-00-0	Pyrene	µg/kg	4.0 J Z	19 J Z	54	13	13	3.8 J Z
8270C SIM	191-24-2	Benzo(g,h,i)perylene	µg/kg	2.9 J Z	14 J Z	13	4.9 J Z	4.3 J Z	11 U
8270C SIM	192-97-2	Benzo(e)pyrene	µg/kg	5.3 U	21	16	5.7	5.2	5.3 U
8270C SIM	193-39-5	Indeno(1,2,3-cd)pyrene	µg/kg	11 U	31 U	10	3.7 J Z	3.3 J Z	11 U
8270C SIM	205-99-2	Benzo(b)fluoranthene	µg/kg	3.6 J Z	19 J Z	33	11	10	3.7 J Z
8270C SIM	206-44-0	Fluoranthene	µg/kg	4.2 J Z	21 J Z	63	14	13	3.9 J Z
8270C SIM	207-08-9	Benzo(k)fluoranthene	µg/kg	11 U	31 U	11	3.1 J Z	3.1 J Z	11 U
8270C SIM	208-96-8	Acenaphthylene	µg/kg	11 U	31 U	10 U	10 U	10 U	11 U
8270C SIM	218-01-9	Chrysene	µg/kg	11 U	11 J Z	28	7.9 J Z	8.3 J Z	11 U
8270C SIM	50-32-8	Benzo(a)pyrene	µg/kg	11 U	12 J Z	20	7.3 J Z	7.1 J Z	11 U
8270C SIM	53-70-3	Dibenzo(a,h)anthracene	µg/kg	11 U	31 U	3.3 J Z	10 U	10 U	11 U
8270C SIM	56-55-3	Benzo(a)anthracene	µg/kg	11 U	31 U	19	7.1 J Z	7.0 J Z	11 U
8270C SIM	62-75-9	N-Nitrosodimethylamine	µg/kg	11 U	31 U	10 U	10 U	10 U	11 U
8270C SIM	83-32-9	Acenaphthene	µg/kg	11 U	31 U	10 U	10 U	10 U	11 U
8270C SIM	85-01-8	Phenanthrene	µg/kg	11 U	13 J Z	28	6.6 J Z	6.3 J Z	11 U
8270C SIM	86-73-7	Fluorene	µg/kg	11 U	31 U	10 U	10 U	10 U	11 U
8270C SIM	90-12-0	1-Methylnaphthalene	µg/kg	11 U	31 U	10 U	10 U	10 U	11 U
8270C SIM	91-20-3	Naphthalene	µg/kg	11 U	31 U	10 U	10 U	10 U	11 U
8270C SIM	91-57-6	2-Methylnaphthalene	µg/kg	11 U	31 U	10 U	10 U	10 U	11 U
8270C SIM	92-52-4	1,1'-Biphenyl	µg/kg	5.3 U	16 U	5.2 U	5.1 U	5.1 U	5.3 U

U - Compound not detected above the reporting limit
J - Result is an estimated value
R - Result is rejected

				Sample Name	SL-001-A3-SB-0.0-0.5	SL-002-A3-SB-0.0-0.5	SL-003-A3-SB-0.0-0.5	SL-004-A3-SB-0.0-0.5	SL-005-A3-SB-0.0-0.5	SL-006-A3-SB-0.0-0.5	SL-007-A3-SB-0.0-0.5
				Sample Type	N	N	N	N	N	N	N
				Sample Date	07/18/2012	07/18/2012	07/18/2012	07/24/2012	07/24/2012	07/24/2012	07/24/2012
				SDG	12G140	12G140	12G140	12G198	12G198	12G198	12G198
				Start Depth	0	0	0	0	0	0	0
				End Depth	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Analytic Method	CAS Number	Chemical Name	Unit								
8082	11096-82-5	Aroclor 1260	µg/kg	20 U	34	33	150	170	190	130
8082	11097-69-1	Aroclor 1254	µg/kg	20 U	46	65	260	300	330	220
8082	11100-14-4	Aroclor 1268	µg/kg	20 U	20 U	22 U	58 U	57 U	42 U	49 U
8082	11104-28-2	Aroclor 1221	µg/kg	20 U	20 U	22 U	58 U	57 U	42 U	49 U
8082	11126-42-4	Aroclor 5460	µg/kg	41 U	23 J Z	65	95 J Z	110	90	99 U
8082	11141-16-5	Aroclor 1232	µg/kg	20 U	20 U	22 U	58 U	57 U	42 U	49 U
8082	12642-23-8	Aroclor 5442	µg/kg	41 U	41 U	43 U	120 U	110 U	84 U	99 U
8082	12672-29-6	Aroclor 1248	µg/kg	20 U	20 U	22 U	58 U	57 U	42 U	49 U
8082	12674-11-2	Aroclor 1016	µg/kg	20 U	20 U	22 U	58 U	57 U	42 U	49 U
8082	37324-23-5	Aroclor 1262	µg/kg	20 U	20 U	22 U	58 U	57 U	42 U	49 U
8082	53469-21-9	Aroclor 1242	µg/kg	20 U	20 U	22 U	58 U	57 U	42 U	49 U
8082	63496-31-1	Aroclor 5432	µg/kg	41 U	41 U	43 U	120 U	110 U	84 U	99 U

U - Compound not detected above the reporting limit
J - Result is an estimated value
R - Result is rejected

Appendix A-7
PCBs/PCTs - Validated Data
Drainage Sediment Samples in Area III - Phase 3

				Sample Name	SL-008-A3-SB-0.0-0.5	SL-009-A3-SB-0.0-0.5	SL-010-A3-SB-0.0-0.5	SL-011-A3-SB-0.0-0.5	SL-012-A3-SB-0.0-0.5	SL-013-A3-SB-0.0-0.5	SL-014-A3-SB-0.0-0.5
				Sample Type	N	N	N	N	N	N	N
				Sample Date	07/18/2012	07/18/2012	07/18/2012	07/17/2012	07/17/2012	07/17/2012	07/17/2012
				SDG	12G140	12G140	12G140	12G123	12G123	12G123	12G123
				Start Depth	0	0	0	0	0	0	0
				End Depth	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Analytic Method	CAS Number	Chemical Name	Unit								
8082	11096-82-5	Aroclor 1260	µg/kg	20 U	15 J Z	19 J Z	45	70	19 J Z	21 U
8082	11097-69-1	Aroclor 1254	µg/kg	20 U	21 U	30	91	21 U	37	170
8082	11100-14-4	Aroclor 1268	µg/kg	20 U	21 U	22 U	21 U	21 U	21 U	21 U
8082	11104-28-2	Aroclor 1221	µg/kg	20 U	21 U	22 U	21 U	21 U	21 U	21 U
8082	11126-42-4	Aroclor 5460	µg/kg	40 U	42 U	43 U	42 J Z	56	42 U	42 U
8082	11141-16-5	Aroclor 1232	µg/kg	20 U	21 U	22 U	21 U	21 U	21 U	21 U
8082	12642-23-8	Aroclor 5442	µg/kg	40 U	42 U	43 U	43 U	42 U	42 U	42 U
8082	12672-29-6	Aroclor 1248	µg/kg	20 U	21 U	22 U	21 U	21 U	21 U	21 U
8082	12674-11-2	Aroclor 1016	µg/kg	20 U	21 U	22 U	21 U	21 U	21 U	21 U
8082	37324-23-5	Aroclor 1262	µg/kg	20 U	21 U	22 U	21 U	21 U	21 U	21 U
8082	53469-21-9	Aroclor 1242	µg/kg	20 U	21 U	22 U	21 U	21 U	21 U	21 U
8082	63496-31-1	Aroclor 5432	µg/kg	40 U	42 U	43 U	43 U	42 U	42 U	42 U

U - Compound not detected above the reporting limit
J - Result is an estimated value
R - Result is rejected

				Sample Name	SL-015-A3-SB-0.0-0.5	SL-016-A3-SB-0.0-0.5	SL-316-A3-SB-0.0-0.5	SL-017-A3-SB-0.0-0.5
				Sample Type	N	N	FD	N
				Sample Date	07/17/2012	07/17/2012	07/17/2012	07/17/2012
				SDG	12G123	12G123	12G123	12G123
				Start Depth	0	0	0	0
				End Depth	0.5	0.5	0.5	0.5
Analytic Method	CAS Number	Chemical Name	Unit					
8082	11096-82-5	Aroclor 1260	µg/kg		21 U	21 U	20 U	21 U
8082	11097-69-1	Aroclor 1254	µg/kg		21 U	21 U	20 U	400
8082	11100-14-4	Aroclor 1268	µg/kg		21 U	21 U	20 U	21 U
8082	11104-28-2	Aroclor 1221	µg/kg		21 U	21 U	20 U	21 U
8082	11126-42-4	Aroclor 5460	µg/kg		41 U	41 U	41 U	42 U
8082	11141-16-5	Aroclor 1232	µg/kg		21 U	21 U	20 U	21 U
8082	12642-23-8	Aroclor 5442	µg/kg		41 U	41 U	41 U	42 U
8082	12672-29-6	Aroclor 1248	µg/kg		21 U	21 U	20 U	21 U
8082	12674-11-2	Aroclor 1016	µg/kg		21 U	21 U	20 U	21 U
8082	37324-23-5	Aroclor 1262	µg/kg		21 U	21 U	20 U	21 U
8082	53469-21-9	Aroclor 1242	µg/kg		21 U	21 U	20 U	21 U
8082	63496-31-1	Aroclor 5432	µg/kg		41 U	41 U	41 U	42 U

U - Compound not detected above the reporting limit
J - Result is an estimated value
R - Result is rejected

			Sample Name	SL-009-A3-SB-0.0-0.5	SL-010-A3-SB-0.0-0.5	SL-011-A3-SB-0.0-0.5	SL-012-A3-SB-0.0-0.5	SL-013-A3-SB-0.0-0.5	SL-014-A3-SB-0.0-0.5	SL-015-A3-SB-0.0-0.5
			Sample Type	N	N	N	N	N	N	N
			Sample Date	07/18/2012	07/18/2012	07/17/2012	07/17/2012	07/17/2012	07/17/2012	07/17/2012
			SDG	12G140	12G140	12G123	12G123	12G123	12G123	12G123
			Start Depth	0	0	0	0	0	0	0
			End Depth	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Analytic Method	CAS Number	Chemical Name	Unit							
6850	14797-73-0	Perchlorate	µg/kg	5.25 U	5.42 U	5.32 U	5.22 U	5.27 U	5.23 U	5.19 U

U - Compound not detected above the reporting limit
J - Result is an estimated value
R - Result is rejected

			Sample Name	SL-001-A3-SB-0.0-0.5	SL-002-A3-SB-0.0-0.5	SL-003-A3-SB-0.0-0.5	SL-004-A3-SB-0.0-0.5	SL-005-A3-SB-0.0-0.5	SL-006-A3-SB-0.0-0.5	SL-007-A3-SB-0.0-0.5
			Sample Type	N	N	N	N	N	N	N
			Sample Date	07/18/2012	07/18/2012	07/18/2012	07/24/2012	07/24/2012	07/24/2012	07/24/2012
			SDG	12G140	12G140	12G140	12G198	12G198	12G198	12G198
			Start Depth	0	0	0	0	0	0	0
			End Depth	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Analytic Method	CAS Number	Chemical Name	Unit							
8015B EFH	PHCC12C14	EFH (C12-C14)	mg/kg	5.1 U	5.1 U	5.4 U	8.5 J Z	200	1400	300
8015B EFH	PHCC15C20	EFH (C15-C20)	mg/kg	5.1 U	5.1 U	5.4 U	80	560	1300	430
8015B EFH	PHCC21C30	EFH (C21-C30)	mg/kg	6	27	16	170	510	610	200
8015B EFH	PHCC30C40	EFH (C30-C40)	mg/kg	5.4 J Z	22	18	310	510	440	220
8015B EFH	PHCC8C11	EFH (C8-C11)	mg/kg	5.1 U	5.1 U	5.4 U	15 U	14 U	71	17

U - Compound not detected above the reporting limit
J - Result is an estimated value
R - Result is rejected

Appendix A-9
TPH-EFH - Validated Data
Drainage Sediment Samples in Area III - Phase 3

			Sample Name	SL-008-A3-SB-0.0-0.5	SL-009-A3-SB-0.0-0.5	SL-010-A3-SB-0.0-0.5	SL-011-A3-SB-0.0-0.5	SL-012-A3-SB-0.0-0.5	SL-013-A3-SB-0.0-0.5	SL-014-A3-SB-0.0-0.5
			Sample Type	N	N	N	N	N	N	N
			Sample Date	07/18/2012	07/18/2012	07/18/2012	07/17/2012	07/17/2012	07/17/2012	07/17/2012
			SDG	12G140	12G140	12G140	12G123	12G123	12G123	12G123
			Start Depth	0	0	0	0	0	0	0
			End Depth	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Analytic Method	CAS Number	Chemical Name	Unit							
8015B EFH	PHCC12C14	EFH (C12-C14)	mg/kg	5.1 U	5.2 U	5.4 U	5.3 U	5.2 U	5.3 U	5.2 U
8015B EFH	PHCC15C20	EFH (C15-C20)	mg/kg	5.1 U	5.2 U	5.4 U	5.3 U	5.2 U	5.3 U	5.2 U
8015B EFH	PHCC21C30	EFH (C21-C30)	mg/kg	5.1 U	17	22	23	91	6.5	22
8015B EFH	PHCC30C40	EFH (C30-C40)	mg/kg	10 U	24	32	29	120	9.9 J Z	42
8015B EFH	PHCC8C11	EFH (C8-C11)	mg/kg	5.1 U	5.2 U	5.4 U	5.3 U	5.2 U	5.3 U	5.2 U

U - Compound not detected above the reporting limit
J - Result is an estimated value
R - Result is rejected

			Sample Name	SL-015-A3-SB-0.0-0.5	SL-016-A3-SB-0.0-0.5	SL-316-A3-SB-0.0-0.5	SL-017-A3-SB-0.0-0.5
			Sample Type	N	N	FD	N
			Sample Date	07/17/2012	07/17/2012	07/17/2012	07/17/2012
			SDG	12G123	12G123	12G123	12G123
			Start Depth	0	0	0	0
			End Depth	0.5	0.5	0.5	0.5
Analytic Method	CAS Number	Chemical Name	Unit				
8015B EFH	PHCC12C14	EFH (C12-C14)	mg/kg	5.2 U	5.1 U	5.1 U	5.3 U
8015B EFH	PHCC15C20	EFH (C15-C20)	mg/kg	5.2 U	5.1 U	5.1 U	5.3 U
8015B EFH	PHCC21C30	EFH (C21-C30)	mg/kg	11	5.3	4.0 J Z	12
8015B EFH	PHCC30C40	EFH (C30-C40)	mg/kg	20	9.7 J Z	6.5 J Z	19
8015B EFH	PHCC8C11	EFH (C8-C11)	mg/kg	5.2 U	5.1 U	5.1 U	5.3 U

U - Compound not detected above the reporting limit
J - Result is an estimated value
R - Result is rejected

Appendix B
Analytical Results Table - Radionuclides

Data Qualifiers and Definitions

B - Analyte present, but not detected substantially above the level reported in laboratory or field blanks.

J - The analyte was detected at the reported concentration: the quantitation is an estimate.

K - Analyte present. Reported value may be biased high. Actual value is expected to be lower.

L - Analyte present. Reported value may be biased low. Actual value is expected to be higher.

S - Analyte result is subject to spectral interference. Unless otherwise qualified the data may be used for its intended purpose (see note below), provided that onsite analyses use the same gamma spectrometry library and follow the same analytical protocols.

R - The result is rejected due to serious deficiencies in the ability to analyze the sample and meet the Quality Control criteria.

U - Not considered detected. The reported activity concentration is less than the associated 2-sigma uncertainty. The associated number is the reported concentration.

UJ - Not considered detected. The associated number is the reported concentration that may be inaccurate due to a low bias.

X - Excluded. The data point is associated with reanalyses or diluted analyses and is excluded because another result has been selected as the definitive result for the analyte.

Y - The result has been confirmed and has been qualified with a Y flag.

Z - The result has not been confirmed and has been qualified with a Z flag.

Minimum Detectable Concentration (MDC): The MDC is the net concentration that has a specified chance of being detected. It as an estimate of the detection capability of a measuring protocol and is calculated before measurements are taken. The detection limit is the lowest net response level, in counts, that you expect to be seen with a fixed level of certainty, customarily 95%. The MDC is the detection limit expressed as an activity concentration. If the activity concentration in a sample is equal to the MDC, then there is a 95% chance that radioactive material in the sample will be detected.

Activity Concentration: The activity per unit mass or volume of the material in which the radionuclides are essentially uniformly distributed.

Count Uncertainty: Uncertainty is defined as the range of values within which the true value is estimated to reside. The uncertainty associated with a result shall be reported. Uncertainty is commonly used in the radiochemical analyses to express method and counting error. The estimate of possible uncertainty consists of systematic and random variability. Each contributing source of uncertainty is expected to be distributed over its range.

pCi/g = picocuries per gram

Sample Name		SL-001-A3				SL-002-A3				SL-003-A3			
Sample Type		Normal				Normal				Normal			
Sample Date		2011-10-05				2011-10-05				2011-10-05			
Sample Matrix		SO				SO				SO			
Analyte	Unit	Result	MDC	Count Uncertainty	Total Propagated Uncertainty	Result	MDC	Count Uncertainty	Total Propagated Uncertainty	Result	MDC	Count Uncertainty	Total Propagated Uncertainty
Ac-227	pCi/g	0.0313 U U	0.163	0.047	0.0476	-0.141 UJ U J	0.196	0.0603	0.0686	0.0314 U U	0.237	0.0692	0.0696
Ac-228	pCi/g	0.802	0.0879	0.0341	0.0432	0.82	0.104	0.0379	0.0465	1.34	0.112	0.0573	0.0724
Ag-108m	pCi/g	-0.00599 U R	0.0127	0.00434	0.00456	-0.00413 U R	0.0158	0.00546	0.00555	0.00109 U R	0.0182	0.00629	0.0063
Am-241	pCi/g	0.00712	0.00483	0.00436	0.00438	0	0.00492	0.00257	0.00257	0.00547	0.00494	0.00408	0.00409
Am-243	pCi/g	0.0182	0.0218	0.00835	0.00842	0 U U	0.0198	0.00522	0.00522	0.0231	0.0153	0.00738	0.00749
Ba-133	pCi/g	-0.00931 U R	0.0161	0.00563	0.00603	0.00905 U R	0.0208	0.00699	0.0073	0.0175 J R	0.0259	0.00855	0.00946
Bi-212	pCi/g	0.55	0.11	0.0575	0.0603	0.45	0.136	0.0686	0.0702	0.941	0.166	0.101	0.105
Bi-214	pCi/g	0.71	0.0254	0.0266	0.0355	0.823	0.0319	0.0323	0.0422	1.23	0.0368	0.0424	0.0586
C-14	pCi/g	0.0856 U U	0.674	0.202	0.202	-0.117 U U	0.678	0.2	0.2	-0.0239 U U	0.687	0.204	0.204
Cd-113m	pCi/g	-62.7 U U	107	32	35.2	-86.6 U U	130	43.3	47.7	-18.3 U U	157	53.1	53.2
Cf-249	pCi/g	-0.00286 U R	0.07	0.0279	0.0279	-0.00637 U R	0.0881	0.0426	0.0426	-0.052 U R	0.105	0.0467	0.0482
Cm-243/Cm-244	pCi/g	0.00357 U U	0.0166	0.00506	0.00506	0.00182	0.00494	0.00316	0.00316	0.00732	0.0135	0.00518	0.00519
Co-60	pCi/g	0.00818 J J	0.0165	0.00458	0.00496	0.011 J J	0.0201	0.00559	0.00614	0.00181 U U	0.0215	0.00629	0.0063
Cs-134	pCi/g	0.00648 J JSK	0.0128	0.00407	0.00434	-0.000558 U U	0.0155	0.00527	0.00527	0.00499 U U	0.019	0.00652	0.00662
Cs-137	pCi/g	0.0574	0.0144	0.00666	0.00693	0.0467	0.0191	0.0082	0.00835	0.143	0.0228	0.0139	0.0147
Eu-152	pCi/g	0.000454 U U	0.0393	0.012	0.012	0.017 U U	0.0489	0.0178	0.0182	-0.0116 U U	0.0591	0.0233	0.0234
Eu-154	pCi/g	-0.0383 U U	0.0867	0.0268	0.0282	-0.0508 U U	0.108	0.0325	0.0346	-0.0234 U U	0.125	0.0372	0.0376
Eu-155	pCi/g	0.0341 J JSK	0.0574	0.017	0.0188	0.0362 J JSK	0.0699	0.0214	0.023	0.0156 U U	0.083	0.027	0.0272
Ho-166m	pCi/g	-0.00493 U U	0.0221	0.00652	0.00662	-0.00387 U U	0.0277	0.00828	0.00833	0.00647 U U	0.0333	0.00953	0.00965
I-129	pCi/g	0.0677 J	0.165	0.0285	0.0325	0.0115 U U	0.139	0.0367	0.0368	0.069 U U	0.19	0.0394	0.0425
K-40	pCi/g	22	0.109	0.974	1.21	22.6	0.136	0.975	1.23	21.4	0.149	0.927	1.17
Na-22	pCi/g	-0.00581 UJ U J	0.0183	0.00542	0.00558	-0.0092 UJ U J	0.0235	0.00714	0.00745	-0.0146 UJ U J	0.0237	0.00739	0.00814
Nb-94	pCi/g	0.00506 U U	0.0134	0.00381	0.00399	-0.00189 U U	0.0157	0.0047	0.00472	0.00542 U U	0.0191	0.00544	0.00558
Ni-59	pCi/g	0.251 U U J	1.72	0.485	0.488	0.671 U U J	1.78	0.484	0.508	0.00736 U U J	0.696	0.167	0.167
Ni-63	pCi/g	-0.343 U U	1.07	0.315	0.315	-0.34 U U	1.22	0.357	0.357	0.566	0.77	0.236	0.242
Np-236	pCi/g	-0.00436 U U	0.0307	0.00925	0.00931	-0.00568 U U	0.0363	0.0113	0.0114	-0.00696 U U	0.0445	0.0135	0.0136
Np-239	pCi/g	0.0248 U U	0.106	0.0306	0.0312	-0.0233 U U	0.13	0.0389	0.0393	0.0204 U U	0.158	0.0462	0.0464
Pa-231	pCi/g	0.0806 U U	0.66	0.192	0.193	0.0223 U U	0.81	0.262	0.262	0.341 U U	1.03	0.327	0.336
Pb-212	pCi/g	0.926	0.0275	0.0418	0.0518	0.954	0.033	0.0492	0.0584	1.48	0.0399	0.0692	0.0847
Pb-214	pCi/g	0.802	0.0279	0.0276	0.0382	0.917	0.0344	0.0343	0.0457	1.4	0.0422	0.046	0.0652
Pm-147	pCi/g	-1.87 U U	6.71	1.92	1.92	-1.57 U U	7.07	2.03	2.03	-2.03 U U	6.41	1.82	1.82
Pu-238	pCi/g	0.00301 U U	0.0111	0.00369	0.00369	0.000000000259 U U	0.0115	0.00311	0.00311	0.00579	0.00785	0.00579	0.0058
Pu-239/Pu-240	pCi/g	0.00602	0.00408	0.00369	0.0037	0.00466 U U	0.0167	0.00516	0.00516	0.00868	0.00784	0.00647	0.00649
Sb-125	pCi/g	0.00609 U U	0.0375	0.0111	0.0112	0.0143 U U	0.0473	0.0142	0.0146	0.00816 U U	0.0549	0.0162	0.0163
Sn-126	pCi/g	0.00423 U U	0.0149	0.00424	0.00435	0.00183 U U	0.0172	0.00504	0.00506	0.00327 U U	0.021	0.006	0.00605
Sr-90	pCi/g	0.267	0.347	0.11	0.112	0.0408 U U	0.172	0.0488	0.049	0.0592 U U	0.214	0.0624	0.0626
Tc-99	pCi/g	-0.0934 U U	1.47	0.433	0.433	-0.29 U U	1.24	0.366	0.366	0.00524 U U	1.48	0.436	0.436
Th-228	pCi/g	0.81	0.111	0.0746	0.0839	1.16	0.117	0.0898	0.106	1.35	0.0946	0.089	0.109
Th-229	pCi/g	-0.00000000464 U U	0.0731	0.0193	0.0193	0.0118 U U	0.0886	0.025	0.025	0.0839	0.0487	0.0246	0.0249
Th-230	pCi/g	0.745	0.0729	0.0672	0.0751	0.735	0.0634	0.0679	0.076	0.973	0.0686	0.0736	0.0854
Th-232	pCi/g	0.865	0.0408	0.0701	0.0802	0.809	0.0632	0.0709	0.0802	1.15	0.0141	0.0779	0.0933
Th-234	pCi/g	1.17	0.243	0.11	0.117	1.04	0.304	0.149	0.153	1.63	0.35	0.168	0.176
Tl-208	pCi/g	0.281	0.0144	0.0148	0.0175	0.277	0.017	0.0162	0.0186	0.454	0.0199	0.0228	0.0273
Tm-171	pCi/g	-0.0741 U U	10.8	3.55	3.55	-13.3 UJ U J	14.4	5.16	6.02	-12.6 UJ U J	15.6	5.46	6.2
Tritium	pCi/g	4.43	5.96	1.88	1.88	1.85 U U	5.83	1.73	1.73	3.25	5.38	1.67	1.67
U-233/U-234	pCi/g	0.885	0.0815	0.0729	0.0943	0.772	0.104	0.0745	0.0916	1.35	0.149	0.121	0.158
U-235/U-236	pCi/g	0.0464	0.0615	0.0236	0.0238	0.0536	0.0208	0.0224	0.0227	0.122	0.0757	0.0429	0.0439
U-238	pCi/g	0.786	0.0551	0.0672	0.0852	0.878	0.0489	0.0748	0.0956	0.997	0.112	0.102	0.126
Y-90	pCi/g	0.267	0.347	0.11	0.112	0.0408 U U	0.172	0.0488	0.049	0.0592 U U	0.214	0.0624	0.0626

Appendix B-1
Radionuclides - Validated Data
Drainage Sediment Samples in Area III - Phase 3

Sample Name		SL-004-A3				SL-005-A3				SL-006-A3				SL-007-A3			
Sample Type		Normal				Normal				Normal				Normal			
Sample Date		2011-10-05				2011-10-05				2011-10-05				2011-10-05			
Sample Matrix		SO				SO				SO				SO			
Analyte	Unit	Result	MDC	Count Uncertainty	Total Propagated Uncertainty	Result	MDC	Count Uncertainty	Total Propagated Uncertainty	Result	MDC	Count Uncertainty	Total Propagated Uncertainty	Result	MDC	Count Uncertainty	Total Propagated Uncertainty
Ac-227	pCi/g	0.0778 U U	0.313	0.095	0.0967	-0.0987 U U	0.337	0.104	0.107	0.0636 U U	0.377	0.112	0.113	-0.0556 U U	0.323	0.0949	0.0958
Ac-228	pCi/g	2.07	0.142	0.0858	0.11	2.18	0.206	0.0856	0.112	2.15	0.168	0.0851	0.111	2.14	0.176	0.0856	0.111
Ag-108m	pCi/g	0.00213 U R	0.0242	0.00821	0.00822	0.00463 U R	0.0327	0.0109	0.011	0.00403 U R	0.0296	0.0099	0.00994	0.0208 J R	0.028	0.00879	0.01
Am-241	pCi/g	0.0105	0.0057	0.00557	0.0056	0.00886	0.0131	0.00532	0.00534	-0.000536 UJ U	0.0233	0.00564	0.00564	0.0108	0.0251	0.00855	0.00857
Am-243	pCi/g	0.0222	0.0191	0.00778	0.00787	0.00939	0.0226	0.00727	0.00729	0.00833	0.02	0.00645	0.00647	0.00787 UJ U	0.0283	0.00871	0.00872
Ba-133	pCi/g	0.00191 U R	0.0321	0.0105	0.0105	-0.0169 U R	0.037	0.0125	0.0131	0.00878 U R	0.0391	0.0133	0.0135	0.0112 U R	0.0355	0.0118	0.0121
Bi-212	pCi/g	1.31	0.217	0.123	0.131	1.78	0.279	0.173	0.183	1.38	0.229	0.138	0.145	1.43	0.23	0.144	0.152
Bi-214	pCi/g	2 Y	0.0478	0.0677	0.0945	2.08 Y	0.0655	0.0799	0.105	1.87 Y	0.0603	0.0681	0.0919	1.89 Y	0.054	0.0686	0.0927
C-14	pCi/g	0.132 U U	0.621	0.186	0.186	0.0252 U U	0.669	0.199	0.199	0.114 U U	0.652	0.196	0.196	-0.344 U U	0.674	0.196	0.196
Cd-113m	pCi/g	50.7 U U	208	66.6	67.7	32.3 U U	218	65.9	66.3	-79.7 U U	241	75.8	78	5.88 U U	214	67.1	67.1
Cf-249	pCi/g	0.129 J R	0.152	0.0559	0.0634	0.00221 U R	0.162	0.0722	0.0722	0.0964 J R	0.163	0.0743	0.0776	0.0177 U R	0.145	0.067	0.0671
Cm-243/Cm-244	pCi/g	0.0105	0.00572	0.00558	0.00561	0.016	0.0165	0.00689	0.00694	0.0133	0.0318	0.0103	0.0103	0.0163	0.0355	0.0115	0.0115
Co-60	pCi/g	-0.00338 U U	0.0271	0.00775	0.00779	-0.0149 U U	0.0361	0.0107	0.0112	0.00544 U U	0.0323	0.00917	0.00926	0.00876 U U	0.0332	0.00945	0.00966
Cs-134	pCi/g	-0.000745 U U	0.0242	0.00832	0.00832	-0.0095 U U	0.0331	0.0116	0.0118	0.00303 U U	0.0284	0.00951	0.00953	0.00475 U U	0.0266	0.00879	0.00885
Cs-137	pCi/g	0.302 Y	0.0279	0.0188	0.0213	0.324 Y	0.0383	0.0223	0.0248	0.292 Y	0.038	0.0228	0.0247	0.273 Y	0.0336	0.0197	0.0216
Eu-152	pCi/g	0.00472 U U	0.0807	0.0251	0.0252	-0.00382 U U	0.0907	0.027	0.027	-0.0189 U U	0.0922	0.0305	0.0308	-0.0171 U U	0.0808	0.0298	0.03
Eu-154	pCi/g	-0.0567 U U	0.158	0.0478	0.0496	-0.0373 U U	0.209	0.0617	0.0623	-0.014 U U	0.177	0.0513	0.0514	0.0371 U U	0.175	0.0571	0.0577
Eu-155	pCi/g	0.101 SK	0.102	0.044	0.0441	0.215 SK	0.0957	0.0469	0.0474	0.168 SK	0.123	0.0498	0.0501	0.11 SK	0.105	0.0456	0.0457
Ho-166m	pCi/g	0.0216 U U	0.0451	0.0125	0.0134	-0.0133 U U	0.0582	0.0168	0.0171	0.00394 U U	0.052	0.0153	0.0153	-0.0056 U U	0.0486	0.0144	0.0145
I-129	pCi/g	0.0511 U U	0.201	0.0463	0.0477	0.043 U U	0.136	0.036	0.0373	-0.026 U U	0.17	0.0482	0.0485	0.00161 U U	0.169	0.044	0.044
K-40	pCi/g	17.9	0.246	0.813	1	16.9	0.317	0.826	0.996	18.9	0.236	0.88	1.08	21.5	0.275	0.96	1.19
Na-22	pCi/g	0.00123 UJ U J	0.0326	0.00922	0.00923	-0.00871 UJ U J	0.0421	0.0127	0.0129	-0.0171 UJ U J	0.0376	0.0115	0.0122	-0.00549 UJ U J	0.0362	0.0108	0.0109
Nb-94	pCi/g	0.0107 U U	0.0269	0.00751	0.00792	0.0283 J JSK Z	0.0387	0.011	0.0128	0.0107 U U	0.0313	0.00906	0.00939	0.00163 U U	0.0291	0.00855	0.00856
Ni-59	pCi/g	-0.5 U U J	2.59	0.762	0.77	-0.0915 U U J	0.888	0.224	0.225	-0.179 U U J	0.762	0.198	0.202	-0.195 U U J	2.23	0.644	0.646
Ni-63	pCi/g	-0.217 U U	0.894	0.266	0.266	-0.374 U U	0.937	0.277	0.277	-0.335 U U	1.3	0.384	0.384	-0.648 U U	1.16	0.337	0.337
Np-236	pCi/g	-0.047 UJ U J	0.0545	0.0176	0.0207	-0.0416 UJ U J	0.0515	0.0156	0.0184	0.000475 U U	0.0677	0.0209	0.0209	-0.00627 U U	0.0573	0.0171	0.0172
Np-239	pCi/g	-0.0206 U U	0.21	0.0646	0.0648	0.0522 U U	0.218	0.0653	0.0664	-0.043 U U	0.247	0.0739	0.0745	0.0043 U U	0.208	0.0603	0.0603
Pa-231	pCi/g	0.265 U U	1.31	0.373	0.378	0.131 U U	1.48	0.45	0.451	0.498 U U	1.6	0.471	0.485	-0.142 U U	1.39	0.408	0.41
Pb-212	pCi/g	2.56	0.0514	0.12	0.147	2.61	0.0587	0.118	0.146	2.43	0.0606	0.125	0.148	2.43	0.0523	0.11	0.136
Pb-214	pCi/g	2.29 Y	0.0559	0.0742	0.106	2.41 Y	0.0659	0.0792	0.112	2.15 Y	0.0628	0.0763	0.104	2.17 Y	0.0598	0.071	0.101
Pm-147	pCi/g	-1.86 U U	6.75	1.93	1.93	-0.857 U U	6.48	1.87	1.87	-2.18 U U	6.47	1.84	1.84	-3.25 U U	7.25	2.04	2.04
Pu-238	pCi/g	0.00396	0.00536	0.00396	0.00396	0 UJ U	0.0195	0.00531	0.00531	0 U U	0.014	0.00381	0.00381	-0.00222 U U	0.0206	0.00497	0.00497
Pu-239/Pu-240	pCi/g	0.00593 U U	0.0184	0.00593	0.00594	0.00796 UJ U	0.0246	0.00796	0.00797	0.0057	0.014	0.00503	0.00504	0.00444	0.00601	0.00444	0.00444
Sb-125	pCi/g	0.0283 U U	0.0783	0.0225	0.0235	-0.0263 U U	0.0902	0.0268	0.0275	-0.0139 U U	0.087	0.0253	0.0255	0.0197 U U	0.083	0.0247	0.0251
Sn-126	pCi/g	0.00866 U U	0.0296	0.00828	0.00852	-0.00855 U U	0.0382	0.0117	0.0119	0.000412 U U	0.0338	0.00996	0.00996	-0.0000927 U U	0.0315	0.00925	0.00925
Sr-90	pCi/g	0.0311 U U	0.158	0.0445	0.0446	-0.0146 U U	0.142	0.0356	0.0356	-0.00008 U U	0.244	0.0669	0.0669	0.0184 U U	0.189	0.052	0.052
Tc-99	pCi/g	0.304 U U	1.44	0.43	0.43	-0.193 U U	1.35	0.398	0.398	-0.0293 U U	1.32	0.39	0.39	-0.16 U U	1.23	0.36	0.36
Th-228	pCi/g	1.95	0.0826	0.102	0.135	2.07 J	0.29	0.162	0.196	1.65	0.0946	0.0955	0.121	1.7	0.107	0.105	0.132
Th-229	pCi/g	0.0301	0.0657	0.0213	0.0213	-0.0277 UJ U	0.13	0.0306	0.0306	0.0151 U U	0.0838	0.0241	0.0241	-0.0117 U U	0.114	0.0299	0.0299
Th-230	pCi/g	1.5	0.0539	0.0876	0.11	1.65 J	0.099	0.126	0.153	1.3	0.054	0.0821	0.1	1.41	0.0767	0.0931	0.114
Th-232	pCi/g	1.95	0.0367	0.0991	0.131	1.91 J	0.0675	0.134	0.167	1.62	0.0135	0.0903	0.115	1.8	0.043	0.103	0.133
Th-234	pCi/g	3.46 Y	0.46	0.269	0.292	3.23 Y	0.442	0.229	0.252	3.34 Y	0.58	0.343	0.36	3.15	0.463	0.269	0.289
Tl-208	pCi/g	0.758	0.0283	0.0361	0.0439	0.834	0.0361	0.0439	0.0518	0.735	0.031	0.0389	0.0459	0.756	0.0298	0.0374	0.045
Tm-171	pCi/g	-3.74 U U	21.5	6.96	7.01	8.69 J J	12.6	4.23	4.69	0.345 U U	30.8	10.5	10.5	-7.79 U U	24.4	7.97	8.17
Tritium	pCi/g	2.42 U U	5.91	1.78	1.78	2.96	5.9	1.8	1.8	3.39	5.75	1.78	1.78	4.37	5.87	1.86	1.86
U-233/U-234	pCi/g	1.67	0.0811	0.0962	0.148	1.7	0.108	0.1	0.152	1.7	0.0748	0.0925	0.145	1.87	0.075	0.0987	0.158
U-235/U-236	pCi/g	0.0474	0.0415	0.0206	0.0209	0.136	0.0428	0.0322	0.0335	0.0867	0.047	0.0256	0.0263	0.0858	0.0561	0.0271	0.0277
U-238	pCi/g	1.65	0.0615	0.0946	0.145	1.62	0.0836	0.0963	0.145	1.62	0.0436	0.0891	0.139	1.75	0.0547	0.0948	0.149
Y-90	pCi/g	0.0311 U U	0.158	0.0445	0.0446	-0.0146 U U	0.142	0.0356	0.0356	-0.00008 U U	0.244	0.0669	0.0669	0.0184 U U	0.189	0.052	0.052

Sample Name		SL-008-A3				SL-009-A3				SL-010-A3				SL-011-A3			
Sample Type		Normal				Normal				Normal				Normal			
Sample Date		2011-10-05				2011-10-05				2011-10-05				2011-10-05			
Sample Matrix		SO				SO				SO				SO			
Analyte	Unit	Result	MDC	Count Uncertainty	Total Propagated Uncertainty	Result	MDC	Count Uncertainty	Total Propagated Uncertainty	Result	MDC	Count Uncertainty	Total Propagated Uncertainty	Result	MDC	Count Uncertainty	Total Propagated Uncertainty
Ac-227	pCi/g	-0.0744 U U	0.155	0.0464	0.0495	0.00813 U U	0.188	0.0574	0.0575	0.00134 U U	0.177	0.0523	0.0523	-0.00884 U U	0.176	0.0528	0.0529
Ac-228	pCi/g	1.05	0.0792	0.0414	0.0541	1.13	0.088	0.046	0.0592	1.11	0.0856	0.0444	0.0575	0.993	0.083	0.043	0.054
Ag-108m	pCi/g	0.00209 U R	0.0125	0.00409	0.00412	-0.000114 U R	0.0141	0.00491	0.00491	0.00224 U R	0.0136	0.00394	0.00397	-0.00169 U R	0.0128	0.00436	0.00438
Am-241	pCi/g	0.00563	0.0138	0.00496	0.00497	0.0098	0.00664	0.006	0.00603	0.0114	0.0062	0.00605	0.00609	0.00548	0.00495	0.00408	0.0041
Am-243	pCi/g	0.00167 U U	0.0218	0.006	0.006	0.00337 U U	0.0124	0.00412	0.00413	0.0107	0.0166	0.00618	0.00622	0 U U	0.0226	0.00595	0.00595
Ba-133	pCi/g	-0.00871 U R	0.0159	0.00556	0.00592	0.0037 U R	0.0193	0.00644	0.0065	-0.00279 U R	0.0175	0.00603	0.00607	-0.000459 U R	0.0165	0.00572	0.00572
Bi-212	pCi/g	0.684	0.107	0.0601	0.0642	0.819	0.128	0.0779	0.0824	0.782	0.112	0.0736	0.078	0.693	0.101	0.0591	0.0634
Bi-214	pCi/g	0.948	0.0251	0.0315	0.0444	1.16	0.0287	0.0375	0.0536	0.882	0.0259	0.0301	0.0419	0.912	0.0267	0.0314	0.0435
C-14	pCi/g	-0.233 U U	0.665	0.195	0.195	0.173 U U	0.674	0.203	0.203	0.0726 U U	0.679	0.203	0.203	-0.157 U U	0.667	0.196	0.196
Cd-113m	pCi/g	14.9 U U	104	30.4	30.6	22.3 U U	127	40.1	40.4	-4.48 U U	116	34.3	34.3	-46.7 U U	114	36	37.6
Cf-249	pCi/g	0.0158 U R	0.0698	0.0322	0.0324	0.0396 U R	0.0839	0.0315	0.0328	0.0422 J R	0.0745	0.0339	0.0353	0.00439 U R	0.073	0.0272	0.0272
Cm-243/Cm-244	pCi/g	0.00188 U U	0.0203	0.00565	0.00565	0.0172	0.00667	0.00738	0.00744	0.00459 U U	0.0213	0.00649	0.0065	0.0128	0.017	0.00661	0.00665
Co-60	pCi/g	0.00421 U U	0.015	0.00421	0.00432	0.00933 J J	0.0176	0.00489	0.00535	0.00482 U U	0.0162	0.00461	0.00475	0.000121 U U	0.0141	0.00407	0.00407
Cs-134	pCi/g	-0.00135 U U	0.0121	0.00402	0.00403	0.00149 U U	0.0144	0.00499	0.005	0.0221 J JSK	0.0145	0.0063	0.00813	0.0109 J JSK	0.0131	0.00419	0.0049
Cs-137	pCi/g	0.0361	0.014	0.00756	0.00765	0.134	0.0175	0.0103	0.0112	0.0573	0.0147	0.00782	0.00804	0.0366	0.0138	0.00608	0.0062
Eu-152	pCi/g	0.00225 U U	0.0392	0.012	0.012	-0.0159 U U	0.0454	0.0165	0.0169	-0.00672 U U	0.0429	0.0134	0.0135	0.00389 U U	0.0422	0.0138	0.0138
Eu-154	pCi/g	0.00696 U U	0.0773	0.0263	0.0263	0.000361 U U	0.0947	0.0326	0.0326	-0.0505 U U	0.0853	0.027	0.0294	-0.0656 UJ U J	0.0799	0.0258	0.0299
Eu-155	pCi/g	0.0625 SK	0.0541	0.0222	0.0223	0.0578 J JSK	0.0661	0.0194	0.0236	0.0653 SK	0.0614	0.0257	0.0258	0.0687 SK	0.0553	0.0228	0.023
Ho-166m	pCi/g	0.00077 U U	0.0215	0.00625	0.00625	-0.00697 U U	0.025	0.00769	0.00786	0.00173 U U	0.0235	0.00688	0.00689	-0.0102 U U	0.0212	0.00643	0.00686
I-129	pCi/g	0.00417 U U	0.204	0.0561	0.0561	-0.0159 U U	0.153	0.0414	0.0415	0.0383 U U	0.208	0.0512	0.0519	0.0039 U U	0.128	0.0358	0.0358
K-40	pCi/g	20.4	0.0984	0.887	1.11	20.3	0.126	0.872	1.1	20.5	0.0963	0.884	1.11	18.6	0.109	0.801	1.01
Na-22	pCi/g	-0.00773 UJ U J	0.0166	0.00494	0.00525	-0.0118 UJ U J	0.019	0.00595	0.00656	0.0013 UJ U J	0.0184	0.00536	0.00537	-0.0112 UJ U J	0.0166	0.00507	0.0057
Nb-94	pCi/g	0.00797 J JSK	0.0131	0.00371	0.00414	0.00178 U U	0.0148	0.00447	0.00449	0.00648 U U	0.0137	0.00392	0.0042	0.0035 U U	0.013	0.00378	0.00387
Ni-59	pCi/g	-0.0546 U U J	0.741	0.185	0.186	0.563 U U J	1.71	0.471	0.489	-0.0204 U U J	0.749	0.186	0.186	-0.331 U U J	0.672	0.19	0.205
Ni-63	pCi/g	-0.196 U U	0.786	0.233	0.233	-0.0912 U U	1.02	0.303	0.303	-0.347 U U	0.789	0.233	0.233	-0.177 U U	0.752	0.223	0.223
Np-236	pCi/g	-0.00159 U U	0.0299	0.00916	0.00916	0.00833 U U	0.0356	0.0105	0.0107	-0.00809 U U	0.0331	0.0102	0.0104	-0.00242 U U	0.0316	0.00999	0.01
Np-239	pCi/g	-0.0278 U U	0.106	0.0312	0.0318	-0.0181 U U	0.127	0.0388	0.0391	0.0311 U U	0.117	0.0342	0.035	0.0422 U U	0.116	0.0344	0.0358
Pa-231	pCi/g	0.0893 U U	0.654	0.192	0.193	0.473 J J	0.789	0.257	0.28	-0.12 U U	0.73	0.218	0.22	0.106 U U	0.715	0.214	0.216
Pb-212	pCi/g	1.18	0.0264	0.0507	0.064	1.36	0.0312	0.0631	0.0773	1.19	0.0295	0.0593	0.0712	1.2	0.0283	0.0658	0.0768
Pb-214	pCi/g	1.08	0.0271	0.0326	0.0484	1.31	0.0317	0.0415	0.0599	1.04	0.0296	0.0357	0.0496	1.01	0.0287	0.0378	0.0505
Pm-147	pCi/g	-1.01 U U	7.42	2.14	2.14	-1.4 U U	7.5	2.16	2.16	-1.72 U U	6.29	1.79	1.79	-3.99 U U	7.3	2.03	2.03
Pu-238	pCi/g	0 U U	0.0109	0.00297	0.00297	-0.00315 U U	0.017	0.00386	0.00386	-0.00162 U U	0.0194	0.00486	0.00486	-0.00195 U U	0.0144	0.00338	0.00338
Pu-239/Pu-240	pCi/g	0 U U	0.0178	0.00469	0.00469	0.00315 U U	0.0146	0.00445	0.00446	0.00647 U U	0.0194	0.00605	0.00606	0 U U	0.0181	0.00478	0.00478
Sb-125	pCi/g	-0.0149 U U	0.0359	0.011	0.0115	-0.0214 U U	0.0419	0.0127	0.0136	0.0113 U U	0.0391	0.0116	0.0119	0.00671 U U	0.04	0.0121	0.0122
Sn-126	pCi/g	-0.0133 UJ U J	0.0135	0.00419	0.00521	-0.000662 U U	0.0165	0.005	0.00501	0.00758 U U	0.0156	0.00448	0.00481	-0.00389 U U	0.0142	0.00424	0.00434
Sr-90	pCi/g	-0.0673 U U	0.191	0.0462	0.0462	0.0301 U U	0.213	0.0599	0.0599	-0.0308 U U	0.241	0.0632	0.0633	-0.0365 U U	0.18	0.044	0.044
Tc-99	pCi/g	-0.303 U U	1.33	0.387	0.387	0.242 U U	1.36	0.405	0.405	-0.524 U U	1.37	0.397	0.397	-0.0188 U U	1.05	0.31	0.31
Th-228	pCi/g	1.37	0.108	0.0975	0.117	1.14	0.106	0.0865	0.102	0.91	0.0971	0.0775	0.0889	0.761	0.107	0.0747	0.0836
Th-229	pCi/g	-0.00612 U U	0.131	0.0352	0.0352	0.0514	0.0906	0.0296	0.0297	0.0398	0.0903	0.0285	0.0285	0.00606 U U	0.0962	0.0264	0.0264
Th-230	pCi/g	0.965	0.0918	0.0806	0.092	0.848	0.0613	0.0713	0.0812	0.716	0.0682	0.0662	0.0738	0.599	0.0651	0.0626	0.0685
Th-232	pCi/g	1.36	0.0566	0.0924	0.112	0.851	0.0611	0.0713	0.0812	0.866	0.0153	0.0705	0.0808	0.76	0.056	0.0693	0.0778
Th-234	pCi/g	1.38	0.218	0.117	0.126	2.21	0.27	0.148	0.165	1.1	0.281	0.125	0.13	1.34	0.247	0.129	0.136
Tl-208	pCi/g	0.373	0.0134	0.0177	0.0215	0.403	0.0163	0.019	0.0232	0.36	0.0145	0.0181	0.0216	0.364	0.0136	0.0173	0.0211
Tm-171	pCi/g	0.598 U U	9.18	3.08	3.09	-7.24 U U	11.1	3.75	4.11	-0.0728 U U	13.3	4.45	4.45	0.75 U U	10	3.51	3.51
Tritium	pCi/g	2.57 U U	5.8	1.75	1.75	1.23 U U	5.71	1.66	1.66	0.129 U U	5.85	1.65	1.65	0.63 U U	5.48	1.57	1.57
U-233/U-234	pCi/g	0.851	0.0908	0.0738	0.0938	1.55	0.157	0.134	0.178	0.687	0.092	0.0625	0.0775	0.48	0.0591	0.0451	0.0549
U-235/U-236	pCi/g	0.0637	0.0192	0.0229	0.0233	0.0406 UJ U	0.131	0.0403	0.0404	0.0194	0.0378	0.0146	0.0146	0.0349	0.0364	0.0157	0.0159
U-238	pCi/g	0.789	0.0518	0.0685	0.0864	1.29	0.0671	0.118	0.152	0.69	0.0434	0.0585	0.0739	0.549	0.0338	0.0461	0.0578
Y-90	pCi/g	-0.0673 U U	0.191	0.0462	0.0462	0.0301 U U	0.213	0.0599	0.0599	-0.0308 U U	0.241	0.0632	0.0633	-0.0365 U U	0.18	0.044	0.044

Appendix B-1
Radionuclides - Validated Data
Drainage Sediment Samples in Area III - Phase 3

Sample Name		SL-012-A3				SL-013-A3				SL-014-A3				SL-015-A3			
Sample Type		Normal				Normal				Normal				Normal			
Sample Date		2011-10-05				2011-10-05				2011-10-05				2011-10-05			
Sample Matrix		SO				SO				SO				SO			
Analyte	Unit	Result	MDC	Count Uncertainty	Total Propagated Uncertainty	Result	MDC	Count Uncertainty	Total Propagated Uncertainty	Result	MDC	Count Uncertainty	Total Propagated Uncertainty	Result	MDC	Count Uncertainty	Total Propagated Uncertainty
Ac-227	pCi/g	-0.0422 U U	0.158	0.0467	0.0477	0.0388 U U	0.171	0.0494	0.0503	-0.0848 U U	0.18	0.054	0.0575	-0.00166 U U	0.185	0.0567	0.0567
Ac-228	pCi/g	1.08	0.0745	0.0453	0.0576	1.07	0.083	0.0416	0.0546	1.11	0.0875	0.0458	0.0587	1.1	0.0924	0.0463	0.0589
Ag-108m	pCi/g	0.00453 U R	0.0127	0.00428	0.0044	0.00551 U R	0.0133	0.00446	0.00464	0.00389 U R	0.0138	0.00454	0.00463	-0.000625 U R	0.0144	0.00501	0.00501
Am-241	pCi/g	0.00543	0.0049	0.00405	0.00406	0.0135	0.00524	0.0058	0.00585	0.00175	0.00473	0.00302	0.00303	0.00763	0.014	0.00539	0.00541
Am-243	pCi/g	0.0129	0.0106	0.00517	0.00522	-0.00232 U U	0.0215	0.00519	0.00519	0.00703	0.00635	0.00524	0.00526	0.00809 U U	0.0265	0.00809	0.0081
Ba-133	pCi/g	0.00531 U R	0.0166	0.00547	0.00561	-0.011 U R	0.0168	0.00589	0.00642	-0.00686 U R	0.0189	0.00659	0.00678	-0.000915 U R	0.0186	0.00627	0.00628
Bi-212	pCi/g	0.764	0.11	0.0619	0.0668	0.808	0.107	0.0593	0.065	0.844	0.121	0.0751	0.0801	0.699	0.125	0.0653	0.0693
Bi-214	pCi/g	0.856	0.0252	0.0295	0.0408	0.862	0.0267	0.0304	0.0416	0.864	0.0311	0.0314	0.0424	0.989	0.0292	0.0339	0.047
C-14	pCi/g	-0.155 U U	0.699	0.206	0.206	-0.288 U U	0.677	0.197	0.197	-0.225 U U	0.682	0.2	0.2	0.482	0.658	0.202	0.203
Cd-113m	pCi/g	-33 U U	104	31.7	32.6	32.3 U U	114	32.9	33.7	10.6 U U	121	35.6	35.6	10.9 U U	124	43.3	43.3
Cf-249	pCi/g	-0.00993 U R	0.069	0.025	0.0251	0.0205 U R	0.074	0.0289	0.0293	0.0169 U R	0.0754	0.0351	0.0353	0.0352 U R	0.0815	0.0396	0.0405
Cm-243/Cm-244	pCi/g	0.00182	0.00492	0.00315	0.00315	0.00582 U U	0.0209	0.00643	0.00644	0.00175 U U	0.0129	0.00392	0.00392	0.00957 U U	0.0304	0.00918	0.00919
Co-60	pCi/g	-0.00116 U U	0.014	0.00415	0.00415	-0.00177 U U	0.0147	0.0044	0.00442	0.00822 U U	0.0176	0.00494	0.0053	0.00136 U U	0.0163	0.00464	0.00465
Cs-134	pCi/g	0.00274 U U	0.0122	0.00413	0.00418	-0.00148 U U	0.0133	0.00464	0.00465	0.00511 U U	0.0145	0.00477	0.00491	0.00263 U U	0.014	0.00482	0.00485
Cs-137	pCi/g	0.0166	0.0138	0.00486	0.00489	0.0373	0.0155	0.00774	0.00784	0.0446	0.0157	0.00631	0.00648	0.0411	0.0153	0.00673	0.00686
Eu-152	pCi/g	-0.0109 U U	0.0394	0.0127	0.013	-0.00953 U U	0.041	0.0127	0.0128	-0.0261 U U	0.0428	0.0143	0.0155	-0.0258 U U	0.0455	0.0167	0.0178
Eu-154	pCi/g	-0.0365 U U	0.0759	0.023	0.0246	-0.0277 U U	0.0886	0.0267	0.0274	0.0155 U U	0.087	0.0298	0.0301	0.0432 U U	0.0898	0.0296	0.0313
Eu-155	pCi/g	0.0709 SK	0.0602	0.0225	0.0226	0.089 SK	0.0586	0.0246	0.0247	0.0511 J JSK	0.0654	0.0197	0.023	0.0108 U U	0.0647	0.0191	0.0193
Ho-166m	pCi/g	0.00585 U U	0.0222	0.00663	0.00677	-0.013 U U	0.0218	0.00654	0.0072	-0.00367 U U	0.024	0.00711	0.00716	0.0057 U U	0.0258	0.00772	0.00783
I-129	pCi/g	0.0714 U U	0.191	0.0397	0.0429	0.0198 U U	0.144	0.0401	0.0403	-0.00634 U U	0.161	0.0422	0.0422	0.00849 U U	0.142	0.0402	0.0402
K-40	pCi/g	19.2	0.106	0.822	1.04	19.6	0.105	0.847	1.07	20.1	0.11	0.869	1.09	21.2	0.126	0.91	1.15
Na-22	pCi/g	-0.00841 UJ U J	0.0161	0.00552	0.00586	-0.0031 UJ U J	0.0175	0.0053	0.00534	0.000346 UJ U J	0.0198	0.00577	0.00578	-0.0165 UJ U J	0.0196	0.00625	0.00733
Nb-94	pCi/g	0.00167 U U	0.0127	0.00382	0.00384	0.00435 U U	0.0136	0.00385	0.00398	0.00236 U U	0.0139	0.00404	0.00408	0.0107 J JSK	0.015	0.00437	0.00503
Ni-59	pCi/g	0.0394 U U J	1.87	0.532	0.532	-0.288 U U J	2.06	0.6	0.603	-1.33 U U J	2.2	0.68	0.746	0.0887 U U J	0.956	0.228	0.229
Ni-63	pCi/g	-0.509 U U	0.915	0.266	0.266	-0.354 U U	0.752	0.222	0.222	0.0653 U U	0.878	0.264	0.264	-0.271 U U	0.912	0.27	0.27
Np-236	pCi/g	-0.00754 U U	0.0329	0.0101	0.0103	-0.00514 U U	0.0321	0.00981	0.00988	0.00858 U U	0.0347	0.0105	0.0107	-0.0177 U U	0.0344	0.0103	0.0111
Np-239	pCi/g	-0.00864 U U	0.109	0.0319	0.032	0.037 U U	0.115	0.0332	0.0343	0.0264 U U	0.119	0.0349	0.0354	-0.0209 U U	0.125	0.0383	0.0386
Pa-231	pCi/g	0.103 U U	0.668	0.201	0.202	0.0319 U U	0.712	0.215	0.215	-0.336 U U	0.74	0.232	0.244	-0.188 U U	0.767	0.238	0.242
Pb-212	pCi/g	1.2	0.0273	0.0541	0.067	1.21	0.0288	0.0558	0.0686	1.33	0.0309	0.0658	0.0791	1.3	0.032	0.0608	0.0744
Pb-214	pCi/g	0.948	0.0281	0.0314	0.0443	0.956	0.029	0.0325	0.0453	1.06	0.0323	0.0372	0.0511	1.09	0.0324	0.0352	0.0503
Pm-147	pCi/g	-0.46 U U	6.38	1.85	1.85	0.145 U U	6.21	1.82	1.82	0.506 U U	6.71	1.97	1.97	-1.89 U U	6.77	1.93	1.93
Pu-238	pCi/g	0.002 U U	0.0147	0.00447	0.00447	0.00196 U U	0.0144	0.00438	0.00438	-0.00204 U U	0.0151	0.00354	0.00354	-0.00212 U U	0.0156	0.00366	0.00367
Pu-239/Pu-240	pCi/g	0 U U	0.0185	0.00489	0.00489	0.00783	0.0144	0.00554	0.00555	0.00409	0.00554	0.00409	0.00409	0.00211 U U	0.0156	0.00473	0.00473
Sb-125	pCi/g	0.00905 U U	0.0366	0.0107	0.0109	-0.00722 U U	0.0387	0.0116	0.0117	0.025 J JSK	0.0425	0.0125	0.0138	-0.017 U U	0.0416	0.0125	0.0131
Sn-126	pCi/g	0.00187 U U	0.0141	0.00422	0.00425	0.00173 U U	0.0148	0.00424	0.00426	0.00272 U U	0.0158	0.00458	0.00463	-0.00216 U U	0.0157	0.00479	0.00481
Sr-90	pCi/g	0.0292 U U	0.177	0.0493	0.0494	0.04 U U	0.314	0.0896	0.0897	0.275	0.227	0.0786	0.0828	-0.0296 U U	0.206	0.0507	0.0507
Tc-99	pCi/g	0.616 U U	1.34	0.406	0.408	0.251 U U	1.35	0.402	0.402	0.201 U U	1.09	0.325	0.325	0.241 U U	1.17	0.349	0.349
Th-228	pCi/g	1.07	0.0849	0.0816	0.0963	1.16	0.0779	0.0826	0.0988	1.25	0.0968	0.0894	0.107	1.4	0.248	0.133	0.153
Th-229	pCi/g	0.0222 U U	0.0599	0.0193	0.0193	0.0376	0.0645	0.0221	0.0222	0.0454	0.0417	0.0196	0.0197	-0.00905 UJ U	0.119	0.03	0.03
Th-230	pCi/g	0.666	0.0515	0.0623	0.0693	0.863	0.0395	0.0688	0.0791	0.798	0.0742	0.07	0.0787	0.704	0.118	0.0856	0.0931
Th-232	pCi/g	1.01	0.0407	0.0756	0.0887	1.2	0.0496	0.081	0.0973	1.1	0.0415	0.0796	0.0938	1.04	0.0662	0.0986	0.112
Th-234	pCi/g	1.02	0.27	0.121	0.126	1.4	0.259	0.14	0.147	1.52	0.28	0.162	0.17	1.58	0.274	0.137	0.147
Tl-208	pCi/g	0.37	0.0135	0.0173	0.0211	0.371	0.0155	0.0182	0.0219	0.391	0.0157	0.0186	0.0226	0.398	0.0158	0.0193	0.0233
Tm-171	pCi/g	-6.11 U U	12.5	4.29	4.51	0.595 U U	11.4	3.82	3.82	0.225 U U	13.9	4.63	4.63	-4.32 U U	11	3.69	3.82
Tritium	pCi/g	-0.752 U U	5.64	1.54	1.54	-0.382 U U	5.81	1.61	1.61	2.32 U U	5.82	1.74	1.75	0.414 U U	5.7	1.62	1.62
U-233/U-234	pCi/g	0.62	0.0741	0.0578	0.0711	0.624	0.109	0.0656	0.0783	0.68	0.0729	0.0606	0.0758	0.82	0.114	0.0764	0.0951
U-235/U-236	pCi/g	0.0252	0.0376	0.0156	0.0157	0.0564	0.0434	0.0226	0.0229	0.0472	0.0545	0.0218	0.022	0.0243	0.0472	0.0182	0.0183
U-238	pCi/g	0.518	0.0557	0.0517	0.0618	0.613	0.0848	0.0622	0.0746	0.795	0.053	0.0637	0.0823	0.808	0.0542	0.0709	0.0897
Y-90	pCi/g	0.0292 U U	0.177	0.0493	0.0494	0.04 U U	0.314	0.0896	0.0897	0.275	0.227	0.0786	0.0828	-0.0296 U U	0.206	0.0507	0.0507

	Sample Name	SL-016-A3				SL-017-A3				SL-316-A3			
	Sample Type	Normal				Normal				Field Duplicate			
	Sample Date	2011-10-05				2011-10-05				2011-10-05			
	Sample Matrix	SO				SO				SO			
Analyte	Unit	Result	MDC	Count Uncertainty	Total Propagated Uncertainty	Result	MDC	Count Uncertainty	Total Propagated Uncertainty	Result	MDC	Count Uncertainty	Total Propagated Uncertainty
Ac-227	pCi/g	0.0377 U U	0.241	0.0722	0.0727	-0.0102 U U	0.194	0.0568	0.0569	-0.0776 U U	0.184	0.0548	0.0576
Ac-228	pCi/g	1.25	0.11	0.0516	0.066	1.26	0.088	0.0487	0.064	1.32	0.0931	0.0489	0.0654
Ag-108m	pCi/g	0.00504 U R	0.0184	0.00616	0.00627	0.000585 U R	0.0156	0.00538	0.00538	-0.00638 U R	0.0147	0.00503	0.00524
Am-241	pCi/g	0 UJ U	0.0187	0.00507	0.00507	0.0115	0.00518	0.0054	0.00544	0 U U	0.0184	0.00486	0.00486
Am-243	pCi/g	0 UJ U	0.0204	0.0054	0.0054	0.00159 U U	0.0224	0.00615	0.00615	0.00286 U U	0.0201	0.00571	0.00571
Ba-133	pCi/g	0.0182 J R	0.0258	0.00877	0.00974	-0.00121 U R	0.0202	0.00682	0.00683	-0.00534 U R	0.0191	0.00656	0.00668
Bi-212	pCi/g	0.846	0.156	0.0892	0.0934	0.914	0.13	0.0686	0.0749	0.931	0.127	0.0676	0.0743
Bi-214	pCi/g	1.11	0.0363	0.0406	0.0547	1.1	0.0312	0.0373	0.0521	1.16	0.0304	0.0394	0.055
C-14	pCi/g	-0.122 U U	0.687	0.203	0.203	0.439	0.67	0.205	0.206	-0.0439 U U	0.67	0.199	0.199
Cd-113m	pCi/g	-95.2 U U	162	54.9	59.2	1.64 U U	129	40.6	40.6	-7.94 U U	126	38.4	38.4
Cf-249	pCi/g	0.0403 U R	0.104	0.0536	0.0544	-0.0511 U R	0.0815	0.0338	0.0358	-0.0278 U R	0.0815	0.0333	0.034
Cm-243/Cm-244	pCi/g	0.00255 UJ U	0.0274	0.00764	0.00764	0.0192	0.0178	0.00767	0.00774	0.0119	0.00539	0.00563	0.00567
Co-60	pCi/g	-0.00796 U U	0.0192	0.00576	0.00605	0.0104 J J	0.0178	0.00496	0.00552	0.00348 U U	0.0176	0.00495	0.00502
Cs-134	pCi/g	0.00785 U U	0.0177	0.00585	0.00613	0.00924 J JSK	0.0154	0.00508	0.00552	0.006 U U	0.0154	0.00497	0.00516
Cs-137	pCi/g	0.0172	0.0212	0.0056	0.00563	0.163	0.017	0.0105	0.0118	0.0403	0.0168	0.00696	0.00709
Eu-152	pCi/g	-0.0289 U U	0.0592	0.0323	0.033	-0.00863 U U	0.0476	0.0147	0.0148	-0.0332 UJ U J	0.0451	0.0139	0.0159
Eu-154	pCi/g	-0.0981 UJ U J	0.104	0.0338	0.0408	-0.0365 U U	0.0972	0.0294	0.0306	-0.0781 UJ U J	0.098	0.0311	0.036
Eu-155	pCi/g	0.0898 SK	0.0879	0.0272	0.0273	0.0502 SK	0.0666	0.0248	0.0248	0.0585 SK	0.0631	0.0234	0.0235
Ho-166m	pCi/g	-0.000455 U U	0.031	0.00914	0.00914	-0.000668 U U	0.0268	0.00772	0.00773	0.000211 U U	0.0266	0.00772	0.00772
I-129	pCi/g	-0.00109 U U	0.123	0.0346	0.0346	0.0358 U U	0.198	0.0479	0.0486	0.00898 U U	0.203	0.0531	0.0531
K-40	pCi/g	23.3	0.151	1.01	1.27	19.1	0.123	0.829	1.04	22.8	0.138	0.99	1.24
Na-22	pCi/g	-0.00727 UJ U J	0.0247	0.00733	0.00752	0.00808 UJ U J	0.0207	0.00595	0.00624	0.000472 UJ U J	0.0206	0.0059	0.0059
Nb-94	pCi/g	0.0068 U U	0.0185	0.00536	0.00559	0.0104 J JSK	0.0164	0.00457	0.00517	0.00131 U U	0.0156	0.0045	0.00451
Ni-59	pCi/g	0.03 U U J	2.33	0.667	0.667	-0.204 U U J	1.88	0.546	0.548	-0.357 U U J	0.673	0.193	0.21
Ni-63	pCi/g	-0.189 U U	0.993	0.293	0.293	-0.408 U U	0.757	0.223	0.223	0.0492 U U	1.18	0.351	0.351
Np-236	pCi/g	0.00907 U U	0.0482	0.0155	0.0157	-0.0192 U U	0.0359	0.0112	0.012	-0.00834 U U	0.0344	0.0106	0.0108
Np-239	pCi/g	0.0197 U U	0.161	0.0482	0.0484	0.0233 U U	0.13	0.0375	0.0379	-0.00171 U U	0.126	0.037	0.037
Pa-231	pCi/g	-0.742 U U	0.998	0.343	0.384	-0.18 U U	0.787	0.233	0.237	-0.239 U U	0.773	0.249	0.255
Pb-212	pCi/g	1.38	0.0403	0.0666	0.0807	1.5	0.0322	0.0687	0.0846	1.46	0.0322	0.0626	0.079
Pb-214	pCi/g	1.21	0.042	0.0435	0.059	1.25	0.0341	0.0411	0.0583	1.31	0.0326	0.0402	0.0591
Pm-147	pCi/g	-3.08 U U	6.45	1.81	1.81	-0.327 U U	7.49	2.18	2.18	-1.79 U U	6.51	1.86	1.86
Pu-238	pCi/g	0	0.00544	0.00284	0.00284	0.0019 U U	0.014	0.00426	0.00426	0.00386 U U	0.0179	0.00546	0.00546
Pu-239/Pu-240	pCi/g	0.00201	0.00544	0.00347	0.00348	0 U U	0.014	0.00381	0.00381	0.0116	0.0142	0.0061	0.00612
Sb-125	pCi/g	0.0227 U U	0.0554	0.0166	0.0174	0.00113 U U	0.0456	0.0135	0.0135	-0.00264 U U	0.0442	0.0133	0.0133
Sn-126	pCi/g	-0.00766 U U	0.0196	0.00591	0.00617	0.00704 U U	0.0173	0.00484	0.00511	-0.00808 U U	0.0166	0.00496	0.00531
Sr-90	pCi/g	0.817	0.156	0.0911	0.117	-0.0879 U U	0.214	0.0509	0.0509	-0.0514 U U	0.24	0.063	0.063
Tc-99	pCi/g	0.264 U U	1.29	0.384	0.385	0.202 U U	1.34	0.4	0.4	0.958	1.33	0.411	0.414
Th-228	pCi/g	1.43	0.23	0.126	0.145	1.33	0.299	0.147	0.165	1.54 J	0.273	0.152	0.175
Th-229	pCi/g	0.0397	0.0584	0.0238	0.0239	0.0637	0.128	0.0425	0.0426	0.044 UJ U	0.144	0.044	0.0441
Th-230	pCi/g	1.13	0.119	0.0998	0.115	0.922	0.0985	0.102	0.114	1.25	0.118	0.121	0.139
Th-232	pCi/g	1.18	0.0214	0.0973	0.114	1.31	0.0778	0.12	0.139	1.28	0.0806	0.12	0.139
Th-234	pCi/g	1.34	0.396	0.16	0.166	1.86	0.287	0.157	0.169	1.81	0.26	0.144	0.156
Tl-208	pCi/g	0.414	0.0189	0.0213	0.0253	0.447	0.0165	0.0208	0.0255	0.435	0.0164	0.0208	0.0253
Tm-171	pCi/g	-22.8 UJ U J	20.4	7.52	9.2	-4.85 U U	12.8	4.33	4.48	-0.334 U U	10.6	3.57	3.57
Tritium	pCi/g	-0.907 U U	5.91	1.61	1.61	2.48 U U	5.92	1.78	1.78	2.29 U U	5.7	1.71	1.71
U-233/U-234	pCi/g	0.917	0.0778	0.0671	0.0902	0.655	0.0762	0.0651	0.0791	0.881	0.0774	0.0656	0.0875
U-235/U-236	pCi/g	0.032	0.0496	0.0182	0.0184	0.0404	0.0573	0.0225	0.0226	0.0303	0.043	0.0168	0.017
U-238	pCi/g	0.91	0.0445	0.0645	0.0873	0.805	0.0532	0.0701	0.0885	0.975	0.0281	0.066	0.0912
Y-90	pCi/g	0.817	0.156	0.0911	0.117	-0.0879 U U	0.214	0.0509	0.0509	-0.0514 U U	0.24	0.063	0.063

Appendix C
Laboratory Reports
(On CD)

SAMPLE DELIVERY GROUP

12G123

METHOD 3550B/8270C SIM
SEMI VOLATILE ORGANICS BY GC/MS SIM

Client : CDM	Date Collected: 07/17/12
Project : SSFL PHASE 3	Date Received: 07/17/12
Batch No. : 12G123	Date Extracted: 07/24/12 13:09
Sample ID: SL-016-A3-SB-0.0-0.5	Date Analyzed: 07/24/12 21:10
Lab Samp ID: G123-01	Dilution Factor: 1
Lab File ID: RGH496	Matrix : SOIL
Ext Btch ID: SVG038S	% Moisture : 2.5
Calib. Ref.: RFH072	Instrument ID : T-OE7

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
ACENAPHTHENE	ND	10	2.6
ACENAPHTHYLENE	ND	10	2.6
ANTHRACENE	ND	10	2.6
BENZO(A)ANTHRACENE	7.1J	10	2.6
BENZO(A)PYRENE	7.3J	10	2.6
BENZO(B)FLUORANTHENE	11	10	2.6
BENZO(K)FLUORANTHENE	3.1J	10	2.6
BENZO(G,H,I)PERYLENE	4.9J	10	2.6
CHRYSENE	7.9J	10	2.6
DIBENZO(A,H)ANTHRACENE	ND	10	2.6
FLUORANTHENE	14	10	2.6
FLUORENE	ND	10	2.6
INDENO(1,2,3-CD)PYRENE	3.7J	10	2.6
NAPHTHALENE	ND	10	2.6
PHENANTHRENE	6.6J	10	2.6
2-METHYLNAPHTHALENE	ND	10	2.6
1-METHYLNAPHTHALENE	ND	10	2.6
N-NITROSODIMETHYLAMINE	ND	10	2.6
PYRENE	13	10	2.6
AZOBENZENE	ND	5.1	2.6
BENZO(E)PYRENE	5.7	5.1	2.6
BIPHENYL	ND	5.1	2.6

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
NITROBENZENE-D5	199	341.8	58.1	40-130
2-FLUOROBIPHENYL	215	341.8	62.9	45-130
TERPHENYL-D14	362	341.8	106	45-135

METHOD 3550B/8270C SIM
SEMI VOLATILE ORGANICS BY GC/MS SIM

Client : CDM	Date Collected: 07/17/12
Project : SSFL PHASE 3	Date Received: 07/17/12
Batch No. : 12G123	Date Extracted: 07/24/12 13:09
Sample ID: SL-017-A3-SB-0.0-0.5	Date Analyzed: 07/24/12 21:29
Lab Samp ID: G123-02	Dilution Factor: 1
Lab File ID: RGH497	Matrix : SOIL
Ext Btch ID: SVG038S	% Moisture : 5.0
Calib. Ref.: RFH072	Instrument ID : T-OE7

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
ACENAPHTHENE	ND	11	2.6
ACENAPHTHYLENE	ND	11	2.6
ANTHRACENE	ND	11	2.6
BENZO(A)ANTHRACENE	ND	11	2.6
BENZO(A)PYRENE	ND	11	2.6
BENZO(B)FLUORANTHENE	3.7J	11	2.6
BENZO(K)FLUORANTHENE	ND	11	2.6
BENZO(G,H,I)PERYLENE	ND	11	2.6
CHRYSENE	ND	11	2.6
DIBENZO(A,H)ANTHRACENE	ND	11	2.6
FLUORANTHENE	3.9J	11	2.6
FLUORENE	ND	11	2.6
INDENO(1,2,3-CD)PYRENE	ND	11	2.6
NAPHTHALENE	ND	11	2.6
PHENANTHRENE	ND	11	2.6
2-METHYLNAPHTHALENE	ND	11	2.6
1-METHYLNAPHTHALENE	ND	11	2.6
N-NITROSODIMETHYLAMINE	ND	11	2.6
PYRENE	3.8J	11	2.6
AZOBENZENE	ND	5.3	2.6
BENZO(E)PYRENE	ND	5.3	2.6
BIPHENYL	ND	5.3	2.6

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
NITROBENZENE-D5	158	350.8	45.0	40-130
2-FLUOROBIPHENYL	178	350.8	50.8	45-130
TERPHENYL-D14	310	350.8	88.4	45-135

METHOD 3550B/8270C SIM
SEMI VOLATILE ORGANICS BY GC/MS SIM

Client : CDM	Date Collected: 07/17/12
Project : SSFL PHASE 3	Date Received: 07/17/12
Batch No. : 12G123	Date Extracted: 07/24/12 13:09
Sample ID: SL-316-A3-SB-0.0-0.5	Date Analyzed: 07/24/12 21:48
Lab Samp ID: G123-03	Dilution Factor: 1
Lab File ID: RGH498	Matrix : SOIL
Ext Btch ID: SVG038S	% Moisture : 2.3
Calib. Ref.: RFH072	Instrument ID : T-OE7

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
ACENAPHTHENE	ND	10	2.6
ACENAPHTHYLENE	ND	10	2.6
ANTHRACENE	ND	10	2.6
BENZO(A)ANTHRACENE	7.0J	10	2.6
BENZO(A)PYRENE	7.1J	10	2.6
BENZO(B)FLUORANTHENE	10J	10	2.6
BENZO(K)FLUORANTHENE	3.1J	10	2.6
BENZO(G,H,I)PERYLENE	4.3J	10	2.6
CHRYSENE	8.3J	10	2.6
DIBENZO(A,H)ANTHRACENE	ND	10	2.6
FLUORANTHENE	13	10	2.6
FLUORENE	ND	10	2.6
INDENO(1,2,3-CD)PYRENE	3.3J	10	2.6
NAPHTHALENE	ND	10	2.6
PHENANTHRENE	6.3J	10	2.6
2-METHYLNAPHTHALENE	ND	10	2.6
1-METHYLNAPHTHALENE	ND	10	2.6
N-NITROSODIMETHYLAMINE	ND	10	2.6
PYRENE	13	10	2.6
AZOBENZENE	ND	5.1	2.6
BENZO(E)PYRENE	5.2	5.1	2.6
BIPHENYL	ND	5.1	2.6

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
NITROBENZENE-D5	191	341.1	56.1	40-130
2-FLUOROBIPHENYL	185	341.1	54.4	45-130
TERPHENYL-D14	265	341.1	77.7	45-135

METHOD 3550B/8270C SIM
SEMI VOLATILE ORGANICS BY GC/MS SIM

Client : CDM	Date Collected: 07/17/12
Project : SSFL PHASE 3	Date Received: 07/17/12
Batch No. : 12G123	Date Extracted: 07/24/12 13:09
Sample ID: SL-014-A3-SB-0.0-0.5	Date Analyzed: 07/24/12 23:22
Lab Samp ID: G123-04	Dilution Factor: 3
Lab File ID: RGH503	Matrix : SOIL
Ext Btch ID: SVG038S	% Moisture : 4.4
Calib. Ref.: RFH072	Instrument ID : T-OE7

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
ACENAPHTHENE	ND	31	7.8
ACENAPHTHYLENE	ND	31	7.8
ANTHRACENE	ND	31	7.8
BENZO(A)ANTHRACENE	ND	31	7.8
BENZO(A)PYRENE	12J	31	7.8
BENZO(B)FLUORANTHENE	19J	31	7.8
BENZO(K)FLUORANTHENE	ND	31	7.8
BENZO(G,H,I)PERYLENE	14J	31	7.8
CHRYSENE	11J	31	7.8
DIBENZO(A,H)ANTHRACENE	ND	31	7.8
FLUORANTHENE	21J	31	7.8
FLUORENE	ND	31	7.8
INDENO(1,2,3-CD)PYRENE	ND	31	7.8
NAPHTHALENE	ND	31	7.8
PHENANTHRENE	13J	31	7.8
2-METHYLNAPHTHALENE	ND	31	7.8
1-METHYLNAPHTHALENE	ND	31	7.8
N-NITROSODIMETHYLAMINE	ND	31	7.8
PYRENE	19J	31	7.8
AZOBENZENE	ND	16	7.8
BENZO(E)PYRENE	21	16	7.8
BIPHENYL	ND	16	7.8

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
NITROBENZENE-D5	176	348.6	50.6	40-130
2-FLUOROBIPHENYL	196	348.6	56.2	45-130
TERPHENYL-D14	289	348.6	83.0	45-135

METHOD 3550B/8270C SIM
SEMI VOLATILE ORGANICS BY GC/MS SIM

Client : CDM	Date Collected: 07/17/12
Project : SSFL PHASE 3	Date Received: 07/17/12
Batch No. : 12G123	Date Extracted: 07/24/12 13:09
Sample ID: SL-015-A3-SB-0.0-0.5	Date Analyzed: 07/24/12 22:07
Lab Samp ID: G123-05	Dilution Factor: 1
Lab File ID: RGH499	Matrix : SOIL
Ext Btch ID: SVG038S	% Moisture : 3.6
Calib. Ref.: RFH072	Instrument ID : T-OE7

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
ACENAPHTHENE	ND	10	2.6
ACENAPHTHYLENE	ND	10	2.6
ANTHRACENE	4.6J	10	2.6
BENZO(A)ANTHRACENE	19	10	2.6
BENZO(A)PYRENE	20	10	2.6
BENZO(B)FLUORANTHENE	33	10	2.6
BENZO(K)FLUORANTHENE	11	10	2.6
BENZO(G,H,I)PERYLENE	13	10	2.6
CHRYSENE	28	10	2.6
DIBENZO(A,H)ANTHRACENE	3.3J	10	2.6
FLUORANTHENE	63	10	2.6
FLUORENE	ND	10	2.6
INDENO(1,2,3-CD)PYRENE	10J	10	2.6
NAPHTHALENE	ND	10	2.6
PHENANTHRENE	28	10	2.6
2-METHYLNAPHTHALENE	ND	10	2.6
1-METHYLNAPHTHALENE	ND	10	2.6
N-NITROSODIMETHYLAMINE	ND	10	2.6
PYRENE	54	10	2.6
AZOBENZENE	ND	5.2	2.6
BENZO(E)PYRENE	16	5.2	2.6
BIPHENYL	ND	5.2	2.6

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
NITROBENZENE-D5	227	345.7	65.5	40-130
2-FLUOROBIPHENYL	226	345.7	65.4	45-130
TERPHENYL-D14	328	345.7	94.9	45-135

METHOD 3550B/8270C SIM
SEMI VOLATILE ORGANICS BY GC/MS SIM

Client : CDM	Date Collected: 07/17/12
Project : SSFL PHASE 3	Date Received: 07/17/12
Batch No. : 12G123	Date Extracted: 07/24/12 13:09
Sample ID: SL-011-A3-SB-0.0-0.5	Date Analyzed: 07/24/12 22:25
Lab Samp ID: G123-06	Dilution Factor: 1
Lab File ID: RGH500	Matrix : SOIL
Ext Btch ID: SVG038S	% Moisture : 6.1
Calib. Ref.: RFH072	Instrument ID : T-OE7

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
ACENAPHTHENE	ND	11	2.7
ACENAPHTHYLENE	ND	11	2.7
ANTHRACENE	ND	11	2.7
BENZO(A)ANTHRACENE	11	11	2.7
BENZO(A)PYRENE	15	11	2.7
BENZO(B)FLUORANTHENE	25	11	2.7
BENZO(K)FLUORANTHENE	7.5J	11	2.7
BENZO(G,H,I)PERYLENE	13	11	2.7
CHRYSENE	21	11	2.7
DIBENZO(A,H)ANTHRACENE	2.9J	11	2.7
FLUORANTHENE	24	11	2.7
FLUORENE	ND	11	2.7
INDENO(1,2,3-CD)PYRENE	8.7J	11	2.7
NAPHTHALENE	ND	11	2.7
PHENANTHRENE	8.5J	11	2.7
2-METHYLNAPHTHALENE	ND	11	2.7
1-METHYLNAPHTHALENE	ND	11	2.7
N-NITROSODIMETHYLAMINE	ND	11	2.7
PYRENE	22	11	2.7
AZOBENZENE	ND	5.3	2.7
BENZO(E)PYRENE	15	5.3	2.7
BIPHENYL	ND	5.3	2.7

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
NITROBENZENE-D5	145	355.0	40.8	40-130
2-FLUOROBIPHENYL	158	355.0	44.6*	45-130
TERPHENYL-D14	232	355.0	65.5	45-135

METHOD 3550B/8270C SIM
SEMI VOLATILE ORGANICS BY GC/MS SIM

Client : CDM	Date Collected: 07/17/12
Project : SSFL PHASE 3	Date Received: 07/17/12
Batch No. : 12G123	Date Extracted: 07/24/12 13:09
Sample ID: SL-012-A3-SB-0.0-0.5	Date Analyzed: 07/24/12 23:03
Lab Samp ID: G123-07	Dilution Factor: 2
Lab File ID: RGH502	Matrix : SOIL
Ext Btch ID: SVG038S	% Moisture : 4.2
Calib. Ref.: RFH072	Instrument ID : T-OE7

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
ACENAPHTHENE	ND	21	5.2
ACENAPHTHYLENE	ND	21	5.2
ANTHRACENE	ND	21	5.2
BENZO(A)ANTHRACENE	6.2J	21	5.2
BENZO(A)PYRENE	8.2J	21	5.2
BENZO(B)FLUORANTHENE	13J	21	5.2
BENZO(K)FLUORANTHENE	ND	21	5.2
BENZO(G,H,I)PERYLENE	11J	21	5.2
CHRYSENE	8.0J	21	5.2
DIBENZO(A,H)ANTHRACENE	ND	21	5.2
FLUORANTHENE	13J	21	5.2
FLUORENE	ND	21	5.2
INDENO(1,2,3-CD)PYRENE	ND	21	5.2
NAPHTHALENE	ND	21	5.2
PHENANTHRENE	ND	21	5.2
2-METHYLNAPHTHALENE	ND	21	5.2
1-METHYLNAPHTHALENE	ND	21	5.2
N-NITROSODIMETHYLAMINE	ND	21	5.2
PYRENE	13J	21	5.2
AZOBENZENE	ND	10	5.2
BENZO(E)PYRENE	13	10	5.2
BIPHENYL	ND	10	5.2

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
NITROBENZENE-D5	197	347.9	56.7	40-130
2-FLUOROBIPHENYL	196	347.9	56.4	45-130
TERPHENYL-D14	266	347.9	76.5	45-135

METHOD 3550B/8270C SIM
SEMI VOLATILE ORGANICS BY GC/MS SIM

Client : CDM	Date Collected: 07/17/12
Project : SSFL PHASE 3	Date Received: 07/17/12
Batch No. : 12G123	Date Extracted: 07/24/12 13:09
Sample ID: SL-013-A3-SB-0.0-0.5	Date Analyzed: 07/24/12 22:44
Lab Samp ID: G123-08	Dilution Factor: 1
Lab File ID: RGH501	Matrix : SOIL
Ext Btch ID: SVG038S	% Moisture : 5.2
Calib. Ref.: RFH072	Instrument ID : T-OE7

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
ACENAPHTHENE	ND	11	2.6
ACENAPHTHYLENE	ND	11	2.6
ANTHRACENE	ND	11	2.6
BENZO(A)ANTHRACENE	ND	11	2.6
BENZO(A)PYRENE	ND	11	2.6
BENZO(B)FLUORANTHENE	3.6J	11	2.6
BENZO(K)FLUORANTHENE	ND	11	2.6
BENZO(G,H,I)PERYLENE	2.9J	11	2.6
CHRYSENE	ND	11	2.6
DIBENZO(A,H)ANTHRACENE	ND	11	2.6
FLUORANTHENE	4.2J	11	2.6
FLUORENE	ND	11	2.6
INDENO(1,2,3-CD)PYRENE	ND	11	2.6
NAPHTHALENE	ND	11	2.6
PHENANTHRENE	ND	11	2.6
2-METHYLNAPHTHALENE	ND	11	2.6
1-METHYLNAPHTHALENE	ND	11	2.6
N-NITROSODIMETHYLAMINE	ND	11	2.6
PYRENE	4.0J	11	2.6
AZOBENZENE	ND	5.3	2.6
BENZO(E)PYRENE	ND	5.3	2.6
BIPHENYL	ND	5.3	2.6

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
NITROBENZENE-D5	186	351.6	53.0	40-130
2-FLUOROBIPHENYL	193	351.6	54.8	45-130
TERPHENYL-D14	284	351.6	80.7	45-135

METHOD 3550B/8270C SIM
SEMI VOLATILE ORGANICS BY GC/MS SIM

Client : CDM	Date Collected: NA
Project : SSFL PHASE 3	Date Received: 07/24/12
Batch No. : 12G123	Date Extracted: 07/24/12 13:09
Sample ID: MBLK1S	Date Analyzed: 07/24/12 15:11
Lab Samp ID: SVG038SB	Dilution Factor: 1
Lab File ID: RGH477	Matrix : SOIL
Ext Btch ID: SVG038S	% Moisture : NA
Calib. Ref.: RFH072	Instrument ID : T-OE7

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
ACENAPHTHENE	ND	10	2.5
ACENAPHTHYLENE	ND	10	2.5
ANTHRACENE	ND	10	2.5
BENZO(A)ANTHRACENE	ND	10	2.5
BENZO(A)PYRENE	ND	10	2.5
BENZO(B)FLUORANTHENE	ND	10	2.5
BENZO(K)FLUORANTHENE	ND	10	2.5
BENZO(G,H,I)PERYLENE	ND	10	2.5
CHRYSENE	ND	10	2.5
DIBENZO(A,H)ANTHRACENE	ND	10	2.5
FLUORANTHENE	ND	10	2.5
FLUORENE	ND	10	2.5
INDENO(1,2,3-CD)PYRENE	ND	10	2.5
NAPHTHALENE	ND	10	2.5
PHENANTHRENE	ND	10	2.5
2-METHYLNAPHTHALENE	ND	10	2.5
1-METHYLNAPHTHALENE	ND	10	2.5
N-NITROSODIMETHYLAMINE	ND	10	2.5
PYRENE	ND	10	2.5
AZOBENZENE	ND	5.0	2.5
BENZO(E)PYRENE	ND	5.0	2.5
BIPHENYL	ND	5.0	2.5

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
NITROBENZENE-D5	233	333.3	69.9	40-130
2-FLUOROBIPHENYL	228	333.3	68.4	45-130
TERPHENYL-D14	331	333.3	99.4	45-130

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: CDM
PROJECT: SSFL PHASE 3
BATCH NO.: 12G123
METHOD: METHOD 3550B/8270C SIM

MATRIX:	SOIL			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1S				
LAB SAMP ID:	SVG038SB	SVG038SL	SVG038SC		
LAB FILE ID:	RGH477	RGH478	RGH479		
DATE EXTRACTED:	07/24/1213:09	07/24/1213:09	07/24/1213:09	DATE COLLECTED:	NA
DATE ANALYZED:	07/24/1215:11	07/24/1215:29	07/24/1215:48	DATE RECEIVED:	07/24/12
PREP. BATCH:	SVG038S	SVG038S	SVG038S		
CALIB. REF:	RFH072	RFH072	RFH072		

ACCESSION:

PARAMETER	BLNK RSLT (ug/kg)	SPIKE AMT (ug/kg)	BS RSLT (ug/kg)	BS % REC	SPIKE AMT (ug/kg)	BSD RSLT (ug/kg)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Acenaphthene	ND	333	266	80	333	235	70	12	10-130	50
Acenaphthylene	ND	333	280	84	333	245	74	13	20-130	50
Anthracene	ND	333	257	77	333	241	72	6	20-130	50
Benzo(a)anthracene	ND	333	313	94	333	326	98	4	30-130	50
Benzo(a)pyrene	ND	333	311	93	333	292	88	6	30-130	50
Benzo(b)fluoranthene	ND	333	335	101	333	314	94	6	40-130	50
Benzo(k)fluoranthene	ND	333	313	94	333	292	88	7	30-140	50
Benzo(g,h,i)perylene	ND	333	322	97	333	303	91	6	30-140	50
Chrysene	ND	333	306	92	333	314	94	3	30-140	50
Dibenzo(a,h)anthracene	ND	333	340	102	333	319	96	6	40-140	50
Fluoranthene	ND	333	308	92	333	304	91	1	30-130	50
Fluorene	ND	333	273	82	333	241	72	12	20-130	50
Indeno(1,2,3-cd)pyrene	ND	333	338	101	333	317	95	6	20-160	50
Naphthalene	ND	333	251	75	333	228	68	10	10-130	50
Phenanthrene	ND	333	265	80	333	249	75	6	20-130	50
2-Methylnaphthalene	ND	333	265	80	333	239	72	11	30-150	50
1-Methylnaphthalene	ND	333	267	80	333	240	72	11	30-150	50
N-Nitrosodimethylamine	ND	333	218	65	333	197	59	10	30-150	50
Pyrene	ND	333	302	91	333	301	90	0	20-150	50
Azobenzene	ND	333	261	78	333	230	69	13	30-150	50
Benzo(e)pyrene	ND	333	338	101	333	378	113	11	30-150	50
Biphenyl	ND	333	275	82	333	287	86	4	30-150	50

SURROGATE PARAMETER	SPIKE AMT (ug/kg)	BS RSLT (ug/kg)	BS % REC	SPIKE AMT (ug/kg)	BSD RSLT (ug/kg)	BSD % REC	QC LIMIT (%)
Nitrobenzene-d5	333	234	70	333	229	69	40-130
2-Fluorobiphenyl	333	236	71	333	226	68	45-130
Terphenyl-d14	333	345	103	333	363	109	45-130

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: CDM
PROJECT: SSFL PHASE 3
BATCH NO.: 12G123
METHOD: METHOD 3550B/8270C SIM

MATRIX: SOIL % MOISTURE: 2.5
DILUTION FACTOR: 1 1 1
SAMPLE ID: SL-016-A3-SB-0.0-0.5
LAB SAMP ID: G123-01 G123-01M G123-01S
LAB FILE ID: RGH496 RGH483 RGH484
DATE EXTRACTED: 07/24/1213:09 07/24/1213:09 07/24/1213:09 DATE COLLECTED: 07/17/12
DATE ANALYZED: 07/24/1221:10 07/24/1217:04 07/24/1217:23 DATE RECEIVED: 07/17/12
PREP. BATCH: SVG038S SVG038S SVG038S
CALIB. REF: RFH072 RFH072 RFH072

ACCESSION:

PARAMETER	SMPL RSLT (ug/kg)	SPIKE AMT (ug/kg)	MS RSLT (ug/kg)	MS % REC	SPIKE AMT (ug/kg)	MSD RSLT (ug/kg)	MSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Acenaphthene	ND	342	220	64	342	213	62	3	10-130	50
Acenaphthylene	ND	342	230	67	342	224	65	3	20-130	50
Anthracene	ND	342	239	70	342	256	75	7	20-130	50
Benzo(a)anthracene	7.07J	342	265	75	342	295	84	11	30-130	50
Benzo(a)pyrene	7.34J	342	263	75	342	295	84	12	30-130	50
Benzo(b)fluoranthene	11.1	342	296	83	342	324	92	9	30-130	50
Benzo(k)fluoranthene	3.12J	342	247	71	342	286	83	15	30-130	50
Benzo(g,h,i)perylene	4.89J	342	216	62	342	258	74	17	30-140	50
Chrysene	7.86J	342	258	73	342	287	82	11	20-130	50
Dibenzo(a,h)anthracene	ND	342	246	72	342	288	84	16	30-130	50
Fluoranthene	13.6	342	277	77	342	306	86	10	30-150	50
Fluorene	ND	342	236	69	342	235	69	1	20-130	50
Indeno(1,2,3-cd)pyrene	3.67J	342	242	70	342	284	82	16	20-160	50
Naphthalene	ND	342	174	51	342	178	52	3	10-130	50
Phenanthrene	6.62J	342	252	72	342	269	77	7	20-130	50
2-Methylnaphthalene	ND	342	197	57	342	194	57	1	30-150	50
1-Methylnaphthalene	ND	342	201	59	342	197	58	2	30-150	50
N-Nitrosodimethylamine	ND	342	144	42	342	157	46	9	20-150	50
Pyrene	13.2	342	268	75	342	298	83	10	10-160	50
Azobenzene	ND	342	240	70	342	247	72	3	30-150	50
Benzo(e)pyrene	5.75	342	296	85	342	381	110	25	30-150	50
Biphenyl	ND	342	232	68	342	250	73	8	30-150	50

SURROGATE PARAMETER	SPIKE AMT (ug/kg)	MS RSLT (ug/kg)	MS % REC	SPIKE AMT (ug/kg)	MSD RSLT (ug/kg)	MSD % REC	QC LIMIT (%)
Nitrobenzene-d5	342	171	50	342	187	55	40-130
2-Fluorobiphenyl	342	184	54	342	189	55	45-130
Terphenyl-d14	342	273	80	342	325	95	45-135

METHOD 3550B/8015B EFH
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : CDM	Date Collected: 07/17/12
Project : SSFL PHASE 3	Date Received: 07/17/12
Batch No. : 12G123	Date Extracted: 07/24/12 10:55
Sample ID: SL-016-A3-SB-0.0-0.5	Date Analyzed: 07/24/12 21:26
Lab Samp ID: G123-01	Dilution Factor: 1
Lab File ID: LG24014A	Matrix : SOIL
Ext Btch ID: DSG031S	% Moisture : 2.5
Calib. Ref.: LG24007A	Instrument ID : GCT105

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
EFH(C8-C11)	ND	5.1	2.6
EFH(C12-C14)	ND	5.1	2.6
EFH(C15-C20)	ND	5.1	2.6
EFH(C21-C30)	5.3	5.1	2.6
EFH(C30-C40)	9.7J	10	5.1
TOTAL EFH(C8-C40)	15	5.1	2.6

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
BROMOBENZENE	66.3	102.6	64.6	50-150
HEXACOSANE	24.5	25.64	95.7	50-150

RL : Reporting Limit

METHOD 3550B/8015B EFH
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : CDM	Date Collected: 07/17/12
Project : SSFL PHASE 3	Date Received: 07/17/12
Batch No. : 12G123	Date Extracted: 07/24/12 10:55
Sample ID: SL-017-A3-SB-0.0-0.5	Date Analyzed: 07/24/12 23:24
Lab Samp ID: G123-02	Dilution Factor: 1
Lab File ID: LG24021A	Matrix : SOIL
Ext Btch ID: DSG031S	% Moisture : 5.0
Calib. Ref.: LG24019A	Instrument ID : GCT105

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
EFH(C8-C11)	ND	5.3	2.6
EFH(C12-C14)	ND	5.3	2.6
EFH(C15-C20)	ND	5.3	2.6
EFH(C21-C30)	12	5.3	2.6
EFH(C30-C40)	19	11	5.3
TOTAL EFH(C8-C40)	31	5.3	2.6

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
BROMOBENZENE	65.9	105.3	62.6	50-150
HEXACOSANE	25.5	26.32	96.8	50-150

RL : Reporting Limit

METHOD 3550B/8015B EFH
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : CDM	Date Collected: 07/17/12
Project : SSFL PHASE 3	Date Received: 07/17/12
Batch No. : 12G123	Date Extracted: 07/24/12 10:55
Sample ID: SL-316-A3-SB-0.0-0.5	Date Analyzed: 07/24/12 21:09
Lab Samp ID: G123-03	Dilution Factor: 1
Lab File ID: LG24013A	Matrix : SOIL
Ext Btch ID: DSG031S	% Moisture : 2.3
Calib. Ref.: LG24007A	Instrument ID : GCT105

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
EFH(C8-C11)	ND	5.1	2.6
EFH(C12-C14)	ND	5.1	2.6
EFH(C15-C20)	ND	5.1	2.6
EFH(C21-C30)	4.0J	5.1	2.6
EFH(C30-C40)	6.5J	10	5.1
TOTAL EFH(C8-C40)	11	5.1	2.6

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
BROMOBENZENE	67.3	102.4	65.8	50-150
HEXACOSANE	24.0	25.59	93.7	50-150

RL : Reporting Limit

METHOD 3550B/8015B EFH
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : CDM	Date Collected: 07/17/12
Project : SSFL PHASE 3	Date Received: 07/17/12
Batch No. : 12G123	Date Extracted: 07/24/12 10:55
Sample ID: SL-014-A3-SB-0.0-0.5	Date Analyzed: 07/24/12 22:16
Lab Samp ID: G123-04	Dilution Factor: 1
Lab File ID: LG24017A	Matrix : SOIL
Ext Btch ID: DSG031S	% Moisture : 4.4
Calib. Ref.: LG24007A	Instrument ID : GCT105

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
EFH(C8-C11)	ND	5.2	2.6
EFH(C12-C14)	ND	5.2	2.6
EFH(C15-C20)	ND	5.2	2.6
EFH(C21-C30)	22	5.2	2.6
EFH(C30-C40)	42	10	5.2
TOTAL EFH(C8-C40)	64	5.2	2.6

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
BROMOBENZENE	69.6	104.6	66.5	50-150
HEXACOSANE	26.9	26.15	103	50-150

RL : Reporting Limit

METHOD 3550B/8015B EFH
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : CDM	Date Collected: 07/17/12
Project : SSFL PHASE 3	Date Received: 07/17/12
Batch No. : 12G123	Date Extracted: 07/24/12 10:55
Sample ID: SL-015-A3-SB-0.0-0.5	Date Analyzed: 07/24/12 22:33
Lab Samp ID: G123-05	Dilution Factor: 1
Lab File ID: LG24018A	Matrix : SOIL
Ext Btch ID: DSG031S	% Moisture : 3.6
Calib. Ref.: LG24007A	Instrument ID : GCT105

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
EFH(C8-C11)	ND	5.2	2.6
EFH(C12-C14)	ND	5.2	2.6
EFH(C15-C20)	ND	5.2	2.6
EFH(C21-C30)	11	5.2	2.6
EFH(C30-C40)	20	10	5.2
TOTAL EFH(C8-C40)	31	5.2	2.6

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
BROMOBENZENE	65.0	103.7	62.7	50-150
HEXACOSANE	26.2	25.93	101	50-150

RL : Reporting Limit

METHOD 3550B/8015B EFH
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : CDM	Date Collected: 07/17/12
Project : SSFL PHASE 3	Date Received: 07/17/12
Batch No. : 12G123	Date Extracted: 07/24/12 10:55
Sample ID: SL-011-A3-SB-0.0-0.5	Date Analyzed: 07/25/12 01:37
Lab Samp ID: G123-06	Dilution Factor: 1
Lab File ID: LG24029A	Matrix : SOIL
Ext Btch ID: DSG031S	% Moisture : 6.1
Calib. Ref.: LG24019A	Instrument ID : GCT105

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
EFH(C8-C11)	ND	5.3	2.7
EFH(C12-C14)	ND	5.3	2.7
EFH(C15-C20)	ND	5.3	2.7
EFH(C21-C30)	23	5.3	2.7
EFH(C30-C40)	29	11	5.3
TOTAL EFH(C8-C40)	52	5.3	2.7

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
BROMOBENZENE	69.3	106.5	65.0	50-150
HEXACOSANE	27.1	26.62	102	50-150

RL : Reporting Limit

METHOD 3550B/8015B EFH
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : CDM	Date Collected: 07/17/12
Project : SSFL PHASE 3	Date Received: 07/17/12
Batch No. : 12G123	Date Extracted: 07/24/12 10:55
Sample ID: SL-012-A3-SB-0.0-0.5	Date Analyzed: 07/25/12 01:54
Lab Samp ID: G123-07	Dilution Factor: 1
Lab File ID: LG24030A	Matrix : SOIL
Ext Btch ID: DSG031S	% Moisture : 4.2
Calib. Ref.: LG24019A	Instrument ID : GCT105

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
EFH(C8-C11)	ND	5.2	2.6
EFH(C12-C14)	ND	5.2	2.6
EFH(C15-C20)	ND	5.2	2.6
EFH(C21-C30)	91	5.2	2.6
EFH(C30-C40)	120	10	5.2
TOTAL EFH(C8-C40)	210	5.2	2.6

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
BROMOBENZENE	69.8	104.4	66.9	50-150
HEXACOSANE	25.9	26.10	99.4	50-150

RL : Reporting Limit

METHOD 3550B/8015B EFH
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : CDM	Date Collected: 07/17/12
Project : SSFL PHASE 3	Date Received: 07/17/12
Batch No. : 12G123	Date Extracted: 07/24/12 10:55
Sample ID: SL-013-A3-SB-0.0-0.5	Date Analyzed: 07/25/12 01:20
Lab Samp ID: G123-08	Dilution Factor: 1
Lab File ID: LG24028A	Matrix : SOIL
Ext Btch ID: DSG031S	% Moisture : 5.2
Calib. Ref.: LG24019A	Instrument ID : GCT105

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
EFH(C8-C11)	ND	5.3	2.6
EFH(C12-C14)	ND	5.3	2.6
EFH(C15-C20)	ND	5.3	2.6
EFH(C21-C30)	6.5	5.3	2.6
EFH(C30-C40)	9.9J	11	5.3
TOTAL EFH(C8-C40)	16	5.3	2.6

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
BROMOBENZENE	65.0	105.5	61.6	50-150
HEXACOSANE	25.0	26.37	94.8	50-150

RL : Reporting Limit

METHOD 3550B/8015B EFH
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : CDM	Date Collected: NA
Project : SSFL PHASE 3	Date Received: 07/24/12
Batch No. : 12G123	Date Extracted: 07/24/12 10:55
Sample ID: MBLK1S	Date Analyzed: 07/24/12 20:19
Lab Samp ID: DSG031SB	Dilution Factor: 1
Lab File ID: LG24010A	Matrix : SOIL
Ext Btch ID: DSG031S	% Moisture : NA
Calib. Ref.: LG24007A	Instrument ID : GCT105

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
EFH(C8-C11)	ND	5.0	2.5
EFH(C12-C14)	ND	5.0	2.5
EFH(C15-C20)	ND	5.0	2.5
EFH(C21-C30)	ND	5.0	2.5
EFH(C30-C40)	ND	10	5.0
TOTAL EFH(C8-C40)	ND	5.0	2.5

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
BROMOBENZENE	68.6	100.0	68.6	50-150
HEXACOSANE	22.0	25.00	87.9	50-150

RL : Reporting Limit

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: CDM
PROJECT: SSFL PHASE 3
BATCH NO.: 12G123
METHOD: METHOD 3550B/8015B EFH

MATRIX: SOIL % MOISTURE: NA

DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1S				
LAB SAMP ID:	DSG031SB	DSG031SL	DSG031SC		
LAB FILE ID:	LG24010A	LG24011A	LG24012A		
DATE EXTRACTED:	07/24/1210:55	07/24/1210:55	07/24/1210:55	DATE COLLECTED:	NA
DATE ANALYZED:	07/24/1220:19	07/24/1220:36	07/24/1220:52	DATE RECEIVED:	07/24/12
PREP. BATCH:	DSG031S	DSG031S	DSG031S		
CALIB. REF:	LG24007A	LG24007A	LG24007A		

ACCESSION:

PARAMETER	BLNK RSLT (mg/kg)	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)	BS % REC	SPIKE AMT (mg/kg)	BSD RSLT (mg/kg)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Total EFH(C8-C40)	ND	500	401	80	500	414	83	3	50-140	50

SURROGATE PARAMETER	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)	BS % REC	SPIKE AMT (mg/kg)	BSD RSLT (mg/kg)	BSD % REC	QC LIMIT (%)
Bromobenzene	100	77.4	77	100	79.4	79	50-150
Hexacosane	25.0	23.5	94	25.0	24.3	97	50-150

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: CDM
PROJECT: SSFL PHASE 3
BATCH NO.: 12G123
METHOD: METHOD 3550B/8015B EFH

MATRIX: SOIL % MOISTURE: 2.5

DILUTION FACTOR:	1	1	1		
SAMPLE ID:	SL-016-A3-SB-0.0-0.5				
LAB SAMP ID:	G123-01	G123-01M	G123-01S		
LAB FILE ID:	LG24014A	LG24015A	LG24016A		
DATE EXTRACTED:	07/24/1210:55	07/24/1210:55	07/24/1210:55	DATE COLLECTED:	07/17/12
DATE ANALYZED:	07/24/1221:26	07/24/1221:43	07/24/1222:00	DATE RECEIVED:	07/17/12
PREP. BATCH:	DSG031S	DSG031S	DSG031S		
CALIB. REF:	LG24007A	LG24007A	LG24007A		

ACCESSION:

PARAMETER	SMPL RSLT (mg/kg)	SPIKE AMT (mg/kg)	MS RSLT (mg/kg)	MS % REC	SPIKE AMT (mg/kg)	MSD RSLT (mg/kg)	MSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Total EFH(C8-C40)	15.0	513	408	77	513	464	88	13	50-150	50

SURROGATE PARAMETER	SPIKE AMT (mg/kg)	MS RSLT (mg/kg)	MS % REC	SPIKE AMT (mg/kg)	MSD RSLT (mg/kg)	MSD % REC	QC LIMIT (%)
Bromobenzene	103	74.3	72	103	76.0	74	50-150
Hexacosane	25.6	24.5	96	25.6	26.9	105	50-150

METHOD 3550B/8082
PCBs

Client : CDM	Date Collected: 07/17/12
Project : SSFL PHASE 3	Date Received: 07/17/12
Batch No. : 12G123	Date Extracted: 07/27/12 10:40
Sample ID: SL-016-A3-SB-0.0-0.5	Date Analyzed: 07/30/12 05:28
Lab Samp ID: G123-01	Dilution Factor: 1
Lab File ID: SG28076A	Matrix : SOIL
Ext Btch ID: CPG059S	% Moisture : 2.5
Calib. Ref.: SG28073A	Instrument ID : GCT008

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
AROCLOR 1016	(ND)|ND	21	10|10
AROCLOR 1221	(ND)|ND	21	10|10
AROCLOR 1232	(ND)|ND	21	10|10
AROCLOR 1242	(ND)|ND	21	10|10
AROCLOR 1248	(ND)|ND	21	10|10
AROCLOR 1254	(ND)|ND	21	10|10
AROCLOR 1260	(ND)|ND	21	10|10
AROCLOR 1262	(ND)|ND	21	10|10
AROCLOR 1268	(ND)|ND	21	10|10
AROCLOR 5432	(ND)|ND	41	21|21
AROCLOR 5442	(ND)|ND	41	21|21
AROCLOR 5460	(ND)|ND	41	21|21

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
DECACHLOROBIPHENYL	15.05|(15.60)	13.67	110|(114)	45-120
TETRACHLORO-M-XYLENE	11.21|(13.98)	13.67	82.0|(102)	10-160

Left of | is related to first column ; Right of | related to second column
Final result indicated by ( )
* Out side of QC Limit

METHOD 3550B/8082
PCBs

Client : CDM	Date Collected: 07/17/12
Project : SSFL PHASE 3	Date Received: 07/17/12
Batch No. : 12G123	Date Extracted: 07/27/12 10:40
Sample ID: SL-017-A3-SB-0.0-0.5	Date Analyzed: 07/30/12 07:11
Lab Samp ID: G123-02	Dilution Factor: 1
Lab File ID: SG28079A	Matrix : SOIL
Ext Btch ID: CPG059S	% Moisture : 5.0
Calib. Ref.: SG28073A	Instrument ID : GCT008

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
AROCLOR 1016	(ND)|ND	21	11|11
AROCLOR 1221	(ND)|ND	21	11|11
AROCLOR 1232	(ND)|ND	21	11|11
AROCLOR 1242	(ND)|ND	21	11|11
AROCLOR 1248	(ND)|ND	21	11|11
AROCLOR 1254	(400)|380	21	11|11
AROCLOR 1260	(ND)|ND	21	11|11
AROCLOR 1262	(ND)|ND	21	11|11
AROCLOR 1268	(ND)|ND	21	11|11
AROCLOR 5432	(ND)|ND	42	21|21
AROCLOR 5442	(ND)|ND	42	21|21
AROCLOR 5460	(ND)|ND	42	21|21

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
DECACHLOROBIPHENYL	(15.87)|15.63	14.03	(113)|111	45-120
TETRACHLORO-M-XYLENE	12.85|(14.76)	14.03	91.6|(105)	10-160

Left of | is related to first column ; Right of | related to second column
Final result indicated by ( )
* Out side of QC Limit

METHOD 3550B/8082
PCBs

Client : CDM	Date Collected: 07/17/12
Project : SSFL PHASE 3	Date Received: 07/17/12
Batch No. : 12G123	Date Extracted: 07/27/12 10:40
Sample ID: SL-316-A3-SB-0.0-0.5	Date Analyzed: 07/30/12 07:45
Lab Samp ID: G123-03	Dilution Factor: 1
Lab File ID: SG28080A	Matrix : SOIL
Ext Btch ID: CPG059S	% Moisture : 2.3
Calib. Ref.: SG28073A	Instrument ID : GCT008

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
AROCLOR 1016	(ND)|ND	20	10|10
AROCLOR 1221	(ND)|ND	20	10|10
AROCLOR 1232	(ND)|ND	20	10|10
AROCLOR 1242	(ND)|ND	20	10|10
AROCLOR 1248	(ND)|ND	20	10|10
AROCLOR 1254	(ND)|ND	20	10|10
AROCLOR 1260	(ND)|ND	20	10|10
AROCLOR 1262	(ND)|ND	20	10|10
AROCLOR 1268	(ND)|ND	20	10|10
AROCLOR 5432	(ND)|ND	41	20|20
AROCLOR 5442	(ND)|ND	41	20|20
AROCLOR 5460	(ND)|ND	41	20|20

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
DECACHLOROBIPHENYL	(6.07)|16.50	13.64	(118)|121*	45-120
TETRACHLORO-M-XYLENE	12.56|(14.87)	13.64	92.0|(109)	10-160

Left of | is related to first column ; Right of | related to second column
Final result indicated by ( )
* Out side of QC Limit

METHOD 3550B/8082
PCBs

Client : CDM	Date Collected: 07/17/12
Project : SSFL PHASE 3	Date Received: 07/17/12
Batch No. : 12G123	Date Extracted: 07/27/12 10:40
Sample ID: SL-014-A3-SB-0.0-0.5	Date Analyzed: 07/30/12 08:20
Lab Samp ID: G123-04	Dilution Factor: 1
Lab File ID: SG28081A	Matrix : SOIL
Ext Btch ID: CPG059S	% Moisture : 4.4
Calib. Ref.: SG28073A	Instrument ID : GCT008

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
AROCLOR 1016	(ND) | ND	21	10 | 10
AROCLOR 1221	(ND) | ND	21	10 | 10
AROCLOR 1232	(ND) | ND	21	10 | 10
AROCLOR 1242	(ND) | ND	21	10 | 10
AROCLOR 1248	(ND) | ND	21	10 | 10
AROCLOR 1254	160 | (170)	21	10 | 10
AROCLOR 1260	(ND) | ND	21	10 | 10
AROCLOR 1262	(ND) | ND	21	10 | 10
AROCLOR 1268	(ND) | ND	21	10 | 10
AROCLOR 5432	(ND) | ND	42	21 | 21
AROCLOR 5442	(ND) | ND	42	21 | 21
AROCLOR 5460	(ND) | ND	42	21 | 21

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
DECACHLOROBIPHENYL	(14.91) | 9.347	13.94	(107) | 67.0	45-120
TETRACHLORO-M-XYLENE	12.34 | (12.96)	13.94	88.5 | (93.0)	10-160

Left of | is related to first column ; Right of | related to second column
Final result indicated by ( )
* Out side of QC Limit

METHOD 3550B/8082
PCBs

Client : CDM	Date Collected: 07/17/12
Project : SSFL PHASE 3	Date Received: 07/17/12
Batch No. : 12G123	Date Extracted: 07/27/12 10:40
Sample ID: SL-015-A3-SB-0.0-0.5	Date Analyzed: 07/30/12 08:54
Lab Samp ID: G123-05	Dilution Factor: 1
Lab File ID: SG28082A	Matrix : SOIL
Ext Btch ID: CPG059S	% Moisture : 3.6
Calib. Ref.: SG28073A	Instrument ID : GCT008

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
AROCLOR 1016	(ND)|ND	21	10|10
AROCLOR 1221	(ND)|ND	21	10|10
AROCLOR 1232	(ND)|ND	21	10|10
AROCLOR 1242	(ND)|ND	21	10|10
AROCLOR 1248	(ND)|ND	21	10|10
AROCLOR 1254	(ND)|ND	21	10|10
AROCLOR 1260	(ND)|ND	21	10|10
AROCLOR 1262	(ND)|ND	21	10|10
AROCLOR 1268	(ND)|ND	21	10|10
AROCLOR 5432	(ND)|ND	41	21|21
AROCLOR 5442	(ND)|ND	41	21|21
AROCLOR 5460	(ND)|ND	41	21|21

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
DECACHLOROBIPHENYL	(16.56)|17.06	13.83	(120)|123*	45-120
TETRACHLORO-M-XYLENE	13.48|(15.42)	13.83	97.5|(111)	10-160

Left of | is related to first column ; Right of | related to second column
Final result indicated by ( )
* Out side of QC Limit

METHOD 3550B/8082
PCBs

Client : CDM	Date Collected: 07/17/12
Project : SSFL PHASE 3	Date Received: 07/17/12
Batch No. : 12G123	Date Extracted: 07/27/12 10:40
Sample ID: SL-011-A3-SB-0.0-0.5	Date Analyzed: 07/30/12 09:28
Lab Samp ID: G123-06	Dilution Factor: 1
Lab File ID: SG28083A	Matrix : SOIL
Ext Btch ID: CPG059S	% Moisture : 6.1
Calib. Ref.: SG28073A	Instrument ID : GCT008

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
AROCLOR 1016	(ND) | ND	21	11 | 11
AROCLOR 1221	(ND) | ND	21	11 | 11
AROCLOR 1232	(ND) | ND	21	11 | 11
AROCLOR 1242	(ND) | ND	21	11 | 11
AROCLOR 1248	(ND) | ND	21	11 | 11
AROCLOR 1254	(91) | 87	21	11 | 11
AROCLOR 1260	62 | (45)	21	11 | 11
AROCLOR 1262	(ND) | ND	21	11 | 11
AROCLOR 1268	(ND) | ND	21	11 | 11
AROCLOR 5432	(ND) | ND	43	21 | 21
AROCLOR 5442	(ND) | ND	43	21 | 21
AROCLOR 5460	(42J) | 38J	43	21 | 21

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
DECACHLOROBIPHENYL	15.88 | (16.25)	14.20	112 | (114)	45-120
TETRACHLORO-M-XYLENE	13.63 | (15.87)	14.20	96.0 | (112)	10-160

Left of | is related to first column ; Right of | related to second column
Final result indicated by ( )
* Out side of QC Limit

METHOD 3550B/8082
PCBs

Client : CDM	Date Collected: 07/17/12
Project : SSFL PHASE 3	Date Received: 07/17/12
Batch No. : 12G123	Date Extracted: 07/27/12 10:40
Sample ID: SL-012-A3-SB-0.0-0.5	Date Analyzed: 07/30/12 10:03
Lab Samp ID: G123-07	Dilution Factor: 1
Lab File ID: SG28084A	Matrix : SOIL
Ext Btch ID: CPG059S	% Moisture : 4.2
Calib. Ref.: SG28073A	Instrument ID : GCT008

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
AROCLOR 1016	(ND)|ND	21	10|10
AROCLOR 1221	(ND)|ND	21	10|10
AROCLOR 1232	(ND)|ND	21	10|10
AROCLOR 1242	(ND)|ND	21	10|10
AROCLOR 1248	(ND)|ND	21	10|10
AROCLOR 1254	(ND)|ND	21	10|10
AROCLOR 1260	(70)|64	21	10|10
AROCLOR 1262	(ND)|ND	21	10|10
AROCLOR 1268	(ND)|ND	21	10|10
AROCLOR 5432	(ND)|ND	42	21|21
AROCLOR 5442	(ND)|ND	42	21|21
AROCLOR 5460	(56)|51	42	21|21

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
DECACHLOROBIPHENYL	(14.84)|14.62	13.91	(107)|105	45-120
TETRACHLORO-M-XYLENE	12.93|(15.05)	13.91	92.9|(108)	10-160

Left of | is related to first column ; Right of | related to second column
Final result indicated by ( )
* Out side of QC Limit

METHOD 3550B/8082
PCBs

Client : CDM	Date Collected: 07/17/12
Project : SSFL PHASE 3	Date Received: 07/17/12
Batch No. : 12G123	Date Extracted: 07/27/12 10:40
Sample ID: SL-013-A3-SB-0.0-0.5	Date Analyzed: 07/30/12 10:37
Lab Samp ID: G123-08	Dilution Factor: 1
Lab File ID: SG28085A	Matrix : SOIL
Ext Btch ID: CPG059S	% Moisture : 5.2
Calib. Ref.: SG28073A	Instrument ID : GCT008

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
AROCLOR 1016	(ND)|ND	21	11|11
AROCLOR 1221	(ND)|ND	21	11|11
AROCLOR 1232	(ND)|ND	21	11|11
AROCLOR 1242	(ND)|ND	21	11|11
AROCLOR 1248	(ND)|ND	21	11|11
AROCLOR 1254	34|(37)	21	11|11
AROCLOR 1260	27J|(19J)	21	11|11
AROCLOR 1262	(ND)|ND	21	11|11
AROCLOR 1268	(ND)|ND	21	11|11
AROCLOR 5432	(ND)|ND	42	21|21
AROCLOR 5442	(ND)|ND	42	21|21
AROCLOR 5460	(ND)|ND	42	21|21

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
DECACHLOROBIPHENYL	16.31|(16.40)	14.06	116|(117)	45-120
TETRACHLORO-M-XYLENE	12.91|(14.91)	14.06	91.8|(106)	10-160

Left of | is related to first column ; Right of | related to second column
Final result indicated by ( )
* Out side of QC Limit

METHOD 3550B/8082
PCBs

Client : CDM	Date Collected: NA
Project : SSFL PHASE 3	Date Received: 07/27/12
Batch No. : 12G123	Date Extracted: 07/27/12 10:40
Sample ID: MBLK1S	Date Analyzed: 07/29/12 19:46
Lab Samp ID: 60G059SB	Dilution Factor: 1
Lab File ID: SG28059A	Matrix : SOIL
Ext Btch ID: CPG059S	% Moisture : NA
Calib. Ref.: SG28056A	Instrument ID : GCT008

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
AROCLOR 1016	(ND)|ND	20	10|10
AROCLOR 1221	(ND)|ND	20	10|10
AROCLOR 1232	(ND)|ND	20	10|10
AROCLOR 1242	(ND)|ND	20	10|10
AROCLOR 1248	(ND)|ND	20	10|10
AROCLOR 1254	(ND)|ND	20	10|10
AROCLOR 1260	(ND)|ND	20	10|10
AROCLOR 1262	(ND)|ND	20	10|10
AROCLOR 1268	(ND)|ND	20	10|10
AROCLOR 5432	(ND)|ND	40	20|20
AROCLOR 5442	(ND)|ND	40	20|20
AROCLOR 5460	(ND)|ND	40	20|20

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
DECACHLOROBIPHENYL	(15.46)|15.41	13.33	(116)|116	45-120
TETRACHLORO-M-XYLENE	12.09|(14.04)	13.33	90.7|(105)	10-160

Left of | is related to first column ; Right of | related to second column
Final result indicated by ( )
* Out side of QC Limit

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: CDM
PROJECT: SSFL PHASE 3
BATCH NO.: 12G123
METHOD: METHOD 3550B/8082

MATRIX: SOIL % MOISTURE: NA
DILUTION FACTOR: 1 1 1
SAMPLE ID: MBLK1S
LAB SAMP ID: 60G059SB 60G059SL 60G059SC
LAB FILE ID: SG28059A SG28060A SG28061A
DATE EXTRACTED: 07/27/1210:40 07/27/1210:40 07/27/1210:40 DATE COLLECTED: NA
DATE ANALYZED: 07/29/1219:46 07/29/1220:20 07/29/1220:55 DATE RECEIVED: 07/27/12
PREP. BATCH: CPG059S CPG059S CPG059S
CALIB. REF: SG28056A SG28056A SG28056A

ACCESSION:

PARAMETER	BLNK RSLT (ug/kg)	SPIKE AMT (ug/kg)	BS RSLT (ug/kg)	BS % REC	SPIKE AMT (ug/kg)	BSD RSLT (ug/kg)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Aroclor 1016	(ND)|ND	167	(161)|161	(97)|97	167	(166)|165	(100)|99	(3)|2	50-130	50
Aroclor 1260	(ND)|ND	167	159|(177)	95|(106)	167	167|(184)	100|(110)	5|(4)	60-150	50
Aroclor 5460	(ND)|ND	83.3	(102)|92.6	(122)|111	83.3	(94.1)|91.8	(113)|110	(8)|1	50-150	50

SURROGATE PARAMETER	SPIKE AMT (ug/kg)	BS RSLT (ug/kg)	BS % REC	SPIKE AMT (ug/kg)	BSD RSLT (ug/kg)	BSD % REC	QC LIMIT (%)
Decachlorobiphenyl	13.33	(15.10)|15.04	(113)|113	13.33	(15.26)|15.17	(114)|114	45-120
Tetrachloro-m-xylene	13.33	11.86|(13.42)	89.0|(101)	13.33	11.90|(13.53)	89.3|(102)	10-160

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: CDM
PROJECT: SSFL PHASE 3
BATCH NO.: 12G123
METHOD: METHOD 3550B/8082

MATRIX: SOIL % MOISTURE: 2.5

DILUTION FACTOR:	1	1	1		
SAMPLE ID:	SL-016-A3-SB-0.0-0.5				
LAB SAMP ID:	G123-01	G123-01M	G123-01S		
LAB FILE ID:	SG28076A	SG28077A	SG28078A		
DATE EXTRACTED:	07/27/1210:40	07/27/1210:40	07/27/1210:40	DATE COLLECTED:	07/17/12
DATE ANALYZED:	07/30/1205:28	07/30/1206:02	07/30/1206:37	DATE RECEIVED:	07/17/12
PREP. BATCH:	CPG059S	CPG059S	CPG059S		
CALIB. REF:	SG28073A	SG28073A	SG28073A		

ACCESSION:

PARAMETER	SMPL RSLT (ug/kg)	SPIKE AMT (ug/kg)	MS RSLT (ug/kg)	MS % REC	SPIKE AMT (ug/kg)	MSD RSLT (ug/kg)	MSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Aroclor 1016	(ND)|ND	171	(174)|158	(102)|92	171	179|(181)	105|(106)	3|(14)	20-160	50
Aroclor 1260	(ND)|ND	171	(191)|188	(112)|110	171	(196)|192	(115)|112	(3)|2	20-160	50
Aroclor 5460	(ND)|ND	85.5	(112)|105	(131)|123	85.5	(116)|109	(136)|128	(4)|4	20-160	50

SURROGATE PARAMETER	SPIKE AMT (ug/kg)	MS RSLT (ug/kg)	MS % REC	SPIKE AMT (ug/kg)	MSD RSLT (ug/kg)	MSD % REC	QC LIMIT (%)
Decachlorobiphenyl	13.67	(15.97)|16.57	(117)|121*	13.67	(16.20)|16.89	(119)|124*	45-120
Tetrachloro-m-xylene	13.67	12.15|(14.69)	88.8|(107)	13.67	12.63|(15.30)	92.4|(112)	10-160

METHOD 6020
METALS BY ICP-MS

Client	: CDM	Date Collected	: 07/17/12
Project	: SSFL PHASE 3	Date Received	: 07/17/12
SDG NO.	: 12G123	Date Extracted	: 07/24/12 17:00
Sample ID	: SL-016-A3-SB-0.0-0.5	Date Analyzed	: 08/01/12 19:52
Lab Samp ID	: G123-01	Dilution Factor	: 0.990
Lab File ID	: 98H01058	Matrix	: SOIL
Ext Btch ID	: IMG031S	% Moisture	: 2.5
Calib. Ref.	: 98H01050	Instrument ID	: T-I98

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Aluminum	19000	102	12.2
Antimony	0.203J	0.508	0.102
Arsenic	6.28	0.508	0.203
Barium	119	0.508	0.203
Beryllium	0.708	0.508	0.0508
Boron	4.00J	5.08	2.54
Cadmium	0.400J	0.508	0.0508
Calcium	3680	20.3	10.2
Chromium	25.5	0.508	0.203
Cobalt	8.43	0.508	0.0508
Copper	13.3	0.508	0.203
Iron	24300	102	10.2
Lead	10.3	0.508	0.102
Magnesium	6090	10.2	5.08
Manganese	344	0.508	0.254
Molybdenum	0.740	0.508	0.0508
Nickel	16.4	0.508	0.203
Potassium	4680	102	30.5
Selenium	ND	0.508	0.203
Silver	0.399J	0.508	0.0508
Sodium	113	102	50.8
Strontium	24.8	0.508	0.254
Thallium	0.313J	0.406	0.0508
Tin	ND	10.2	5.08
Titanium	957	1.02	0.508
Vanadium	43.7	0.508	0.0508
Zinc	75.6	5.08	1.52
Lithium	25.6	2.03	1.02
Phosphorus	453	12.2	6.09
Zirconium	ND	5.08	2.54

METHOD 6020
METALS BY ICP-MS

Client	: CDM	Date Collected	: 07/17/12
Project	: SSFL PHASE 3	Date Received	: 07/17/12
SDG NO.	: 12G123	Date Extracted	: 07/24/12 17:00
Sample ID	: SL-017-A3-SB-0.0-0.5	Date Analyzed	: 08/01/12 20:01
Lab Samp ID	: G123-02	Dilution Factor	: 1.00
Lab File ID	: 98H01060	Matrix	: SOIL
Ext Btch ID	: IMG031S	% Moisture	: 5.0
Calib. Ref.	: 98H01050	Instrument ID	: T-I98

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Aluminum	16600	105	12.6
Antimony	0.258J	0.526	0.105
Arsenic	4.22	0.526	0.211
Barium	86.5	0.526	0.211
Beryllium	0.549	0.526	0.0526
Boron	6.69	5.26	2.63
Cadmium	0.319J	0.526	0.0526
Calcium	8550	21.1	10.5
Chromium	25.2	0.526	0.211
Cobalt	6.86	0.526	0.0526
Copper	10.6	0.526	0.211
Iron	22800	105	10.5
Lead	18.8	0.526	0.105
Magnesium	6520	10.5	5.26
Manganese	313	0.526	0.263
Molybdenum	0.470J	0.526	0.0526
Nickel	12.6	0.526	0.211
Potassium	4490	105	31.6
Selenium	0.276J	0.526	0.211
Silver	ND	0.526	0.0526
Sodium	96.9J	105	52.6
Strontium	30.7	0.526	0.263
Thallium	0.243J	0.421	0.0526
Tin	ND	10.5	5.26
Titanium	674	1.05	0.526
Vanadium	46.7	0.526	0.0526
Zinc	67.6	5.26	1.58
Lithium	25.0	2.11	1.05
Phosphorus	620	12.6	6.32
Zirconium	ND	5.26	2.63

METHOD 6020
METALS BY ICP-MS

Client : CDM	Date Collected: 07/17/12
Project : SSFL PHASE 3	Date Received: 07/17/12
SDG NO. : 12G123	Date Extracted: 07/24/12 17:00
Sample ID: SL-316-A3-SB-0.0-0.5	Date Analyzed: 08/01/12 20:20
Lab Samp ID: G123-03	Dilution Factor: 0.995
Lab File ID: 98H01064	Matrix : SOIL
Ext Btch ID: IMG031S	% Moisture : 2.3
Calib. Ref.: 98H01062	Instrument ID : T-I98

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Aluminum	20200	102	12.2
Antimony	0.267J	0.509	0.102
Arsenic	6.28	0.509	0.204
Barium	127	0.509	0.204
Beryllium	0.751	0.509	0.0509
Boron	3.73J	5.09	2.55
Cadmium	0.402J	0.509	0.0509
Calcium	3510	20.4	10.2
Chromium	26.9	0.509	0.204
Cobalt	8.73	0.509	0.0509
Copper	13.5	0.509	0.204
Iron	24900	102	10.2
Lead	11.4	0.509	0.102
Magnesium	5970	10.2	5.09
Manganese	365	0.509	0.255
Molybdenum	0.824	0.509	0.0509
Nickel	17.1	0.509	0.204
Potassium	4920	102	30.6
Selenium	ND	0.509	0.204
Silver	0.274J	0.509	0.0509
Sodium	113	102	50.9
Strontium	26.0	0.509	0.255
Thallium	0.318J	0.407	0.0509
Tin	ND	10.2	5.09
Titanium	1020	1.02	0.509
Vanadium	46.3	0.509	0.0509
Zinc	76.9	5.09	1.53
Lithium	26.3	2.04	1.02
Phosphorus	436	12.2	6.11
Zirconium	2.65J	5.09	2.55

METHOD 6020
METALS BY ICP-MS

Client	: CDM	Date Collected	: 07/17/12
Project	: SSFL PHASE 3	Date Received	: 07/17/12
SDG NO.	: 12G123	Date Extracted	: 07/24/12 17:00
Sample ID	: SL-014-A3-SB-0.0-0.5	Date Analyzed	: 08/01/12 20:24
Lab Samp ID	: G123-04	Dilution Factor	: 0.962
Lab File ID	: 98H01065	Matrix	: SOIL
Ext Btch ID	: IMG031S	% Moisture	: 4.4
Calib. Ref.	: 98H01062	Instrument ID	: T-I98

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Aluminum	14200	101	12.1
Antimony	0.293J	0.503	0.101
Arsenic	4.48	0.503	0.201
Barium	85.9	0.503	0.201
Beryllium	0.453J	0.503	0.0503
Boron	3.15J	5.03	2.52
Cadmium	0.395J	0.503	0.0503
Calcium	5070	20.1	10.1
Chromium	18.0	0.503	0.201
Cobalt	5.58	0.503	0.0503
Copper	21.5	0.503	0.201
Iron	18900	101	10.1
Lead	11.2	0.503	0.101
Magnesium	4280	10.1	5.03
Manganese	215	0.503	0.252
Molybdenum	0.448J	0.503	0.0503
Nickel	12.1	0.503	0.201
Potassium	2940	101	30.2
Selenium	ND	0.503	0.201
Silver	0.107J	0.503	0.0503
Sodium	110	101	50.3
Strontium	29.2	0.503	0.252
Thallium	0.209J	0.403	0.0503
Tin	ND	10.1	5.03
Titanium	793	1.01	0.503
Vanadium	33.4	0.503	0.0503
Zinc	148	5.03	1.51
Lithium	20.3	2.01	1.01
Phosphorus	428	12.1	6.04
Zirconium	ND	5.03	2.52

METHOD 6020
METALS BY ICP-MS

Client : CDM	Date Collected: 07/17/12
Project : SSFL PHASE 3	Date Received: 07/17/12
SDG NO. : 12G123	Date Extracted: 07/24/12 17:00
Sample ID: SL-015-A3-SB-0.0-0.5	Date Analyzed: 08/01/12 20:29
Lab Samp ID: G123-05	Dilution Factor: 0.980
Lab File ID: 98H01066	Matrix : SOIL
Ext Btch ID: IMG031S	% Moisture : 3.6
Calib. Ref.: 98H01062	Instrument ID : T-I98

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Aluminum	19000	102	12.2
Antimony	0.177J	0.508	0.102
Arsenic	5.22	0.508	0.203
Barium	110	0.508	0.203
Beryllium	0.581	0.508	0.0508
Boron	2.89J	5.08	2.54
Cadmium	0.359J	0.508	0.0508
Calcium	3530	20.3	10.2
Chromium	21.4	0.508	0.203
Cobalt	6.47	0.508	0.0508
Copper	17.3	0.508	0.203
Iron	20600	102	10.2
Lead	11.3	0.508	0.102
Magnesium	4970	10.2	5.08
Manganese	285	0.508	0.254
Molybdenum	0.394J	0.508	0.0508
Nickel	13.0	0.508	0.203
Potassium	3290	102	30.5
Selenium	ND	0.508	0.203
Silver	0.134J	0.508	0.0508
Sodium	84.5J	102	50.8
Strontium	27.8	0.508	0.254
Thallium	0.243J	0.407	0.0508
Tin	ND	10.2	5.08
Titanium	837	1.02	0.508
Vanadium	39.3	0.508	0.0508
Zinc	84.4	5.08	1.52
Lithium	20.2	2.03	1.02
Phosphorus	283	12.2	6.10
Zirconium	ND	5.08	2.54

METHOD 6020
METALS BY ICP-MS

Client : CDM	Date Collected: 07/17/12
Project : SSFL PHASE 3	Date Received: 07/17/12
SDG NO. : 12G123	Date Extracted: 07/24/12 17:00
Sample ID: SL-011-A3-SB-0.0-0.5	Date Analyzed: 08/01/12 20:33
Lab Samp ID: G123-06	Dilution Factor: 0.976
Lab File ID: 98H01067	Matrix : SOIL
Ext Btch ID: IMG031S	% Moisture : 6.1
Calib. Ref.: 98H01062	Instrument ID : T-I98

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Aluminum	18100	104	12.5
Antimony	0.229J	0.520	0.104
Arsenic	4.63	0.520	0.208
Barium	109	0.520	0.208
Beryllium	0.577	0.520	0.0520
Boron	ND	5.20	2.60
Cadmium	0.568	0.520	0.0520
Calcium	3500	20.8	10.4
Chromium	20.7	0.520	0.208
Cobalt	6.57	0.520	0.0520
Copper	11.0	0.520	0.208
Iron	19300	104	10.4
Lead	14.4	0.520	0.104
Magnesium	4330	10.4	5.20
Manganese	304	0.520	0.260
Molybdenum	0.625	0.520	0.0520
Nickel	13.5	0.520	0.208
Potassium	2650	104	31.2
Selenium	ND	0.520	0.208
Silver	0.187J	0.520	0.0520
Sodium	97.0J	104	52.0
Strontium	23.2	0.520	0.260
Thallium	0.222J	0.416	0.0520
Tin	ND	10.4	5.20
Titanium	783	1.04	0.520
Vanadium	36.3	0.520	0.0520
Zinc	198	5.20	1.56
Lithium	19.9	2.08	1.04
Phosphorus	247	12.5	6.24
Zirconium	ND	5.20	2.60

METHOD 6020
METALS BY ICP-MS

Client : CDM	Date Collected: 07/17/12
Project : SSFL PHASE 3	Date Received: 07/17/12
SDG NO. : 12G123	Date Extracted: 07/24/12 17:00
Sample ID: SL-012-A3-SB-0.0-0.5	Date Analyzed: 08/01/12 20:38
Lab Samp ID: G123-07	Dilution Factor: 0.980
Lab File ID: 98H01068	Matrix : SOIL
Ext Btch ID: IMG031S	% Moisture : 4.2
Calib. Ref.: 98H01062	Instrument ID : T-I98

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Aluminum	16100	102	12.3
Antimony	0.296J	0.511	0.102
Arsenic	4.71	0.511	0.205
Barium	99.0	0.511	0.205
Beryllium	0.569	0.511	0.0511
Boron	3.12J	5.11	2.56
Cadmium	0.794	0.511	0.0511
Calcium	15600	20.5	10.2
Chromium	22.2	0.511	0.205
Cobalt	5.69	0.511	0.0511
Copper	23.9	0.511	0.205
Iron	18500	102	10.2
Lead	18.9	0.511	0.102
Magnesium	3920	10.2	5.11
Manganese	151	0.511	0.256
Molybdenum	0.460J	0.511	0.0511
Nickel	17.7	0.511	0.205
Potassium	2270	102	30.7
Selenium	ND	0.511	0.205
Silver	0.248J	0.511	0.0511
Sodium	91.6J	102	51.1
Strontium	37.2	0.511	0.256
Thallium	0.199J	0.409	0.0511
Tin	ND	10.2	5.11
Titanium	751	1.02	0.511
Vanadium	31.2	0.511	0.0511
Zinc	314	5.11	1.53
Lithium	19.9	2.05	1.02
Phosphorus	195	12.3	6.14
Zirconium	ND	5.11	2.56

METHOD 6020
METALS BY ICP-MS

Client : CDM	Date Collected: 07/17/12
Project : SSFL PHASE 3	Date Received: 07/17/12
SDG NO. : 12G123	Date Extracted: 07/24/12 17:00
Sample ID: SL-013-A3-SB-0.0-0.5	Date Analyzed: 08/01/12 20:43
Lab Samp ID: G123-08	Dilution Factor: 0.985
Lab File ID: 98H01069	Matrix : SOIL
Ext Btch ID: IMG031S	% Moisture : 5.2
Calib. Ref.: 98H01062	Instrument ID : T-I98

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Aluminum	17300	104	12.5
Antimony	0.312J	0.520	0.104
Arsenic	5.45	0.520	0.208
Barium	99.2	0.520	0.208
Beryllium	0.704	0.520	0.0520
Boron	4.70J	5.20	2.60
Cadmium	0.478J	0.520	0.0520
Calcium	18400	20.8	10.4
Chromium	22.0	0.520	0.208
Cobalt	8.46	0.520	0.0520
Copper	12.3	0.520	0.208
Iron	22200	104	10.4
Lead	11.7	0.520	0.104
Magnesium	5000	10.4	5.20
Manganese	342	0.520	0.260
Molybdenum	0.392J	0.520	0.0520
Nickel	14.3	0.520	0.208
Potassium	3670	104	31.2
Selenium	ND	0.520	0.208
Silver	0.148J	0.520	0.0520
Sodium	78.5J	104	52.0
Strontium	46.9	0.520	0.260
Thallium	0.249J	0.416	0.0520
Tin	ND	10.4	5.20
Titanium	691	1.04	0.520
Vanadium	43.4	0.520	0.0520
Zinc	109	5.20	1.56
Lithium	18.8	2.08	1.04
Phosphorus	314	12.5	6.23
Zirconium	ND	5.20	2.60

METHOD 6020
METALS BY ICP-MS

Client : CDM	Date Collected: NA
Project : SSFL PHASE 3	Date Received: 07/24/12
SDG NO. : 12G123	Date Extracted: 07/24/12 17:00
Sample ID: MBLK1S	Date Analyzed: 08/01/12 19:25
Lab Samp ID: IMG031SB	Dilution Factor: 1
Lab File ID: 98H01052	Matrix : SOIL
Ext Btch ID: IMG031S	% Moisture : NA
Calib. Ref.: 98H01050	Instrument ID : T-I98

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Aluminum	ND	100	12.0
Antimony	ND	0.500	0.100
Arsenic	ND	0.500	0.200
Barium	ND	0.500	0.200
Beryllium	ND	0.500	0.0500
Boron	ND	5.00	2.50
Cadmium	ND	0.500	0.0500
Calcium	ND	20.0	10.0
Chromium	ND	0.500	0.200
Cobalt	ND	0.500	0.0500
Copper	ND	0.500	0.200
Iron	ND	100	10.0
Lead	ND	0.500	0.100
Magnesium	ND	10.0	5.00
Manganese	ND	0.500	0.250
Molybdenum	ND	0.500	0.0500
Nickel	ND	0.500	0.200
Potassium	ND	100	30.0
Selenium	ND	0.500	0.200
Silver	ND	0.500	0.0500
Sodium	ND	100	50.0
Strontium	ND	0.500	0.250
Thallium	ND	0.400	0.0500
Tin	ND	10.0	5.00
Titanium	ND	1.00	0.500
Vanadium	ND	0.500	0.0500
Zinc	ND	5.00	1.50
Lithium	ND	2.00	1.00
Phosphorus	ND	12.0	6.00
Zirconium	ND	5.00	2.50

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: CDM
PROJECT: SSFL PHASE 3
SDG NO.: 12G123
METHOD: METHOD 6020

MATRIX: SOIL % MOISTURE: NA
DILTN FACTR: 1 1 1
SAMPLE ID: MBLK1S
CONTROL NO.: IMG031SB IMG031SL IMG031SC
LAB FILE ID: 98H01052 98H01070 98H01071
DATIME EXTRCTD: 07/24/1217:00 07/24/1217:00 07/24/1217:00 DATE COLLECTED: NA
DATIME ANALYZD: 08/01/1219:25 08/01/1220:47 08/01/1220:52 DATE RECEIVED: 07/24/12
PREP. BATCH: IMG031S IMG031S IMG031S
CALIB. REF: 98H01050 98H01062 98H01062

ACCESSION:

PARAMETER	BLNK RSLT mg/kg	SPIKE AMT mg/kg	BS RSLT mg/kg	BS % REC	SPIKE AMT mg/kg	BSD RSLT mg/kg	BSD % REC	RPD %	QC LIMIT %	MAX RPD %
Aluminum	ND	2500	2630	105	2500	2650	106	1	80-120	20
Antimony	ND	25.0	23.7	95	25.0	24.1	96	2	80-120	20
Arsenic	ND	25.0	24.3	97	25.0	24.6	98	1	80-120	20
Barium	ND	25.0	24.2	97	25.0	24.3	97	1	80-120	20
Beryllium	ND	25.0	23.7	95	25.0	23.9	96	1	80-120	20
Boron	ND	25.0	23.8	95	25.0	24.5	98	3	80-120	20
Cadmium	ND	25.0	23.4	94	25.0	23.8	95	2	80-120	20
Calcium	ND	2500	2550	102	2500	2520	101	1	80-120	20
Chromium	ND	25.0	23.6	94	25.0	23.7	95	0	80-120	20
Cobalt	ND	25.0	24.3	97	25.0	24.2	97	1	80-120	20
Copper	ND	25.0	23.4	93	25.0	23.1	92	1	80-120	20
Iron	ND	2500	2560	102	2500	2510	100	2	80-120	20
Lead	ND	25.0	23.9	96	25.0	24.4	97	2	80-120	20
Magnesium	ND	2500	2570	103	2500	2610	104	1	80-120	20
Manganese	ND	25.0	24.3	97	25.0	24.4	98	0	80-120	20
Molybdenum	ND	25.0	24.0	96	25.0	24.0	96	0	80-120	20
Nickel	ND	25.0	23.4	94	25.0	23.2	93	1	80-120	20
Potassium	ND	2500	2670	107	2500	2670	107	0	80-120	20
Selenium	ND	25.0	23.0	92	25.0	23.3	93	1	80-120	20
Silver	ND	25.0	24.5	98	25.0	24.3	97	1	80-120	20
Sodium	ND	2500	2510	100	2500	2510	100	0	80-120	20
Strontium	ND	25.0	24.7	99	25.0	24.7	99	0	80-120	20
Thallium	ND	25.0	23.8	95	25.0	24.4	98	3	80-120	20
Tin	ND	25.0	26.3	105	25.0	26.6	106	1	80-120	20
Titanium	ND	25.0	24.7	99	25.0	24.6	98	1	80-120	20
Vanadium	ND	25.0	23.9	96	25.0	23.7	95	1	80-120	20
Zinc	ND	50.0	46.9	94	50.0	46.8	94	0	80-120	20
Lithium	ND	25.0	24.6	98	25.0	24.8	99	1	80-120	20
Phosphorus	ND	250	243	97	250	244	97	0	80-120	20
Zirconium	ND	25.0	24.8	99	25.0	25.3	101	2	80-120	20

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: CDM
PROJECT: SSFL PHASE 3
SDG NO.: 12G123
METHOD: METHOD 6020

MATRIX: SOIL % MOISTURE: 2.5

DILTN FACTR:	0.990	0.995	0.971		
SAMPLE ID:	SL-016-A3-SB-0.0-0.5				
CONTROL NO.:	G123-01	G123-01M	G123-01S		
LAB FILE ID:	98H01058	98H01055	98H01056		
DATIME EXTRCTD:	07/24/1217:00	07/24/1217:00	07/24/1217:00	DATE COLLECTED:	07/17/12
DATIME ANALYZD:	08/01/1219:52	08/01/1219:39	08/01/1219:43	DATE RECEIVED:	07/17/12
PREP. BATCH:	IMG031S	IMG031S	IMG031S		
CALIB. REF:	98H01050	98H01050	98H01050		

ACCESSION:

PARAMETER	SMPL RSLT mg/kg	SPIKE AMT mg/kg	MS RSLT mg/kg	MS % REC	SPIKE AMT mg/kg	MSD RSLT mg/kg	MSD % REC	RPD %	QC LIMIT %	MAX RPD %
Aluminum	19000	2550	19500	20*	2490	21000	81	7	75-125	20
Antimony	0.203J	25.5	17.4	67*	24.9	17.3	69*	1	75-125	20
Arsenic	6.28	25.5	28.5	87	24.9	28.9	91	1	75-125	20
Barium	119	25.5	143	93	24.9	150	125	5	75-125	20
Beryllium	0.708	25.5	24.0	91	24.9	23.3	91	3	75-125	20
Boron	4.00J	25.5	25.9	86	24.9	25.5	86	1	75-125	20
Cadmium	0.400J	25.5	23.5	91	24.9	23.5	93	0	75-125	20
Calcium	3680	2550	5910	88	2490	6010	94	2	75-125	20
Chromium	25.5	25.5	45.1	77	24.9	46.8	85	4	75-125	20
Cobalt	8.43	25.5	29.4	82	24.9	29.4	84	0	75-125	20
Copper	13.3	25.5	33.2	78	24.9	33.4	81	1	75-125	20
Iron	24300	2550	25700	53*	2490	26900	105	5	75-125	20
Lead	10.3	25.5	33.7	92	24.9	32.7	90	3	75-125	20
Magnesium	6090	2550	8060	77	2490	8320	90	3	75-125	20
Manganese	344	25.5	359	59*	24.9	375	124	4	75-125	20
Molybdenum	0.740	25.5	24.0	91	24.9	24.1	94	0	75-125	20
Nickel	16.4	25.5	35.8	76	24.9	36.5	81	2	75-125	20
Potassium	4680	2550	7000	91	2490	7150	99	2	75-125	20
Selenium	ND	25.5	22.1	87	24.9	21.7	87	2	75-125	20
Silver	0.399J	25.5	24.5	94	24.9	24.5	97	0	75-125	20
Sodium	113	2550	2340	87	2490	2350	90	0	75-125	20
Strontium	24.8	25.5	48.7	94	24.9	49.7	100	2	75-125	20
Thallium	0.313J	25.5	24.0	93	24.9	23.5	93	2	75-125	20
Tin	ND	25.5	27.3	107	24.9	27.4	110	1	75-125	20
Titanium	957	25.5	929	-111*	24.9	967	40*	4	75-125	20
Vanadium	43.7	25.5	62.7	74*	24.9	66.0	89	5	75-125	20
Zinc	75.6	51.0	127	101	49.8	128	105	0	75-125	20
Lithium	25.6	25.5	51.5	102	24.9	51.1	103	1	75-125	20
Phosphorus	453	255	666	84	249	676	89	1	75-125	20
Zirconium	ND	25.5	12.6	49*	24.9	14.2	57*	12	75-125	20

EMAX QUALITY CONTROL DATA
ANALYTICAL SPIKE ANALYSIS

CLIENT: CDM
PROJECT: SSFL PHASE 3
SDG NO.: 12G123
METHOD: METHOD 6020

MATRIX: SOIL % MOISTURE: 2.5
DILTN FACTR: 0.990 0.990
SAMPLE ID: SL-016-A3-SB-0.0-0.5
CONTROL NO.: G123-01 G123-01A
LAB FILE ID: 98H01058 98H01057
DATIME EXTRCTD: 07/24/1217:00 07/24/1217:00 DATE COLLECTED: 07/17/12
DATIME ANALYZD: 08/01/1219:52 08/01/1219:48 DATE RECEIVED: 07/17/12
PREP. BATCH: IMG031S IMG031S
CALIB. REF: 98H01050 98H01050

ACCESSION:

PARAMETER	SMPL RSLT (mg/kg)	SPIKE AMT (mg/kg)	AS RSLT (mg/kg)	AS % REC	QC LIMIT (%)
Aluminum	19000	2540	21000	78	75-125
Antimony	0.203J	25.4	24.3	95	75-125
Arsenic	6.28	25.4	29.2	90	75-125
Barium	119	25.4	142	90	75-125
Beryllium	0.708	25.4	23.5	90	75-125
Boron	4.00J	25.4	27.1	91	75-125
Cadmium	0.400J	25.4	23.7	92	75-125
Calcium	3680	2540	6000	92	75-125
Chromium	25.5	25.4	46.4	82	75-125
Cobalt	8.43	25.4	29.1	82	75-125
Copper	13.3	25.4	33.1	78	75-125
Iron	24300	2540	25700	53*	75-125
Lead	10.3	25.4	33.7	92	75-125
Magnesium	6090	2540	8450	93	75-125
Manganese	344	25.4	356	47*	75-125
Molybdenum	0.740	25.4	25.1	96	75-125
Nickel	16.4	25.4	36.3	78	75-125
Potassium	4680	2540	7150	97	75-125
Selenium	ND	25.4	22.4	88	75-125
Silver	0.399J	25.4	24.3	94	75-125
Sodium	113	2540	2470	93	75-125
Strontium	24.8	25.4	47.5	90	75-125
Thallium	0.313J	25.4	24.0	93	75-125
Tin	ND	25.4	27.6	109	75-125
Titanium	957	25.4	955	-6*	75-125
Vanadium	43.7	25.4	64.9	83	75-125
Zinc	75.6	50.8	122	92	75-125
Lithium	25.6	25.4	50.0	96	75-125
Phosphorus	453	254	687	92	75-125
Zirconium	ND	25.4	25.2	99	75-125

EMAX QUALITY CONTROL DATA
SERIAL DILUTION ANALYSIS

CLIENT: CDM
PROJECT: SSFL PHASE 3
BATCH NO.: 12G123
METHOD: METHOD 6020

MATRIX: SOIL % MOISTURE: 2.5

DILUTION FACTOR:	0.990	4.95
SAMPLE ID:	SL-016-A3-SB-0	SL-016-A3-SB-0
EMAX SAMP ID:	G123-01	G123-01J
LAB FILE ID:	98H01058	98H01059
DATE EXTRACTED:	07/24/1217:00	07/24/1217:00
DATE ANALYZED:	08/01/1219:52	08/01/1219:57
PREP. BATCH:	IMG031S	IMG031S
CALIB. REF:	98H01050	98H01050

DATE COLLECTED: 07/17/12
DATE RECEIVED: 07/17/12

ACCESSION:

PARAMETER	SMPL RSLT (mg/kg)	SERIAL DIL RSLT (mg/kg)	DIF RSLT %	QC LIMIT (%)
Aluminum	19000	19400	2	10
Antimony	0.203J	ND	NA	10
Arsenic	6.28	6.28	0	10
Barium	119	109	8	10
Beryllium	0.708	0.655J	NA	10
Boron	4.00J	ND	NA	10
Cadmium	0.400J	0.361J	NA	10
Calcium	3680	3740	2	10
Chromium	25.5	26.5	4	10
Cobalt	8.43	9.02	7	10
Copper	13.3	14.4	8	10
Iron	24300	25200	4	10
Lead	10.3	10.0	2	10
Magnesium	6090	6250	3	10
Manganese	344	366	6	10
Molybdenum	0.740	0.711J	NA	10
Nickel	16.4	17.6	7	10
Potassium	4680	4760	2	10
Selenium	ND	ND	0	10
Silver	0.399J	0.403J	NA	10
Sodium	113	ND	NA	10
Strontium	24.8	23.2	6	10
Thallium	0.313J	0.311J	NA	10
Tin	ND	ND	0	10
Titanium	957	1000	5	10
Vanadium	43.7	44.9	3	10
Zinc	75.6	74.8	1	10
Lithium	25.6	22.7	11*	10
Phosphorus	453	452	0	10
Zirconium	ND	ND	0	10

METHOD 7471A
MERCURY BY COLD VAPOR

Client : CDM
Project : SSFL PHASE 3
Batch No. : 12G123

Matrix : SOIL
Instrument ID : TI047

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/kg)	DLF	MOIST	RL (mg/kg)	MDL (mg/kg)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1S	HGG029SB	ND	1	NA	0.100	0.0500	07/26/1210:33	07/25/1216:15	M47G024010	M47G024008	HGG029S	NA	07/25/12
LCS1S	HGG029SL	0.830	1	NA	0.100	0.0500	07/26/1210:36	07/25/1216:15	M47G024011	M47G024008	HGG029S	NA	07/25/12
LCD1S	HGG029SC	0.837	1	NA	0.100	0.0500	07/26/1210:38	07/25/1216:15	M47G024012	M47G024008	HGG029S	NA	07/25/12
SL-016-A3-SB-0.0-0.5AS	G123-01A	0.865	1.00	2.5	0.103	0.0513	07/26/1210:40	07/25/1216:15	M47G024013	M47G024008	HGG029S	07/17/12	07/17/12
SL-016-A3-SB-0.0-0.5	G123-01	ND	1.00	2.5	0.103	0.0513	07/26/1210:42	07/25/1216:15	M47G024014	M47G024008	HGG029S	07/17/12	07/17/12
SL-016-A3-SB-0.0-0.5DL	G123-01J	ND	5.01	2.5	0.514	0.257	07/26/1210:44	07/25/1216:15	M47G024015	M47G024008	HGG029S	07/17/12	07/17/12
SL-016-A3-SB-0.0-0.5MS	G123-01M	0.908	0.997	2.5	0.102	0.0511	07/26/1210:46	07/25/1216:15	M47G024016	M47G024008	HGG029S	07/17/12	07/17/12
SL-016-A3-SB-0.0-0.5MSD	G123-01S	0.889	0.992	2.5	0.102	0.0509	07/26/1210:48	07/25/1216:15	M47G024017	M47G024008	HGG029S	07/17/12	07/17/12
SL-017-A3-SB-0.0-0.5	G123-02	ND	0.993	5.0	0.105	0.0523	07/26/1210:50	07/25/1216:15	M47G024018	M47G024008	HGG029S	07/17/12	07/17/12
SL-316-A3-SB-0.0-0.5	G123-03	ND	0.988	2.3	0.101	0.0506	07/26/1210:52	07/25/1216:15	M47G024019	M47G024008	HGG029S	07/17/12	07/17/12
SL-014-A3-SB-0.0-0.5	G123-04	ND	1.00	4.4	0.105	0.0523	07/26/1210:58	07/25/1216:15	M47G024022	M47G024020	HGG029S	07/17/12	07/17/12
SL-015-A3-SB-0.0-0.5	G123-05	ND	1.00	3.6	0.104	0.0519	07/26/1211:01	07/25/1216:15	M47G024023	M47G024020	HGG029S	07/17/12	07/17/12
SL-011-A3-SB-0.0-0.5	G123-06	0.0639J	0.992	6.1	0.106	0.0528	07/26/1211:03	07/25/1216:15	M47G024024	M47G024020	HGG029S	07/17/12	07/17/12
SL-012-A3-SB-0.0-0.5	G123-07	0.0875J	0.998	4.2	0.104	0.0521	07/26/1211:05	07/25/1216:15	M47G024025	M47G024020	HGG029S	07/17/12	07/17/12
SL-013-A3-SB-0.0-0.5	G123-08	ND	0.990	5.2	0.104	0.0522	07/26/1211:07	07/25/1216:15	M47G024026	M47G024020	HGG029S	07/17/12	07/17/12

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: CDM
PROJECT: SSFL PHASE 3
SDG NO.: 12G123
METHOD: 7471A

MATRIX: SOIL % MOISTURE: NA
DILTN FACTR: 1 1 1
SAMPLE ID: MBLK1S
CONTROL NO.: HGG029SB HGG029SL HGG029SC
LAB FILE ID: M47G024010 M47G024011 M47G024012
DATIME EXTRCTD: 07/25/1216:15 07/25/1216:15 07/25/1216:15 DATE COLLECTED: NA
DATIME ANALYZD: 07/26/1210:33 07/26/1210:36 07/26/1210:38 DATE RECEIVED: 07/25/12
PREP. BATCH: HGG029S HGG029S HGG029S
CALIB. REF: M47G024008 M47G024008 M47G024008

ACCESSION:

PARAMETER	BLNK RSLT mg/kg	SPIKE AMT mg/kg	BS RSLT mg/kg	BS % REC	SPIKE AMT mg/kg	BSD RSLT mg/kg	BSD % REC	RPD %	QC LIMIT %	MAX RPD %
Mercury	ND	.833	.83	100	.833	.837	100	1	85-120	20

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: CDM
PROJECT: SSFL PHASE 3
SDG NO.: 12G123
METHOD: 7471A

MATRIX: SOIL % MOISTURE: 2.5
DILTN FACTR: 1.00 0.997 0.992
SAMPLE ID: SL-016-A3-SB-0.0-0.5
CONTROL NO.: G123-01 G123-01M G123-01S
LAB FILE ID: M47G024014 M47G024016 M47G024017
DATIME EXTRCTD: 07/25/1216:15 07/25/1216:15 07/25/1216:15 DATE COLLECTED: 07/17/12
DATIME ANALYZD: 07/26/1210:42 07/26/1210:46 07/26/1210:48 DATE RECEIVED: 07/17/12
PREP. BATCH: HGG029S HGG029S HGG029S
CALIB. REF: M47G024008 M47G024008 M47G024008

ACCESSION:

PARAMETER	SMPL RSLT mg/kg	SPIKE AMT mg/kg	MS RSLT mg/kg	MS % REC	SPIKE AMT mg/kg	MSD RSLT mg/kg	MSD % REC	RPD %	QC LIMIT %	MAX RPD %
Mercury	ND	.852	.908	107	.848	.889	105	2	65-135	20

EMAX QUALITY CONTROL DATA
ANALYTICAL SPIKE ANALYSIS

CLIENT: CDM
PROJECT: SSFL PHASE 3
SDG NO.: 12G123
METHOD: 7471A

MATRIX:	SOIL		% MOISTURE:	2.5
DILTN FACTR:	1.00	1.00		
SAMPLE ID:	SL-016-A3-SB-0.0-0.5			
CONTROL NO.:	G123-01	G123-01A		
LAB FILE ID:	M47G024014	M47G024013		
DATIME EXTRCTD:	07/25/1216:15	07/25/1216:15	DATE COLLECTED:	07/17/12
DATIME ANALYZD:	07/26/1210:42	07/26/1210:40	DATE RECEIVED:	07/17/12
PREP. BATCH:	HGG029S	HGG029S		
CALIB. REF:	M47G024008	M47G024008		

ACCESSION:

PARAMETER	SMPL RSLT (mg/kg)	SPIKE AMT (mg/kg)	AS RSLT (mg/kg)	AS % REC	QC LIMIT (%)
Mercury	ND	.854	.865	101	85-115

EMAX QUALITY CONTROL DATA
SERIAL DILUTION ANALYSIS

CLIENT: CDM
PROJECT: SSFL PHASE 3
BATCH NO.: 12G123
METHOD: 7471A

MATRIX: SOIL % MOISTURE: 2.5

DILUTION FACTOR:	1.00	5.01		
SAMPLE ID:	SL-016-A3-SB-0.0-0.5	SL-016-A3-SB-0.0-0.		
EMAX SAMP ID:	G123-01	G123-01J		
LAB FILE ID:	M47G024014	M47G024015		
DATE EXTRACTED:	07/25/1216:15	07/25/1216:15	DATE COLLECTED:	07/17/12
DATE ANALYZED:	07/26/1210:42	07/26/1210:44	DATE RECEIVED:	07/17/12
PREP. BATCH:	HGG029S	HGG029S		
CALIB. REF:	M47G024008	M47G024008		

ACCESSION:

PARAMETER	SMPL RSLT (mg/kg)	SERIAL DIL RSLT (mg/kg)	DIF RSLT %	QC LIMIT (%)
Mercury	ND	ND	0	10

METHOD 6850
PERCHLORATE

Client : CDM
Project : SSFL PHASE 3
Batch No. : 12G123

Matrix : SOIL
Instrument ID : G0

SAMPLE ID	EMAX SAMPLE ID	RESULTS (ug/kg)	DLF	MOIST	RL (ug/kg)	MDL (ug/kg)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1S	PLG005SB	ND	1	NA	5.00	2.50	07/24/1213:30	07/23/1210:44	MG24014	MG24013	PLG005S	NA	07/23/12
LCD1S	PLG005SC	26.6	1	NA	5.00	2.50	07/24/1214:04	07/23/1210:44	MG24016	MG24013	PLG005S	NA	07/23/12
LCS1S	PLG005SX	25.9	1	NA	5.00	2.50	07/24/1214:18	07/23/1210:44	MG24017	MG24013	PLG005S	NA	07/23/12
SL-014-A3-SB-0.0-0.5	G123-04	ND	1	4.4	5.23	2.62	07/24/1214:35	07/23/1210:44	MG24018	MG24013	PLG005S	07/17/1210:35	07/17/12
SL-015-A3-SB-0.0-0.5	G123-05	ND	1	3.6	5.19	2.59	07/24/1214:49	07/23/1210:44	MG24019	MG24013	PLG005S	07/17/1209:55	07/17/12
SL-011-A3-SB-0.0-0.5	G123-06	ND	1	6.1	5.32	2.66	07/24/1215:04	07/23/1210:44	MG24020	MG24013	PLG005S	07/17/1212:35	07/17/12
SL-012-A3-SB-0.0-0.5	G123-07	ND	1	4.2	5.22	2.61	07/24/1215:18	07/23/1210:44	MG24021	MG24013	PLG005S	07/17/1213:20	07/17/12
SL-013-A3-SB-0.0-0.5	G123-08	ND	1	5.2	5.27	2.64	07/24/1215:32	07/23/1210:44	MG24022	MG24013	PLG005S	07/17/1214:05	07/17/12

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: CDM
PROJECT: SSFL PHASE 3
BATCH NO.: 12G123
METHOD: METHOD 6850

MATRIX:	SOIL			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1S				
LAB SAMP ID:	PLG005SB	PLG005SC	PLG005SX		
LAB FILE ID:	MG24014	MG24016	MG24017		
DATE EXTRACTED:	07/23/1210:44	07/23/1210:44	07/23/1210:44	DATE COLLECTED:	NA
DATE ANALYZED:	07/24/1213:30	07/24/1214:04	07/24/1214:18	DATE RECEIVED:	07/23/12
PREP. BATCH:	PLG005S	PLG005S	PLG005S		
CALIB. REF:	MG24013	MG24013	MG24013		

ACCESSION:

PARAMETER	BLNK RSLT (ug/kg)	SPIKE AMT (ug/kg)	BS RSLT (ug/kg)	BS % REC	SPIKE AMT (ug/kg)	BSD RSLT (ug/kg)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Perchlorate	ND	25.0	26.6	106	25.0	25.9	104	3	85-115	20

SAMPLE DELIVERY GROUP

12G140

METHOD 3520C/8270C SIM
SEMI VOLATILE ORGANICS BY GC/MS SIM

Client : CDM	Date Collected: 07/18/12
Project : SSFL PHASE 3	Date Received: 07/18/12
Batch No. : 12G140	Date Extracted: 07/23/12 14:45
Sample ID: EB-071812	Date Analyzed: 07/25/12 15:48
Lab Samp ID: G140-04	Dilution Factor: 1.02
Lab File ID: RGH522	Matrix : WATER
Ext Btch ID: SVG037W	% Moisture : NA
Calib. Ref.: RFH072	Instrument ID : T-OE7

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ACENAPHTHENE	0.15J	0.20	0.10
ACENAPHTHYLENE	ND	0.20	0.10
ANTHRACENE	ND	0.20	0.10
BENZO(A)ANTHRACENE	ND	0.20	0.10
BENZO(A)PYRENE	ND	0.20	0.10
BENZO(B)FLUORANTHENE	ND	0.20	0.10
BENZO(K)FLUORANTHENE	ND	0.20	0.10
BENZO(G,H,I)PERYLENE	ND	0.20	0.10
CHRYSENE	ND	0.20	0.10
DIBENZO(A,H)ANTHRACENE	ND	0.20	0.10
FLUORANTHENE	ND	0.20	0.10
FLUORENE	ND	0.20	0.10
INDENO(1,2,3-CD)PYRENE	ND	0.20	0.10
NAPHTHALENE	0.17J	0.20	0.10
PHENANTHRENE	ND	0.20	0.10
2-METHYLNAPHTHALENE	ND	0.20	0.10
1-METHYLNAPHTHALENE	ND	0.20	0.10
N-NITROSODIMETHYLAMINE	ND	1.0	0.10
PYRENE	ND	0.20	0.10
AZOBENZENE	ND	1.0	0.10
BENZO(E)PYRENE	ND	0.20	0.10
BIPHENYL	ND	2.0	0.51

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
NITROBENZENE-D5	15.9	20.40	78.0	40-130
2-FLUOROBIPHENYL	14.6	20.40	71.7	45-130
TERPHENYL-D14	19.8	20.40	96.9	45-135

METHOD 3520C/8270C SIM
SEMI VOLATILE ORGANICS BY GC/MS SIM

Client : CDM	Date Collected: NA
Project : SSFL PHASE 3	Date Received: 07/23/12
Batch No. : 12G140	Date Extracted: 07/23/12 14:45
Sample ID: MBLK1W	Date Analyzed: 07/25/12 13:17
Lab Samp ID: SVG037WB	Dilution Factor: 1
Lab File ID: RGH514	Matrix : WATER
Ext Btch ID: SVG037W	% Moisture : NA
Calib. Ref.: RFH072	Instrument ID : T-OE7

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ACENAPHTHENE	ND	0.20	0.10
ACENAPHTHYLENE	ND	0.20	0.10
ANTHRACENE	ND	0.20	0.10
BENZO(A)ANTHRACENE	ND	0.20	0.10
BENZO(A)PYRENE	ND	0.20	0.10
BENZO(B)FLUORANTHENE	ND	0.20	0.10
BENZO(K)FLUORANTHENE	ND	0.20	0.10
BENZO(G,H,I)PERYLENE	ND	0.20	0.10
CHRYSENE	ND	0.20	0.10
DIBENZO(A,H)ANTHRACENE	ND	0.20	0.10
FLUORANTHENE	ND	0.20	0.10
FLUORENE	ND	0.20	0.10
INDENO(1,2,3-CD)PYRENE	ND	0.20	0.10
NAPHTHALENE	ND	0.20	0.10
PHENANTHRENE	ND	0.20	0.10
2-METHYLNAPHTHALENE	ND	0.20	0.10
1-METHYLNAPHTHALENE	ND	0.20	0.10
N-NITROSODIMETHYLAMINE	ND	1.0	0.10
PYRENE	ND	0.20	0.10
AZOBENZENE	ND	1.0	0.10
BENZO(E)PYRENE	ND	0.20	0.10
BIPHENYL	ND	2.0	0.50

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
NITROBENZENE-D5	14.9	20.00	74.4	40-130
2-FLUOROBIPHENYL	14.1	20.00	70.7	45-130
TERPHENYL-D14	18.6	20.00	93.1	45-130

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: CDM
PROJECT: SSFL PHASE 3
BATCH NO.: 12G140
METHOD: METHOD 3520C/8270C SIM

MATRIX:	WATER			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1W				
LAB SAMP ID:	SVG037WB	SVG037WL	SVG037WC		
LAB FILE ID:	RGH514	RGH515	RGH516		
DATE EXTRACTED:	07/23/1214:45	07/23/1214:45	07/23/1214:45	DATE COLLECTED:	NA
DATE ANALYZED:	07/25/1213:17	07/25/1213:35	07/25/1213:54	DATE RECEIVED:	07/23/12
PREP. BATCH:	SVG037W	SVG037W	SVG037W		
CALIB. REF:	RFH072	RFH072	RFH072		

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Acenaphthene	ND	40.0	35.1	88	40.0	28.6	72	20	20-130	30
Acenaphthylene	ND	40.0	36.8	92	40.0	30.0	75	20	30-140	30
Anthracene	ND	40.0	33.4	83	40.0	31.3	78	6	40-130	30
Benzo(a)anthracene	ND	40.0	35.3	88	40.0	34.0	85	4	50-130	30
Benzo(a)pyrene	ND	40.0	36.7	92	40.0	35.2	88	4	50-130	30
Benzo(b)fluoranthene	ND	40.0	40.0	100	40.0	37.3	93	7	50-130	30
Benzo(k)fluoranthene	ND	40.0	35.0	88	40.0	34.9	87	0	50-130	30
Benzo(g,h,i)perylene	ND	40.0	37.6	94	40.0	36.4	91	3	30-150	30
Chrysene	ND	40.0	33.9	85	40.0	32.8	82	4	50-130	30
Dibenzo(a,h)anthracene	ND	40.0	39.7	99	40.0	38.4	96	3	40-140	30
Fluoranthene	ND	40.0	36.7	92	40.0	35.2	88	4	40-130	30
Fluorene	ND	40.0	37.1	93	40.0	32.2	80	14	10-150	30
Indeno(1,2,3-cd)pyrene	ND	40.0	39.3	98	40.0	38.0	95	3	40-130	30
Naphthalene	ND	40.0	31.9	80	40.0	25.8	64	21	20-130	30
Phenanthrene	ND	40.0	33.8	84	40.0	31.7	79	6	40-130	30
2-Methylnaphthalene	ND	40.0	33.7	84	40.0	26.8	67	23	30-150	30
1-Methylnaphthalene	ND	40.0	34.3	86	40.0	27.1	68	24	40-150	30
N-Nitrosodimethylamine	ND	40.0	27.7	69	40.0	22.4	56	21	20-150	30
Pyrene	ND	40.0	36.0	90	40.0	34.7	87	4	40-130	30
Azobenzene	ND	40.0	34.6	86	40.0	31.0	77	11	30-150	30
Benzo(e)pyrene	ND	40.0	36.7	92	40.0	37.8	95	3	30-150	30
Biphenyl	ND	40.0	33.0	83	40.0	28.1	70	16	30-150	30

SURROGATE PARAMETER	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	QC LIMIT (%)
Nitrobenzene-d5	20.0	15.5	77	20.0	13.1	65	40-130
2-Fluorobiphenyl	20.0	15.2	76	20.0	12.6	63	45-130
Terphenyl-d14	20.0	18.9	94	20.0	18.9	94	45-130

METHOD 3550B/8270C SIM
SEMI VOLATILE ORGANICS BY GC/MS SIM

Client : CDM	Date Collected: 07/18/12
Project : SSFL PHASE 3	Date Received: 07/18/12
Batch No. : 12G140	Date Extracted: 07/29/12 15:25
Sample ID: SL-001-A3-SB-0.0-0.5	Date Analyzed: 07/31/12 18:27
Lab Samp ID: G140-01	Dilution Factor: 1
Lab File ID: RGJ384	Matrix : SOIL
Ext Btch ID: SVG054S	% Moisture : 1.9
Calib. Ref.: RGJ007	Instrument ID : T-OE4

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
ACENAPHTHENE	ND	10	2.5
ACENAPHTHYLENE	ND	10	2.5
ANTHRACENE	ND	10	2.5
BENZO(A)ANTHRACENE	ND	10	2.5
BENZO(A)PYRENE	3.1J	10	2.5
BENZO(B)FLUORANTHENE	6.1J	10	2.5
BENZO(K)FLUORANTHENE	ND	10	2.5
BENZO(G,H,I)PERYLENE	5.6J	10	2.5
CHRYSENE	ND	10	2.5
DIBENZO(A,H)ANTHRACENE	ND	10	2.5
FLUORANTHENE	4.1J	10	2.5
FLUORENE	ND	10	2.5
INDENO(1,2,3-CD)PYRENE	ND	10	2.5
NAPHTHALENE	ND	10	2.5
PHENANTHRENE	ND	10	2.5
2-METHYLNAPHTHALENE	ND	10	2.5
1-METHYLNAPHTHALENE	ND	10	2.5
N-NITROSODIMETHYLAMINE	ND	10	2.5
PYRENE	5.1J	10	2.5
AZOBENZENE	ND	5.1	2.5
BENZO(E)PYRENE	4.8J	5.1	2.5
BIPHENYL	ND	5.1	2.5

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
NITROBENZENE-D5	224	339.8	65.9	40-130
2-FLUOROBIPHENYL	191	339.8	56.3	45-130
TERPHENYL-D14	244	339.8	72.0	45-135

METHOD 3550B/8270C SIM
SEMI VOLATILE ORGANICS BY GC/MS SIM

Client : CDM	Date Collected: 07/18/12
Project : SSFL PHASE 3	Date Received: 07/18/12
Batch No. : 12G140	Date Extracted: 07/29/12 15:25
Sample ID: SL-002-A3-SB-0.0-0.5	Date Analyzed: 07/31/12 18:47
Lab Samp ID: G140-02	Dilution Factor: 1
Lab File ID: RGJ385	Matrix : SOIL
Ext Btch ID: SVG054S	% Moisture : 2.4
Calib. Ref.: RGJ007	Instrument ID : T-OE4

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
ACENAPHTHENE	ND	10	2.6
ACENAPHTHYLENE	ND	10	2.6
ANTHRACENE	ND	10	2.6
BENZO(A)ANTHRACENE	ND	10	2.6
BENZO(A)PYRENE	3.2J	10	2.6
BENZO(B)FLUORANTHENE	6.3J	10	2.6
BENZO(K)FLUORANTHENE	ND	10	2.6
BENZO(G,H,I)PERYLENE	5.5J	10	2.6
CHRYSENE	ND	10	2.6
DIBENZO(A,H)ANTHRACENE	ND	10	2.6
FLUORANTHENE	4.5J	10	2.6
FLUORENE	ND	10	2.6
INDENO(1,2,3-CD)PYRENE	3.1J	10	2.6
NAPHTHALENE	ND	10	2.6
PHENANTHRENE	ND	10	2.6
2-METHYLNAPHTHALENE	ND	10	2.6
1-METHYLNAPHTHALENE	ND	10	2.6
N-NITROSODIMETHYLAMINE	ND	10	2.6
PYRENE	5.0J	10	2.6
AZOBENZENE	ND	5.1	2.6
BENZO(E)PYRENE	4.8J	5.1	2.6
BIPHENYL	ND	5.1	2.6

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
NITROBENZENE-D5	156	341.5	45.7	40-130
2-FLUOROBIPHENYL	142	341.5	41.6*	45-130
TERPHENYL-D14	249	341.5	72.9	45-135

METHOD 3550B/8270C SIM
SEMI VOLATILE ORGANICS BY GC/MS SIM

Client : CDM	Date Collected: 07/18/12
Project : SSFL PHASE 3	Date Received: 07/18/12
Batch No. : 12G140	Date Extracted: 07/29/12 15:25
Sample ID: SL-003-A3-SB-0.0-0.5	Date Analyzed: 07/31/12 19:06
Lab Samp ID: G140-03	Dilution Factor: 1
Lab File ID: RGJ386	Matrix : SOIL
Ext Btch ID: SVG054S	% Moisture : 7.3
Calib. Ref.: RGJ007	Instrument ID : T-OE4

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
ACENAPHTHENE	ND	11	2.7
ACENAPHTHYLENE	ND	11	2.7
ANTHRACENE	ND	11	2.7
BENZO(A)ANTHRACENE	5.0J	11	2.7
BENZO(A)PYRENE	8.3J	11	2.7
BENZO(B)FLUORANTHENE	13	11	2.7
BENZO(K)FLUORANTHENE	3.5J	11	2.7
BENZO(G,H,I)PERYLENE	7.4J	11	2.7
CHRYSENE	7.5J	11	2.7
DIBENZO(A,H)ANTHRACENE	ND	11	2.7
FLUORANTHENE	15	11	2.7
FLUORENE	ND	11	2.7
INDENO(1,2,3-CD)PYRENE	5.0J	11	2.7
NAPHTHALENE	ND	11	2.7
PHENANTHRENE	7.5J	11	2.7
2-METHYLNAPHTHALENE	ND	11	2.7
1-METHYLNAPHTHALENE	ND	11	2.7
N-NITROSODIMETHYLAMINE	ND	11	2.7
PYRENE	14	11	2.7
AZOBENZENE	ND	5.4	2.7
BENZO(E)PYRENE	7.7	5.4	2.7
BIPHENYL	ND	5.4	2.7

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
NITROBENZENE-D5	126	359.5	35.1*	40-130
2-FLUOROBIPHENYL	110	359.5	30.5*	45-130
TERPHENYL-D14	179	359.5	49.7	45-135

METHOD 3550B/8270C SIM
SEMI VOLATILE ORGANICS BY GC/MS SIM

Client : CDM	Date Collected: 07/18/12
Project : SSFL PHASE 3	Date Received: 07/18/12
Batch No. : 12G140	Date Extracted: 07/29/12 15:25
Sample ID: SL-008-A3-SB-0.0-0.5	Date Analyzed: 07/31/12 19:25
Lab Samp ID: G140-05	Dilution Factor: 1
Lab File ID: RGJ387	Matrix : SOIL
Ext Btch ID: SVG054S	% Moisture : 1.0
Calib. Ref.: RGJ007	Instrument ID : T-OE4

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
ACENAPHTHENE	ND	10	2.5
ACENAPHTHYLENE	ND	10	2.5
ANTHRACENE	ND	10	2.5
BENZO(A)ANTHRACENE	ND	10	2.5
BENZO(A)PYRENE	ND	10	2.5
BENZO(B)FLUORANTHENE	3.0J	10	2.5
BENZO(K)FLUORANTHENE	ND	10	2.5
BENZO(G,H,I)PERYLENE	ND	10	2.5
CHRYSENE	ND	10	2.5
DIBENZO(A,H)ANTHRACENE	ND	10	2.5
FLUORANTHENE	2.9J	10	2.5
FLUORENE	ND	10	2.5
INDENO(1,2,3-CD)PYRENE	ND	10	2.5
NAPHTHALENE	ND	10	2.5
PHENANTHRENE	ND	10	2.5
2-METHYLNAPHTHALENE	ND	10	2.5
1-METHYLNAPHTHALENE	ND	10	2.5
N-NITROSODIMETHYLAMINE	ND	10	2.5
PYRENE	2.9J	10	2.5
AZOBENZENE	ND	5.1	2.5
BENZO(E)PYRENE	ND	5.1	2.5
BIPHENYL	ND	5.1	2.5

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
NITROBENZENE-D5	254	336.7	75.5	40-130
2-FLUOROBIPHENYL	216	336.7	64.1	45-130
TERPHENYL-D14	297	336.7	88.3	45-135

METHOD 3550B/8270C SIM
SEMI VOLATILE ORGANICS BY GC/MS SIM

Client : CDM	Date Collected: 07/18/12
Project : SSFL PHASE 3	Date Received: 07/18/12
Batch No. : 12G140	Date Extracted: 07/29/12 15:25
Sample ID: SL-010-A3-SB-0.0-0.5	Date Analyzed: 07/31/12 19:45
Lab Samp ID: G140-06	Dilution Factor: 1
Lab File ID: RGJ388	Matrix : SOIL
Ext Btch ID: SVG054S	% Moisture : 7.7
Calib. Ref.: RGJ007	Instrument ID : T-OE4

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
ACENAPHTHENE	ND	11	2.7
ACENAPHTHYLENE	ND	11	2.7
ANTHRACENE	3.7J	11	2.7
BENZO(A)ANTHRACENE	11	11	2.7
BENZO(A)PYRENE	29	11	2.7
BENZO(B)FLUORANTHENE	48	11	2.7
BENZO(K)FLUORANTHENE	8.7J	11	2.7
BENZO(G,H,I)PERYLENE	82	11	2.7
CHRYSENE	22	11	2.7
DIBENZO(A,H)ANTHRACENE	11J	11	2.7
FLUORANTHENE	23	11	2.7
FLUORENE	ND	11	2.7
INDENO(1,2,3-CD)PYRENE	56	11	2.7
NAPHTHALENE	ND	11	2.7
PHENANTHRENE	12	11	2.7
2-METHYLNAPHTHALENE	ND	11	2.7
1-METHYLNAPHTHALENE	ND	11	2.7
N-NITROSODIMETHYLAMINE	ND	11	2.7
PYRENE	21	11	2.7
AZOBENZENE	ND	5.4	2.7
BENZO(E)PYRENE	40	5.4	2.7
BIPHENYL	ND	5.4	2.7

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
NITROBENZENE-D5	194	361.1	53.8	40-130
2-FLUOROBIPHENYL	194	361.1	53.8	45-130
TERPHENYL-D14	301	361.1	83.5	45-135

METHOD 3550B/8270C SIM
SEMI VOLATILE ORGANICS BY GC/MS SIM

Client : CDM	Date Collected: 07/18/12
Project : SSFL PHASE 3	Date Received: 07/18/12
Batch No. : 12G140	Date Extracted: 07/29/12 15:25
Sample ID: SL-009-A3-SB-0.0-0.5	Date Analyzed: 07/31/12 20:04
Lab Samp ID: G140-07	Dilution Factor: 1
Lab File ID: RGJ389	Matrix : SOIL
Ext Btch ID: SVG054S	% Moisture : 4.7
Calib. Ref.: RGJ007	Instrument ID : T-OE4

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
ACENAPHTHENE	ND	10	2.6
ACENAPHTHYLENE	3.0J	10	2.6
ANTHRACENE	6.1J	10	2.6
BENZO(A)ANTHRACENE	27	10	2.6
BENZO(A)PYRENE	150	10	2.6
BENZO(B)FLUORANTHENE	220	10	2.6
BENZO(K)FLUORANTHENE	27	10	2.6
BENZO(G,H,I)PERYLENE	520	10	2.6
CHRYSENE	57	10	2.6
DIBENZO(A,H)ANTHRACENE	31	10	2.6
FLUORANTHENE	62	10	2.6
FLUORENE	ND	10	2.6
INDENO(1,2,3-CD)PYRENE	370	10	2.6
NAPHTHALENE	2.8J	10	2.6
PHENANTHRENE	30	10	2.6
2-METHYLNAPHTHALENE	3.2J	10	2.6
1-METHYLNAPHTHALENE	ND	10	2.6
N-NITROSODIMETHYLAMINE	ND	10	2.6
PYRENE	77	10	2.6
AZOBENZENE	ND	5.2	2.6
BENZO(E)PYRENE	200	5.2	2.6
BIPHENYL	ND	5.2	2.6

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
NITROBENZENE-D5	151	349.7	43.2	40-130
2-FLUOROBIPHENYL	185	349.7	52.8	45-130
TERPHENYL-D14	306	349.7	87.6	45-135

METHOD 3550B/8270C SIM
SEMI VOLATILE ORGANICS BY GC/MS SIM

Client : CDM	Date Collected: NA
Project : SSFL PHASE 3	Date Received: 07/29/12
Batch No. : 12G140	Date Extracted: 07/29/12 15:25
Sample ID: MBLK1S	Date Analyzed: 07/31/12 15:13
Lab Samp ID: SVG054SB	Dilution Factor: 1
Lab File ID: RGJ374	Matrix : SOIL
Ext Btch ID: SVG054S	% Moisture : NA
Calib. Ref.: RGJ007	Instrument ID : T-OE4

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
ACENAPHTHENE	ND	10	2.5
ACENAPHTHYLENE	ND	10	2.5
ANTHRACENE	ND	10	2.5
BENZO(A)ANTHRACENE	ND	10	2.5
BENZO(A)PYRENE	ND	10	2.5
BENZO(B)FLUORANTHENE	ND	10	2.5
BENZO(K)FLUORANTHENE	ND	10	2.5
BENZO(G,H,I)PERYLENE	ND	10	2.5
CHRYSENE	ND	10	2.5
DIBENZO(A,H)ANTHRACENE	ND	10	2.5
FLUORANTHENE	ND	10	2.5
FLUORENE	ND	10	2.5
INDENO(1,2,3-CD)PYRENE	ND	10	2.5
NAPHTHALENE	ND	10	2.5
PHENANTHRENE	ND	10	2.5
2-METHYLNAPHTHALENE	ND	10	2.5
1-METHYLNAPHTHALENE	ND	10	2.5
N-NITROSODIMETHYLAMINE	ND	10	2.5
PYRENE	ND	10	2.5
AZOBENZENE	ND	5.0	2.5
BENZO(E)PYRENE	ND	5.0	2.5
BIPHENYL	ND	5.0	2.5

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
NITROBENZENE-D5	307	333.3	92.2	40-130
2-FLUOROBIPHENYL	227	333.3	68.3	45-130
TERPHENYL-D14	298	333.3	89.5	45-130

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: CDM
PROJECT: SSFL PHASE 3
BATCH NO.: 12G140
METHOD: METHOD 3550B/8270C SIM

MATRIX: SOIL % MOISTURE: NA

DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1S				
LAB SAMP ID:	SVG054SB	SVG054SL	SVG054SC		
LAB FILE ID:	RGJ374	RGJ375	RGJ376		
DATE EXTRACTED:	07/29/1215:25	07/29/1215:25	07/29/1215:25	DATE COLLECTED:	NA
DATE ANALYZED:	07/31/1215:13	07/31/1215:32	07/31/1215:52	DATE RECEIVED:	07/29/12
PREP. BATCH:	SVG054S	SVG054S	SVG054S		
CALIB. REF:	RGJ007	RGJ007	RGJ007		

ACCESSION:

PARAMETER	BLNK RSLT (ug/kg)	SPIKE AMT (ug/kg)	BS RSLT (ug/kg)	BS % REC	SPIKE AMT (ug/kg)	BSD RSLT (ug/kg)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Acenaphthene	ND	333	248	74	333	260	78	5	10-130	50
Acenaphthylene	ND	333	267	80	333	289	87	8	20-130	50
Anthracene	ND	333	251	75	333	252	76	0	20-130	50
Benzo(a)anthracene	ND	333	292	88	333	269	81	8	30-130	50
Benzo(a)pyrene	ND	333	300	90	333	307	92	2	30-130	50
Benzo(b)fluoranthene	ND	333	315	95	333	313	94	1	40-130	50
Benzo(k)fluoranthene	ND	333	280	84	333	289	87	3	30-140	50
Benzo(g,h,i)perylene	ND	333	310	93	333	317	95	2	30-140	50
Chrysene	ND	333	293	88	333	265	79	10	30-140	50
Dibenzo(a,h)anthracene	ND	333	305	92	333	313	94	3	40-140	50
Fluoranthene	ND	333	290	87	333	264	79	10	30-130	50
Fluorene	ND	333	255	77	333	270	81	6	20-130	50
Indeno(1,2,3-cd)pyrene	ND	333	319	96	333	327	98	2	20-160	50
Naphthalene	ND	333	246	74	333	268	81	9	10-130	50
Phenanthrene	ND	333	259	78	333	264	79	2	20-130	50
2-Methylnaphthalene	ND	333	268	80	333	280	84	5	30-150	50
1-Methylnaphthalene	ND	333	263	79	333	273	82	4	30-150	50
N-Nitrosodimethylamine	ND	333	247	74	333	273	82	10	30-150	50
Pyrene	ND	333	279	84	333	254	76	9	20-150	50
Azobenzene	ND	333	321	96	333	307	92	4	30-150	50
Benzo(e)pyrene	ND	333	306	92	333	320	96	4	30-150	50
Biphenyl	ND	333	272	82	333	280	84	3	30-150	50

SURROGATE PARAMETER	SPIKE AMT (ug/kg)	BS RSLT (ug/kg)	BS % REC	SPIKE AMT (ug/kg)	BSD RSLT (ug/kg)	BSD % REC	QC LIMIT (%)
Nitrobenzene-d5	333	283	85	333	307	92	40-130
2-Fluorobiphenyl	333	225	68	333	243	73	45-130
Terphenyl-d14	333	309	93	333	288	86	45-130

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: CDM
PROJECT: SSFL PHASE 3
BATCH NO.: 12G140
METHOD: METHOD 3550B/8270C SIM

MATRIX: SOIL % MOISTURE: 1.0
DILUTION FACTOR: 1 1 1
SAMPLE ID: SL-008-A3-SB-0.0-0.5
LAB SAMP ID: G140-05 G140-05M G140-05S
LAB FILE ID: RGJ387 RGJ377 RGJ378
DATE EXTRACTED: 07/29/1215:25 07/29/1215:25 07/29/1215:25 DATE COLLECTED: 07/18/12
DATE ANALYZED: 07/31/1219:25 07/31/1216:11 07/31/1216:31 DATE RECEIVED: 07/18/12
PREP. BATCH: SVG054S SVG054S SVG054S
CALIB. REF: RGJ007 RGJ007 RGJ007

ACCESSION:

PARAMETER	SMPL RSLT (ug/kg)	SPIKE AMT (ug/kg)	MS RSLT (ug/kg)	MS % REC	SPIKE AMT (ug/kg)	MSD RSLT (ug/kg)	MSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Acenaphthene	ND	337	253	75	337	249	74	1	10-130	50
Acenaphthylene	ND	337	274	82	337	271	80	1	20-130	50
Anthracene	ND	337	254	75	337	249	74	2	20-130	50
Benzo(a)anthracene	ND	337	301	89	337	290	86	4	30-130	50
Benzo(a)pyrene	ND	337	324	96	337	302	90	7	30-130	50
Benzo(b)fluoranthene	2.95J	337	354	104	337	340	100	4	30-130	50
Benzo(k)fluoranthene	ND	337	297	88	337	281	83	6	30-130	50
Benzo(g,h,i)perylene	ND	337	336	100	337	326	97	3	30-140	50
Chrysene	ND	337	302	90	337	288	85	5	20-130	50
Dibenzo(a,h)anthracene	ND	337	327	97	337	320	95	2	30-130	50
Fluoranthene	2.90J	337	332	98	337	288	85	14	30-150	50
Fluorene	ND	337	262	78	337	268	80	2	20-130	50
Indeno(1,2,3-cd)pyrene	ND	337	346	103	337	335	99	3	20-160	50
Naphthalene	ND	337	235	70	337	248	74	5	10-130	50
Phenanthrene	ND	337	286	85	337	265	79	8	20-130	50
2-Methylnaphthalene	ND	337	263	78	337	261	77	1	30-150	50
1-Methylnaphthalene	ND	337	259	77	337	257	76	1	30-150	50
N-Nitrosodimethylamine	ND	337	231	69	337	250	74	8	20-150	50
Pyrene	2.89J	337	311	91	337	276	81	12	10-160	50
Azobenzene	ND	337	314	93	337	320	95	2	30-150	50
Benzo(e)pyrene	ND	337	309	92	337	357	106	14	30-150	50
Biphenyl	ND	337	235	70	337	282	84	18	30-150	50

SURROGATE PARAMETER	SPIKE AMT (ug/kg)	MS RSLT (ug/kg)	MS % REC	SPIKE AMT (ug/kg)	MSD RSLT (ug/kg)	MSD % REC	QC LIMIT (%)
Nitrobenzene-d5	337	276	82	337	286	85	40-130
2-Fluorobiphenyl	337	218	65	337	237	70	45-130
Terphenyl-d14	337	305	91	337	315	94	45-135

METHOD 3520C/8015B EFH
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : CDM	Date Collected: 07/18/12
Project : SSFL PHASE 3	Date Received: 07/18/12
Batch No. : 12G140	Date Extracted: 07/24/12 15:15
Sample ID: EB-071812	Date Analyzed: 07/25/12 16:52
Lab Samp ID: G140-04	Dilution Factor: 1.19
Lab File ID: LG25010A	Matrix : WATER
Ext Btch ID: DSG033W	% Moisture : NA
Calib. Ref.: LG25003A	Instrument ID : GCT105

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
EFH(C8-C11)	ND	0.12	0.060
EFH(C12-C14)	ND	0.12	0.060
EFH(C15-C20)	ND	0.12	0.060
EFH(C21-C30)	ND	0.12	0.060
EFH(C30-C40)	ND	0.12	0.060
TOTAL EFH(C8-C40)	ND	0.12	0.060

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
BROMOBENZENE	0.922	1.190	77.5	40-130
HEXACOSANE	0.296	0.2975	99.4	40-150

RL : Reporting Limit

METHOD 3520C/8015B EFH
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : CDM	Date Collected: NA
Project : SSFL PHASE 3	Date Received: 07/24/12
Batch No. : 12G140	Date Extracted: 07/24/12 15:15
Sample ID: MBLK1W	Date Analyzed: 07/25/12 16:35
Lab Samp ID: DSG033WB	Dilution Factor: 1
Lab File ID: LG25009A	Matrix : WATER
Ext Btch ID: DSG033W	% Moisture : NA
Calib. Ref.: LG25003A	Instrument ID : GCT105

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
EFH(C8-C11)	ND	0.10	0.050
EFH(C12-C14)	ND	0.10	0.050
EFH(C15-C20)	ND	0.10	0.050
EFH(C21-C30)	ND	0.10	0.050
EFH(C30-C40)	ND	0.10	0.050
TOTAL EFH(C8-C40)	ND	0.10	0.050

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
BROMOBENZENE	0.789	1.000	78.9	40-130
HEXACOSANE	0.252	0.2500	101	40-150

RL : Reporting Limit

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: CDM
PROJECT: SSFL PHASE 3
BATCH NO.: 12G140
METHOD: METHOD 3520C/8015B EFH

MATRIX: WATER % MOISTURE: NA

DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1W				
LAB SAMP ID:	DSG033WB	DSG033WL	DSG033WC		
LAB FILE ID:	LG25009A	LG25007A	LG25008A		
DATE EXTRACTED:	07/24/1215:15	07/24/1215:15	07/24/1215:15	DATE COLLECTED:	NA
DATE ANALYZED:	07/25/1216:35	07/25/1216:02	07/25/1216:18	DATE RECEIVED:	07/24/12
PREP. BATCH:	DSG033W	DSG033W	DSG033W		
CALIB. REF:	LG25003A	LG25003A	LG25003A		

ACCESSION:

PARAMETER	BLNK RSLT (mg/L)	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	SPIKE AMT (mg/L)	BSD RSLT (mg/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Total EFH(C8-C40)	ND	5.00	4.43	89	5.00	4.26	85	4	20-150	30

SURROGATE PARAMETER	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	SPIKE AMT (mg/L)	BSD RSLT (mg/L)	BSD % REC	QC LIMIT (%)
Bromobenzene	1.00	0.839	84	1.00	0.874	87	40-130
Hexacosane	0.250	0.260	104	0.250	0.269	108	40-150

METHOD 3550B/8015B EFH
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : CDM	Date Collected: 07/18/12
Project : SSFL PHASE 3	Date Received: 07/18/12
Batch No. : 12G140	Date Extracted: 07/25/12 10:52
Sample ID: SL-001-A3-SB-0.0-0.5	Date Analyzed: 07/25/12 20:13
Lab Samp ID: G140-01	Dilution Factor: 1
Lab File ID: LG25022A	Matrix : SOIL
Ext Btch ID: DSG035S	% Moisture : 1.9
Calib. Ref.: LG25015A	Instrument ID : GCT105

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
EFH(C8-C11)	ND	5.1	2.5
EFH(C12-C14)	ND	5.1	2.5
EFH(C15-C20)	ND	5.1	2.5
EFH(C21-C30)	6.0	5.1	2.5
EFH(C30-C40)	5.4J	10	5.1
TOTAL EFH(C8-C40)	11	5.1	2.5

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
BROMOBENZENE	68.6	101.9	67.3	50-150
HEXACOSANE	24.9	25.48	97.7	50-150

RL : Reporting Limit

METHOD 3550B/8015B EFH
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : CDM	Date Collected: 07/18/12
Project : SSFL PHASE 3	Date Received: 07/18/12
Batch No. : 12G140	Date Extracted: 07/25/12 10:52
Sample ID: SL-002-A3-SB-0.0-0.5	Date Analyzed: 07/25/12 20:29
Lab Samp ID: G140-02	Dilution Factor: 1
Lab File ID: LG25023A	Matrix : SOIL
Ext Btch ID: DSG035S	% Moisture : 2.4
Calib. Ref.: LG25015A	Instrument ID : GCT105

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
EFH(C8-C11)	ND	5.1	2.6
EFH(C12-C14)	ND	5.1	2.6
EFH(C15-C20)	ND	5.1	2.6
EFH(C21-C30)	27	5.1	2.6
EFH(C30-C40)	22	10	5.1
TOTAL EFH(C8-C40)	49	5.1	2.6

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
BROMOBENZENE	71.0	102.5	69.3	50-150
HEXACOSANE	25.8	25.61	101	50-150

RL : Reporting Limit

METHOD 3550B/8015B EFH
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : CDM	Date Collected: 07/18/12
Project : SSFL PHASE 3	Date Received: 07/18/12
Batch No. : 12G140	Date Extracted: 07/25/12 10:52
Sample ID: SL-003-A3-SB-0.0-0.5	Date Analyzed: 07/25/12 20:46
Lab Samp ID: G140-03	Dilution Factor: 1
Lab File ID: LG25024A	Matrix : SOIL
Ext Btch ID: DSG035S	% Moisture : 7.3
Calib. Ref.: LG25015A	Instrument ID : GCT105

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
EFH(C8-C11)	ND	5.4	2.7
EFH(C12-C14)	ND	5.4	2.7
EFH(C15-C20)	ND	5.4	2.7
EFH(C21-C30)	16	5.4	2.7
EFH(C30-C40)	18	11	5.4
TOTAL EFH(C8-C40)	34	5.4	2.7

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
BROMOBENZENE	75.6	107.9	70.1	50-150
HEXACOSANE	26.3	26.97	97.4	50-150

RL : Reporting Limit

METHOD 3550B/8015B EFH
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : CDM	Date Collected: 07/18/12
Project : SSFL PHASE 3	Date Received: 07/18/12
Batch No. : 12G140	Date Extracted: 07/25/12 10:52
Sample ID: SL-008-A3-SB-0.0-0.5	Date Analyzed: 07/25/12 22:10
Lab Samp ID: G140-05	Dilution Factor: 1
Lab File ID: LG25029A	Matrix : SOIL
Ext Btch ID: DSG035S	% Moisture : 1.0
Calib. Ref.: LG25027A	Instrument ID : GCT105

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
EFH(C8-C11)	ND	5.1	2.5
EFH(C12-C14)	ND	5.1	2.5
EFH(C15-C20)	ND	5.1	2.5
EFH(C21-C30)	ND	5.1	2.5
EFH(C30-C40)	ND	10	5.1
TOTAL EFH(C8-C40)	ND	5.1	2.5

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
BROMOBENZENE	69.2	101.0	68.5	50-150
HEXACOSANE	24.7	25.25	98.0	50-150

RL : Reporting Limit

METHOD 3550B/8015B EFH
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : CDM	Date Collected: 07/18/12
Project : SSFL PHASE 3	Date Received: 07/18/12
Batch No. : 12G140	Date Extracted: 07/25/12 10:52
Sample ID: SL-010-A3-SB-0.0-0.5	Date Analyzed: 07/25/12 21:19
Lab Samp ID: G140-06	Dilution Factor: 1
Lab File ID: LG25026A	Matrix : SOIL
Ext Btch ID: DSG035S	% Moisture : 7.7
Calib. Ref.: LG25015A	Instrument ID : GCT105

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
EFH(C8-C11)	ND	5.4	2.7
EFH(C12-C14)	ND	5.4	2.7
EFH(C15-C20)	ND	5.4	2.7
EFH(C21-C30)	22	5.4	2.7
EFH(C30-C40)	32	11	5.4
TOTAL EFH(C8-C40)	54	5.4	2.7

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
BROMOBENZENE	72.2	108.3	66.6	50-150
HEXACOSANE	26.7	27.09	98.4	50-150

RL : Reporting Limit

METHOD 3550B/8015B EFH
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : CDM	Date Collected: 07/18/12
Project : SSFL PHASE 3	Date Received: 07/18/12
Batch No. : 12G140	Date Extracted: 07/25/12 10:52
Sample ID: SL-009-A3-SB-0.0-0.5	Date Analyzed: 07/25/12 21:03
Lab Samp ID: G140-07	Dilution Factor: 1
Lab File ID: LG25025A	Matrix : SOIL
Ext Btch ID: DSG035S	% Moisture : 4.7
Calib. Ref.: LG25015A	Instrument ID : GCT105

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
EFH(C8-C11)	ND	5.2	2.6
EFH(C12-C14)	ND	5.2	2.6
EFH(C15-C20)	ND	5.2	2.6
EFH(C21-C30)	17	5.2	2.6
EFH(C30-C40)	24	10	5.2
TOTAL EFH(C8-C40)	41	5.2	2.6

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
BROMOBENZENE	73.8	104.9	70.4	50-150
HEXACOSANE	26.2	26.23	99.9	50-150

RL : Reporting Limit

METHOD 3550B/8015B EFH
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : CDM	Date Collected: NA
Project : SSFL PHASE 3	Date Received: 07/25/12
Batch No. : 12G140	Date Extracted: 07/25/12 10:52
Sample ID: MBLK1S	Date Analyzed: 07/25/12 19:56
Lab Samp ID: DSG035SB	Dilution Factor: 1
Lab File ID: LG25021A	Matrix : SOIL
Ext Btch ID: DSG035S	% Moisture : NA
Calib. Ref.: LG25015A	Instrument ID : GCT105

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
EFH(C8-C11)	ND	5.0	2.5
EFH(C12-C14)	ND	5.0	2.5
EFH(C15-C20)	ND	5.0	2.5
EFH(C21-C30)	ND	5.0	2.5
EFH(C30-C40)	ND	10	5.0
TOTAL EFH(C8-C40)	ND	5.0	2.5

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
BROMOBENZENE	78.2	100.0	78.2	50-150
HEXACOSANE	24.8	25.00	99.1	50-150

RL : Reporting Limit

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: CDM
PROJECT: SSFL PHASE 3
BATCH NO.: 12G140
METHOD: METHOD 3550B/8015B EFH

MATRIX: SOIL % MOISTURE: NA

DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1S				
LAB SAMP ID:	DSG035SB	DSG035SL	DSG035SC		
LAB FILE ID:	LG25021A	LG25019A	LG25020A		
DATE EXTRACTED:	07/25/1210:52	07/25/1210:52	07/25/1210:52	DATE COLLECTED:	NA
DATE ANALYZED:	07/25/1219:56	07/25/1219:23	07/25/1219:39	DATE RECEIVED:	07/25/12
PREP. BATCH:	DSG035S	DSG035S	DSG035S		
CALIB. REF:	LG25015A	LG25015A	LG25015A		

ACCESSION:

PARAMETER	BLNK RSLT (mg/kg)	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)	BS % REC	SPIKE AMT (mg/kg)	BSD RSLT (mg/kg)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Total EFH(C8-C40)	ND	500	444	89	500	429	86	3	50-140	50

SURROGATE PARAMETER	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)	BS % REC	SPIKE AMT (mg/kg)	BSD RSLT (mg/kg)	BSD % REC	QC LIMIT (%)
Bromobenzene	100	85.4	85	100	84.3	84	50-150
Hexacosane	25.0	25.8	103	25.0	25.5	102	50-150

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: CDM
PROJECT: SSFL PHASE 3
BATCH NO.: 12G140
METHOD: METHOD 3550B/8015B EFH

MATRIX: SOIL % MOISTURE: 1.0

DILUTION FACTOR:	1	1	1		
SAMPLE ID:	SL-008-A3-SB-0.0-0.5				
LAB SAMP ID:	G140-05	G140-05M	G140-05S		
LAB FILE ID:	LG25029A	LG25030A	LG25031A		
DATE EXTRACTED:	07/25/1210:52	07/25/1210:52	07/25/1210:52	DATE COLLECTED:	07/18/12
DATE ANALYZED:	07/25/1222:10	07/25/1222:26	07/25/1222:43	DATE RECEIVED:	07/18/12
PREP. BATCH:	DSG035S	DSG035S	DSG035S		
CALIB. REF:	LG25027A	LG25027A	LG25027A		

ACCESSION:

PARAMETER	SMPL RSLT (mg/kg)	SPIKE AMT (mg/kg)	MS RSLT (mg/kg)	MS % REC	SPIKE AMT (mg/kg)	MSD RSLT (mg/kg)	MSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Total EFH(C8-C40)	ND	505	415	82	505	386	76	7	50-150	50

SURROGATE PARAMETER	SPIKE AMT (mg/kg)	MS RSLT (mg/kg)	MS % REC	SPIKE AMT (mg/kg)	MSD RSLT (mg/kg)	MSD % REC	QC LIMIT (%)
Bromobenzene	101	83.3	82	101	75.8	75	50-150
Hexacosane	25.3	28.4	113	25.3	25.2	100	50-150

METHOD 3520C/8082
PCBs

Client : CDM	Date Collected: 07/18/12
Project : SSFL PHASE 3	Date Received: 07/18/12
Batch No. : 12G140	Date Extracted: 07/23/12 12:45
Sample ID: EB-071812	Date Analyzed: 07/29/12 15:12
Lab Samp ID: G140-04	Dilution Factor: 1.04
Lab File ID: SG28051A	Matrix : WATER
Ext Btch ID: CPG044W	% Moisture : NA
Calib. Ref.: SG28044A	Instrument ID : GCT008

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
AROCLOR 1016	(ND)|ND	1.0	0.52|0.52
AROCLOR 1221	(ND)|ND	1.0	0.52|0.52
AROCLOR 1232	(ND)|ND	1.0	0.52|0.52
AROCLOR 1242	(ND)|ND	1.0	0.52|0.52
AROCLOR 1248	(ND)|ND	1.0	0.52|0.52
AROCLOR 1254	(ND)|ND	1.0	0.52|0.52
AROCLOR 1260	(ND)|ND	1.0	0.52|0.52
AROCLOR 1262	(ND)|ND	1.0	0.52|0.52
AROCLOR 1268	(ND)|ND	1.0	0.52|0.52
AROCLOR 5432	(ND)|ND	2.1	1.0|1.0
AROCLOR 5442	(ND)|ND	2.1	1.0|1.0
AROCLOR 5460	(ND)|ND	2.1	1.0|1.0

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
DECACHLOROBIPHENYL	0.4754|(0.4771)	0.4160	114|(115)	45-120
TETRACHLORO-M-XYLENE	0.3294|(0.4170)	0.4160	79.2|(100)	30-140

Left of | is related to first column ; Right of | related to second column
Final result indicated by ( )
* Out side of QC Limit

METHOD 3520C/8082
PCBs

Client : CDM	Date Collected: NA
Project : SSFL PHASE 3	Date Received: 07/23/12
Batch No. : 12G140	Date Extracted: 07/23/12 12:45
Sample ID: MBLK1W	Date Analyzed: 07/29/12 13:30
Lab Samp ID: CPG044WB	Dilution Factor: 1
Lab File ID: SG28048A	Matrix : WATER
Ext Btch ID: CPG044W	% Moisture : NA
Calib. Ref.: SG28044A	Instrument ID : GCT008

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
AROCLOR 1016	(ND)|ND	1.0	0.50|0.50
AROCLOR 1221	(ND)|ND	1.0	0.50|0.50
AROCLOR 1232	(ND)|ND	1.0	0.50|0.50
AROCLOR 1242	(ND)|ND	1.0	0.50|0.50
AROCLOR 1248	(ND)|ND	1.0	0.50|0.50
AROCLOR 1254	(ND)|ND	1.0	0.50|0.50
AROCLOR 1260	(ND)|ND	1.0	0.50|0.50
AROCLOR 1262	(ND)|ND	1.0	0.50|0.50
AROCLOR 1268	(ND)|ND	1.0	0.50|0.50
AROCLOR 5432	(ND)|ND	2.0	1.0|1.0
AROCLOR 5442	(ND)|ND	2.0	1.0|1.0
AROCLOR 5460	(ND)|ND	2.0	1.0|1.0

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
DECACHLOROBIPHENYL	0.4646|(0.4647)	0.4000	116|(116)	45-120
TETRACHLORO-M-XYLENE	0.3419|(0.4030)	0.4000	85.5|(101)	30-140

Left of | is related to first column ; Right of | related to second column
Final result indicated by ( )
* Out side of QC Limit

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: CDM
PROJECT: SSFL PHASE 3
BATCH NO.: 12G140
METHOD: METHOD 3520C/8082

MATRIX: WATER % MOISTURE: NA
DILUTION FACTOR: 1 1 1
SAMPLE ID: MBLK1W
LAB SAMP ID: CPG044WB 60G044WX 60G044WY
LAB FILE ID: SG28048A SG28049A SG28050A
DATE EXTRACTED: 07/23/1212:45 07/23/1212:45 07/23/1212:45 DATE COLLECTED: NA
DATE ANALYZED: 07/29/1213:30 07/29/1214:04 07/29/1214:38 DATE RECEIVED: 07/23/12
PREP. BATCH: CPG044W CPG044W CPG044W
CALIB. REF: SG28044A SG28044A SG28044A

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Aroclor 1016	(ND)|ND	5.00	4.74|(4.86)	95|(97)	5.00	4.88|(5.08)	98|(102)	3|(4)	50-130	30
Aroclor 1260	(ND)|ND	5.00	5.17|(5.36)	103|(107)	5.00	5.26|(5.48)	105|(110)	2|(2)	60-150	30
Aroclor 5460	(ND)|ND	2.50	(2.83)|2.72	(113)|109	2.50	(2.96)|2.86	(118)|114	(4)|5	50-150	30

SURROGATE PARAMETER	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	QC LIMIT (%)
Decachlorobiphenyl	0.4000	0.4678|(0.4685)	117|(117)	0.4000	(0.4796)|0.4874	(120)|122*	45-120
Tetrachloro-m-xylene	0.4000	0.3527|(0.4079)	88.2|(102)	0.4000	0.3757|(0.4429)	93.9|(111)	30-140

METHOD 3550B/8082
PCBs

Client : CDM	Date Collected: 07/18/12
Project : SSFL PHASE 3	Date Received: 07/18/12
Batch No. : 12G140	Date Extracted: 07/31/12 11:10
Sample ID: SL-001-A3-SB-0.0-0.5	Date Analyzed: 08/04/12 00:34
Lab Samp ID: G140-01	Dilution Factor: 1
Lab File ID: SH03009A	Matrix : SOIL
Ext Btch ID: CPG071S	% Moisture : 1.9
Calib. Ref.: SH03003A	Instrument ID : GCT008

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
AROCLOR 1016	(ND)|ND	20	10|10
AROCLOR 1221	(ND)|ND	20	10|10
AROCLOR 1232	(ND)|ND	20	10|10
AROCLOR 1242	(ND)|ND	20	10|10
AROCLOR 1248	(ND)|ND	20	10|10
AROCLOR 1254	(ND)|ND	20	10|10
AROCLOR 1260	(ND)|ND	20	10|10
AROCLOR 1262	(ND)|ND	20	10|10
AROCLOR 1268	(ND)|ND	20	10|10
AROCLOR 5432	(ND)|ND	41	20|20
AROCLOR 5442	(ND)|ND	41	20|20
AROCLOR 5460	(ND)|ND	41	20|20

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
DECACHLOROBIPHENYL	14.26|(14.50)	13.59	105|(107)	45-120
TETRACHLORO-M-XYLENE	12.09|(15.00)	13.59	88.9|(110)	10-160

Left of | is related to first column ; Right of | related to second column
Final result indicated by ( )
* Out side of QC Limit

METHOD 3550B/8082
PCBs

Client : CDM	Date Collected: 07/18/12
Project : SSFL PHASE 3	Date Received: 07/18/12
Batch No. : 12G140	Date Extracted: 07/31/12 11:10
Sample ID: SL-002-A3-SB-0.0-0.5	Date Analyzed: 08/04/12 01:08
Lab Samp ID: G140-02	Dilution Factor: 1
Lab File ID: SH03010A	Matrix : SOIL
Ext Btch ID: CPG071S	% Moisture : 2.4
Calib. Ref.: SH03003A	Instrument ID : GCT008

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
AROCLOR 1016	(ND)|ND	20	10|10
AROCLOR 1221	(ND)|ND	20	10|10
AROCLOR 1232	(ND)|ND	20	10|10
AROCLOR 1242	(ND)|ND	20	10|10
AROCLOR 1248	(ND)|ND	20	10|10
AROCLOR 1254	42|(46)	20	10|10
AROCLOR 1260	(34)|25	20	10|10
AROCLOR 1262	(ND)|ND	20	10|10
AROCLOR 1268	(ND)|ND	20	10|10
AROCLOR 5432	(ND)|ND	41	20|20
AROCLOR 5442	(ND)|ND	41	20|20
AROCLOR 5460	(23J)|23J	41	20|20

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
DECACHLOROBIPHENYL	14.00|(14.34)	13.66	102|(105)	45-120
TETRACHLORO-M-XYLENE	11.94|(14.11)	13.66	87.5|(103)	10-160

Left of | is related to first column ; Right of | related to second column
Final result indicated by ( )
* Out side of QC Limit

METHOD 3550B/8082
PCBs

Client : CDM	Date Collected: 07/18/12
Project : SSFL PHASE 3	Date Received: 07/18/12
Batch No. : 12G140	Date Extracted: 07/31/12 11:10
Sample ID: SL-003-A3-SB-0.0-0.5	Date Analyzed: 08/04/12 01:42
Lab Samp ID: G140-03	Dilution Factor: 1
Lab File ID: SH03011A	Matrix : SOIL
Ext Btch ID: CPG071S	% Moisture : 7.3
Calib. Ref.: SH03003A	Instrument ID : GCT008

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
AROCLOR 1016	(ND)|ND	22	11|11
AROCLOR 1221	(ND)|ND	22	11|11
AROCLOR 1232	(ND)|ND	22	11|11
AROCLOR 1242	(ND)|ND	22	11|11
AROCLOR 1248	(ND)|ND	22	11|11
AROCLOR 1254	52|(65)	22	11|11
AROCLOR 1260	(33)|32	22	11|11
AROCLOR 1262	(ND)|ND	22	11|11
AROCLOR 1268	(ND)|ND	22	11|11
AROCLOR 5432	(ND)|ND	43	22|22
AROCLOR 5442	(ND)|ND	43	22|22
AROCLOR 5460	(65)|63	43	22|22

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
DECACHLOROBIPHENYL	17.48|(15.89)	14.38	122*|(111)	45-120
TETRACHLORO-M-XYLENE	12.97|(14.69)	14.38	90.2|(102)	10-160

Left of | is related to first column ; Right of | related to second column
Final result indicated by ( )
* Out side of QC Limit

METHOD 3550B/8082
PCBs

Client : CDM	Date Collected: 07/18/12
Project : SSFL PHASE 3	Date Received: 07/18/12
Batch No. : 12G140	Date Extracted: 07/31/12 11:10
Sample ID: SL-008-A3-SB-0.0-0.5	Date Analyzed: 08/04/12 02:16
Lab Samp ID: G140-05	Dilution Factor: 1
Lab File ID: SH03012A	Matrix : SOIL
Ext Btch ID: CPG071S	% Moisture : 1.0
Calib. Ref.: SH03003A	Instrument ID : GCT008

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
AROCLOR 1016	(ND)|ND	20	10|10
AROCLOR 1221	(ND)|ND	20	10|10
AROCLOR 1232	(ND)|ND	20	10|10
AROCLOR 1242	(ND)|ND	20	10|10
AROCLOR 1248	(ND)|ND	20	10|10
AROCLOR 1254	(ND)|ND	20	10|10
AROCLOR 1260	(ND)|ND	20	10|10
AROCLOR 1262	(ND)|ND	20	10|10
AROCLOR 1268	(ND)|ND	20	10|10
AROCLOR 5432	(ND)|ND	40	20|20
AROCLOR 5442	(ND)|ND	40	20|20
AROCLOR 5460	(ND)|ND	40	20|20

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
DECACHLOROBIPHENYL	(15.89)|15.49	13.46	(118)|115	45-120
TETRACHLORO-M-XYLENE	12.52|(14.35)	13.46	93.0|(107)	10-160

Left of | is related to first column ; Right of | related to second column
Final result indicated by ( )
* Out side of QC Limit

METHOD 3550B/8082
PCBs

Client : CDM	Date Collected: 07/18/12
Project : SSFL PHASE 3	Date Received: 07/18/12
Batch No. : 12G140	Date Extracted: 07/31/12 11:10
Sample ID: SL-010-A3-SB-0.0-0.5	Date Analyzed: 08/04/12 03:59
Lab Samp ID: G140-06	Dilution Factor: 1
Lab File ID: SH03015A	Matrix : SOIL
Ext Btch ID: CPG071S	% Moisture : 7.7
Calib. Ref.: SH03003A	Instrument ID : GCT008

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
AROCLOR 1016	(ND)|ND	22	11|11
AROCLOR 1221	(ND)|ND	22	11|11
AROCLOR 1232	(ND)|ND	22	11|11
AROCLOR 1242	(ND)|ND	22	11|11
AROCLOR 1248	(ND)|ND	22	11|11
AROCLOR 1254	20J|(30)	22	11|11
AROCLOR 1260	15J|(19J)	22	11|11
AROCLOR 1262	(ND)|ND	22	11|11
AROCLOR 1268	(ND)|ND	22	11|11
AROCLOR 5432	(ND)|ND	43	22|22
AROCLOR 5442	(ND)|ND	43	22|22
AROCLOR 5460	(ND)|ND	43	22|22

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
DECACHLOROBIPHENYL	15.61|(16.99)	14.44	108|(118)	45-120
TETRACHLORO-M-XYLENE	11.63|(13.53)	14.44	80.5|(93.7)	10-160

Left of | is related to first column ; Right of | related to second column
Final result indicated by ( )
* Out side of QC Limit

METHOD 3550B/8082
PCBs

Client : CDM	Date Collected: 07/18/12
Project : SSFL PHASE 3	Date Received: 07/18/12
Batch No. : 12G140	Date Extracted: 07/31/12 11:10
Sample ID: SL-009-A3-SB-0.0-0.5	Date Analyzed: 08/04/12 04:33
Lab Samp ID: G140-07	Dilution Factor: 1
Lab File ID: SH03016A	Matrix : SOIL
Ext Btch ID: CPG071S	% Moisture : 4.7
Calib. Ref.: SH03003A	Instrument ID : GCT008

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
AROCLOR 1016	(ND) | ND	21	10 | 10
AROCLOR 1221	(ND) | ND	21	10 | 10
AROCLOR 1232	(ND) | ND	21	10 | 10
AROCLOR 1242	(ND) | ND	21	10 | 10
AROCLOR 1248	(ND) | ND	21	10 | 10
AROCLOR 1254	(ND) | ND	21	10 | 10
AROCLOR 1260	(15J) | 15J	21	10 | 10
AROCLOR 1262	(ND) | ND	21	10 | 10
AROCLOR 1268	(ND) | ND	21	10 | 10
AROCLOR 5432	(ND) | ND	42	21 | 21
AROCLOR 5442	(ND) | ND	42	21 | 21
AROCLOR 5460	(ND) | ND	42	21 | 21

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
DECACHLOROBIPHENYL	(16.51) | 16.26	13.99	(118) | 116	45-120
TETRACHLORO-M-XYLENE	13.02 | (16.73)	13.99	93.1 | (120)	10-160

Left of | is related to first column ; Right of | related to second column
Final result indicated by ( )
* Out side of QC Limit

METHOD 3550B/8082
PCBs

Client : CDM	Date Collected: NA
Project : SSFL PHASE 3	Date Received: 07/31/12
Batch No. : 12G140	Date Extracted: 07/31/12 11:10
Sample ID: MBLK1S	Date Analyzed: 08/03/12 22:51
Lab Samp ID: 60G071SB	Dilution Factor: 1
Lab File ID: SH03006A	Matrix : SOIL
Ext Btch ID: CPG071S	% Moisture : NA
Calib. Ref.: SH03003A	Instrument ID : GCT008

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
AROCLOR 1016	(ND)|ND	20	10|10
AROCLOR 1221	(ND)|ND	20	10|10
AROCLOR 1232	(ND)|ND	20	10|10
AROCLOR 1242	(ND)|ND	20	10|10
AROCLOR 1248	(ND)|ND	20	10|10
AROCLOR 1254	(ND)|ND	20	10|10
AROCLOR 1260	(ND)|ND	20	10|10
AROCLOR 1262	(ND)|ND	20	10|10
AROCLOR 1268	(ND)|ND	20	10|10
AROCLOR 5432	(ND)|ND	40	20|20
AROCLOR 5442	(ND)|ND	40	20|20
AROCLOR 5460	(ND)|ND	40	20|20

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
DECACHLOROBIPHENYL	(14.14)|13.97	13.33	(106)|105	45-120
TETRACHLORO-M-XYLENE	10.86|(12.74)	13.33	81.5|(95.6)	10-160

Left of | is related to first column ; Right of | related to second column
Final result indicated by ( )
* Out side of QC Limit

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: CDM
PROJECT: SSFL PHASE 3
BATCH NO.: 12G140
METHOD: METHOD 3550B/8082

MATRIX: SOIL % MOISTURE: NA
DILUTION FACTOR: 1 1 1
SAMPLE ID: MBLK1S
LAB SAMP ID: 60G071SB 60G071SL 60G071SC
LAB FILE ID: SH03006A SH03007A SH03008A
DATE EXTRACTED: 07/31/1211:10 07/31/1211:10 07/31/1211:10 DATE COLLECTED: NA
DATE ANALYZED: 08/03/1222:51 08/03/1223:25 08/03/1223:59 DATE RECEIVED: 07/31/12
PREP. BATCH: CPG071S CPG071S CPG071S
CALIB. REF: SH03003A SH03003A SH03003A

ACCESSION:

PARAMETER	BLNK RSLT (ug/kg)	SPIKE AMT (ug/kg)	BS RSLT (ug/kg)	BS % REC	SPIKE AMT (ug/kg)	BSD RSLT (ug/kg)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Aroclor 1016	(ND)|ND	167	(151)|148	(91)|89	167	(153)|143	(92)|86	(1)|3	50-130	50
Aroclor 1260	(ND)|ND	167	139|(175)	83|(105)	167	162|(173)	97|(104)	15|(1)	60-150	50
Aroclor 5460	(ND)|ND	83.3	(92.2)|81.2	(111)|97	83.3	(90.6)|80.5	(109)|97	(2)|1	50-150	50

SURROGATE PARAMETER	SPIKE AMT (ug/kg)	BS RSLT (ug/kg)	BS % REC	SPIKE AMT (ug/kg)	BSD RSLT (ug/kg)	BSD % REC	QC LIMIT (%)
Decachlorobiphenyl	13.33	(14.14)|14.04	(106)|105	13.33	(14.38)|14.30	(108)|107	45-120
Tetrachloro-m-xylene	13.33	11.29|(12.77)	84.7|(95.8)	13.33	11.66|(13.18)	87.4|(98.9)	10-160

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: CDM
PROJECT: SSFL PHASE 3
BATCH NO.: 12G140
METHOD: METHOD 3550B/8082

MATRIX: SOIL % MOISTURE: 1.0

DILUTION FACTOR:	1	1	1		
SAMPLE ID:	SL-008-A3-SB-0.0-0.5				
LAB SAMP ID:	G140-05	G140-05M	G140-05S		
LAB FILE ID:	SH03012A	SH03013A	SH03014A		
DATE EXTRACTED:	07/31/1211:10	07/31/1211:10	07/31/1211:10	DATE COLLECTED:	07/18/12
DATE ANALYZED:	08/04/1202:16	08/04/1202:51	08/04/1203:25	DATE RECEIVED:	07/18/12
PREP. BATCH:	CPG071S	CPG071S	CPG071S		
CALIB. REF:	SH03003A	SH03003A	SH03003A		

ACCESSION:

PARAMETER	SMPL RSLT (ug/kg)	SPIKE AMT (ug/kg)	MS RSLT (ug/kg)	MS % REC	SPIKE AMT (ug/kg)	MSD RSLT (ug/kg)	MSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Aroclor 1016	(ND)|ND	168	(163)|152	(97)|90	168	(159)|140	(94)|83	(2)|8	20-160	50
Aroclor 1260	(ND)|ND	168	174|(177)	103|(105)	168	166|(170)	99|(101)	5|(4)	20-160	50
Aroclor 5460	(ND)|ND	84.2	(100)|87.7	(119)|104	84.2	(95.3)|83.1	(113)|99	(5)|5	20-160	50

SURROGATE PARAMETER	SPIKE AMT (ug/kg)	MS RSLT (ug/kg)	MS % REC	SPIKE AMT (ug/kg)	MSD RSLT (ug/kg)	MSD % REC	QC LIMIT (%)
Decachlorobiphenyl	13.46	(15.20)|14.89	(113)|111	13.46	(14.45)|14.27	(107)|106	45-120
Tetrachloro-m-xylene	13.46	11.95|(13.42)	88.8|(99.7)	13.46	11.34|(12.73)	84.2|(94.6)	10-160

METHOD 6020
METALS BY ICP-MS

Client : CDM	Date Collected: 07/18/12
Project : SSFL PHASE 3	Date Received: 07/18/12
SDG NO. : 12G140	Date Extracted: 07/25/12 14:04
Sample ID: SL-001-A3-SB-0.0-0.5	Date Analyzed: 08/02/12 18:35
Lab Samp ID: G140-01	Dilution Factor: 0.971
Lab File ID: 98H02079	Matrix : SOIL
Ext Btch ID: IMG034S	% Moisture : 1.9
Calib. Ref.: 98H02069	Instrument ID : T-I98

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Aluminum	7400	99.0	11.9
Antimony	0.168J	0.495	0.0990
Arsenic	4.06	0.495	0.198
Barium	49.4	0.495	0.198
Beryllium	0.281J	0.495	0.0495
Boron	ND	4.95	2.47
Cadmium	0.350J	0.495	0.0495
Calcium	1600	19.8	9.90
Chromium	10.6	0.495	0.198
Cobalt	4.97	0.495	0.0495
Copper	6.76	0.495	0.198
Iron	13800	99.0	9.90
Lead	8.59	0.495	0.0990
Magnesium	3160	9.90	4.95
Manganese	161	0.495	0.247
Molybdenum	0.498	0.495	0.0495
Nickel	7.86	0.495	0.198
Potassium	2010	99.0	29.7
Selenium	ND	0.495	0.198
Silver	1.24	0.495	0.0495
Sodium	75.4J	99.0	49.5
Strontium	21.2	0.495	0.247
Thallium	0.137J	0.396	0.0495
Tin	ND	9.90	4.95
Titanium	583	0.990	0.495
Vanadium	19.2	0.495	0.0495
Zinc	68.0	4.95	1.48
Lithium	16.6	1.98	0.990
Phosphorus	352	11.9	5.94
Zirconium	ND	4.95	2.47

METHOD 6020
METALS BY ICP-MS

Client : CDM	Date Collected: 07/18/12
Project : SSFL PHASE 3	Date Received: 07/18/12
SDG NO. : 12G140	Date Extracted: 07/25/12 14:04
Sample ID: SL-002-A3-SB-0.0-0.5	Date Analyzed: 08/02/12 18:54
Lab Samp ID: G140-02	Dilution Factor: 0.976
Lab File ID: 98H02083	Matrix : SOIL
Ext Btch ID: IMG034S	% Moisture : 2.4
Calib. Ref.: 98H02081	Instrument ID : T-I98

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Aluminum	8530	100	12.0
Antimony	0.243J	0.500	0.100
Arsenic	3.14	0.500	0.200
Barium	58.6	0.500	0.200
Beryllium	0.369J	0.500	0.0500
Boron	ND	5.00	2.50
Cadmium	0.672	0.500	0.0500
Calcium	1740	20.0	10.0
Chromium	12.0	0.500	0.200
Cobalt	3.25	0.500	0.0500
Copper	10.6	0.500	0.200
Iron	13500	100	10.0
Lead	17.0	0.500	0.100
Magnesium	3310	10.0	5.00
Manganese	115	0.500	0.250
Molybdenum	0.703	0.500	0.0500
Nickel	8.34	0.500	0.200
Potassium	2180	100	30.0
Selenium	ND	0.500	0.200
Silver	1.62	0.500	0.0500
Sodium	75.2J	100	50.0
Strontium	14.8	0.500	0.250
Thallium	0.164J	0.400	0.0500
Tin	ND	10.0	5.00
Titanium	634	1.00	0.500
Vanadium	20.5	0.500	0.0500
Zinc	56.1	5.00	1.50
Lithium	18.4	2.00	1.00
Phosphorus	264	12.0	6.00
Zirconium	ND	5.00	2.50

METHOD 6020
METALS BY ICP-MS

Client	: CDM	Date Collected	: 07/18/12
Project	: SSFL PHASE 3	Date Received	: 07/18/12
SDG NO.	: 12G140	Date Extracted	: 07/25/12 14:04
Sample ID	: SL-003-A3-SB-0.0-0.5	Date Analyzed	: 08/02/12 18:58
Lab Samp ID	: G140-03	Dilution Factor	: 0.966
Lab File ID	: 98H02084	Matrix	: SOIL
Ext Btch ID	: IMG034S	% Moisture	: 7.3
Calib. Ref.	: 98H02081	Instrument ID	: T-I98

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Aluminum	13300	104	12.5
Antimony	0.294J	0.521	0.104
Arsenic	5.67	0.521	0.208
Barium	113	0.521	0.208
Beryllium	0.563	0.521	0.0521
Boron	10.0	5.21	2.61
Cadmium	0.761	0.521	0.0521
Calcium	11100	20.8	10.4
Chromium	19.4	0.521	0.208
Cobalt	5.76	0.521	0.0521
Copper	12.3	0.521	0.208
Iron	19900	104	10.4
Lead	21.5	0.521	0.104
Magnesium	5920	10.4	5.21
Manganese	321	0.521	0.261
Molybdenum	0.584	0.521	0.0521
Nickel	13.4	0.521	0.208
Potassium	3720	104	31.3
Selenium	ND	0.521	0.208
Silver	1.89	0.521	0.0521
Sodium	354	104	52.1
Strontium	65.1	0.521	0.261
Thallium	0.254J	0.417	0.0521
Tin	ND	10.4	5.21
Titanium	917	1.04	0.521
Vanadium	32.1	0.521	0.0521
Zinc	94.6	5.21	1.56
Lithium	25.5	2.08	1.04
Phosphorus	401	12.5	6.25
Zirconium	ND	5.21	2.61

METHOD 6020
METALS BY ICP-MS

Client : CDM	Date Collected: 07/18/12
Project : SSFL PHASE 3	Date Received: 07/18/12
SDG NO. : 12G140	Date Extracted: 07/25/12 14:04
Sample ID: SL-008-A3-SB-0.0-0.5	Date Analyzed: 08/02/12 18:26
Lab Samp ID: G140-05	Dilution Factor: 0.980
Lab File ID: 98H02077	Matrix : SOIL
Ext Btch ID: IMG034S	% Moisture : 1.0
Calib. Ref.: 98H02069	Instrument ID : T-I98

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Aluminum	10200	99.0	11.9
Antimony	0.156J	0.495	0.0990
Arsenic	3.61	0.495	0.198
Barium	77.0	0.495	0.198
Beryllium	0.380J	0.495	0.0495
Boron	ND	4.95	2.47
Cadmium	0.182J	0.495	0.0495
Calcium	1430	19.8	9.90
Chromium	13.1	0.495	0.198
Cobalt	4.28	0.495	0.0495
Copper	6.23	0.495	0.198
Iron	14000	99.0	9.90
Lead	5.96	0.495	0.0990
Magnesium	3150	9.90	4.95
Manganese	200	0.495	0.247
Molybdenum	0.441J	0.495	0.0495
Nickel	8.38	0.495	0.198
Potassium	2580	99.0	29.7
Selenium	ND	0.495	0.198
Silver	0.0560J	0.495	0.0495
Sodium	57.4J	99.0	49.5
Strontium	13.8	0.495	0.247
Thallium	0.186J	0.396	0.0495
Tin	ND	9.90	4.95
Titanium	655	0.990	0.495
Vanadium	24.0	0.495	0.0495
Zinc	40.1	4.95	1.48
Lithium	12.4	1.98	0.990
Phosphorus	230	11.9	5.94
Zirconium	ND	4.95	2.47

METHOD 6020
METALS BY ICP-MS

Client : CDM	Date Collected: 07/18/12
Project : SSFL PHASE 3	Date Received: 07/18/12
SDG NO. : 12G140	Date Extracted: 07/25/12 14:04
Sample ID: SL-010-A3-SB-0.0-0.5	Date Analyzed: 08/02/12 19:03
Lab Samp ID: G140-06	Dilution Factor: 0.971
Lab File ID: 98H02085	Matrix : SOIL
Ext Btch ID: IMG034S	% Moisture : 7.7
Calib. Ref.: 98H02081	Instrument ID : T-I98

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Aluminum	13200	105	12.6
Antimony	0.424J	0.526	0.105
Arsenic	9.14	0.526	0.210
Barium	98.7	0.526	0.210
Beryllium	0.503J	0.526	0.0526
Boron	2.73J	5.26	2.63
Cadmium	0.414J	0.526	0.0526
Calcium	3750	21.0	10.5
Chromium	18.7	0.526	0.210
Cobalt	5.48	0.526	0.0526
Copper	10.1	0.526	0.210
Iron	17700	105	10.5
Lead	15.1	0.526	0.105
Magnesium	4090	10.5	5.26
Manganese	263	0.526	0.263
Molybdenum	0.517J	0.526	0.0526
Nickel	12.4	0.526	0.210
Potassium	2890	105	31.6
Selenium	ND	0.526	0.210
Silver	1.11	0.526	0.0526
Sodium	114	105	52.6
Strontium	22.9	0.526	0.263
Thallium	0.223J	0.421	0.0526
Tin	ND	10.5	5.26
Titanium	816	1.05	0.526
Vanadium	30.8	0.526	0.0526
Zinc	169	5.26	1.58
Lithium	21.7	2.10	1.05
Phosphorus	246	12.6	6.31
Zirconium	ND	5.26	2.63

METHOD 6020
METALS BY ICP-MS

Client : CDM	Date Collected: 07/18/12
Project : SSFL PHASE 3	Date Received: 07/18/12
SDG NO. : 12G140	Date Extracted: 07/25/12 14:04
Sample ID: SL-009-A3-SB-0.0-0.5	Date Analyzed: 08/02/12 19:08
Lab Samp ID: G140-07	Dilution Factor: 0.980
Lab File ID: 98H02086	Matrix : SOIL
Ext Btch ID: IMG034S	% Moisture : 4.7
Calib. Ref.: 98H02081	Instrument ID : T-I98

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Aluminum	9690	103	12.3
Antimony	0.261J	0.514	0.103
Arsenic	5.02	0.514	0.206
Barium	68.0	0.514	0.206
Beryllium	0.340J	0.514	0.0514
Boron	4.14J	5.14	2.57
Cadmium	0.569	0.514	0.0514
Calcium	3410	20.6	10.3
Chromium	16.0	0.514	0.206
Cobalt	4.93	0.514	0.0514
Copper	11.4	0.514	0.206
Iron	14200	103	10.3
Lead	12.0	0.514	0.103
Magnesium	3450	10.3	5.14
Manganese	201	0.514	0.257
Molybdenum	0.497J	0.514	0.0514
Nickel	11.0	0.514	0.206
Potassium	2160	103	30.8
Selenium	ND	0.514	0.206
Silver	1.40	0.514	0.0514
Sodium	182	103	51.4
Strontium	24.4	0.514	0.257
Thallium	0.188J	0.411	0.0514
Tin	ND	10.3	5.14
Titanium	644	1.03	0.514
Vanadium	23.7	0.514	0.0514
Zinc	202	5.14	1.54
Lithium	18.0	2.06	1.03
Phosphorus	286	12.3	6.17
Zirconium	ND	5.14	2.57

METHOD 6020
METALS BY ICP-MS

Client : CDM	Date Collected: NA
Project : SSFL PHASE 3	Date Received: 07/25/12
SDG NO. : 12G140	Date Extracted: 07/25/12 14:04
Sample ID: MBLK1S	Date Analyzed: 08/02/12 17:59
Lab Samp ID: IMG034SB	Dilution Factor: 1
Lab File ID: 98H02071	Matrix : SOIL
Ext Btch ID: IMG034S	% Moisture : NA
Calib. Ref.: 98H02069	Instrument ID : T-I98

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Aluminum	ND	100	12.0
Antimony	ND	0.500	0.100
Arsenic	ND	0.500	0.200
Barium	ND	0.500	0.200
Beryllium	ND	0.500	0.0500
Boron	ND	5.00	2.50
Cadmium	ND	0.500	0.0500
Calcium	ND	20.0	10.0
Chromium	ND	0.500	0.200
Cobalt	ND	0.500	0.0500
Copper	ND	0.500	0.200
Iron	ND	100	10.0
Lead	ND	0.500	0.100
Magnesium	ND	10.0	5.00
Manganese	ND	0.500	0.250
Molybdenum	ND	0.500	0.0500
Nickel	ND	0.500	0.200
Potassium	ND	100	30.0
Selenium	ND	0.500	0.200
Silver	ND	0.500	0.0500
Sodium	ND	100	50.0
Strontium	ND	0.500	0.250
Thallium	ND	0.400	0.0500
Tin	ND	10.0	5.00
Titanium	ND	1.00	0.500
Vanadium	ND	0.500	0.0500
Zinc	ND	5.00	1.50
Lithium	ND	2.00	1.00
Phosphorus	ND	12.0	6.00
Zirconium	ND	5.00	2.50

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: CDM
PROJECT: SSFL PHASE 3
SDG NO.: 12G140
METHOD: METHOD 6020

MATRIX: SOIL % MOISTURE: NA
DILTN FACTR: 1 1 1
SAMPLE ID: MBLK1S
CONTROL NO.: IMG034SB IMG034SL IMG034SC
LAB FILE ID: 98H02071 98H02072 98H02073
DATIME EXTRCTD: 07/25/1214:04 07/25/1214:04 07/25/1214:04 DATE COLLECTED: NA
DATIME ANALYZD: 08/02/1217:59 08/02/1218:04 08/02/1218:09 DATE RECEIVED: 07/25/12
PREP. BATCH: IMG034S IMG034S IMG034S
CALIB. REF: 98H02069 98H02069 98H02069

ACCESSION:

PARAMETER	BLNK RSLT mg/kg	SPIKE AMT mg/kg	BS RSLT mg/kg	BS % REC	SPIKE AMT mg/kg	BSD RSLT mg/kg	BSD % REC	RPD %	QC LIMIT %	MAX RPD %
Aluminum	ND	2500	2470	99	2500	2550	102	3	80-120	20
Antimony	ND	25.0	23.0	92	25.0	24.0	96	4	80-120	20
Arsenic	ND	25.0	22.9	92	25.0	23.5	94	3	80-120	20
Barium	ND	25.0	22.9	92	25.0	24.0	96	5	80-120	20
Beryllium	ND	25.0	21.2	85	25.0	22.5	90	6	80-120	20
Boron	ND	25.0	23.1	92	25.0	23.3	93	1	80-120	20
Cadmium	ND	25.0	23.2	93	25.0	23.7	95	2	80-120	20
Calcium	ND	2500	2450	98	2500	2550	102	4	80-120	20
Chromium	ND	25.0	21.5	86	25.0	22.4	90	4	80-120	20
Cobalt	ND	25.0	23.5	94	25.0	23.8	95	1	80-120	20
Copper	ND	25.0	21.2	85	25.0	21.7	87	2	80-120	20
Iron	ND	2500	2340	94	2500	2480	99	6	80-120	20
Lead	ND	25.0	23.1	92	25.0	23.4	94	1	80-120	20
Magnesium	ND	2500	2520	101	2500	2540	102	1	80-120	20
Manganese	ND	25.0	23.4	94	25.0	23.9	95	2	80-120	20
Molybdenum	ND	25.0	22.7	91	25.0	23.9	95	5	80-120	20
Nickel	ND	25.0	21.2	85	25.0	21.8	87	3	80-120	20
Potassium	ND	2500	2560	102	2500	2540	102	1	80-120	20
Selenium	ND	25.0	21.8	87	25.0	22.4	89	2	80-120	20
Silver	ND	25.0	24.1	97	25.0	23.8	95	1	80-120	20
Sodium	ND	2500	2410	96	2500	2450	98	2	80-120	20
Strontium	ND	25.0	22.9	92	25.0	24.2	97	5	80-120	20
Thallium	ND	25.0	24.1	96	25.0	23.6	94	2	80-120	20
Tin	ND	25.0	25.0	100	25.0	26.0	104	4	80-120	20
Titanium	ND	25.0	23.3	93	25.0	24.1	96	3	80-120	20
Vanadium	ND	25.0	22.0	88	25.0	22.5	90	2	80-120	20
Zinc	ND	50.0	45.7	91	50.0	45.4	91	1	80-120	20
Lithium	ND	25.0	23.0	92	25.0	24.2	97	5	80-120	20
Phosphorus	ND	250	230	92	250	231	92	0	80-120	20
Zirconium	ND	25.0	23.3	93	25.0	24.9	100	6	80-120	20

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: CDM
PROJECT: SSFL PHASE 3
SDG NO.: 12G140
METHOD: METHOD 6020

MATRIX: SOIL % MOISTURE: 1.0

DILTN FACTR:	0.980	0.966	0.966		
SAMPLE ID:	SL-008-A3-SB-0.0-0.5				
CONTROL NO.:	G140-05	G140-05M	G140-05S		
LAB FILE ID:	98H02077	98H02074	98H02075		
DATIME EXTRCTD:	07/25/1214:04	07/25/1214:04	07/25/1214:04	DATE COLLECTED:	07/18/12
DATIME ANALYZD:	08/02/1218:26	08/02/1218:13	08/02/1218:17	DATE RECEIVED:	07/18/12
PREP. BATCH:	IMG034S	IMG034S	IMG034S		
CALIB. REF:	98H02069	98H02069	98H02069		

ACCESSION:

PARAMETER	SMPL RSLT mg/kg	SPIKE AMT mg/kg	MS RSLT mg/kg	MS % REC	SPIKE AMT mg/kg	MSD RSLT mg/kg	MSD % REC	RPD %	QC LIMIT %	MAX RPD %
Aluminum	10200	2440	14100	160*	2440	14200	165*	1	75-125	20
Antimony	0.156J	24.4	18.7	76	24.4	18.7	76	0	75-125	20
Arsenic	3.61	24.4	25.6	90	24.4	25.9	91	1	75-125	20
Barium	77.0	24.4	105	115	24.4	106	118	1	75-125	20
Beryllium	0.380J	24.4	22.6	91	24.4	22.0	89	2	75-125	20
Boron	ND	24.4	23.6	97	24.4	23.0	94	3	75-125	20
Cadmium	0.182J	24.4	23.0	94	24.4	23.2	94	0	75-125	20
Calcium	1430	2440	3870	100	2440	3890	101	1	75-125	20
Chromium	13.1	24.4	35.0	90	24.4	35.3	91	1	75-125	20
Cobalt	4.28	24.4	26.3	90	24.4	26.4	91	0	75-125	20
Copper	6.23	24.4	26.2	82	24.4	26.2	82	0	75-125	20
Iron	14000	2440	16700	110	2440	16900	118	1	75-125	20
Lead	5.96	24.4	28.5	93	24.4	29.1	95	2	75-125	20
Magnesium	3150	2440	5630	101	2440	5660	103	1	75-125	20
Manganese	200	24.4	231	124	24.4	232	131*	1	75-125	20
Molybdenum	0.441J	24.4	23.3	94	24.4	23.5	94	1	75-125	20
Nickel	8.38	24.4	29.2	85	24.4	29.3	86	0	75-125	20
Potassium	2580	2440	5050	101	2440	5040	101	0	75-125	20
Selenium	ND	24.4	21.6	89	24.4	21.3	88	1	75-125	20
Silver	0.0560J	24.4	23.3	95	24.4	23.3	95	0	75-125	20
Sodium	57.4J	2440	2320	93	2440	2320	93	0	75-125	20
Strontium	13.8	24.4	37.5	97	24.4	37.7	98	1	75-125	20
Thallium	0.186J	24.4	22.9	93	24.4	22.9	93	0	75-125	20
Tin	ND	24.4	26.4	108	24.4	26.6	109	1	75-125	20
Titanium	655	24.4	755	410*	24.4	728	300*	4	75-125	20
Vanadium	24.0	24.4	46.4	92	24.4	46.3	91	0	75-125	20
Zinc	40.1	48.8	86.4	95	48.8	86.3	95	0	75-125	20
Lithium	12.4	24.4	39.5	111	24.4	38.4	107	3	75-125	20
Phosphorus	230	244	461	95	244	462	95	0	75-125	20
Zirconium	ND	24.4	16.5	68*	24.4	17.2	70*	4	75-125	20

EMAX QUALITY CONTROL DATA
ANALYTICAL SPIKE ANALYSIS

CLIENT: CDM
PROJECT: SSFL PHASE 3
SDG NO.: 12G140
METHOD: METHOD 6020

MATRIX: SOIL % MOISTURE: 1.0
DILTN FACTR: 0.980 0.980
SAMPLE ID: SL-008-A3-SB-0.0-0.5
CONTROL NO.: G140-05 G140-05A
LAB FILE ID: 98H02077 98H02076
DATIME EXTRCTD: 07/25/1214:04 07/25/1214:04 DATE COLLECTED: 07/18/12
DATIME ANALYZD: 08/02/1218:26 08/02/1218:22 DATE RECEIVED: 07/18/12
PREP. BATCH: IMG034S IMG034S
CALIB. REF: 98H02069 98H02069

ACCESSION:

PARAMETER	SMPL RSLT (mg/kg)	SPIKE AMT (mg/kg)	AS RSLT (mg/kg)	AS % REC	QC LIMIT (%)
Aluminum	10200	2470	12500	93	75-125
Antimony	0.156J	24.7	23.8	95	75-125
Arsenic	3.61	24.7	26.3	92	75-125
Barium	77.0	24.7	97.7	84	75-125
Beryllium	0.380J	24.7	22.1	88	75-125
Boron	ND	24.7	23.9	97	75-125
Cadmium	0.182J	24.7	23.3	93	75-125
Calcium	1430	2470	3960	102	75-125
Chromium	13.1	24.7	34.0	85	75-125
Cobalt	4.28	24.7	26.2	89	75-125
Copper	6.23	24.7	26.4	82	75-125
Iron	14000	2470	16000	78	75-125
Lead	5.96	24.7	28.5	91	75-125
Magnesium	3150	2470	5690	102	75-125
Manganese	200	24.7	212	47*	75-125
Molybdenum	0.441J	24.7	24.2	96	75-125
Nickel	8.38	24.7	28.6	82	75-125
Potassium	2580	2470	5110	102	75-125
Selenium	ND	24.7	21.9	88	75-125
Silver	0.0560J	24.7	23.0	93	75-125
Sodium	57.4J	2470	2510	99	75-125
Strontium	13.8	24.7	36.6	92	75-125
Thallium	0.186J	24.7	23.3	93	75-125
Tin	ND	24.7	26.1	105	75-125
Titanium	655	24.7	661	24*	75-125
Vanadium	24.0	24.7	45.1	85	75-125
Zinc	40.1	49.5	83.3	87	75-125
Lithium	12.4	24.7	35.7	94	75-125
Phosphorus	230	247	483	102	75-125
Zirconium	ND	24.7	24.9	101	75-125

EMAX QUALITY CONTROL DATA
SERIAL DILUTION ANALYSIS

CLIENT: CDM
PROJECT: SSFL PHASE 3
BATCH NO.: 12G140
METHOD: METHOD 6020

MATRIX: SOIL % MOISTURE: 1.0

DILUTION FACTOR:	0.980	4.90
SAMPLE ID:	SL-008-A3-SB-0	SL-008-A3-SB-0
EMAX SAMP ID:	G140-05	G140-05J
LAB FILE ID:	98H02077	98H02078
DATE EXTRACTED:	07/25/1214:04	07/25/1214:04
DATE ANALYZED:	08/02/1218:26	08/02/1218:31
PREP. BATCH:	IMG034S	IMG034S
CALIB. REF:	98H02069	98H02069

DATE COLLECTED: 07/18/12
DATE RECEIVED: 07/18/12

ACCESSION:

PARAMETER	SMPL RSLT (mg/kg)	SERIAL DIL RSLT (mg/kg)	DIF RSLT %	QC LIMIT (%)
Aluminum	10200	10300	0	10
Antimony	0.156J	ND	NA	10
Arsenic	3.61	3.64	1	10
Barium	77.0	72.7	6	10
Beryllium	0.380J	0.386J	NA	10
Boron	ND	ND	0	10
Cadmium	0.182J	ND	NA	10
Calcium	1430	1500	5	10
Chromium	13.1	13.2	1	10
Cobalt	4.28	4.44	4	10
Copper	6.23	6.31	1	10
Iron	14000	14600	4	10
Lead	5.96	5.95	0	10
Magnesium	3150	3190	1	10
Manganese	200	206	3	10
Molybdenum	0.441J	0.451J	NA	10
Nickel	8.38	8.67	3	10
Potassium	2580	2520	2	10
Selenium	ND	ND	0	10
Silver	0.0560J	ND	NA	10
Sodium	57.4J	ND	NA	10
Strontium	13.8	13.2	4	10
Thallium	0.186J	ND	NA	10
Tin	ND	ND	0	10
Titanium	655	641	2	10
Vanadium	24.0	24.0	0	10
Zinc	40.1	40.6	1	10
Lithium	12.4	11.3	8	10
Phosphorus	230	240	4	10
Zirconium	ND	ND	0	10

METHOD 6020
METALS BY ICP-MS

Client : CDM	Date Collected: 07/18/12
Project : SSFL PHASE 3	Date Received: 07/18/12
SDG NO. : 12G140	Date Extracted: 07/25/12 11:15
Sample ID: EB-071812	Date Analyzed: 08/04/12 15:16
Lab Samp ID: G140-04	Dilution Factor: 1
Lab File ID: 98H04025	Matrix : WATER
Ext Btch ID: IMG033W	% Moisture : NA
Calib. Ref.: 98H04020	Instrument ID : T-I98

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
Aluminum	ND	0.100	0.0200
Antimony	ND	0.00100	0.000500
Arsenic	ND	0.00100	0.000200
Barium	ND	0.00100	0.000500
Beryllium	ND	0.00100	0.000100
Boron	0.00918J	0.0100	0.00500
Cadmium	ND	0.00100	0.000200
Calcium	ND	0.100	0.0250
Chromium	ND	0.00100	0.000200
Cobalt	ND	0.00100	0.000200
Copper	0.000594J	0.00100	0.000500
Iron	ND	0.100	0.0100
Lead	ND	0.00100	0.000100
Magnesium	ND	0.100	0.0100
Manganese	ND	0.00100	0.000200
Molybdenum	ND	0.00200	0.000500
Nickel	ND	0.00100	0.000200
Potassium	ND	0.100	0.0200
Selenium	ND	0.00100	0.000300
Silver	ND	0.00100	0.000200
Sodium	ND	0.100	0.0500
Strontium	ND	0.00200	0.00100
Thallium	ND	0.00100	0.000200
Tin	ND	0.00100	0.000200
Titanium	ND	0.00200	0.000500
Vanadium	ND	0.00100	0.000500
Zinc	ND	0.0200	0.0100
Lithium	ND	0.00200	0.000500
Phosphorus	ND	0.0500	0.0250
Zirconium	ND	0.00500	0.00200

METHOD 6020
METALS BY ICP-MS

Client : CDM	Date Collected: NA
Project : SSFL PHASE 3	Date Received: 07/25/12
SDG NO. : 12G140	Date Extracted: 07/25/12 11:15
Sample ID: MBLK1W	Date Analyzed: 08/04/12 15:02
Lab Samp ID: IMG033WB	Dilution Factor: 1
Lab File ID: 98H04022	Matrix : WATER
Ext Btch ID: IMG033W	% Moisture : NA
Calib. Ref.: 98H04020	Instrument ID : T-I98

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
Aluminum	ND	0.100	0.0200
Antimony	ND	0.00100	0.000500
Arsenic	ND	0.00100	0.000200
Barium	ND	0.00100	0.000500
Beryllium	ND	0.00100	0.000100
Boron	ND	0.0100	0.00500
Cadmium	ND	0.00100	0.000200
Calcium	ND	0.100	0.0250
Chromium	ND	0.00100	0.000200
Cobalt	ND	0.00100	0.000200
Copper	ND	0.00100	0.000500
Iron	ND	0.100	0.0100
Lead	ND	0.00100	0.000100
Magnesium	ND	0.100	0.0100
Manganese	ND	0.00100	0.000200
Molybdenum	ND	0.00200	0.000500
Nickel	ND	0.00100	0.000200
Potassium	ND	0.100	0.0200
Selenium	ND	0.00100	0.000300
Silver	ND	0.00100	0.000200
Sodium	ND	0.100	0.0500
Strontium	ND	0.00200	0.00100
Thallium	ND	0.00100	0.000200
Tin	ND	0.00100	0.000200
Titanium	ND	0.00200	0.000500
Vanadium	ND	0.00100	0.000500
Zinc	ND	0.0200	0.0100
Lithium	ND	0.00200	0.000500
Phosphorus	ND	0.0500	0.0250
Zirconium	ND	0.00500	0.00200

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: CDM
PROJECT: SSFL PHASE 3
SDG NO.: 12G140
METHOD: METHOD 6020

MATRIX: WATER % MOISTURE: NA
DILTN FACTR: 1 1 1
SAMPLE ID: MBLK1W
CONTROL NO.: IMG033WB IMG033WL IMG033WC
LAB FILE ID: 98H04022 98H04023 98H04024
DATIME EXTRCTD: 07/25/1211:15 07/25/1211:15 07/25/1211:15 DATE COLLECTED: NA
DATIME ANALYZD: 08/04/1215:02 08/04/1215:07 08/04/1215:12 DATE RECEIVED: 07/25/12
PREP. BATCH: IMG033W IMG033W IMG033W
CALIB. REF: 98H04020 98H04020 98H04020

ACCESSION:

PARAMETER	BLNK RSLT mg/L	SPIKE AMT mg/L	BS RSLT mg/L	BS % REC	SPIKE AMT mg/L	BSD RSLT mg/L	BSD % REC	RPD %	QC LIMIT %	MAX RPD %
Aluminum	ND	2.50	2.53	101	2.50	2.53	101	0	80-120	20
Antimony	ND	0.0250	0.0252	101	0.0250	0.0249	100	1	80-120	20
Arsenic	ND	0.0250	0.0245	98	0.0250	0.0245	98	0	80-120	20
Barium	ND	0.0250	0.0253	101	0.0250	0.0248	99	2	80-120	20
Beryllium	ND	0.0250	0.0250	100	0.0250	0.0246	98	2	80-120	20
Boron	ND	0.0250	0.0253	101	0.0250	0.0250	100	1	80-120	20
Cadmium	ND	0.0250	0.0249	100	0.0250	0.0248	99	1	80-120	20
Calcium	ND	2.50	2.59	103	2.50	2.56	103	1	80-120	20
Chromium	ND	0.0250	0.0245	98	0.0250	0.0243	97	1	80-120	20
Cobalt	ND	0.0250	0.0243	97	0.0250	0.0242	97	0	80-120	20
Copper	ND	0.0250	0.0248	99	0.0250	0.0243	97	2	80-120	20
Iron	ND	2.50	2.63	105	2.50	2.62	105	0	80-120	20
Lead	ND	0.0250	0.0249	99	0.0250	0.0249	99	0	80-120	20
Magnesium	ND	2.50	2.56	102	2.50	2.58	103	1	80-120	20
Manganese	ND	0.0250	0.0244	98	0.0250	0.0245	98	0	80-120	20
Molybdenum	ND	0.0250	0.0242	97	0.0250	0.0242	97	0	80-120	20
Nickel	ND	0.0250	0.0245	98	0.0250	0.0242	97	1	80-120	20
Potassium	ND	2.50	2.57	103	2.50	2.55	102	1	80-120	20
Selenium	ND	0.0250	0.0243	97	0.0250	0.0244	98	0	80-120	20
Silver	ND	0.0250	0.0248	99	0.0250	0.0249	100	0	80-120	20
Sodium	ND	2.50	2.54	102	2.50	2.51	101	1	80-120	20
Strontium	ND	0.0250	0.0246	98	0.0250	0.0242	97	2	80-120	20
Thallium	ND	0.0250	0.0243	97	0.0250	0.0244	97	0	80-120	20
Tin	ND	0.0250	0.0252	101	0.0250	0.0250	100	1	80-120	20
Titanium	ND	0.0250	0.0250	100	0.0250	0.0248	99	1	80-120	20
Vanadium	ND	0.0250	0.0244	97	0.0250	0.0240	96	2	80-120	20
Zinc	ND	0.0500	0.0493	99	0.0500	0.0492	98	0	80-120	20
Lithium	ND	0.0250	0.0244	98	0.0250	0.0238	95	3	80-120	20
Phosphorus	ND	0.250	0.238	95	0.250	0.237	95	0	80-120	20
Zirconium	ND	0.0250	0.0249	100	0.0250	0.0247	99	1	80-120	20

METHOD 7470A
MERCURY BY COLD VAPOR

Client : CDM
Project : SSFL PHASE 3
Batch No. : 12G140

Matrix : WATER
Instrument ID : TI047

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/L)	DLF	MOIST	RL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1W	HGG024WB	ND	1	NA	0.000500	0.000100	07/20/1218:11	07/20/1212:45	M47G020046	M47G020044	HGG024W	NA	07/20/12
LCS1W	HGG024WL	0.00502	1	NA	0.000500	0.000100	07/20/1218:13	07/20/1212:45	M47G020047	M47G020044	HGG024W	NA	07/20/12
LCD1W	HGG024WC	0.00502	1	NA	0.000500	0.000100	07/20/1218:16	07/20/1212:45	M47G020048	M47G020044	HGG024W	NA	07/20/12
EB-071812	G140-04	ND	1	NA	0.000500	0.000100	07/20/1218:40	07/20/1212:45	M47G020058	M47G020056	HGG024W	07/18/12	07/18/12

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: CDM
PROJECT: SSFL PHASE 3
SDG NO.: 12G140
METHOD: 7470A

MATRIX:	WATER			% MOISTURE:	NA
DILTN FACTR:	1	1	1		
SAMPLE ID:	MBLK1W				
CONTROL NO.:	HGG024WB	HGG024WL	HGG024WC		
LAB FILE ID:	M47G020046	M47G020047	M47G020048		
DATIME EXTRCTD:	07/20/1212:45	07/20/1212:45	07/20/1212:45	DATE COLLECTED:	NA
DATIME ANALYZD:	07/20/1218:11	07/20/1218:13	07/20/1218:16	DATE RECEIVED:	07/20/12
PREP. BATCH:	HGG024W	HGG024W	HGG024W		
CALIB. REF:	M47G020044	M47G020044	M47G020044		

ACCESSION:

PARAMETER	BLNK RSLT mg/L	SPIKE AMT mg/L	BS RSLT mg/L	BS % REC	SPIKE AMT mg/L	BSD RSLT mg/L	BSD % REC	RPD %	QC LIMIT %	MAX RPD %
Mercury	ND	.005	.00502	100	.005	.00502	100	0	90-115	20

METHOD 7471A
MERCURY BY COLD VAPOR

Client : CDM
Project : SSFL PHASE 3
Batch No. : 12G140
Matrix : SOIL
Instrument ID : TI047

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/kg)	DLF	MOIST	RL (mg/kg)	MDL (mg/kg)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1S	HGG030SB	ND	1	NA	0.100	0.0500	07/26/1211:39	07/25/1216:30	M47G024041	M47G024032	HGG030S	NA	07/25/12
LCS1S	HGG030SL	0.842	1	NA	0.100	0.0500	07/26/1211:41	07/25/1216:30	M47G024042	M47G024032	HGG030S	NA	07/25/12
LCD1S	HGG030SC	0.837	1	NA	0.100	0.0500	07/26/1211:43	07/25/1216:30	M47G024043	M47G024032	HGG030S	NA	07/25/12
SL-008-A3-SB-0.0-0.5AS	G140-05A	0.833	0.998	1.0	0.101	0.0504	07/26/1211:50	07/25/1216:30	M47G024046	M47G024044	HGG030S	07/18/12	07/18/12
SL-008-A3-SB-0.0-0.5	G140-05	ND	0.998	1.0	0.101	0.0504	07/26/1211:52	07/25/1216:30	M47G024047	M47G024044	HGG030S	07/18/12	07/18/12
SL-008-A3-SB-0.0-0.5DL	G140-05J	ND	4.99	1.0	0.504	0.252	07/26/1211:54	07/25/1216:30	M47G024048	M47G024044	HGG030S	07/18/12	07/18/12
SL-008-A3-SB-0.0-0.5MS	G140-05M	0.881	1.01	1.0	0.102	0.0510	07/26/1211:56	07/25/1216:30	M47G024049	M47G024044	HGG030S	07/18/12	07/18/12
SL-008-A3-SB-0.0-0.5MSD	G140-05S	0.880	1.00	1.0	0.101	0.0505	07/26/1211:59	07/25/1216:30	M47G024050	M47G024044	HGG030S	07/18/12	07/18/12
SL-001-A3-SB-0.0-0.5	G140-01	ND	0.995	1.9	0.101	0.0507	07/26/1212:01	07/25/1216:30	M47G024051	M47G024044	HGG030S	07/18/12	07/18/12
SL-002-A3-SB-0.0-0.5	G140-02	ND	0.985	2.4	0.101	0.0505	07/26/1212:03	07/25/1216:30	M47G024052	M47G024044	HGG030S	07/18/12	07/18/12
SL-003-A3-SB-0.0-0.5	G140-03	0.0657J	0.987	7.3	0.106	0.0532	07/26/1212:05	07/25/1216:30	M47G024053	M47G024044	HGG030S	07/18/12	07/18/12
SL-010-A3-SB-0.0-0.5	G140-06	ND	0.984	7.7	0.107	0.0533	07/26/1212:07	07/25/1216:30	M47G024054	M47G024044	HGG030S	07/18/12	07/18/12
SL-009-A3-SB-0.0-0.5	G140-07	0.0712J	0.990	4.7	0.104	0.0519	07/26/1212:09	07/25/1216:30	M47G024055	M47G024044	HGG030S	07/18/12	07/18/12

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: CDM
PROJECT: SSFL PHASE 3
SDG NO.: 12G140
METHOD: 7471A

MATRIX: SOIL % MOISTURE: NA
DILTN FACTR: 1 1 1
SAMPLE ID: MBLK1S
CONTROL NO.: HGG030SB HGG030SL HGG030SC
LAB FILE ID: M47G024041 M47G024042 M47G024043
DATIME EXTRCTD: 07/25/1216:30 07/25/1216:30 07/25/1216:30 DATE COLLECTED: NA
DATIME ANALYZD: 07/26/1211:39 07/26/1211:41 07/26/1211:43 DATE RECEIVED: 07/25/12
PREP. BATCH: HGG030S HGG030S HGG030S
CALIB. REF: M47G024032 M47G024032 M47G024032

ACCESSION:

PARAMETER	BLNK RSLT mg/kg	SPIKE AMT mg/kg	BS RSLT mg/kg	BS % REC	SPIKE AMT mg/kg	BSD RSLT mg/kg	BSD % REC	RPD %	QC LIMIT %	MAX RPD %
Mercury	ND	.833	.842	101	.833	.837	100	1	85-120	20

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: CDM
PROJECT: SSFL PHASE 3
SDG NO.: 12G140
METHOD: 7471A

MATRIX: SOIL % MOISTURE: 1.0

DILTN FACTR:	0.998	1.01	1.00		
SAMPLE ID:	SL-008-A3-SB-0.0-0.5				
CONTROL NO.:	G140-05	G140-05M	G140-05S		
LAB FILE ID:	M47G024047	M47G024049	M47G024050		
DATIME EXTRCTD:	07/25/1216:30	07/25/1216:30	07/25/1216:30	DATE COLLECTED:	07/18/12
DATIME ANALYZD:	07/26/1211:52	07/26/1211:56	07/26/1211:59	DATE RECEIVED:	07/18/12
PREP. BATCH:	HGG030S	HGG030S	HGG030S		
CALIB. REF:	M47G024044	M47G024044	M47G024044		

ACCESSION:

PARAMETER	SMPL RSLT mg/kg	SPIKE AMT mg/kg	MS RSLT mg/kg	MS % REC	SPIKE AMT mg/kg	MSD RSLT mg/kg	MSD % REC	RPD %	QC LIMIT %	MAX RPD %
Mercury	ND	.85	.881	104	.841	.88	105	1	65-135	20

EMAX QUALITY CONTROL DATA
ANALYTICAL SPIKE ANALYSIS

CLIENT: CDM
PROJECT: SSFL PHASE 3
SDG NO.: 12G140
METHOD: 7471A

MATRIX:	SOIL		% MOISTURE:	1.0
DILTN FACTR:	0.998	0.998		
SAMPLE ID:	SL-008-A3-SB-0.0-0.5			
CONTROL NO.:	G140-05	G140-05A		
LAB FILE ID:	M47G024047	M47G024046		
DATIME EXTRCTD:	07/25/1216:30	07/25/1216:30	DATE COLLECTED:	07/18/12
DATIME ANALYZD:	07/26/1211:52	07/26/1211:50	DATE RECEIVED:	07/18/12
PREP. BATCH:	HGG030S	HGG030S		
CALIB. REF:	M47G024044	M47G024044		

ACCESSION:

PARAMETER	SMPL RSLT (mg/kg)	SPIKE AMT (mg/kg)	AS RSLT (mg/kg)	AS % REC	QC LIMIT (%)
Mercury	ND	.84	.833	99	85-115

EMAX QUALITY CONTROL DATA
SERIAL DILUTION ANALYSIS

CLIENT: CDM
PROJECT: SSFL PHASE 3
BATCH NO.: 12G140
METHOD: 7471A

MATRIX: SOIL % MOISTURE: 1.0

DILUTION FACTOR:	0.998	4.99		
SAMPLE ID:	SL-008-A3-SB-0.0-0.5	SL-008-A3-SB-0.0-0.		
EMAX SAMP ID:	G140-05	G140-05J		
LAB FILE ID:	M47G024047	M47G024048		
DATE EXTRACTED:	07/25/1216:30	07/25/1216:30	DATE COLLECTED:	07/18/12
DATE ANALYZED:	07/26/1211:52	07/26/1211:54	DATE RECEIVED:	07/18/12
PREP. BATCH:	HGG030S	HGG030S		
CALIB. REF:	M47G024044	M47G024044		

ACCESSION:

PARAMETER	SMPL RSLT (mg/kg)	SERIAL DIL RSLT (mg/kg)	DIF RSLT %	QC LIMIT (%)
Mercury	ND	ND	0	10

METHOD 9040C
PH

Client : CDM
Project : SSFL PHASE 3
Batch No. : 12G140
Matrix : WATER
Instrument ID : 53

SAMPLE ID	EMAX SAMPLE ID	RESULTS (pH Unit)	DLF	MOIST	RL (pH Unit)	MDL (pH Unit)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
EB-071812	G140-04	6.08	1	NA	NA	NA	07/18/1218:31	NA	12PHG016W01	12PHG016	PHG016W	07/18/1215:00	07/18/12
EB-071812DUP	G140-04D	6.12	1	NA	NA	NA	07/18/1218:32	NA	12PHG016W02	12PHG016	PHG016W	07/18/1215:00	07/18/12

EMAX QUALITY CONTROL DATA
DUPLICATE ANALYSIS

CLIENT: CDM
PROJECT: SSFL PHASE 3
METHOD: METHOD 9040C
MATRIX: WATER
% MOISTURE: NA

BATCH NO.: 12G140 DATE RECEIVED: 07/18/12
SAMPLE ID: EB-071812DUP DATE EXTRACTED: NA
CONTROL NO.: G140-04D DATE ANALYZED: 07/18/1218:32

ACCESSION:

PARAMETER	SAMPLE (pH Unit)	DUP. SAMPLE (pH Unit)	DIFFERENCE (pH Unit)	LIMIT (pH Unit)
pH	6.08	6.12	-0.04	0.10

METHOD 6850
PERCHLORATE

Client : CDM
Project : SSFL PHASE 3
Batch No. : 12G140

Matrix : WATER
Instrument ID : G0

SAMPLE ID	EMAX SAMPLE ID	RESULTS (ug/L)	DLF	MOIST	RL (ug/L)	MDL (ug/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1W	PLG004WB	ND	1	NA	0.200	0.100	07/24/1210:57	NA	MG24004	MG24003	PLG004W	NA	NA
LCS1W	PLG004WL	1.05	1	NA	0.200	0.100	07/24/1211:11	NA	MG24005	MG24003	PLG004W	NA	NA
LCD1W	PLG004WC	1.06	1	NA	0.200	0.100	07/24/1211:29	NA	MG24006	MG24003	PLG004W	NA	NA
EB-071812	G140-04	ND	1	NA	0.200	0.100	07/24/1211:48	NA	MG24007	MG24003	PLG004W	07/18/1215:00	07/18/12

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: CDM
PROJECT: SSFL PHASE 3
BATCH NO.: 12G140
METHOD: METHOD 6850

MATRIX:	WATER			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1W				
LAB SAMP ID:	PLG004WB	PLG004WL	PLG004WC		
LAB FILE ID:	MG24004	MG24005	MG24006		
DATE EXTRACTED:	NA	NA	NA	DATE COLLECTED:	NA
DATE ANALYZED:	07/24/1210:57	07/24/1211:11	07/24/1211:29	DATE RECEIVED:	NA
PREP. BATCH:	PLG004W	PLG004W	PLG004W		
CALIB. REF:	MG24003	MG24003	MG24003		

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Perchlorate	ND	1.00	1.05	105	1.00	1.06	106	1	85-115	20

METHOD 6850
PERCHLORATE

Client : CDM
Project : SSFL PHASE 3
Batch No. : 12G140

Matrix : SOIL
Instrument ID : G0

SAMPLE ID	EMAX SAMPLE ID	RESULTS (ug/kg)	DLF	MOIST	RL (ug/kg)	MDL (ug/kg)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1S	PLG005SB	ND	1	NA	5.00	2.50	07/24/1213:30	07/23/1210:44	MG24014	MG24013	PLG005S	NA	07/23/12
LCD1S	PLG005SC	26.6	1	NA	5.00	2.50	07/24/1214:04	07/23/1210:44	MG24016	MG24013	PLG005S	NA	07/23/12
LCS2S	PLG005SX	25.9	1	NA	5.00	2.50	07/24/1214:18	07/23/1210:44	MG24017	MG24013	PLG005S	NA	07/23/12
SL-010-A3-SB-0.0-0.5	G140-06	ND	1	7.7	5.42	2.71	07/24/1215:46	07/23/1210:44	MG24023	MG24013	PLG005S	07/18/1213:40	07/18/12
SL-009-A3-SB-0.0-0.5	G140-07	ND	1	4.7	5.25	2.62	07/24/1216:15	07/23/1210:44	MG24025	MG24024	PLG005S	07/18/1213:05	07/18/12

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: CDM
PROJECT: SSFL PHASE 3
BATCH NO.: 12G140
METHOD: METHOD 6850

MATRIX:	SOIL			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1S				
LAB SAMP ID:	PLG005SB	PLG005SC	PLG005SX		
LAB FILE ID:	MG24014	MG24016	MG24017		
DATE EXTRACTED:	07/23/1210:44	07/23/1210:44	07/23/1210:44	DATE COLLECTED:	NA
DATE ANALYZED:	07/24/1213:30	07/24/1214:04	07/24/1214:18	DATE RECEIVED:	07/23/12
PREP. BATCH:	PLG005S	PLG005S	PLG005S		
CALIB. REF:	MG24013	MG24013	MG24013		

ACCESSION:

PARAMETER	BLNK RSLT (ug/kg)	SPIKE AMT (ug/kg)	BS RSLT (ug/kg)	BS % REC	SPIKE AMT (ug/kg)	BSD RSLT (ug/kg)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Perchlorate	ND	25.0	26.6	106	25.0	25.9	104	3	85-115	20

SAMPLE DELIVERY GROUP

12G198

METHOD 3550B/8270C SIM
SEMI VOLATILE ORGANICS BY GC/MS SIM

Client : CDM	Date Collected: 07/24/12
Project : SSFL PHASE 3	Date Received: 07/24/12
Batch No. : 12G198	Date Extracted: 08/03/12 12:08
Sample ID: SL-004-A3-SB-0.0-0.5	Date Analyzed: 08/03/12 20:13
Lab Samp ID: G198-01	Dilution Factor: 3
Lab File ID: RHH086	Matrix : SOIL
Ext Btch ID: SVH004S	% Moisture : 65.6
Calib. Ref.: RFH072	Instrument ID : T-OE7

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
ACENAPHTHENE	ND	87	22
ACENAPHTHYLENE	ND	87	22
ANTHRACENE	ND	87	22
BENZO(A)ANTHRACENE	ND	87	22
BENZO(A)PYRENE	23J	87	22
BENZO(B)FLUORANTHENE	32J	87	22
BENZO(K)FLUORANTHENE	ND	87	22
BENZO(G,H,I)PERYLENE	32J	87	22
CHRYSENE	ND	87	22
DIBENZO(A,H)ANTHRACENE	ND	87	22
FLUORANTHENE	37J	87	22
FLUORENE	ND	87	22
INDENO(1,2,3-CD)PYRENE	ND	87	22
NAPHTHALENE	ND	87	22
PHENANTHRENE	ND	87	22
2-METHYLNAPHTHALENE	ND	87	22
1-METHYLNAPHTHALENE	ND	87	22
N-NITROSODIMETHYLAMINE	ND	87	22
PYRENE	42J	87	22
AZOBENZENE	ND	44	22
BENZO(E)PYRENE	ND	44	22
BIPHENYL	ND	44	22

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
NITROBENZENE-D5	358	968.9	36.9*	40-130
2-FLUOROBIPHENYL	437	968.9	45.1	45-130
TERPHENYL-D14	758	968.9	78.2	45-135

METHOD 3550B/8270C SIM
SEMI VOLATILE ORGANICS BY GC/MS SIM

Client : CDM	Date Collected: 07/24/12
Project : SSFL PHASE 3	Date Received: 07/24/12
Batch No. : 12G198	Date Extracted: 08/03/12 12:08
Sample ID: SL-005-A3-SB-0.0-0.5	Date Analyzed: 08/03/12 20:32
Lab Samp ID: G198-02	Dilution Factor: 3
Lab File ID: RHH087	Matrix : SOIL
Ext Btch ID: SVH004S	% Moisture : 65.0
Calib. Ref.: RFH072	Instrument ID : T-OE7

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
ACENAPHTHENE	ND	86	21
ACENAPHTHYLENE	ND	86	21
ANTHRACENE	ND	86	21
BENZO(A)ANTHRACENE	ND	86	21
BENZO(A)PYRENE	ND	86	21
BENZO(B)FLUORANTHENE	25J	86	21
BENZO(K)FLUORANTHENE	ND	86	21
BENZO(G,H,I)PERYLENE	24J	86	21
CHRYSENE	ND	86	21
DIBENZO(A,H)ANTHRACENE	ND	86	21
FLUORANTHENE	35J	86	21
FLUORENE	ND	86	21
INDENO(1,2,3-CD)PYRENE	ND	86	21
NAPHTHALENE	ND	86	21
PHENANTHRENE	ND	86	21
2-METHYLNAPHTHALENE	ND	86	21
1-METHYLNAPHTHALENE	ND	86	21
N-NITROSODIMETHYLAMINE	ND	86	21
PYRENE	44J	86	21
AZOBENZENE	ND	43	21
BENZO(E)PYRENE	ND	43	21
BIPHENYL	ND	43	21

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
NITROBENZENE-D5	275	952.3	28.9*	40-130
2-FLUOROBIPHENYL	388	952.3	40.7*	45-130
TERPHENYL-D14	756	952.3	79.4	45-135

METHOD 3550B/8270C SIM
SEMI VOLATILE ORGANICS BY GC/MS SIM

Client : CDM	Date Collected: 07/24/12
Project : SSFL PHASE 3	Date Received: 07/24/12
Batch No. : 12G198	Date Extracted: 08/03/12 12:08
Sample ID: SL-006-A3-SB-0.0-0.5	Date Analyzed: 08/03/12 20:51
Lab Samp ID: G198-03	Dilution Factor: 3
Lab File ID: RHH088	Matrix : SOIL
Ext Btch ID: SVH004S	% Moisture : 52.6
Calib. Ref.: RFH072	Instrument ID : T-OE7

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
ACENAPHTHENE	ND	63	16
ACENAPHTHYLENE	ND	63	16
ANTHRACENE	ND	63	16
BENZO(A)ANTHRACENE	ND	63	16
BENZO(A)PYRENE	17J	63	16
BENZO(B)FLUORANTHENE	24J	63	16
BENZO(K)FLUORANTHENE	ND	63	16
BENZO(G,H,I)PERYLENE	36J	63	16
CHRYSENE	ND	63	16
DIBENZO(A,H)ANTHRACENE	ND	63	16
FLUORANTHENE	35J	63	16
FLUORENE	ND	63	16
INDENO(1,2,3-CD)PYRENE	ND	63	16
NAPHTHALENE	ND	63	16
PHENANTHRENE	ND	63	16
2-METHYLNAPHTHALENE	ND	63	16
1-METHYLNAPHTHALENE	ND	63	16
N-NITROSODIMETHYLAMINE	ND	63	16
PYRENE	49J	63	16
AZOBENZENE	ND	32	16
BENZO(E)PYRENE	17J	32	16
BIPHENYL	ND	32	16

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
NITROBENZENE-D5	278	703.2	39.5*	40-130
2-FLUOROBIPHENYL	332	703.2	47.3	45-130
TERPHENYL-D14	513	703.2	73.0	45-135

METHOD 3550B/8270C SIM
SEMI VOLATILE ORGANICS BY GC/MS SIM

Client : CDM	Date Collected: 07/24/12
Project : SSFL PHASE 3	Date Received: 07/24/12
Batch No. : 12G198	Date Extracted: 08/03/12 12:08
Sample ID: SL-007-A3-SB-0.0-0.5	Date Analyzed: 08/03/12 21:10
Lab Samp ID: G198-04	Dilution Factor: 3
Lab File ID: RHH089	Matrix : SOIL
Ext Btch ID: SVH004S	% Moisture : 59.4
Calib. Ref.: RFH072	Instrument ID : T-OE7

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
ACENAPHTHENE	ND	74	18
ACENAPHTHYLENE	ND	74	18
ANTHRACENE	ND	74	18
BENZO(A)ANTHRACENE	ND	74	18
BENZO(A)PYRENE	ND	74	18
BENZO(B)FLUORANTHENE	ND	74	18
BENZO(K)FLUORANTHENE	ND	74	18
BENZO(G,H,I)PERYLENE	24J	74	18
CHRYSENE	ND	74	18
DIBENZO(A,H)ANTHRACENE	ND	74	18
FLUORANTHENE	22J	74	18
FLUORENE	ND	74	18
INDENO(1,2,3-CD)PYRENE	ND	74	18
NAPHTHALENE	ND	74	18
PHENANTHRENE	ND	74	18
2-METHYLNAPHTHALENE	ND	74	18
1-METHYLNAPHTHALENE	ND	74	18
N-NITROSODIMETHYLAMINE	ND	74	18
PYRENE	28J	74	18
AZOBENZENE	ND	37	18
BENZO(E)PYRENE	ND	37	18
BIPHENYL	ND	37	18

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
NITROBENZENE-D5	285	820.9	34.7*	40-130
2-FLUOROBIPHENYL	350	820.9	42.6*	45-130
TERPHENYL-D14	617	820.9	75.1	45-135

METHOD 3550B/8270C SIM
SEMI VOLATILE ORGANICS BY GC/MS SIM

Client : CDM	Date Collected: NA
Project : SSFL PHASE 3	Date Received: 08/03/12
Batch No. : 12G198	Date Extracted: 08/03/12 12:08
Sample ID: MBLK1S	Date Analyzed: 08/03/12 15:48
Lab Samp ID: SVH004SB	Dilution Factor: 1
Lab File ID: RHH072	Matrix : SOIL
Ext Btch ID: SVH004S	% Moisture : NA
Calib. Ref.: RFH072	Instrument ID : T-OE7

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
ACENAPHTHENE	ND	10	2.5
ACENAPHTHYLENE	ND	10	2.5
ANTHRACENE	ND	10	2.5
BENZO(A)ANTHRACENE	ND	10	2.5
BENZO(A)PYRENE	ND	10	2.5
BENZO(B)FLUORANTHENE	ND	10	2.5
BENZO(K)FLUORANTHENE	ND	10	2.5
BENZO(G,H,I)PERYLENE	ND	10	2.5
CHRYSENE	ND	10	2.5
DIBENZO(A,H)ANTHRACENE	ND	10	2.5
FLUORANTHENE	ND	10	2.5
FLUORENE	ND	10	2.5
INDENO(1,2,3-CD)PYRENE	ND	10	2.5
NAPHTHALENE	ND	10	2.5
PHENANTHRENE	ND	10	2.5
2-METHYLNAPHTHALENE	ND	10	2.5
1-METHYLNAPHTHALENE	ND	10	2.5
N-NITROSODIMETHYLAMINE	ND	10	2.5
PYRENE	ND	10	2.5
AZOBENZENE	ND	5.0	2.5
BENZO(E)PYRENE	ND	5.0	2.5
BIPHENYL	ND	5.0	2.5

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
NITROBENZENE-D5	279	333.3	83.6	40-130
2-FLUOROBIPHENYL	261	333.3	78.3	45-130
TERPHENYL-D14	344	333.3	103	45-130

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: CDM
PROJECT: SSFL PHASE 3
BATCH NO.: 12G198
METHOD: METHOD 3550B/8270C SIM

MATRIX:	SOIL			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1S				
LAB SAMP ID:	SVH004SB	SVH004SL	SVH004SC		
LAB FILE ID:	RHH072	RHH070	RHH071		
DATE EXTRACTED:	08/03/1212:08	08/03/1212:08	08/03/1212:08	DATE COLLECTED:	NA
DATE ANALYZED:	08/03/1215:48	08/03/1215:10	08/03/1215:29	DATE RECEIVED:	08/03/12
PREP. BATCH:	SVH004S	SVH004S	SVH004S		
CALIB. REF:	RFH072	RFH072	RFH072		

ACCESSION:

PARAMETER	BLNK RSLT (ug/kg)	SPIKE AMT (ug/kg)	BS RSLT (ug/kg)	BS % REC	SPIKE AMT (ug/kg)	BSD RSLT (ug/kg)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Acenaphthene	ND	333	247	74	333	284	85	14	10-130	50
Acenaphthylene	ND	333	257	77	333	294	88	13	20-130	50
Anthracene	ND	333	233	70	333	264	79	13	20-130	50
Benzo(a)anthracene	ND	333	307	92	333	331	99	8	30-130	50
Benzo(a)pyrene	ND	333	281	84	333	307	92	9	30-130	50
Benzo(b)fluoranthene	ND	333	300	90	333	320	96	7	40-130	50
Benzo(k)fluoranthene	ND	333	277	83	333	311	93	12	30-140	50
Benzo(g,h,i)perylene	ND	333	292	88	333	316	95	8	30-140	50
Chrysene	ND	333	298	89	333	320	96	7	30-140	50
Dibenzo(a,h)anthracene	ND	333	308	92	333	333	100	8	40-140	50
Fluoranthene	ND	333	287	86	333	319	96	11	30-130	50
Fluorene	ND	333	259	78	333	290	87	11	20-130	50
Indeno(1,2,3-cd)pyrene	ND	333	306	92	333	332	100	8	20-160	50
Naphthalene	ND	333	235	71	333	264	79	11	10-130	50
Phenanthrene	ND	333	241	72	333	274	82	13	20-130	50
2-Methylnaphthalene	ND	333	245	74	333	276	83	12	30-150	50
1-Methylnaphthalene	ND	333	248	74	333	280	84	12	30-150	50
N-Nitrosodimethylamine	ND	333	207	62	333	233	70	12	30-150	50
Pyrene	ND	333	283	85	333	314	94	10	20-150	50
Azobenzene	ND	333	237	71	333	276	83	15	30-150	50
Benzo(e)pyrene	ND	333	343	103	333	366	110	6	30-150	50
Biphenyl	ND	333	288	87	333	322	97	11	30-150	50

SURROGATE PARAMETER	SPIKE AMT (ug/kg)	BS RSLT (ug/kg)	BS % REC	SPIKE AMT (ug/kg)	BSD RSLT (ug/kg)	BSD % REC	QC LIMIT (%)
Nitrobenzene-d5	333	241	72	333	273	82	40-130
2-Fluorobiphenyl	333	229	69	333	259	78	45-130
Terphenyl-d14	333	334	100	333	361	108	45-130

METHOD 3520C/8270C SIM
SEMI VOLATILE ORGANICS BY GC/MS SIM

Client : CDM	Date Collected: 07/24/12
Project : SSFL PHASE 3	Date Received: 07/24/12
Batch No. : 12G198	Date Extracted: 07/25/12 15:30
Sample ID: EB-072412	Date Analyzed: 07/27/12 17:44
Lab Samp ID: G198-05	Dilution Factor: .97
Lab File ID: RGH606	Matrix : WATER
Ext Btch ID: SVG043W	% Moisture : NA
Calib. Ref.: RFH072	Instrument ID : T-OE7

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ACENAPHTHENE	0.21	0.19	0.097
ACENAPHTHYLENE	ND	0.19	0.097
ANTHRACENE	ND	0.19	0.097
BENZO(A)ANTHRACENE	ND	0.19	0.097
BENZO(A)PYRENE	ND	0.19	0.097
BENZO(B)FLUORANTHENE	ND	0.19	0.097
BENZO(K)FLUORANTHENE	ND	0.19	0.097
BENZO(G,H,I)PERYLENE	ND	0.19	0.097
CHRYSENE	ND	0.19	0.097
DIBENZO(A,H)ANTHRACENE	ND	0.19	0.097
FLUORANTHENE	ND	0.19	0.097
FLUORENE	ND	0.19	0.097
INDENO(1,2,3-CD)PYRENE	ND	0.19	0.097
NAPHTHALENE	0.23	0.19	0.097
PHENANTHRENE	ND	0.19	0.097
2-METHYLNAPHTHALENE	ND	0.19	0.097
1-METHYLNAPHTHALENE	ND	0.19	0.097
N-NITROSODIMETHYLAMINE	ND	0.97	0.097
PYRENE	ND	0.19	0.097
AZOBENZENE	ND	0.97	0.097
BENZO(E)PYRENE	ND	0.19	0.097
BIPHENYL	ND	1.9	0.49

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
NITROBENZENE-D5	14.7	19.40	75.7	40-130
2-FLUOROBIPHENYL	14.0	19.40	71.9	45-130
TERPHENYL-D14	18.2	19.40	93.9	45-135

METHOD 3520C/8270C SIM
SEMI VOLATILE ORGANICS BY GC/MS SIM

Client : CDM	Date Collected: NA
Project : SSFL PHASE 3	Date Received: 07/25/12
Batch No. : 12G198	Date Extracted: 07/25/12 15:30
Sample ID: MBLK1W	Date Analyzed: 07/27/12 13:57
Lab Samp ID: SVG043WB	Dilution Factor: 1
Lab File ID: RGH594	Matrix : WATER
Ext Btch ID: SVG043W	% Moisture : NA
Calib. Ref.: RFH072	Instrument ID : T-OE7

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ACENAPHTHENE	ND	0.20	0.10
ACENAPHTHYLENE	ND	0.20	0.10
ANTHRACENE	ND	0.20	0.10
BENZO(A)ANTHRACENE	ND	0.20	0.10
BENZO(A)PYRENE	ND	0.20	0.10
BENZO(B)FLUORANTHENE	ND	0.20	0.10
BENZO(K)FLUORANTHENE	ND	0.20	0.10
BENZO(G,H,I)PERYLENE	ND	0.20	0.10
CHRYSENE	ND	0.20	0.10
DIBENZO(A,H)ANTHRACENE	ND	0.20	0.10
FLUORANTHENE	ND	0.20	0.10
FLUORENE	ND	0.20	0.10
INDENO(1,2,3-CD)PYRENE	ND	0.20	0.10
NAPHTHALENE	ND	0.20	0.10
PHENANTHRENE	ND	0.20	0.10
2-METHYLNAPHTHALENE	ND	0.20	0.10
1-METHYLNAPHTHALENE	ND	0.20	0.10
N-NITROSODIMETHYLAMINE	ND	1.0	0.10
PYRENE	ND	0.20	0.10
AZOBENZENE	ND	1.0	0.10
BENZO(E)PYRENE	ND	0.20	0.10
BIPHENYL	ND	2.0	0.50

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
NITROBENZENE-D5	16.6	20.00	82.8	40-130
2-FLUOROBIPHENYL	15.3	20.00	76.5	45-130
TERPHENYL-D14	19.1	20.00	95.7	45-130

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: CDM
PROJECT: SSFL PHASE 3
BATCH NO.: 12G198
METHOD: METHOD 3520C/8270C SIM

MATRIX: WATER % MOISTURE: NA

DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1W				
LAB SAMP ID:	SVG043WB	SVG043WL	SVG043WC		
LAB FILE ID:	RGH594	RGH595	RGH596		
DATE EXTRACTED:	07/25/1215:30	07/25/1215:30	07/25/1215:30	DATE COLLECTED:	NA
DATE ANALYZED:	07/27/1213:57	07/27/1214:16	07/27/1214:35	DATE RECEIVED:	07/25/12
PREP. BATCH:	SVG043W	SVG043W	SVG043W		
CALIB. REF:	RFH072	RFH072	RFH072		

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Acenaphthene	ND	40.0	23.5	59	40.0	25.3	63	8	20-130	30
Acenaphthylene	ND	40.0	24.3	61	40.0	26.3	66	8	30-140	30
Anthracene	ND	40.0	29.9	75	40.0	30.8	77	3	40-130	30
Benzo(a)anthracene	ND	40.0	36.6	92	40.0	38.1	95	4	50-130	30
Benzo(a)pyrene	ND	40.0	33.6	84	40.0	34.8	87	3	50-130	30
Benzo(b)fluoranthene	ND	40.0	37.1	93	40.0	37.4	94	1	50-130	30
Benzo(k)fluoranthene	ND	40.0	31.7	79	40.0	33.8	85	6	50-130	30
Benzo(g,h,i)perylene	ND	40.0	34.5	86	40.0	35.7	89	3	30-150	30
Chrysene	ND	40.0	35.4	89	40.0	37.0	93	4	50-130	30
Dibenzo(a,h)anthracene	ND	40.0	36.6	91	40.0	37.8	94	3	40-140	30
Fluoranthene	ND	40.0	35.6	89	40.0	37.0	92	4	40-130	30
Fluorene	ND	40.0	28.4	71	40.0	29.2	73	3	10-150	30
Indeno(1,2,3-cd)pyrene	ND	40.0	36.2	90	40.0	37.3	93	3	40-130	30
Naphthalene	ND	40.0	20.1	50	40.0	23.2	58	14	20-130	30
Phenanthrene	ND	40.0	30.4	76	40.0	31.4	78	3	40-130	30
2-Methylnaphthalene	ND	40.0	20.5	51	40.0	23.8	59	15	30-150	30
1-Methylnaphthalene	ND	40.0	20.8	52	40.0	24.0	60	14	40-150	30
N-Nitrosodimethylamine	ND	40.0	18.3	46	40.0	20.5	51	11	20-150	30
Pyrene	ND	40.0	35.4	89	40.0	36.5	91	3	40-130	30
Azobenzene	ND	40.0	27.1	68	40.0	28.5	71	5	30-150	30
Benzo(e)pyrene	ND	40.0	33.1	83	40.0	34.0	85	3	30-150	30
Biphenyl	ND	40.0	20.1	50	40.0	22.4	56	11	30-150	30

SURROGATE PARAMETER	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	QC LIMIT (%)
Nitrobenzene-d5	20.0	9.59	48	20.0	11.3	57	40-130
2-Fluorobiphenyl	20.0	9.17	46	20.0	10.7	54	45-130
Terphenyl-d14	20.0	18.1	91	20.0	19.2	96	45-130

METHOD 3550B/8082
PCBs

Client : CDM	Date Collected: 07/24/12
Project : SSFL PHASE 3	Date Received: 07/24/12
Batch No. : 12G198	Date Extracted: 08/04/12 13:05
Sample ID: SL-004-A3-SB-0.0-0.5	Date Analyzed: 08/09/12 16:46
Lab Samp ID: G198-01	Dilution Factor: 1
Lab File ID: SH08039A	Matrix : SOIL
Ext Btch ID: CPH013S	% Moisture : 65.6
Calib. Ref.: SH08028A	Instrument ID : GCT008

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
AROCLOR 1016	(ND)|ND	58	29|29
AROCLOR 1221	(ND)|ND	58	29|29
AROCLOR 1232	(ND)|ND	58	29|29
AROCLOR 1242	(ND)|ND	58	29|29
AROCLOR 1248	(ND)|ND	58	29|29
AROCLOR 1254	(260)|250	58	29|29
AROCLOR 1260	(150)|120	58	29|29
AROCLOR 1262	(ND)|ND	58	29|29
AROCLOR 1268	(ND)|ND	58	29|29
AROCLOR 5432	(ND)|ND	120	58|58
AROCLOR 5442	(ND)|ND	120	58|58
AROCLOR 5460	(95J)|94J	120	58|58

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
DECACHLOROBIPHENYL	43.86|(45.61)	38.75	113|(118)	45-120
TETRACHLORO-M-XYLENE	35.37|(39.88)	38.75	91.3|(103)	10-160

Left of | is related to first column ; Right of | related to second column
Final result indicated by ( )
* Out side of QC Limit

METHOD 3550B/8082
PCBs

Client : CDM	Date Collected: 07/24/12
Project : SSFL PHASE 3	Date Received: 07/24/12
Batch No. : 12G198	Date Extracted: 08/04/12 13:05
Sample ID: SL-005-A3-SB-0.0-0.5	Date Analyzed: 08/09/12 17:21
Lab Samp ID: G198-02	Dilution Factor: 1
Lab File ID: SH08040A	Matrix : SOIL
Ext Btch ID: CPH013S	% Moisture : 65.0
Calib. Ref.: SH08028A	Instrument ID : GCT008

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
AROCLOR 1016	(ND)|ND	57	29|29
AROCLOR 1221	(ND)|ND	57	29|29
AROCLOR 1232	(ND)|ND	57	29|29
AROCLOR 1242	(ND)|ND	57	29|29
AROCLOR 1248	(ND)|ND	57	29|29
AROCLOR 1254	(300)|290	57	29|29
AROCLOR 1260	(170)|130	57	29|29
AROCLOR 1262	(ND)|ND	57	29|29
AROCLOR 1268	(ND)|ND	57	29|29
AROCLOR 5432	(ND)|ND	110	57|57
AROCLOR 5442	(ND)|ND	110	57|57
AROCLOR 5460	(110J)|90J	110	57|57

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
DECACHLOROBIPHENYL	40.49|(40.87)	38.09	106|(107)	45-120
TETRACHLORO-M-XYLENE	30.72|(34.97)	38.09	80.7|(91.8)	10-160

Left of | is related to first column ; Right of | related to second column
Final result indicated by ( )
* Out side of QC Limit

METHOD 3550B/8082
PCBs

Client : CDM	Date Collected: 07/24/12
Project : SSFL PHASE 3	Date Received: 07/24/12
Batch No. : 12G198	Date Extracted: 08/04/12 13:05
Sample ID: SL-006-A3-SB-0.0-0.5	Date Analyzed: 08/09/12 17:55
Lab Samp ID: G198-03	Dilution Factor: 1
Lab File ID: SH08041A	Matrix : SOIL
Ext Btch ID: CPH013S	% Moisture : 52.6
Calib. Ref.: SH08028A	Instrument ID : GCT008

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
AROCLOR 1016	(ND)|ND	42	21|21
AROCLOR 1221	(ND)|ND	42	21|21
AROCLOR 1232	(ND)|ND	42	21|21
AROCLOR 1242	(ND)|ND	42	21|21
AROCLOR 1248	(ND)|ND	42	21|21
AROCLOR 1254	(330)|310	42	21|21
AROCLOR 1260	(190)|140	42	21|21
AROCLOR 1262	(ND)|ND	42	21|21
AROCLOR 1268	(ND)|ND	42	21|21
AROCLOR 5432	(ND)|ND	84	42|42
AROCLOR 5442	(ND)|ND	84	42|42
AROCLOR 5460	(90)|75J	84	42|42

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
DECACHLOROBIPHENYL	(30.52)|30.52	28.12	(109)|109	45-120
TETRACHLORO-M-XYLENE	21.90|(24.70)	28.12	77.9|(87.8)	10-160

Left of | is related to first column ; Right of | related to second column
Final result indicated by ( )
* Out side of QC Limit

METHOD 3550B/8082
PCBs

Client : CDM	Date Collected: 07/24/12
Project : SSFL PHASE 3	Date Received: 07/24/12
Batch No. : 12G198	Date Extracted: 08/04/12 13:05
Sample ID: SL-007-A3-SB-0.0-0.5	Date Analyzed: 08/09/12 19:07
Lab Samp ID: G198-04	Dilution Factor: 1
Lab File ID: SH08043A	Matrix : SOIL
Ext Btch ID: CPH013S	% Moisture : 59.4
Calib. Ref.: SH08028A	Instrument ID : GCT008

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
AROCLOR 1016	(ND)|ND	49	25|25
AROCLOR 1221	(ND)|ND	49	25|25
AROCLOR 1232	(ND)|ND	49	25|25
AROCLOR 1242	(ND)|ND	49	25|25
AROCLOR 1248	(ND)|ND	49	25|25
AROCLOR 1254	(220)|210	49	25|25
AROCLOR 1260	(130)|100	49	25|25
AROCLOR 1262	(ND)|ND	49	25|25
AROCLOR 1268	(ND)|ND	49	25|25
AROCLOR 5432	(ND)|ND	99	49|49
AROCLOR 5442	(ND)|ND	99	49|49
AROCLOR 5460	(ND)|ND	99	49|49

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
DECACHLOROBIPHENYL	36.80|(38.98)	32.83	112|(119)	45-120
TETRACHLORO-M-XYLENE	30.38|(34.37)	32.83	92.5|(105)	10-160

Left of | is related to first column ; Right of | related to second column
Final result indicated by ( )
* Out side of QC Limit

METHOD 3550B/8082
PCBs

Client : CDM	Date Collected: NA
Project : SSFL PHASE 3	Date Received: 08/04/12
Batch No. : 12G198	Date Extracted: 08/04/12 13:05
Sample ID: MBLK1S	Date Analyzed: 08/10/12 20:02
Lab Samp ID: 60H013SB	Dilution Factor: 1
Lab File ID: SH10014A	Matrix : SOIL
Ext Btch ID: CPH013S	% Moisture : NA
Calib. Ref.: SH10002A	Instrument ID : GCT008

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
AROCLOR 1016	(ND)|ND	20	10|10
AROCLOR 1221	(ND)|ND	20	10|10
AROCLOR 1232	(ND)|ND	20	10|10
AROCLOR 1242	(ND)|ND	20	10|10
AROCLOR 1248	(ND)|ND	20	10|10
AROCLOR 1254	(ND)|ND	20	10|10
AROCLOR 1260	(ND)|ND	20	10|10
AROCLOR 1262	(ND)|ND	20	10|10
AROCLOR 1268	(ND)|ND	20	10|10
AROCLOR 5432	(ND)|ND	40	20|20
AROCLOR 5442	(ND)|ND	40	20|20
AROCLOR 5460	(ND)|ND	40	20|20

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
DECACHLOROBIPHENYL	16.50|(17.00)	13.33	124*|(128*)	45-120
TETRACHLORO-M-XYLENE	13.46|(15.55)	13.33	101|(117)	10-160

Left of | is related to first column ; Right of | related to second column
Final result indicated by ( )
* Out side of QC Limit

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: CDM
PROJECT: SSFL PHASE 3
BATCH NO.: 12G198
METHOD: METHOD 3550B/8082

MATRIX: SOIL % MOISTURE: NA
DILUTION FACTOR: 1 1 1
SAMPLE ID: MBLK1S
LAB SAMP ID: 60H013SB 60H013SL 60H013SC
LAB FILE ID: SH10014A SH10015A SH10016A
DATE EXTRACTED: 08/04/1213:05 08/04/1213:05 08/04/1213:05 DATE COLLECTED: NA
DATE ANALYZED: 08/10/1220:02 08/10/1220:36 08/10/1221:10 DATE RECEIVED: 08/04/12
PREP. BATCH: CPH013S CPH013S CPH013S
CALIB. REF: SH10002A SH10002A SH10002A

ACCESSION:

PARAMETER	BLNK RSLT (ug/kg)	SPIKE AMT (ug/kg)	BS RSLT (ug/kg)	BS % REC	SPIKE AMT (ug/kg)	BSD RSLT (ug/kg)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Aroclor 1016	(ND) | ND	167	(187) | 182	(112) | 109	167	(165) | 162	(99) | 97	(12) | 12	50-130	50
Aroclor 1260	(ND) | ND	167	196 | (210)	118 | (126)	167	173 | (187)	104 | (112)	12 | (12)	60-150	50
Aroclor 5460	(ND) | ND	83.3	(118) | 100	(142) | 120	83.3	(102) | 87.6	(122) | 105	(15) | 13	50-150	50

SURROGATE PARAMETER	SPIKE AMT (ug/kg)	BS RSLT (ug/kg)	BS % REC	SPIKE AMT (ug/kg)	BSD RSLT (ug/kg)	BSD % REC	QC LIMIT (%)
Decachlorobiphenyl	13.33	16.80 | (17.63)	126* | (132*)	13.33	(16.20) | 16.13	(122*) | 121*	45-120
Tetrachloro-m-xylene	13.33	14.92 | (16.61)	112 | (125)	13.33	12.60 | (14.10)	94.5 | (106)	10-160

METHOD 3520C/8082
PCBs

Client	: CDM	Date Collected	: 07/24/12
Project	: SSFL PHASE 3	Date Received	: 07/24/12
Batch No.	: 12G198	Date Extracted	: 07/26/12 12:45
Sample ID	: EB-072412	Date Analyzed	: 08/10/12 19:28
Lab Samp ID	: G198-05	Dilution Factor	: 0.95
Lab File ID	: SH10013A	Matrix	: WATER
Ext Btch ID	: CPG053W	% Moisture	: NA
Calib. Ref.	: SH10002A	Instrument ID	: GCT008

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
AROCLOR 1016	(ND)|ND	0.95	0.48|0.48
AROCLOR 1221	(ND)|ND	0.95	0.48|0.48
AROCLOR 1232	(ND)|ND	0.95	0.48|0.48
AROCLOR 1242	(ND)|ND	0.95	0.48|0.48
AROCLOR 1248	(ND)|ND	0.95	0.48|0.48
AROCLOR 1254	(ND)|ND	0.95	0.48|0.48
AROCLOR 1260	(ND)|ND	0.95	0.48|0.48
AROCLOR 1262	(ND)|ND	0.95	0.48|0.48
AROCLOR 1268	(ND)|ND	0.95	0.48|0.48
AROCLOR 5432	(ND)|ND	1.9	0.95|0.95
AROCLOR 5442	(ND)|ND	1.9	0.95|0.95
AROCLOR 5460	(ND)|ND	1.9	0.95|0.95

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
DECACHLOROBIPHENYL	(0.4449)|0.4624	0.3800	(117)|122*	45-120
TETRACHLORO-M-XYLENE	0.3471|(0.3962)	0.3800	91.3|(104)	30-140

Left of | is related to first column ; Right of | related to second column
Final result indicated by ( )
* Out side of QC Limit

METHOD 3520C/8082
PCBs

Client : CDM	Date Collected: NA
Project : SSFL PHASE 3	Date Received: 07/26/12
Batch No. : 12G198	Date Extracted: 07/26/12 12:45
Sample ID: MBLK1W	Date Analyzed: 08/10/12 17:46
Lab Samp ID: CPG053WB	Dilution Factor: 1
Lab File ID: SH10010A	Matrix : WATER
Ext Btch ID: CPG053W	% Moisture : NA
Calib. Ref.: SH10002A	Instrument ID : GCT008

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
AROCLOR 1016	(ND)|ND	1.0	0.50|0.50
AROCLOR 1221	(ND)|ND	1.0	0.50|0.50
AROCLOR 1232	(ND)|ND	1.0	0.50|0.50
AROCLOR 1242	(ND)|ND	1.0	0.50|0.50
AROCLOR 1248	(ND)|ND	1.0	0.50|0.50
AROCLOR 1254	(ND)|ND	1.0	0.50|0.50
AROCLOR 1260	(ND)|ND	1.0	0.50|0.50
AROCLOR 1262	(ND)|ND	1.0	0.50|0.50
AROCLOR 1268	(ND)|ND	1.0	0.50|0.50
AROCLOR 5432	(ND)|ND	2.0	1.0|1.0
AROCLOR 5442	(ND)|ND	2.0	1.0|1.0
AROCLOR 5460	(ND)|ND	2.0	1.0|1.0

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
DECACHLOROBIPHENYL	(0.4780)|0.4828	0.4000	(119)|121*	45-120
TETRACHLORO-M-XYLENE	0.3873|(0.4564)	0.4000	96.8|(114)	30-140

Left of | is related to first column ; Right of | related to second column
Final result indicated by ( )
* Out side of QC Limit

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: CDM
PROJECT: SSFL PHASE 3
BATCH NO.: 12G198
METHOD: METHOD 3520C/8082

MATRIX: WATER % MOISTURE: NA

DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1W				
LAB SAMP ID:	CPG053WB	60G053WX	60G053WY		
LAB FILE ID:	SH10010A	SH10011A	SH10012A		
DATE EXTRACTED:	07/26/1212:45	07/26/1212:45	07/26/1212:45	DATE COLLECTED:	NA
DATE ANALYZED:	08/10/1217:46	08/10/1218:20	08/10/1218:54	DATE RECEIVED:	07/26/12
PREP. BATCH:	CPG053W	CPG053W	CPG053W		
CALIB. REF:	SH10002A	SH10002A	SH10002A		

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Aroclor 1016	(ND) | ND	5.00	(4.95) | 4.79	(99) | 96	5.00	(5.21) | 5.08	(104) | 102	(5) | 6	50-130	30
Aroclor 1260	(ND) | ND	5.00	5.24 | (5.52)	105 | (110)	5.00	5.43 | (5.79)	109 | (116)	4 | (5)	60-150	30
Aroclor 5460	(ND) | ND	2.50	(3.17) | 2.66	(127) | 106	2.50	(3.45) | 2.91	(138) | 116	(8) | 9	50-150	30

SURROGATE PARAMETER	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	QC LIMIT (%)
Decachlorobiphenyl	0.4000	0.4826 | (0.4876)	121* | (122*)	0.4000	0.5071 | (0.5079)	127* | (127*)	45-120
Tetrachloro-m-xylene	0.4000	0.4074 | (0.4665)	102 | (117)	0.4000	0.4344 | (0.4968)	109 | (124)	30-140

METHOD 3520C/8015B EFH
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : CDM	Date Collected: 07/24/12
Project : SSFL PHASE 3	Date Received: 07/24/12
Batch No. : 12G198	Date Extracted: 07/27/12 13:30
Sample ID: EB-072412	Date Analyzed: 07/30/12 17:21
Lab Samp ID: G198-05	Dilution Factor: .96
Lab File ID: LG30029A	Matrix : WATER
Ext Btch ID: DSG037W	% Moisture : NA
Calib. Ref.: LG30027A	Instrument ID : GCT105

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
EFH(C8-C11)	ND	0.096	0.048
EFH(C12-C14)	ND	0.096	0.048
EFH(C15-C20)	ND	0.096	0.048
EFH(C21-C30)	ND	0.096	0.048
EFH(C30-C40)	ND	0.096	0.048
TOTAL EFH(C8-C40)	ND	0.096	0.048

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
BROMOBENZENE	0.760	0.9600	79.2	40-130
HEXACOSANE	0.246	0.2400	102	40-150

RL : Reporting Limit

METHOD 3520C/8015B EFH
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : CDM	Date Collected: NA
Project : SSFL PHASE 3	Date Received: 07/27/12
Batch No. : 12G198	Date Extracted: 07/27/12 13:30
Sample ID: MBLK1W	Date Analyzed: 07/30/12 10:38
Lab Samp ID: DSG037WB	Dilution Factor: 1
Lab File ID: LG30005A	Matrix : WATER
Ext Btch ID: DSG037W	% Moisture : NA
Calib. Ref.: LG30003A	Instrument ID : GCT105

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
EFH(C8-C11)	ND	0.10	0.050
EFH(C12-C14)	ND	0.10	0.050
EFH(C15-C20)	ND	0.10	0.050
EFH(C21-C30)	ND	0.10	0.050
EFH(C30-C40)	ND	0.10	0.050
TOTAL EFH(C8-C40)	ND	0.10	0.050

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
BROMOBENZENE	0.742	1.000	74.2	40-130
HEXACOSANE	0.219	0.2500	87.5	40-150

RL : Reporting Limit

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: CDM
PROJECT: SSFL PHASE 3
BATCH NO.: 12G198
METHOD: METHOD 3520C/8015B EFH

MATRIX:	WATER			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1W				
LAB SAMP ID:	DSG037WB	DSG037WL	DSG037WC		
LAB FILE ID:	LG30005A	LG30006A	LG30007A		
DATE EXTRACTED:	07/27/1213:30	07/27/1213:30	07/27/1213:30	DATE COLLECTED:	NA
DATE ANALYZED:	07/30/1210:38	07/30/1210:55	07/30/1211:12	DATE RECEIVED:	07/27/12
PREP. BATCH:	DSG037W	DSG037W	DSG037W		
CALIB. REF:	LG30003A	LG30003A	LG30003A		

ACCESSION:

PARAMETER	BLNK RSLT (mg/L)	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	SPIKE AMT (mg/L)	BSD RSLT (mg/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Total EFH(C8-C40)	ND	5.00	4.30	86	5.00	4.02	80	7	20-150	30

SURROGATE PARAMETER	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	SPIKE AMT (mg/L)	BSD RSLT (mg/L)	BSD % REC	QC LIMIT (%)
Bromobenzene	1.00	0.800	80	1.00	0.844	84	40-130
Hexacosane	0.250	0.229	92	0.250	0.241	96	40-150

METHOD 3550B/8015B EFH
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : CDM	Date Collected: 07/24/12
Project : SSFL PHASE 3	Date Received: 07/24/12
Batch No. : 12G198	Date Extracted: 07/29/12 13:48
Sample ID: SL-004-A3-SB-0.0-0.5	Date Analyzed: 08/04/12 08:24
Lab Samp ID: G198-01	Dilution Factor: 1
Lab File ID: LH03074A	Matrix : SOIL
Ext Btch ID: DSG040S	% Moisture : 65.6
Calib. Ref.: LH03072A	Instrument ID : GCT105

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
EFH(C8-C11)	ND	15	7.3
EFH(C12-C14)	8.5J	15	7.3
EFH(C15-C20)	80	15	7.3
EFH(C21-C30)	170	15	7.3
EFH(C30-C40)	310	29	15
TOTAL EFH(C8-C40)	570	15	7.3

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
BROMOBENZENE	176	290.7	60.5	50-150
HEXACOSANE	76.2	72.67	105	50-150

RL : Reporting Limit

METHOD 3550B/8015B EFH
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : CDM	Date Collected: 07/24/12
Project : SSFL PHASE 3	Date Received: 07/24/12
Batch No. : 12G198	Date Extracted: 07/29/12 13:48
Sample ID: SL-005-A3-SB-0.0-0.5	Date Analyzed: 08/04/12 09:15
Lab Samp ID: G198-02	Dilution Factor: 1
Lab File ID: LH03077A	Matrix : SOIL
Ext Btch ID: DSG040S	% Moisture : 65.0
Calib. Ref.: LH03072A	Instrument ID : GCT105

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
EFH(C8-C11)	ND	14	7.1
EFH(C12-C14)	200	14	7.1
EFH(C15-C20)	560	14	7.1
EFH(C21-C30)	510	14	7.1
EFH(C30-C40)	510	29	14
TOTAL EFH(C8-C40)	1800	14	7.1

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
BROMOBENZENE	193	285.7	67.7	50-150
HEXACOSANE	75.7	71.43	106	50-150

RL : Reporting Limit

METHOD 3550B/8015B EFH
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : CDM	Date Collected: 07/24/12
Project : SSFL PHASE 3	Date Received: 07/24/12
Batch No. : 12G198	Date Extracted: 07/29/12 13:48
Sample ID: SL-006-A3-SB-0.0-0.5	Date Analyzed: 08/04/12 08:58
Lab Samp ID: G198-03	Dilution Factor: 1
Lab File ID: LH03076A	Matrix : SOIL
Ext Btch ID: DSG040S	% Moisture : 52.6
Calib. Ref.: LH03072A	Instrument ID : GCT105

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
EFH(C8-C11)	71	11	5.3
EFH(C12-C14)	1400	11	5.3
EFH(C15-C20)	1300	11	5.3
EFH(C21-C30)	610	11	5.3
EFH(C30-C40)	440	21	11
TOTAL EFH(C8-C40)	3800	11	5.3

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
BROMOBENZENE	124	211.0	58.8	50-150
HEXACOSANE	54.0	52.74	102	50-150

RL : Reporting Limit

METHOD 3550B/8015B EFH
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : CDM	Date Collected: 07/24/12
Project : SSFL PHASE 3	Date Received: 07/24/12
Batch No. : 12G198	Date Extracted: 07/29/12 13:48
Sample ID: SL-007-A3-SB-0.0-0.5	Date Analyzed: 08/04/12 08:41
Lab Samp ID: G198-04	Dilution Factor: 1
Lab File ID: LH03075A	Matrix : SOIL
Ext Btch ID: DSG040S	% Moisture : 59.4
Calib. Ref.: LH03072A	Instrument ID : GCT105

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
EFH(C8-C11)	17	12	6.2
EFH(C12-C14)	300	12	6.2
EFH(C15-C20)	430	12	6.2
EFH(C21-C30)	200	12	6.2
EFH(C30-C40)	220	25	12
TOTAL EFH(C8-C40)	1200	12	6.2

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
BROMOBENZENE	150	246.3	61.0	50-150
HEXACOSANE	61.2	61.58	99.4	50-150

RL : Reporting Limit

METHOD 3550B/8015B EFH
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : CDM	Date Collected: NA
Project : SSFL PHASE 3	Date Received: 07/29/12
Batch No. : 12G198	Date Extracted: 07/29/12 13:48
Sample ID: MBLK1S	Date Analyzed: 07/31/12 10:54
Lab Samp ID: DSG040SB	Dilution Factor: 1
Lab File ID: LG30088A	Matrix : SOIL
Ext Btch ID: DSG040S	% Moisture : NA
Calib. Ref.: LG30086A	Instrument ID : GCT105

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
EFH(C8-C11)	ND	5.0	2.5
EFH(C12-C14)	ND	5.0	2.5
EFH(C15-C20)	ND	5.0	2.5
EFH(C21-C30)	ND	5.0	2.5
EFH(C30-C40)	ND	10	5.0
TOTAL EFH(C8-C40)	ND	5.0	2.5

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
BROMOBENZENE	76.4	100.0	76.4	50-150
HEXACOSANE	24.5	25.00	98.1	50-150

RL : Reporting Limit

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: CDM
PROJECT: SSFL PHASE 3
BATCH NO.: 12G198
METHOD: METHOD 3550B/8015B EFH

MATRIX: SOIL % MOISTURE: NA

DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1S				
LAB SAMP ID:	DSG040SB	DSG040SL	DSG040SC		
LAB FILE ID:	LG30088A	LG30089A	LG30090A		
DATE EXTRACTED:	07/29/1213:48	07/29/1213:48	07/29/1213:48	DATE COLLECTED:	NA
DATE ANALYZED:	07/31/1210:54	07/31/1211:11	07/31/1211:27	DATE RECEIVED:	07/29/12
PREP. BATCH:	DSG040S	DSG040S	DSG040S		
CALIB. REF:	LG30086A	LG30086A	LG30086A		

ACCESSION:

PARAMETER	BLNK RSLT (mg/kg)	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)	BS % REC	SPIKE AMT (mg/kg)	BSD RSLT (mg/kg)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Total EFH(C8-C40)	ND	500	384	77	500	400	80	4	50-140	50

SURROGATE PARAMETER	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)	BS % REC	SPIKE AMT (mg/kg)	BSD RSLT (mg/kg)	BSD % REC	QC LIMIT (%)
Bromobenzene	100	85.9	86	100	81.9	82	50-150
Hexacosane	25.0	26.8	107	25.0	25.0	100	50-150

METHOD 6020
METALS BY ICP-MS

Client : CDM	Date Collected: 07/24/12
Project : SSFL PHASE 3	Date Received: 07/24/12
SDG NO. : 12G198	Date Extracted: 08/03/12 15:00
Sample ID: SL-004-A3-SB-0.0-0.5	Date Analyzed: 08/08/12 20:06
Lab Samp ID: G198-01	Dilution Factor: 0.962
Lab File ID: 98H06050	Matrix : SOIL
Ext Btch ID: IMH008S	% Moisture : 65.6
Calib. Ref.: 98H06044	Instrument ID : T-I98

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Aluminum	26600	280	33.6
Antimony	0.878J	1.40	0.280
Arsenic	10.6	1.40	0.559
Barium	175	1.40	0.559
Beryllium	1.26J	1.40	0.140
Boron	12.1J	14.0	6.99
Cadmium	3.35	1.40	0.140
Calcium	36900	55.9	28.0
Chromium	47.5	1.40	0.559
Cobalt	17.8	1.40	0.140
Copper	51.3	1.40	0.559
Iron	42700	280	28.0
Lead	35.8	1.40	0.280
Magnesium	9320	28.0	14.0
Manganese	656	1.40	0.699
Molybdenum	1.38J	1.40	0.140
Nickel	39.6	1.40	0.559
Potassium	4830	280	83.9
Selenium	0.746J	1.40	0.559
Silver	25.4	1.40	0.140
Sodium	552	280	140
Strontium	142	1.40	0.699
Thallium	0.407J	1.12	0.140
Tin	ND	28.0	14.0
Titanium	1460	2.80	1.40
Vanadium	58.7	1.40	0.140
Zinc	335	14.0	4.19
Lithium	54.3	5.59	2.80
Phosphorus	785	33.6	16.8
Zirconium	ND	14.0	6.99

METHOD 6020
METALS BY ICP-MS

Client : CDM	Date Collected: 07/24/12
Project : SSFL PHASE 3	Date Received: 07/24/12
SDG NO. : 12G198	Date Extracted: 08/03/12 15:00
Sample ID: SL-005-A3-SB-0.0-0.5	Date Analyzed: 08/08/12 20:11
Lab Samp ID: G198-02	Dilution Factor: 0.966
Lab File ID: 98H06051	Matrix : SOIL
Ext Btch ID: IMH008S	% Moisture : 65.0
Calib. Ref.: 98H06044	Instrument ID : T-I98

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Aluminum	20800	276	33.1
Antimony	0.930J	1.38	0.276
Arsenic	8.69	1.38	0.552
Barium	139	1.38	0.552
Beryllium	0.958J	1.38	0.138
Boron	10.4J	13.8	6.90
Cadmium	2.26	1.38	0.138
Calcium	32900	55.2	27.6
Chromium	40.0	1.38	0.552
Cobalt	11.9	1.38	0.138
Copper	43.7	1.38	0.552
Iron	32100	276	27.6
Lead	28.9	1.38	0.276
Magnesium	7270	27.6	13.8
Manganese	564	1.38	0.690
Molybdenum	1.88	1.38	0.138
Nickel	28.9	1.38	0.552
Potassium	4210	276	82.8
Selenium	0.576J	1.38	0.552
Silver	39.6	1.38	0.138
Sodium	387	276	138
Strontium	122	1.38	0.690
Thallium	0.372J	1.10	0.138
Tin	ND	27.6	13.8
Titanium	1130	2.76	1.38
Vanadium	50.8	1.38	0.138
Zinc	202	13.8	4.14
Lithium	46.8	5.52	2.76
Phosphorus	784	33.1	16.6
Zirconium	ND	13.8	6.90

METHOD 6020
METALS BY ICP-MS

Client : CDM	Date Collected: 07/24/12
Project : SSFL PHASE 3	Date Received: 07/24/12
SDG NO. : 12G198	Date Extracted: 08/03/12 15:00
Sample ID: SL-006-A3-SB-0.0-0.5	Date Analyzed: 08/08/12 20:15
Lab Samp ID: G198-03	Dilution Factor: 0.980
Lab File ID: 98H06052	Matrix : SOIL
Ext Btch ID: IMH008S	% Moisture : 52.6
Calib. Ref.: 98H06044	Instrument ID : T-I98

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Aluminum	23100	207	24.8
Antimony	0.698J	1.03	0.207
Arsenic	9.19	1.03	0.414
Barium	141	1.03	0.414
Beryllium	0.924J	1.03	0.103
Boron	8.18J	10.3	5.17
Cadmium	1.98	1.03	0.103
Calcium	26500	41.4	20.7
Chromium	45.2	1.03	0.414
Cobalt	11.4	1.03	0.103
Copper	43.0	1.03	0.414
Iron	32400	207	20.7
Lead	24.8	1.03	0.207
Magnesium	7570	20.7	10.3
Manganese	671	1.03	0.517
Molybdenum	2.10	1.03	0.103
Nickel	28.3	1.03	0.414
Potassium	4070	207	62.0
Selenium	0.477J	1.03	0.414
Silver	39.8	1.03	0.103
Sodium	321	207	103
Strontium	105	1.03	0.517
Thallium	0.338J	0.827	0.103
Tin	ND	20.7	10.3
Titanium	1320	2.07	1.03
Vanadium	51.1	1.03	0.103
Zinc	173	10.3	3.10
Lithium	46.9	4.14	2.07
Phosphorus	749	24.8	12.4
Zirconium	ND	10.3	5.17

METHOD 6020
METALS BY ICP-MS

Client : CDM	Date Collected: 07/24/12
Project : SSFL PHASE 3	Date Received: 07/24/12
SDG NO. : 12G198	Date Extracted: 08/03/12 15:00
Sample ID: SL-007-A3-SB-0.0-0.5	Date Analyzed: 08/08/12 20:20
Lab Samp ID: G198-04	Dilution Factor: 0.995
Lab File ID: 98H06053	Matrix : SOIL
Ext Btch ID: IMH008S	% Moisture : 59.4
Calib. Ref.: 98H06044	Instrument ID : T-I98

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Aluminum	12800	245	29.4
Antimony	0.485J	1.23	0.245
Arsenic	5.87	1.23	0.490
Barium	92.1	1.23	0.490
Beryllium	0.524J	1.23	0.123
Boron	ND	12.3	6.13
Cadmium	1.06J	1.23	0.123
Calcium	36200	49.0	24.5
Chromium	22.2	1.23	0.490
Cobalt	6.31	1.23	0.123
Copper	21.9	1.23	0.490
Iron	20600	245	24.5
Lead	17.4	1.23	0.245
Magnesium	4490	24.5	12.3
Manganese	695	1.23	0.613
Molybdenum	2.33	1.23	0.123
Nickel	16.3	1.23	0.490
Potassium	2410	245	73.5
Selenium	ND	1.23	0.490
Silver	12.8	1.23	0.123
Sodium	274	245	123
Strontium	118	1.23	0.613
Thallium	0.198J	0.980	0.123
Tin	ND	24.5	12.3
Titanium	730	2.45	1.23
Vanadium	30.4	1.23	0.123
Zinc	101	12.3	3.68
Lithium	24.1	4.90	2.45
Phosphorus	599	29.4	14.7
Zirconium	ND	12.3	6.13

METHOD 6020
METALS BY ICP-MS

Client : CDM	Date Collected: NA
Project : SSFL PHASE 3	Date Received: 08/03/12
SDG NO. : 12G198	Date Extracted: 08/03/12 15:00
Sample ID: MBLK1S	Date Analyzed: 08/08/12 17:59
Lab Samp ID: IMH008SB	Dilution Factor: 1
Lab File ID: 98H06022	Matrix : SOIL
Ext Btch ID: IMH008S	% Moisture : NA
Calib. Ref.: 98H06020	Instrument ID : T-I98

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Aluminum	ND	100	12.0
Antimony	ND	0.500	0.100
Arsenic	ND	0.500	0.200
Barium	ND	0.500	0.200
Beryllium	ND	0.500	0.0500
Boron	ND	5.00	2.50
Cadmium	ND	0.500	0.0500
Calcium	ND	20.0	10.0
Chromium	ND	0.500	0.200
Cobalt	ND	0.500	0.0500
Copper	ND	0.500	0.200
Iron	ND	100	10.0
Lead	ND	0.500	0.100
Magnesium	ND	10.0	5.00
Manganese	ND	0.500	0.250
Molybdenum	ND	0.500	0.0500
Nickel	ND	0.500	0.200
Potassium	ND	100	30.0
Selenium	ND	0.500	0.200
Silver	ND	0.500	0.0500
Sodium	ND	100	50.0
Strontium	ND	0.500	0.250
Thallium	ND	0.400	0.0500
Tin	ND	10.0	5.00
Titanium	ND	1.00	0.500
Vanadium	ND	0.500	0.0500
Zinc	ND	5.00	1.50
Lithium	ND	2.00	1.00
Phosphorus	ND	12.0	6.00
Zirconium	ND	5.00	2.50

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: CDM
PROJECT: SSFL PHASE 3
SDG NO.: 12G198
METHOD: METHOD 6020

MATRIX: SOIL % MOISTURE: NA
DILTN FACTR: 1 1 1
SAMPLE ID: MBLK1S
CONTROL NO.: IMH008SB IMH008SL IMH008SC
LAB FILE ID: 98H06022 98H06023 98H06024
DATIME EXTRCTD: 08/03/1215:00 08/03/1215:00 08/03/1215:00 DATE COLLECTED: NA
DATIME ANALYZD: 08/08/1217:59 08/08/1218:04 08/08/1218:08 DATE RECEIVED: 08/03/12
PREP. BATCH: IMH008S IMH008S IMH008S
CALIB. REF: 98H06020 98H06020 98H06020

ACCESSION:

PARAMETER	BLNK RSLT mg/kg	SPIKE AMT mg/kg	BS RSLT mg/kg	BS % REC	SPIKE AMT mg/kg	BSD RSLT mg/kg	BSD % REC	RPD %	QC LIMIT %	MAX RPD %
Aluminum	ND	2500	2530	101	2500	2310	92	9	80-120	20
Antimony	ND	25.0	24.9	100	25.0	22.8	91	9	80-120	20
Arsenic	ND	25.0	24.0	96	25.0	22.1	88	8	80-120	20
Barium	ND	25.0	25.0	100	25.0	22.5	90	10	80-120	20
Beryllium	ND	25.0	24.6	99	25.0	21.9	88	12	80-120	20
Boron	ND	25.0	25.0	100	25.0	23.6	94	6	80-120	20
Cadmium	ND	25.0	24.8	99	25.0	23.6	94	5	80-120	20
Calcium	ND	2500	2590	104	2500	2360	94	9	80-120	20
Chromium	ND	25.0	24.7	99	25.0	22.3	89	10	80-120	20
Cobalt	ND	25.0	24.6	98	25.0	22.1	88	11	80-120	20
Copper	ND	25.0	24.7	99	25.0	22.6	91	9	80-120	20
Iron	ND	2500	2600	104	2500	2370	95	9	80-120	20
Lead	ND	25.0	24.7	99	25.0	23.4	94	6	80-120	20
Magnesium	ND	2500	2550	102	2500	2340	93	9	80-120	20
Manganese	ND	25.0	24.7	99	25.0	22.6	90	9	80-120	20
Molybdenum	ND	25.0	24.8	99	25.0	22.7	91	9	80-120	20
Nickel	ND	25.0	24.5	98	25.0	22.3	89	9	80-120	20
Potassium	ND	2500	2550	102	2500	2400	96	6	80-120	20
Selenium	ND	25.0	23.4	94	25.0	22.0	88	6	80-120	20
Silver	ND	25.0	25.0	100	25.0	24.7	99	2	80-120	20
Sodium	ND	2500	2510	100	2500	2350	94	7	80-120	20
Strontium	ND	25.0	24.2	97	25.0	22.3	89	8	80-120	20
Thallium	ND	25.0	24.2	97	25.0	23.6	94	3	80-120	20
Tin	ND	25.0	26.8	107	25.0	25.1	100	7	80-120	20
Titanium	ND	25.0	25.0	100	25.0	22.7	91	9	80-120	20
Vanadium	ND	25.0	24.5	98	25.0	22.4	90	9	80-120	20
Zinc	ND	50.0	46.1	92	50.0	44.6	89	3	80-120	20
Lithium	ND	25.0	25.5	102	25.0	23.7	95	7	80-120	20
Phosphorus	ND	250	227	91	250	215	86	6	80-120	20
Zirconium	ND	25.0	24.6	98	25.0	22.5	90	9	80-120	20

EMAX QUALITY CONTROL DATA
ANALYTICAL SPIKE ANALYSIS

CLIENT: CDM
PROJECT: SSFL PHASE 3
SDG NO.: 12G198
METHOD: METHOD 6020

MATRIX: SOIL % MOISTURE: 8.2
DILTN FACTR: 0.985 0.985
SAMPLE ID: SL-742-SA5C-SB-0.0-0.5
CONTROL NO.: G199-08 G199-08A
LAB FILE ID: 98H06030 98H06029
DATIME EXTRCTD: 08/03/1215:00 08/03/1215:00 DATE COLLECTED: 07/24/12
DATIME ANALYZD: 08/08/1218:35 08/08/1218:30 DATE RECEIVED: 07/24/12
PREP. BATCH: IMH008S IMH008S
CALIB. REF: 98H06020 98H06020

ACCESSION:

PARAMETER	SMPL RSLT (mg/kg)	SPIKE AMT (mg/kg)	AS RSLT (mg/kg)	AS % REC	QC LIMIT (%)
Aluminum	13800	2680	16200	89	75-125
Antimony	0.285J	26.8	26.4	97	75-125
Arsenic	14.0	26.8	37.7	88	75-125
Barium	83.3	26.8	112	106	75-125
Beryllium	0.514J	26.8	25.9	95	75-125
Boron	ND	26.8	27.9	104	75-125
Cadmium	0.171J	26.8	26.0	96	75-125
Calcium	2960	2680	5620	99	75-125
Chromium	17.4	26.8	41.1	88	75-125
Cobalt	5.13	26.8	28.4	87	75-125
Copper	7.42	26.8	30.5	86	75-125
Iron	19100	2680	21800	100	75-125
Lead	4.59	26.8	29.6	93	75-125
Magnesium	4770	2680	7330	96	75-125
Manganese	252	26.8	271	73*	75-125
Molybdenum	0.495J	26.8	26.8	98	75-125
Nickel	9.77	26.8	33.2	87	75-125
Potassium	2910	2680	5620	101	75-125
Selenium	ND	26.8	24.5	91	75-125
Silver	ND	26.8	25.9	96	75-125
Sodium	87.6J	2680	2640	95	75-125
Strontium	14.8	26.8	39.5	92	75-125
Thallium	0.236J	26.8	25.4	94	75-125
Tin	ND	26.8	29.3	109	75-125
Titanium	1010	26.8	1030	84	75-125
Vanadium	33.5	26.8	57.2	88	75-125
Zinc	48.3	53.6	95.0	87	75-125
Lithium	22.6	26.8	49.7	101	75-125
Phosphorus	370	268	610	90	75-125
Zirconium	ND	26.8	26.2	98	75-125

EMAX QUALITY CONTROL DATA
SERIAL DILUTION ANALYSIS

CLIENT: CDM
PROJECT: SSFL PHASE 3
BATCH NO.: 12G198
METHOD: METHOD 6020

MATRIX: SOIL % MOISTURE: 8.2
DILUTION FACTOR: 0.985 4.93
SAMPLE ID: SL-742-SA5C-SB SL-742-SA5C-SB
EMAX SAMP ID: G199-08 G199-08J
LAB FILE ID: 98H06030 98H06034
DATE EXTRACTED: 08/03/1215:00 08/03/1215:00 DATE COLLECTED: 07/24/12
DATE ANALYZED: 08/08/1218:35 08/08/1218:53 DATE RECEIVED: 07/24/12
PREP. BATCH: IMH008S IMH008S
CALIB. REF: 98H06020 98H06032

ACCESSION:

PARAMETER	SMPL RSLT (mg/kg)	SERIAL DIL RSLT (mg/kg)	DIF RSLT %	QC LIMIT (%)
Aluminum	13800	14400	4	10
Antimony	0.285J	ND	NA	10
Arsenic	14.0	14.7	5	10
Barium	83.3	81.7	2	10
Beryllium	0.514J	0.550J	NA	10
Boron	ND	ND	0	10
Cadmium	0.171J	ND	NA	10
Calcium	2960	3150	6	10
Chromium	17.4	18.2	5	10
Cobalt	5.13	5.49	7	10
Copper	7.42	7.89	6	10
Iron	19100	20600	8	10
Lead	4.59	4.72	3	10
Magnesium	4770	4970	4	10
Manganese	252	272	8	10
Molybdenum	0.495J	0.485J	NA	10
Nickel	9.77	10.6	8	10
Potassium	2910	2970	2	10
Selenium	ND	ND	0	10
Silver	ND	ND	0	10
Sodium	87.6J	ND	NA	10
Strontium	14.8	14.7	0	10
Thallium	0.236J	ND	NA	10
Tin	ND	ND	0	10
Titanium	1010	1060	6	10
Vanadium	33.5	35.0	5	10
Zinc	48.3	49.9	3	10
Lithium	22.6	21.6	4	10
Phosphorus	370	370	0	10
Zirconium	ND	ND	0	10

METHOD 6020
METALS BY ICP-MS

Client : CDM	Date Collected: 07/24/12
Project : SSFL PHASE 3	Date Received: 07/24/12
SDG NO. : 12G198	Date Extracted: 07/30/12 16:37
Sample ID: EB-072412	Date Analyzed: 08/09/12 17:41
Lab Samp ID: G198-05	Dilution Factor: 1
Lab File ID: 98H07025	Matrix : WATER
Ext Btch ID: IMG039W	% Moisture : NA
Calib. Ref.: 98H07020	Instrument ID : T-I98

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
Aluminum	0.0331J	0.100	0.0200
Antimony	ND	0.00100	0.000500
Arsenic	ND	0.00100	0.000200
Barium	ND	0.00100	0.000500
Beryllium	ND	0.00100	0.000100
Boron	0.00942J	0.0100	0.00500
Cadmium	ND	0.00100	0.000200
Calcium	0.0262J	0.100	0.0250
Chromium	ND	0.00100	0.000200
Cobalt	ND	0.00100	0.000200
Copper	0.00118	0.00100	0.000500
Iron	ND	0.100	0.0100
Lead	ND	0.00100	0.000100
Magnesium	ND	0.100	0.0100
Manganese	0.000742J	0.00100	0.000200
Molybdenum	ND	0.00200	0.000500
Nickel	ND	0.00100	0.000200
Potassium	ND	0.100	0.0200
Selenium	ND	0.00100	0.000300
Silver	ND	0.00100	0.000200
Sodium	0.0521J	0.100	0.0500
Strontium	ND	0.00200	0.00100
Thallium	ND	0.00100	0.000200
Tin	ND	0.00100	0.000200
Titanium	ND	0.00200	0.000500
Vanadium	ND	0.00100	0.000500
Zinc	ND	0.0200	0.0100
Lithium	ND	0.00200	0.000500
Phosphorus	ND	0.0500	0.0250
Zirconium	ND	0.00500	0.00200

METHOD 6020
METALS BY ICP-MS

Client : CDM	Date Collected: NA
Project : SSFL PHASE 3	Date Received: 07/30/12
SDG NO. : 12G198	Date Extracted: 07/30/12 16:37
Sample ID: MBLK1W	Date Analyzed: 08/09/12 17:28
Lab Samp ID: IMG039WB	Dilution Factor: 1
Lab File ID: 98H07022	Matrix : WATER
Ext Btch ID: IMG039W	% Moisture : NA
Calib. Ref.: 98H07020	Instrument ID : T-I98

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
Aluminum	ND	0.100	0.0200
Antimony	ND	0.00100	0.000500
Arsenic	ND	0.00100	0.000200
Barium	ND	0.00100	0.000500
Beryllium	ND	0.00100	0.000100
Boron	ND	0.0100	0.00500
Cadmium	ND	0.00100	0.000200
Calcium	ND	0.100	0.0250
Chromium	ND	0.00100	0.000200
Cobalt	ND	0.00100	0.000200
Copper	ND	0.00100	0.000500
Iron	ND	0.100	0.0100
Lead	ND	0.00100	0.000100
Magnesium	ND	0.100	0.0100
Manganese	ND	0.00100	0.000200
Molybdenum	ND	0.00200	0.000500
Nickel	ND	0.00100	0.000200
Potassium	ND	0.100	0.0200
Selenium	ND	0.00100	0.000300
Silver	ND	0.00100	0.000200
Sodium	ND	0.100	0.0500
Strontium	ND	0.00200	0.00100
Thallium	ND	0.00100	0.000200
Tin	ND	0.00100	0.000200
Titanium	ND	0.00200	0.000500
Vanadium	ND	0.00100	0.000500
Zinc	ND	0.0200	0.0100
Lithium	ND	0.00200	0.000500
Phosphorus	ND	0.0500	0.0250
Zirconium	ND	0.00500	0.00200

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: CDM
PROJECT: SSFL PHASE 3
SDG NO.: 12G198
METHOD: METHOD 6020

MATRIX: WATER % MOISTURE: NA
DILTN FACTR: 1 1 1
SAMPLE ID: MBLK1W
CONTROL NO.: IMG039WB IMG039WL IMG039WC
LAB FILE ID: 98H07022 98H07023 98H07024
DATIME EXTRCTD: 07/30/1216:37 07/30/1216:37 07/30/1216:37 DATE COLLECTED: NA
DATIME ANALYZD: 08/09/1217:28 08/09/1217:32 08/09/1217:37 DATE RECEIVED: 07/30/12
PREP. BATCH: IMG039W IMG039W IMG039W
CALIB. REF: 98H07020 98H07020 98H07020

ACCESSION:

PARAMETER	BLNK RSLT mg/L	SPIKE AMT mg/L	BS RSLT mg/L	BS % REC	SPIKE AMT mg/L	BSD RSLT mg/L	BSD % REC	RPD %	QC LIMIT %	MAX RPD %
Aluminum	ND	2.50	2.64	106	2.50	2.65	106	0	80-120	20
Antimony	ND	0.0250	0.0264	106	0.0250	0.0259	104	2	80-120	20
Arsenic	ND	0.0250	0.0261	104	0.0250	0.0256	102	2	80-120	20
Barium	ND	0.0250	0.0261	104	0.0250	0.0256	102	2	80-120	20
Beryllium	ND	0.0250	0.0260	104	0.0250	0.0257	103	1	80-120	20
Boron	ND	0.0250	0.0268	107	0.0250	0.0273	109	2	80-120	20
Cadmium	ND	0.0250	0.0258	103	0.0250	0.0256	102	1	80-120	20
Calcium	ND	2.50	2.71	108	2.50	2.69	108	1	80-120	20
Chromium	ND	0.0250	0.0258	103	0.0250	0.0254	102	2	80-120	20
Cobalt	ND	0.0250	0.0259	104	0.0250	0.0257	103	1	80-120	20
Copper	ND	0.0250	0.0262	105	0.0250	0.0259	104	1	80-120	20
Iron	ND	2.50	2.75	110	2.50	2.68	107	3	80-120	20
Lead	ND	0.0250	0.0258	103	0.0250	0.0261	104	1	80-120	20
Magnesium	ND	2.50	2.67	107	2.50	2.68	107	0	80-120	20
Manganese	ND	0.0250	0.0265	106	0.0250	0.0260	104	2	80-120	20
Molybdenum	ND	0.0250	0.0255	102	0.0250	0.0253	101	1	80-120	20
Nickel	ND	0.0250	0.0260	104	0.0250	0.0278	111	7	80-120	20
Potassium	ND	2.50	2.69	107	2.50	2.64	106	2	80-120	20
Selenium	ND	0.0250	0.0256	102	0.0250	0.0254	102	1	80-120	20
Silver	ND	0.0250	0.0266	106	0.0250	0.0262	105	2	80-120	20
Sodium	ND	2.50	2.65	106	2.50	2.62	105	1	80-120	20
Strontium	ND	0.0250	0.0257	103	0.0250	0.0253	101	1	80-120	20
Thallium	ND	0.0250	0.0251	100	0.0250	0.0254	102	1	80-120	20
Tin	ND	0.0250	0.0267	107	0.0250	0.0262	105	2	80-120	20
Titanium	ND	0.0250	0.0264	106	0.0250	0.0258	103	2	80-120	20
Vanadium	ND	0.0250	0.0257	103	0.0250	0.0255	102	1	80-120	20
Zinc	ND	0.0500	0.0526	105	0.0500	0.0515	103	2	80-120	20
Lithium	ND	0.0250	0.0254	102	0.0250	0.0252	101	1	80-120	20
Phosphorus	ND	0.250	0.256	103	0.250	0.253	101	1	80-120	20
Zirconium	ND	0.0250	0.0265	106	0.0250	0.0260	104	2	80-120	20

METHOD 7471A
MERCURY BY COLD VAPOR

Client : CDM
Project : SSFL PHASE 3
Batch No. : 12G198

Matrix : SOIL
Instrument ID : TI047

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/kg)	DLF	MOIST	RL (mg/kg)	MDL (mg/kg)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1S	HGH005SB	ND	1	NA	0.100	0.0500	08/03/1210:13	08/02/1217:15	M47H004010	M47H004008	HGH005S	NA	08/02/12
LCS1S	HGH005SL	0.875	1	NA	0.100	0.0500	08/03/1210:15	08/02/1217:15	M47H004011	M47H004008	HGH005S	NA	08/02/12
LCD1S	HGH005SC	0.878	1	NA	0.100	0.0500	08/03/1210:17	08/02/1217:15	M47H004012	M47H004008	HGH005S	NA	08/02/12
SL-004-A3-SB-0.0-0.5	G198-01	ND	0.992	65.6	0.288	0.144	08/03/1210:59	08/02/1217:15	M47H004031	M47H004020	HGH005S	07/24/1209:45	07/24/12
SL-005-A3-SB-0.0-0.5	G198-02	0.161J	0.995	65.0	0.284	0.142	08/03/1211:05	08/02/1217:15	M47H004034	M47H004032	HGH005S	07/24/1210:15	07/24/12
SL-006-A3-SB-0.0-0.5	G198-03	0.170J	0.997	52.6	0.210	0.105	08/03/1211:07	08/02/1217:15	M47H004035	M47H004032	HGH005S	07/24/1208:35	07/24/12
SL-007-A3-SB-0.0-0.5	G198-04	ND	0.998	59.4	0.246	0.123	08/03/1211:09	08/02/1217:15	M47H004036	M47H004032	HGH005S	07/24/1208:00	07/24/12

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: CDM
PROJECT: SSFL PHASE 3
SDG NO.: 12G198
METHOD: 7471A

MATRIX: SOIL % MOISTURE: NA
DILTN FACTR: 1 1 1
SAMPLE ID: MBLK1S
CONTROL NO.: HGH005SB HGH005SL HGH005SC
LAB FILE ID: M47H004010 M47H004011 M47H004012
DATIME EXTRCTD: 08/02/1217:15 08/02/1217:15 08/02/1217:15 DATE COLLECTED: NA
DATIME ANALYZD: 08/03/1210:13 08/03/1210:15 08/03/1210:17 DATE RECEIVED: 08/02/12
PREP. BATCH: HGH005S HGH005S HGH005S
CALIB. REF: M47H004008 M47H004008 M47H004008

ACCESSION:

PARAMETER	BLNK RSLT mg/kg	SPIKE AMT mg/kg	BS RSLT mg/kg	BS % REC	SPIKE AMT mg/kg	BSD RSLT mg/kg	BSD % REC	RPD %	QC LIMIT %	MAX RPD %
Mercury	ND	.833	.875	105	.833	.878	105	0	85-120	20

EMAX QUALITY CONTROL DATA
ANALYTICAL SPIKE ANALYSIS

CLIENT: CDM
PROJECT: SSFL PHASE 3
SDG NO.: 12G198
METHOD: 7471A

MATRIX: SOIL % MOISTURE: 9.4
DILTN FACTR: 0.993 0.993
SAMPLE ID: SL-741-SA5C-SB-0.0-0.5
CONTROL NO.: G199-03 G199-03A
LAB FILE ID: M47H004014 M47H004013
DATIME EXTRCTD: 08/02/1217:15 08/02/1217:15 DATE COLLECTED: 07/24/12 09:20
DATIME ANALYZD: 08/03/1210:21 08/03/1210:19 DATE RECEIVED: 07/24/12
PREP. BATCH: HGH005S HGH005S
CALIB. REF: M47H004008 M47H004008

ACCESSION:

PARAMETER	SMPL RSLT (mg/kg)	SPIKE AMT (mg/kg)	AS RSLT (mg/kg)	AS % REC	QC LIMIT (%)
Mercury	ND	.913	.975	107	85-115

EMAX QUALITY CONTROL DATA
SERIAL DILUTION ANALYSIS

CLIENT: CDM
PROJECT: SSFL PHASE 3
BATCH NO.: 12G198
METHOD: 7471A

MATRIX:	SOIL		% MOISTURE:	9.4
DILUTION FACTOR:	0.993	4.97		
SAMPLE ID:	SL-741-SA5C-SB-0.0-0.5	SL-741-SA5C-SB-0.0-0.5DL		
EMAX SAMP ID:	G199-03	G199-03J		
LAB FILE ID:	M47H004014	M47H004015		
DATE EXTRACTED:	08/02/1217:15	08/02/1217:15	DATE COLLECTED:	07/24/12 09:20
DATE ANALYZED:	08/03/1210:21	08/03/1210:23	DATE RECEIVED:	07/24/12
PREP. BATCH:	HGH005S	HGH005S		
CALIB. REF:	M47H004008	M47H004008		

ACCESSION:

PARAMETER	SMPL RSLT (mg/kg)	SERIAL DIL RSLT (mg/kg)	DIF RSLT %	QC LIMIT (%)
Mercury	ND	ND	0	10

METHOD 7470A
MERCURY BY COLD VAPOR

Client : CDM
Project : SSFL PHASE 3
Batch No. : 12G198

Matrix : WATER
Instrument ID : TI047

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/L)	DLF	MOIST	RL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1W	HGH003WB	ND	1	NA	0.000500	0.000100	08/01/1220:52	08/01/1215:00	M47H001073	M47H001068	HGH003W	NA	08/01/12
LCS1W	HGH003WL	0.00524	1	NA	0.000500	0.000100	08/01/1220:54	08/01/1215:00	M47H001074	M47H001068	HGH003W	NA	08/01/12
LCD1W	HGH003WC	0.00527	1	NA	0.000500	0.000100	08/01/1220:56	08/01/1215:00	M47H001075	M47H001068	HGH003W	NA	08/01/12
EB-072412	G198-05	ND	1	NA	0.000500	0.000100	08/02/1212:45	08/01/1215:00	M47H002071	M47H002068	HGH003W	07/24/1214:00	07/24/12

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: CDM
PROJECT: SSFL PHASE 3
SDG NO.: 12G198
METHOD: 7470A

MATRIX:	WATER			% MOISTURE:	NA
DILTN FACTR:	1	1	1		
SAMPLE ID:	MBLK1W				
CONTROL NO.:	HGH003WB	HGH003WL	HGH003WC		
LAB FILE ID:	M47H001073	M47H001074	M47H001075		
DATIME EXTRCTD:	08/01/1215:00	08/01/1215:00	08/01/1215:00	DATE COLLECTED:	NA
DATIME ANALYZD:	08/01/1220:52	08/01/1220:54	08/01/1220:56	DATE RECEIVED:	08/01/12
PREP. BATCH:	HGH003W	HGH003W	HGH003W		
CALIB. REF:	M47H001068	M47H001068	M47H001068		

ACCESSION:

PARAMETER	BLNK RSLT mg/L	SPIKE AMT mg/L	BS RSLT mg/L	BS % REC	SPIKE AMT mg/L	BSD RSLT mg/L	BSD % REC	RPD %	QC LIMIT %	MAX RPD %
Mercury	ND	.005	.00524	105	.005	.00527	105	1	90-115	20

SAMPLE DELIVERY GROUP

PH020

ANALYTICAL RESULTS

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

Prepared for:

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

July 30, 2012

Project: SSFL Phase 3 Sampling

Submittal Date: 07/18/2012
Group Number: 1322851
SDG: PH020
PO Number: 1203-004-009-AL
Release Number: TRACKING #12571
State of Sample Origin: CA

Client Sample Description	Lancaster Labs (LLI) #
SL-016-A3-SB-0.0-0.5 Grab Soil	6724180
SL-016-A3-SB-0.0-0.5 MS Grab Soil	6724181
SL-016-A3-SB-0.0-0.5 MSD Grab Soil	6724182
SL-017-A3-SB-0.0-0.5 Grab Soil	6724183
SL-316-A3-SB-0.0-0.5 Grab Soil	6724184
SL-014-A3-SB-0.0-0.5 Grab Soil	6724185
SL-015-A3-SB-0.0-0.5 Grab Soil	6724186
SL-011-A3-SB-0.0-0.5 Grab Soil	6724187
SL-012-A3-SB-0.0-0.5 Grab Soil	6724188
SL-013-A3-SB-0.0-0.5 Grab Soil	6724189

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

ELECTRONIC COPY TO	CDM Federal Services Program	Attn: Todd Burgesser
ELECTRONIC COPY TO	Data Package Group	

Respectfully Submitted,



Nicole L. Maljovec
Senior Specialist Group Leader

(717) 556-7259

Sample Description: SL-016-A3-SB-0.0-0.5 Grab Soil
SSFL Phase 3 Soil Sampling
SL-016-A3-SB

LLI Sample # SW 6724180
LLI Group # 1322851
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/17/2012 08:55

Submitted: 07/18/2012 09:20
Reported: 07/30/2012 23:32

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

A3016 SDG#: PH020-01BKG

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Wet Chemistry	**EPA 160.3 modified**		%	%	%	
11625	Moisture CDM	n.a.	1.7	0.50	0.50	1

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

Sample Description: SL-016-A3-SB-0.0-0.5 Grab Soil
SSFL Phase 3 Soil Sampling
SL-016-A3-SB

LLI Sample # SW 6724180
LLI Group # 1322851
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/17/2012 08:55

Submitted: 07/18/2012 09:20
Reported: 07/30/2012 23:32

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

A3016 SDG#: PH020-01BKG

CAT No.	Analysis Name	CAS Number	Dry Result		Dry EDL*	Dry MRL	Dilution Factor
Dioxins/Furans	**EPA 1613B**		**ng/kg**		**ng/kg**	**ng/kg**	
11031	2378-TCDD	1746-01-6	0.0771	JBQ	0.0378	1.01	1
11031	12378-PeCDD	40321-76-4	0.490	JB	0.0371	5.03	1
11031	123478-HxCDD	39227-28-6	0.810	JB	0.0339	5.03	1
11031	123678-HxCDD	57653-85-7	1.90	JB	0.0358	5.03	1
11031	123789-HxCDD	19408-74-3	1.90	JB	0.0339	5.03	1
11031	1234678-HpCDD	35822-46-9	57.7	B	0.0762	5.03	1
11031	OCDD	3268-87-9	805	B	0.0557	10.1	1
11031	2378-TCDF	51207-31-9	0.141	JB	0.0469	1.01	1
11031	12378-PeCDF	57117-41-6	0.449	JB	0.0217	5.03	1
11031	23478-PeCDF	57117-31-4	0.332	JB	0.0215	5.03	1
11031	123478-HxCDF	70648-26-9	0.535	JB	0.0240	5.03	1
11031	123678-HxCDF	57117-44-9	0.418	JB	0.0218	5.03	1
11031	123789-HxCDF	72918-21-9	0.793	JBQ	0.0259	5.03	1
11031	234678-HxCDF	60851-34-5	0.538	JB	0.0226	5.03	1
11031	1234678-HpCDF	67562-39-4	11.0	B	0.0238	5.03	1
11031	1234789-HpCDF	55673-89-7	1.28	JB	0.0317	5.03	1
11031	OCDF	39001-02-0	63.5	B	0.0283	10.1	1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	80	25 - 164
13C12-12378-PeCDD	93	25 - 181
13C12-123478-HxCDD	80	32 - 141
13C12-123678-HxCDD	81	28 - 130
13C12-123789-HxCDD	81	28 - 130
13C12-1234678-HpCDD	86	23 - 140
13C12-OCDD	86	17 - 157
13C12-2378-TCDF	81	24 - 169
13C12-12378-PeCDF	103	24 - 185
13C12-23478-PeCDF	98	21 - 178
13C12-123478-HxCDF	86	26 - 152
13C12-123678-HxCDF	91	26 - 123
13C12-234678-HxCDF	88	28 - 136
13C12-123789-HxCDF	84	29 - 147
13C12-1234678-HpCDF	99	28 - 143
13C12-1234789-HpCDF	90	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
F Interference is present

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

Sample Description: SL-016-A3-SB-0.0-0.5 Grab Soil
SSFL Phase 3 Soil Sampling
SL-016-A3-SB

LLI Sample # SW 6724180
LLI Group # 1322851
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/17/2012 08:55

Submitted: 07/18/2012 09:20
Reported: 07/30/2012 23:32

CDM Federal Programs Corp.
3201 Jermantown Road
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A3016 SDG#: PH020-01BKG

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

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

Sample Description: SL-016-A3-SB-0.0-0.5 Grab Soil
SSFL Phase 3 Soil Sampling
SL-016-A3-SB

LLI Sample # SW 6724180
LLI Group # 1322851
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/17/2012 08:55

Submitted: 07/18/2012 09:20
Reported: 07/30/2012 23:32

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

A3016 SDG#: PH020-01BKG

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
11031	10a. Dioxins/Furans 10-15 day	EPA 1613B	1	12205001	07/27/2012 23:05	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	12205001	07/23/2012 15:10	Ginelle L Haines	1
11625	Moisture CDM	EPA 160.3 modified	1	12206162401B	07/24/2012 22:41	Scott W Freisher	1

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

Sample Description: SL-016-A3-SB-0.0-0.5 MS Grab Soil
SSFL Phase 3 Soil Sampling
SL-016-A3-SB

LLI Sample # SW 6724181
LLI Group # 1322851
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/17/2012 08:55

Submitted: 07/18/2012 09:20
Reported: 07/30/2012 23:32

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
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A3016 SDG#: PH020-01MS

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Wet Chemistry	**EPA 160.3 modified**		%	%	%	
11625	Moisture CDM	n.a.	1.7	0.50	0.50	1

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

Sample Description: SL-016-A3-SB-0.0-0.5 MS Grab Soil
SSFL Phase 3 Soil Sampling
SL-016-A3-SB

LLI Sample # SW 6724181
LLI Group # 1322851
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/17/2012 08:55

Submitted: 07/18/2012 09:20
Reported: 07/30/2012 23:32

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
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A3016 SDG#: PH020-01MS

CAT No.	Analysis Name	CAS Number	Dry Result		Dry EDL*	Dry MRL	Dilution Factor
Dioxins/Furans	**EPA 1613B**		ng/kg		ng/kg	ng/kg	
11031	2378-TCDD	1746-01-6	23.9	B	0.0531	1.02	1
11031	12378-PeCDD	40321-76-4	122	B	0.0449	5.08	1
11031	123478-HxCDD	39227-28-6	119	B	0.0525	5.08	1
11031	123678-HxCDD	57653-85-7	116	B	0.0487	5.08	1
11031	123789-HxCDD	19408-74-3	126	B	0.0531	5.08	1
11031	1234678-HpCDD	35822-46-9	174	B	0.0786	5.08	1
11031	OCDD	3268-87-9	1,080	B	0.0663	10.2	1
11031	2378-TCDF	51207-31-9	22.4	B	0.0560	1.02	1
11031	12378-PeCDF	57117-41-6	118	B	0.0289	5.08	1
11031	23478-PeCDF	57117-31-4	111	B	0.0290	5.08	1
11031	123478-HxCDF	70648-26-9	117	B	0.0437	5.08	1
11031	123678-HxCDF	57117-44-9	114	B	0.0424	5.08	1
11031	123789-HxCDF	72918-21-9	118	B	0.0422	5.08	1
11031	234678-HxCDF	60851-34-5	113	B	0.0410	5.08	1
11031	1234678-HpCDF	67562-39-4	118	B	0.0423	5.08	1
11031	1234789-HpCDF	55673-89-7	116	B	0.0551	5.08	1
11031	OCDF	39001-02-0	302	B	0.0376	10.2	1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	87	25 - 164
13C12-12378-PeCDD	97	25 - 181
13C12-123478-HxCDD	87	32 - 141
13C12-123678-HxCDD	90	28 - 130
13C12-123789-HxCDD	85	28 - 130
13C12-1234678-HpCDD	91	23 - 140
13C12-OCDD	87	17 - 157
13C12-2378-TCDF	87	24 - 169
13C12-12378-PeCDF	119	24 - 185
13C12-23478-PeCDF	112	21 - 178
13C12-123478-HxCDF	92	26 - 152
13C12-123678-HxCDF	96	26 - 123
13C12-234678-HxCDF	95	28 - 136
13C12-123789-HxCDF	100	29 - 147
13C12-1234678-HpCDF	107	28 - 143
13C12-1234789-HpCDF	99	26 - 138
13C12-OCDF	93	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

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

Sample Description: SL-016-A3-SB-0.0-0.5 MS Grab Soil
SSFL Phase 3 Soil Sampling
SL-016-A3-SB

LLI Sample # SW 6724181
LLI Group # 1322851
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/17/2012 08:55

Submitted: 07/18/2012 09:20
Reported: 07/30/2012 23:32

CDM Federal Programs Corp.
3201 Jermantown Road
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A3016 SDG#: PH020-01MS

CAT No.	Analysis Name	CAS Number	Dry Result	Dry EDL*	Dry MRL	Dilution Factor

S *Saturation of detection signal*

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

Sample Description: SL-016-A3-SB-0.0-0.5 MS Grab Soil
SSFL Phase 3 Soil Sampling
SL-016-A3-SB

LLI Sample # SW 6724181
LLI Group # 1322851
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/17/2012 08:55

Submitted: 07/18/2012 09:20
Reported: 07/30/2012 23:32

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

A3016 SDG#: PH020-01MS

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
11031	10a. Dioxins/Furans 10-15 day	EPA 1613B	1	12205001	07/28/2012 00:02	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	12205001	07/23/2012 15:10	Ginelle L Haines	1
11625	Moisture CDM	EPA 160.3 modified	1	12206162401B	07/24/2012 22:41	Scott W Freisher	1

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

Sample Description: SL-016-A3-SB-0.0-0.5 MSD Grab Soil
SSFL Phase 3 Soil Sampling
SL-016-A3-SB

LLI Sample # SW 6724182
LLI Group # 1322851
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/17/2012 08:55

Submitted: 07/18/2012 09:20
Reported: 07/30/2012 23:32

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

A3016 SDG#: PH020-01MSD

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Wet Chemistry	**EPA 160.3 modified**		%	%	%	
11625	Moisture CDM	n.a.	1.7	0.50	0.50	1

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

Sample Description: SL-016-A3-SB-0.0-0.5 MSD Grab Soil
SSFL Phase 3 Soil Sampling
SL-016-A3-SB

LLI Sample # SW 6724182
LLI Group # 1322851
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/17/2012 08:55

Submitted: 07/18/2012 09:20
Reported: 07/30/2012 23:32

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

A3016 SDG#: PH020-01MSD

CAT No.	Analysis Name	CAS Number	Dry Result		Dry EDL*	Dry MRL	Dilution Factor
Dioxins/Furans	**EPA 1613B**		ng/kg		ng/kg	ng/kg	
11031	2378-TCDD	1746-01-6	23.5	B	0.0496	0.997	1
11031	12378-PeCDD	40321-76-4	123	B	0.0526	4.99	1
11031	123478-HxCDD	39227-28-6	119	B	0.0492	4.99	1
11031	123678-HxCDD	57653-85-7	116	B	0.0519	4.99	1
11031	123789-HxCDD	19408-74-3	125	B	0.0487	4.99	1
11031	1234678-HpCDD	35822-46-9	169	B	0.0993	4.99	1
11031	OCDD	3268-87-9	963	B	0.0749	9.97	1
11031	2378-TCDF	51207-31-9	22.1	B	0.0527	0.997	1
11031	12378-PeCDF	57117-41-6	119	B	0.0307	4.99	1
11031	23478-PeCDF	57117-31-4	111	B	0.0306	4.99	1
11031	123478-HxCDF	70648-26-9	115	B	0.0412	4.99	1
11031	123678-HxCDF	57117-44-9	114	B	0.0375	4.99	1
11031	123789-HxCDF	72918-21-9	116	B	0.0439	4.99	1
11031	234678-HxCDF	60851-34-5	112	B	0.0371	4.99	1
11031	1234678-HpCDF	67562-39-4	115	B	0.0483	4.99	1
11031	1234789-HpCDF	55673-89-7	112	B	0.0568	4.99	1
11031	OCDF	39001-02-0	288	B	0.0496	9.97	1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	82	25 - 164
13C12-12378-PeCDD	87	25 - 181
13C12-123478-HxCDD	85	32 - 141
13C12-123678-HxCDD	83	28 - 130
13C12-123789-HxCDD	84	28 - 130
13C12-1234678-HpCDD	89	23 - 140
13C12-OCDD	90	17 - 157
13C12-2378-TCDF	83	24 - 169
13C12-12378-PeCDF	107	24 - 185
13C12-23478-PeCDF	101	21 - 178
13C12-123478-HxCDF	89	26 - 152
13C12-123678-HxCDF	94	26 - 123
13C12-234678-HxCDF	94	28 - 136
13C12-123789-HxCDF	90	29 - 147
13C12-1234678-HpCDF	106	28 - 143
13C12-1234789-HpCDF	103	26 - 138
13C12-OCDF	95	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

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

Sample Description: SL-016-A3-SB-0.0-0.5 MSD Grab Soil
SSFL Phase 3 Soil Sampling
SL-016-A3-SB

LLI Sample # SW 6724182
LLI Group # 1322851
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/17/2012 08:55

Submitted: 07/18/2012 09:20
Reported: 07/30/2012 23:32

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

A3016 SDG#: PH020-01MSD

CAT No.	Analysis Name	CAS Number	Dry Result	Dry EDL*	Dry MRL	Dilution Factor

S *Saturation of detection signal*

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

Sample Description: SL-016-A3-SB-0.0-0.5 MSD Grab Soil
SSFL Phase 3 Soil Sampling
SL-016-A3-SB

LLI Sample # SW 6724182
LLI Group # 1322851
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/17/2012 08:55

Submitted: 07/18/2012 09:20
Reported: 07/30/2012 23:32

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

A3016 SDG#: PH020-01MSD

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
11031	10a. Dioxins/Furans 10-15 day	EPA 1613B	1	12205001	07/28/2012 00:59	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	12205001	07/23/2012 15:10	Ginelle L Haines	1
11625	Moisture CDM	EPA 160.3 modified	1	12206162401B	07/24/2012 22:41	Scott W Freisher	1

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

Sample Description: SL-017-A3-SB-0.0-0.5 Grab Soil
SSFL Phase 3 Soil Sampling
SL-017-A3-SB

LLI Sample # SW 6724183
LLI Group # 1322851
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/17/2012 07:50

Submitted: 07/18/2012 09:20
Reported: 07/30/2012 23:32

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

A3-17 SDG#: PH020-02

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Wet Chemistry	**EPA 160.3 modified**		%	%	%	
11625	Moisture CDM	n.a.	5.4	0.50	0.50	1

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

Sample Description: SL-017-A3-SB-0.0-0.5 Grab Soil
SSFL Phase 3 Soil Sampling
SL-017-A3-SB

LLI Sample # SW 6724183
LLI Group # 1322851
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/17/2012 07:50

Submitted: 07/18/2012 09:20
Reported: 07/30/2012 23:32

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

A3-17 SDG#: PH020-02

CAT No.	Analysis Name	CAS Number	Dry Result		Dry EDL*	Dry MRL	Dilution Factor
Dioxins/Furans	**EPA 1613B**		ng/kg		ng/kg	ng/kg	
11031	2378-TCDD	1746-01-6	0.143	JBQ	0.0463	1.03	1
11031	12378-PeCDD	40321-76-4	0.497	JB	0.0454	5.15	1
11031	123478-HxCDD	39227-28-6	0.644	JB	0.0382	5.15	1
11031	123678-HxCDD	57653-85-7	1.21	JB	0.0361	5.15	1
11031	123789-HxCDD	19408-74-3	1.20	JBQ	0.0371	5.15	1
11031	1234678-HpCDD	35822-46-9	21.9	B	0.0571	5.15	1
11031	OCDD	3268-87-9	284	B	0.0457	10.3	1
11031	2378-TCDF	51207-31-9	0.769	JB	0.105	1.03	1
11031	12378-PeCDF	57117-41-6	1.54	JB	0.0437	5.15	1
11031	23478-PeCDF	57117-31-4	1.49	JB	0.0423	5.15	1
11031	123478-HxCDF	70648-26-9	0.0334	U	0.0334	5.15	1
11031	123678-HxCDF	57117-44-9	0.524	JB	0.0304	5.15	1
11031	123789-HxCDF	72918-21-9	0.522	JBQ	0.0317	5.15	1
11031	234678-HxCDF	60851-34-5	0.586	JB	0.0299	5.15	1
11031	1234678-HpCDF	67562-39-4	4.15	JB	0.0291	5.15	1
11031	1234789-HpCDF	55673-89-7	0.580	JB	0.0384	5.15	1
11031	OCDF	39001-02-0	12.5	B	0.0326	10.3	1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	80	25 - 164
13C12-12378-PeCDD	98	25 - 181
13C12-123478-HxCDD	88	32 - 141
13C12-123678-HxCDD	89	28 - 130
13C12-123789-HxCDD	90	28 - 130
13C12-1234678-HpCDD	92	23 - 140
13C12-OCDD	89	17 - 157
13C12-2378-TCDF	85	24 - 169
13C12-12378-PeCDF	112	24 - 185
13C12-23478-PeCDF	103	21 - 178
13C12-123478-HxCDF	88	26 - 152
13C12-123678-HxCDF	95	26 - 123
13C12-234678-HxCDF	94	28 - 136
13C12-123789-HxCDF	98	29 - 147
13C12-1234678-HpCDF	104	28 - 143
13C12-1234789-HpCDF	96	26 - 138
13C12-OCDF	92	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

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

Sample Description: **SL-017-A3-SB-0.0-0.5 Grab Soil**
SSFL Phase 3 Soil Sampling
SL-017-A3-SB

LLI Sample # SW 6724183
LLI Group # 1322851
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/17/2012 07:50

Submitted: 07/18/2012 09:20
Reported: 07/30/2012 23:32

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

A3-17 SDG#: PH020-02

CAT No.	Analysis Name	CAS Number	Dry Result	Dry EDL*	Dry MRL	Dilution Factor

S *Saturation of detection signal*

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

Sample Description: SL-017-A3-SB-0.0-0.5 Grab Soil
SSFL Phase 3 Soil Sampling
SL-017-A3-SB

LLI Sample # SW 6724183
LLI Group # 1322851
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/17/2012 07:50

Submitted: 07/18/2012 09:20
Reported: 07/30/2012 23:32

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

A3-17 SDG#: PH020-02

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
11031	10a. Dioxins/Furans 10-15 day	EPA 1613B	1	12205001	07/28/2012 01:55	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	12205001	07/23/2012 15:10	Ginelle L Haines	1
11625	Moisture CDM	EPA 160.3 modified	1	12206162401B	07/24/2012 22:41	Scott W Freisher	1

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

Sample Description: SL-316-A3-SB-0.0-0.5 Grab Soil
SSFL Phase 3 Soil Sampling
SL-316-A3-SB

LLI Sample # SW 6724184
LLI Group # 1322851
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/17/2012 09:00

Submitted: 07/18/2012 09:20
Reported: 07/30/2012 23:32

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

A3316 SDG#: PH020-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Wet Chemistry	**EPA 160.3 modified**		%	%	%	
11625	Moisture CDM	n.a.	1.7	0.50	0.50	1

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

Sample Description: SL-316-A3-SB-0.0-0.5 Grab Soil
SSFL Phase 3 Soil Sampling
SL-316-A3-SB

LLI Sample # SW 6724184
LLI Group # 1322851
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/17/2012 09:00

Submitted: 07/18/2012 09:20
Reported: 07/30/2012 23:32

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

A3316 SDG#: PH020-03

CAT No.	Analysis Name	CAS Number	Dry Result		Dry EDL*	Dry MRL	Dilution Factor
Dioxins/Furans	**EPA 1613B**		**ng/kg**		**ng/kg**	**ng/kg**	
11031	2378-TCDD	1746-01-6	0.0457	U	0.0457	0.981	1
11031	12378-PeCDD	40321-76-4	0.667	JB	0.0489	4.90	1
11031	123478-HxCDD	39227-28-6	1.01	JB	0.0431	4.90	1
11031	123678-HxCDD	57653-85-7	2.14	JB	0.0448	4.90	1
11031	123789-HxCDD	19408-74-3	2.08	JB	0.0406	4.90	1
11031	1234678-HpCDD	35822-46-9	63.3	B	0.0923	4.90	1
11031	OCDD	3268-87-9	954	B	0.0788	9.81	1
11031	2378-TCDF	51207-31-9	0.176	JB	0.0629	0.981	1
11031	12378-PeCDF	57117-41-6	0.478	JB	0.0285	4.90	1
11031	23478-PeCDF	57117-31-4	0.306	JB	0.0287	4.90	1
11031	123478-HxCDF	70648-26-9	0.729	JB	0.0327	4.90	1
11031	123678-HxCDF	57117-44-9	0.520	JB	0.0293	4.90	1
11031	123789-HxCDF	72918-21-9	0.907	JB	0.0310	4.90	1
11031	234678-HxCDF	60851-34-5	0.612	JB	0.0283	4.90	1
11031	1234678-HpCDF	67562-39-4	11.9	B	0.0359	4.90	1
11031	1234789-HpCDF	55673-89-7	1.35	JB	0.0457	4.90	1
11031	OCDF	39001-02-0	68.0	B	0.0354	9.81	1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	76	25 - 164
13C12-12378-PeCDD	90	25 - 181
13C12-123478-HxCDD	79	32 - 141
13C12-123678-HxCDD	78	28 - 130
13C12-123789-HxCDD	81	28 - 130
13C12-1234678-HpCDD	86	23 - 140
13C12-OCDD	81	17 - 157
13C12-2378-TCDF	75	24 - 169
13C12-12378-PeCDF	102	24 - 185
13C12-23478-PeCDF	96	21 - 178
13C12-123478-HxCDF	80	26 - 152
13C12-123678-HxCDF	85	26 - 123
13C12-234678-HxCDF	87	28 - 136
13C12-123789-HxCDF	88	29 - 147
13C12-1234678-HpCDF	95	28 - 143
13C12-1234789-HpCDF	90	26 - 138
13C12-OCDF	87	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

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

Sample Description: SL-316-A3-SB-0.0-0.5 Grab Soil
SSFL Phase 3 Soil Sampling
SL-316-A3-SB

LLI Sample # SW 6724184
LLI Group # 1322851
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/17/2012 09:00

Submitted: 07/18/2012 09:20
Reported: 07/30/2012 23:32

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

A3316 SDG#: PH020-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry EDL*	Dry MRL	Dilution Factor

S *Saturation of detection signal*

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

Sample Description: SL-316-A3-SB-0.0-0.5 Grab Soil
SSFL Phase 3 Soil Sampling
SL-316-A3-SB

LLI Sample # SW 6724184
LLI Group # 1322851
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/17/2012 09:00

Submitted: 07/18/2012 09:20
Reported: 07/30/2012 23:32

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

A3316 SDG#: PH020-03

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
11031	10a. Dioxins/Furans 10-15 day	EPA 1613B	1	12205001	07/28/2012 02:52	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	12205001	07/23/2012 15:10	Ginelle L Haines	1
11625	Moisture CDM	EPA 160.3 modified	1	12206162401B	07/24/2012 22:41	Scott W Freisher	1

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

Sample Description: SL-014-A3-SB-0.0-0.5 Grab Soil
SSFL Phase 3 Soil Sampling
SL-014-A3-SB

LLI Sample # SW 6724185
LLI Group # 1322851
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/17/2012 10:35

Submitted: 07/18/2012 09:20
Reported: 07/30/2012 23:32

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

A3014 SDG#: PH020-04

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Wet Chemistry	**EPA 160.3 modified**		%	%	%	
11625	Moisture CDM	n.a.	6.0	0.50	0.50	1

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

Sample Description: SL-014-A3-SB-0.0-0.5 Grab Soil
SSFL Phase 3 Soil Sampling
SL-014-A3-SB

LLI Sample # SW 6724185
LLI Group # 1322851
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/17/2012 10:35

Submitted: 07/18/2012 09:20
Reported: 07/30/2012 23:32

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

A3014 SDG#: PH020-04

CAT No.	Analysis Name	CAS Number	Dry Result	Dry EDL*	Dry MRL	Dilution Factor
Dioxins/Furans	**EPA 1613B**		ng/kg	ng/kg	ng/kg	
11031	2378-TCDD	1746-01-6	1.23 B	0.0966	1.05	1
11031	12378-PeCDD	40321-76-4	11.8 B	0.135	5.27	1
11031	123478-HxCDD	39227-28-6	27.1 B	0.153	5.27	1
11031	123678-HxCDD	57653-85-7	113 B	0.154	5.27	1
11031	123789-HxCDD	19408-74-3	52.3 B	0.154	5.27	1
11031	1234678-HpCDD	35822-46-9	2,490 EB	0.423	5.27	1
11031	OCDD	3268-87-9	26,400 EB	0.277	10.5	1
11031	2378-TCDF	51207-31-9	0.457 JB	0.163	1.05	1
11031	12378-PeCDF	57117-41-6	12.0 B	0.0625	5.27	1
11031	23478-PeCDF	57117-31-4	2.98 JB	0.0588	5.27	1
11031	123478-HxCDF	70648-26-9	9.52 B	0.0925	5.27	1
11031	123678-HxCDF	57117-44-9	7.36 B	0.0853	5.27	1
11031	123789-HxCDF	72918-21-9	2.36 JB	0.0844	5.27	1
11031	234678-HxCDF	60851-34-5	13.5 B	0.0879	5.27	1
11031	1234678-HpCDF	67562-39-4	254 B	0.106	5.27	1
11031	1234789-HpCDF	55673-89-7	21.4 B	0.121	5.27	1
11031	OCDF	39001-02-0	760 B	0.0641	10.5	1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	81	25 - 164
13C12-12378-PeCDD	84	25 - 181
13C12-123478-HxCDD	81	32 - 141
13C12-123678-HxCDD	81	28 - 130
13C12-123789-HxCDD	82	28 - 130
13C12-1234678-HpCDD	85	23 - 140
13C12-OCDD	86	17 - 157
13C12-2378-TCDF	85	24 - 169
13C12-12378-PeCDF	98	24 - 185
13C12-23478-PeCDF	93	21 - 178
13C12-123478-HxCDF	92	26 - 152
13C12-123678-HxCDF	92	26 - 123
13C12-234678-HxCDF	93	28 - 136

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

Sample Description: SL-014-A3-SB-0.0-0.5 Grab Soil
SSFL Phase 3 Soil Sampling
SL-014-A3-SB

LLI Sample # SW 6724185
LLI Group # 1322851
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/17/2012 10:35

Submitted: 07/18/2012 09:20
Reported: 07/30/2012 23:32

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

A3014 SDG#: PH020-04

CAT No.	Analysis Name	CAS Number	Dry Result	Dry EDL*	Dry MRL	Dilution Factor

Labeled Compounds	%Rec	Windows
13C12-123789-HxCDF	98	29 - 147
13C12-1234678-HpCDF	94	28 - 143
13C12-1234789-HpCDF	97	26 - 138
13C12-OCDF	93	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-014-A3-SB-0.0-0.5 Grab Soil
SSFL Phase 3 Soil Sampling
SL-014-A3-SB

LLI Sample # SW 6724185
LLI Group # 1322851
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/17/2012 10:35

Submitted: 07/18/2012 09:20
Reported: 07/30/2012 23:32

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

A3014 SDG#: PH020-04

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
11031	10a. Dioxins/Furans 10-15 day	EPA 1613B	1	12205001	07/28/2012 03:48	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	12205001	07/23/2012 15:10	Ginelle L Haines	1
11625	Moisture CDM	EPA 160.3 modified	1	12206162401B	07/24/2012 22:41	Scott W Freisher	1

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

Sample Description: SL-015-A3-SB-0.0-0.5 Grab Soil
SSFL Phase 3 Soil Sampling
SL-015-A3-SB

LLI Sample # SW 6724186
LLI Group # 1322851
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/17/2012 09:55

Submitted: 07/18/2012 09:20
Reported: 07/30/2012 23:32

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

A3015 SDG#: PH020-05

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Wet Chemistry	**EPA 160.3 modified**		%	%	%	
11625	Moisture CDM	n.a.	3.5	0.50	0.50	1

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

Sample Description: SL-015-A3-SB-0.0-0.5 Grab Soil
SSFL Phase 3 Soil Sampling
SL-015-A3-SB

LLI Sample # SW 6724186
LLI Group # 1322851
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/17/2012 09:55

Submitted: 07/18/2012 09:20
Reported: 07/30/2012 23:32

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

A3015 SDG#: PH020-05

CAT No.	Analysis Name	CAS Number	Dry Result	Dry EDL*	Dry MRL	Dilution Factor
Dioxins/Furans	**EPA 1613B**		ng/kg	ng/kg	ng/kg	
11031	2378-TCDD	1746-01-6	0.763 JB	0.0490	1.00	1
11031	12378-PeCDD	40321-76-4	6.66 B	0.0835	5.01	1
11031	123478-HxCDD	39227-28-6	13.3 B	0.0868	5.01	1
11031	123678-HxCDD	57653-85-7	39.3 B	0.0931	5.01	1
11031	123789-HxCDD	19408-74-3	27.0 B	0.0840	5.01	1
11031	1234678-HpCDD	35822-46-9	941 B	0.316	5.01	1
11031	OCDD	3268-87-9	21,300 EB	0.213	10.0	1
11031	2378-TCDF	51207-31-9	0.273 JB	0.0778	1.00	1
11031	12378-PeCDF	57117-41-6	1.63 JB	0.0355	5.01	1
11031	23478-PeCDF	57117-31-4	1.11 JBQ	0.0384	5.01	1
11031	123478-HxCDF	70648-26-9	4.18 JB	0.0542	5.01	1
11031	123678-HxCDF	57117-44-9	2.33 JB	0.0503	5.01	1
11031	123789-HxCDF	72918-21-9	1.57 JB	0.0517	5.01	1
11031	234678-HxCDF	60851-34-5	3.32 JB	0.0484	5.01	1
11031	1234678-HpCDF	67562-39-4	68.8 B	0.0540	5.01	1
11031	1234789-HpCDF	55673-89-7	5.63 B	0.0678	5.01	1
11031	OCDF	39001-02-0	256 B	0.0498	10.0	1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	76	25 - 164
13C12-12378-PeCDD	78	25 - 181
13C12-123478-HxCDD	84	32 - 141
13C12-123678-HxCDD	82	28 - 130
13C12-123789-HxCDD	86	28 - 130
13C12-1234678-HpCDD	92	23 - 140
13C12-OCDD	89	17 - 157
13C12-2378-TCDF	79	24 - 169
13C12-12378-PeCDF	97	24 - 185
13C12-23478-PeCDF	86	21 - 178
13C12-123478-HxCDF	88	26 - 152
13C12-123678-HxCDF	91	26 - 123
13C12-234678-HxCDF	94	28 - 136

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

Sample Description: SL-015-A3-SB-0.0-0.5 Grab Soil
SSFL Phase 3 Soil Sampling
SL-015-A3-SB

LLI Sample # SW 6724186
LLI Group # 1322851
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/17/2012 09:55

Submitted: 07/18/2012 09:20
Reported: 07/30/2012 23:32

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

A3015 SDG#: PH020-05

CAT No.	Analysis Name	CAS Number	Dry Result	Dry EDL*	Dry MRL	Dilution Factor
Labeled Compounds		**%Rec**	**Windows**			
13C12-123789-HxCDF		95	29 - 147			
13C12-1234678-HpCDF		102	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*
F *Interference is present*
S *Saturation of detection signal*

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

Sample Description: SL-015-A3-SB-0.0-0.5 Grab Soil
SSFL Phase 3 Soil Sampling
SL-015-A3-SB

LLI Sample # SW 6724186
LLI Group # 1322851
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/17/2012 09:55

Submitted: 07/18/2012 09:20
Reported: 07/30/2012 23:32

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

A3015 SDG#: PH020-05

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
11031	10a. Dioxins/Furans 10-15 day	EPA 1613B	1	12205001	07/28/2012 04:45	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	12205001	07/23/2012 15:10	Ginelle L Haines	1
11625	Moisture CDM	EPA 160.3 modified	1	12206162401B	07/24/2012 22:41	Scott W Freisher	1

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

Sample Description: SL-011-A3-SB-0.0-0.5 Grab Soil
SSFL Phase 3 Soil Sampling
SL-011-A3-SB

LLI Sample # SW 6724187
LLI Group # 1322851
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/17/2012 12:35

Submitted: 07/18/2012 09:20
Reported: 07/30/2012 23:32

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

A3011 SDG#: PH020-06

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Wet Chemistry	**EPA 160.3 modified**		%	%	%	
11625	Moisture CDM	n.a.	5.5	0.50	0.50	1

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

Sample Description: SL-011-A3-SB-0.0-0.5 Grab Soil
SSFL Phase 3 Soil Sampling
SL-011-A3-SB

LLI Sample # SW 6724187
LLI Group # 1322851
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/17/2012 12:35

Submitted: 07/18/2012 09:20
Reported: 07/30/2012 23:32

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

A3011 SDG#: PH020-06

CAT No.	Analysis Name	CAS Number	Dry Result		Dry EDL*	Dry MRL	Dilution Factor
Dioxins/Furans	**EPA 1613B**		ng/kg		ng/kg	ng/kg	
11031	2378-TCDD	1746-01-6	0.248	JB	0.0565	1.04	1
11031	12378-PeCDD	40321-76-4	1.02	JB	0.0723	5.19	1
11031	123478-HxCDD	39227-28-6	1.49	JB	0.0548	5.19	1
11031	123678-HxCDD	57653-85-7	5.04	JB	0.0557	5.19	1
11031	123789-HxCDD	19408-74-3	3.44	JB	0.0495	5.19	1
11031	1234678-HpCDD	35822-46-9	107	B	0.114	5.19	1
11031	OCDD	3268-87-9	1,020	B	0.0739	10.4	1
11031	2378-TCDF	51207-31-9	0.170	JB	0.109	1.04	1
11031	12378-PeCDF	57117-41-6	4.97	JB	0.0409	5.19	1
11031	23478-PeCDF	57117-31-4	0.816	JB	0.0410	5.19	1
11031	123478-HxCDF	70648-26-9	2.44	JB	0.0441	5.19	1
11031	123678-HxCDF	57117-44-9	0.923	JB	0.0394	5.19	1
11031	123789-HxCDF	72918-21-9	1.02	JB	0.0443	5.19	1
11031	234678-HxCDF	60851-34-5	1.00	JB	0.0408	5.19	1
11031	1234678-HpCDF	67562-39-4	13.4	B	0.0362	5.19	1
11031	1234789-HpCDF	55673-89-7	1.28	JBQ	0.0478	5.19	1
11031	OCDF	39001-02-0	32.7	B	0.0362	10.4	1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	89	25 - 164
13C12-12378-PeCDD	99	25 - 181
13C12-123478-HxCDD	95	32 - 141
13C12-123678-HxCDD	94	28 - 130
13C12-123789-HxCDD	100	28 - 130
13C12-1234678-HpCDD	98	23 - 140
13C12-OCDD	97	17 - 157
13C12-2378-TCDF	92	24 - 169
13C12-12378-PeCDF	117	24 - 185
13C12-23478-PeCDF	106	21 - 178
13C12-123478-HxCDF	100	26 - 152
13C12-123678-HxCDF	108	26 - 123
13C12-234678-HxCDF	104	28 - 136
13C12-123789-HxCDF	107	29 - 147
13C12-1234678-HpCDF	118	28 - 143
13C12-1234789-HpCDF	107	26 - 138
13C12-OCDF	98	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

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

Sample Description: SL-011-A3-SB-0.0-0.5 Grab Soil
SSFL Phase 3 Soil Sampling
SL-011-A3-SB

LLI Sample # SW 6724187
LLI Group # 1322851
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/17/2012 12:35

Submitted: 07/18/2012 09:20
Reported: 07/30/2012 23:32

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

A3011 SDG#: PH020-06

CAT No.	Analysis Name	CAS Number	Dry Result	Dry EDL*	Dry MRL	Dilution Factor

S *Saturation of detection signal*

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

Sample Description: SL-011-A3-SB-0.0-0.5 Grab Soil
SSFL Phase 3 Soil Sampling
SL-011-A3-SB

LLI Sample # SW 6724187
LLI Group # 1322851
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/17/2012 12:35

Submitted: 07/18/2012 09:20
Reported: 07/30/2012 23:32

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

A3011 SDG#: PH020-06

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
11031	10a. Dioxins/Furans 10-15 day	EPA 1613B	1	12205001	07/28/2012 05:42	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	12205001	07/23/2012 15:10	Ginelle L Haines	1
11625	Moisture CDM	EPA 160.3 modified	1	12206162401B	07/24/2012 22:41	Scott W Freisher	1

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

Sample Description: SL-012-A3-SB-0.0-0.5 Grab Soil
SSFL Phase 3 Soil Sampling
SL-012-A3-SB

LLI Sample # SW 6724188
LLI Group # 1322851
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/17/2012 13:20

Submitted: 07/18/2012 09:20
Reported: 07/30/2012 23:32

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

A3012 SDG#: PH020-07

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Wet Chemistry	**EPA 160.3 modified**		%	%	%	
11625	Moisture CDM	n.a.	3.7	0.50	0.50	1

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

Sample Description: SL-012-A3-SB-0.0-0.5 Grab Soil
SSFL Phase 3 Soil Sampling
SL-012-A3-SB

LLI Sample # SW 6724188
LLI Group # 1322851
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/17/2012 13:20

Submitted: 07/18/2012 09:20
Reported: 07/30/2012 23:32

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

A3012 SDG#: PH020-07

CAT No.	Analysis Name	CAS Number	Dry Result		Dry EDL*	Dry MRL	Dilution Factor
Dioxins/Furans	**EPA 1613B**		ng/kg		ng/kg	ng/kg	
11031	2378-TCDD	1746-01-6	0.424	JB	0.0406	1.02	1
11031	12378-PeCDD	40321-76-4	3.64	JB	0.0696	5.11	1
11031	123478-HxCDD	39227-28-6	8.57	B	0.0858	5.11	1
11031	123678-HxCDD	57653-85-7	39.3	B	0.0814	5.11	1
11031	123789-HxCDD	19408-74-3	17.1	B	0.0821	5.11	1
11031	1234678-HpCDD	35822-46-9	800	B	0.197	5.11	1
11031	OCDD	3268-87-9	6,400	EB	0.109	10.2	1
11031	2378-TCDF	51207-31-9	0.281	JB	0.0489	1.02	1
11031	12378-PeCDF	57117-41-6	2.32	JB	0.0255	5.11	1
11031	23478-PeCDF	57117-31-4	1.35	JB	0.0236	5.11	1
11031	123478-HxCDF	70648-26-9	3.47	JB	0.0477	5.11	1
11031	123678-HxCDF	57117-44-9	3.46	JB	0.0444	5.11	1
11031	123789-HxCDF	72918-21-9	0.850	JBQ	0.0437	5.11	1
11031	234678-HxCDF	60851-34-5	5.49	B	0.0444	5.11	1
11031	1234678-HpCDF	67562-39-4	86.0	B	0.0448	5.11	1
11031	1234789-HpCDF	55673-89-7	8.90	B	0.0541	5.11	1
11031	OCDF	39001-02-0	200	B	0.0322	10.2	1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	84	25 - 164
13C12-12378-PeCDD	82	25 - 181
13C12-123478-HxCDD	86	32 - 141
13C12-123678-HxCDD	90	28 - 130
13C12-123789-HxCDD	89	28 - 130
13C12-1234678-HpCDD	98	23 - 140
13C12-OCDD	94	17 - 157
13C12-2378-TCDF	92	24 - 169
13C12-12378-PeCDF	95	24 - 185
13C12-23478-PeCDF	92	21 - 178
13C12-123478-HxCDF	98	26 - 152
13C12-123678-HxCDF	101	26 - 123
13C12-234678-HxCDF	99	28 - 136
13C12-123789-HxCDF	108	29 - 147
13C12-1234678-HpCDF	109	28 - 143
13C12-1234789-HpCDF	108	26 - 138
13C12-OCDF	98	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

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

Sample Description: SL-012-A3-SB-0.0-0.5 Grab Soil
SSFL Phase 3 Soil Sampling
SL-012-A3-SB

LLI Sample # SW 6724188
LLI Group # 1322851
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/17/2012 13:20

Submitted: 07/18/2012 09:20
Reported: 07/30/2012 23:32

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

A3012 SDG#: PH020-07

CAT No.	Analysis Name	CAS Number	Dry Result	Dry EDL*	Dry MRL	Dilution Factor

S *Saturation of detection signal*

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

Sample Description: SL-012-A3-SB-0.0-0.5 Grab Soil
SSFL Phase 3 Soil Sampling
SL-012-A3-SB

LLI Sample # SW 6724188
LLI Group # 1322851
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/17/2012 13:20

Submitted: 07/18/2012 09:20
Reported: 07/30/2012 23:32

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

A3012 SDG#: PH020-07

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
11031	10a. Dioxins/Furans 10-15 day	EPA 1613B	1	12205001	07/28/2012 11:35	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	12205001	07/23/2012 15:10	Ginelle L Haines	1
11625	Moisture CDM	EPA 160.3 modified	1	12206162401B	07/24/2012 22:41	Scott W Freisher	1

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

Sample Description: SL-013-A3-SB-0.0-0.5 Grab Soil
SSFL Phase 3 Soil Sampling
SL-013-A3-SB

LLI Sample # SW 6724189
LLI Group # 1322851
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/17/2012 14:05

Submitted: 07/18/2012 09:20
Reported: 07/30/2012 23:32

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

A3013 SDG#: PH020-08*

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Wet Chemistry	**EPA 160.3 modified**		%	%	%	
11625	Moisture CDM	n.a.	5.2	0.50	0.50	1

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

Sample Description: SL-013-A3-SB-0.0-0.5 Grab Soil
SSFL Phase 3 Soil Sampling
SL-013-A3-SB

LLI Sample # SW 6724189
LLI Group # 1322851
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/17/2012 14:05

Submitted: 07/18/2012 09:20
Reported: 07/30/2012 23:32

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

A3013 SDG#: PH020-08*

CAT No.	Analysis Name	CAS Number	Dry Result		Dry EDL*	Dry MRL	Dilution Factor
Dioxins/Furans	**EPA 1613B**		ng/kg		ng/kg	ng/kg	
11031	2378-TCDD	1746-01-6	0.762	JB	0.0746	1.04	1
11031	12378-PeCDD	40321-76-4	4.18	JB	0.0776	5.22	1
11031	123478-HxCDD	39227-28-6	6.64	B	0.0656	5.22	1
11031	123678-HxCDD	57653-85-7	17.3	B	0.0657	5.22	1
11031	123789-HxCDD	19408-74-3	11.9	B	0.0625	5.22	1
11031	1234678-HpCDD	35822-46-9	356	B	0.162	5.22	1
11031	OCDD	3268-87-9	3,210	B	0.123	10.4	1
11031	2378-TCDF	51207-31-9	0.810	JB	0.126	1.04	1
11031	12378-PeCDF	57117-41-6	6.17	B	0.0450	5.22	1
11031	23478-PeCDF	57117-31-4	1.52	JB	0.0423	5.22	1
11031	123478-HxCDF	70648-26-9	3.36	JB	0.0505	5.22	1
11031	123678-HxCDF	57117-44-9	1.91	JB	0.0457	5.22	1
11031	123789-HxCDF	72918-21-9	1.01	JB	0.0495	5.22	1
11031	234678-HxCDF	60851-34-5	2.71	JB	0.0457	5.22	1
11031	1234678-HpCDF	67562-39-4	38.1	B	0.0451	5.22	1
11031	1234789-HpCDF	55673-89-7	4.46	JB	0.0557	5.22	1
11031	OCDF	39001-02-0	107	B	0.0383	10.4	1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	77	25 - 164
13C12-12378-PeCDD	79	25 - 181
13C12-123478-HxCDD	83	32 - 141
13C12-123678-HxCDD	86	28 - 130
13C12-123789-HxCDD	85	28 - 130
13C12-1234678-HpCDD	87	23 - 140
13C12-OCDD	83	17 - 157
13C12-2378-TCDF	83	24 - 169
13C12-12378-PeCDF	95	24 - 185
13C12-23478-PeCDF	87	21 - 178
13C12-123478-HxCDF	89	26 - 152
13C12-123678-HxCDF	92	26 - 123
13C12-234678-HxCDF	93	28 - 136
13C12-123789-HxCDF	91	29 - 147
13C12-1234678-HpCDF	101	28 - 143
13C12-1234789-HpCDF	97	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
F Interference is present

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

Sample Description: SL-013-A3-SB-0.0-0.5 Grab Soil
SSFL Phase 3 Soil Sampling
SL-013-A3-SB

LLI Sample # SW 6724189
LLI Group # 1322851
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/17/2012 14:05

Submitted: 07/18/2012 09:20
Reported: 07/30/2012 23:32

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

A3013 SDG#: PH020-08*

CAT No.	Analysis Name	CAS Number	Dry Result	Dry EDL*	Dry MRL	Dilution Factor

S *Saturation of detection signal*

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

Sample Description: SL-013-A3-SB-0.0-0.5 Grab Soil
SSFL Phase 3 Soil Sampling
SL-013-A3-SB

LLI Sample # SW 6724189
LLI Group # 1322851
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/17/2012 14:05

Submitted: 07/18/2012 09:20
Reported: 07/30/2012 23:32

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

A3013 SDG#: PH020-08*

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
11031	10a. Dioxins/Furans 10-15 day	EPA 1613B	1	12205001	07/28/2012 12:31	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	12205001	07/23/2012 15:10	Ginelle L Haines	1
11625	Moisture CDM	EPA 160.3 modified	1	12206162401B	07/24/2012 22:41	Scott W Freisher	1

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

Quality Control Summary

Client Name: CDM Federal Programs Corp. Group Number: 1322851
Reported: 07/30/12 at 11:32 PM

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

Analysis Name	Blank Result		Blank MDL**	Blank LOQ	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 12206162401B	Sample number(s): 6724180-6724189									
Moisture CDM						100		80-120		

Analysis Name	Blank Result		Blank EDL**	Blank MRL	Report Units	OPR %REC	OPRD %REC	OPR/OPRD Limits	RPD	RPD Max
Batch number: 12205001	Sample number(s): 6724180-6724189									
2378-TCDD	0.160	J	0.0512	1.00	ng/kg	119		67-158		
12378-PeCDD	0.115	J	0.0368	5.00	ng/kg	118		70-142		
123478-HxCDD	0.164	J	0.0274	5.00	ng/kg	117		70-164		
123678-HxCDD	0.169	J	0.0290	5.00	ng/kg	114		76-134		
123789-HxCDD	0.179	J	0.0279	5.00	ng/kg	119		64-162		
1234678-HpCDD	0.382	J	0.0267	5.00	ng/kg	117		70-140		
OCDD	0.589	J	0.0293	10.0	ng/kg	116		78-144		
2378-TCDF	0.116	J	0.0401	1.00	ng/kg	112		75-158		
12378-PeCDF	0.151	J	0.0197	5.00	ng/kg	115		80-134		
23478-PeCDF	0.246	J	0.0197	5.00	ng/kg	109		68-160		
123478-HxCDF	0.155	J	0.0243	5.00	ng/kg	113		72-134		
123678-HxCDF	0.163	J	0.0204	5.00	ng/kg	115		84-130		
123789-HxCDF	0.292	J	0.0221	5.00	ng/kg	115		78-130		
234678-HxCDF	0.164	J	0.0207	5.00	ng/kg	111		70-156		
1234678-HpCDF	0.196	J	0.0129	5.00	ng/kg	106		82-122		
1234789-HpCDF	0.152	J	0.0205	5.00	ng/kg	113		78-138		
OCDF	0.257	J	0.0277	10.0	ng/kg	114		63-170		

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: 12206162401B	Sample number(s): 6724180-6724189 BKG: P724170								
Moisture CDM						1.7	1.5	12 (1)	20
Batch number: 12205001	Sample number(s): 6724180-6724189 UNSPK: 6724180								
2378-TCDD	117	118	67-158	1	25				
12378-PeCDD	120	123	70-142	0	25				
123478-HxCDD	117	118	70-164	0	25				
123678-HxCDD	112	114	76-134	0	25				
123789-HxCDD	122	123	64-162	1	25				

*- 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. Group Number: 1322851
Reported: 07/30/12 at 11:32 PM

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
1234678-HpCDD	114	112	70-140	3	25				
OCDD	134	79 (2)	78-144	11	25				
2378-TCDF	110	110	75-158	1	25				
12378-PeCDF	116	119	80-134	1	25				
23478-PeCDF	109	111	68-160	0	25				
123478-HxCDF	115	115	72-134	1	25				
123678-HxCDF	112	114	84-130	0	25				
123789-HxCDF	115	116	78-130	1	25				
234678-HxCDF	110	112	70-156	0	25				
1234678-HpCDF	106	104	82-122	3	25				
1234789-HpCDF	113	111	78-138	4	25				
OCDF	117	113	63-170	5	25				

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: 10a. Dioxins/Furans 10-15 day
Batch number: 12205001

	13C12-2378-TCDD	13C12-23478-PeCDF	13C12-123478-HxCDF	13C12-123678-HxCDF	13C12-234678-HxCDF	13C12-123789-HxCDF
6724180	80	98	86	91	88	84
6724181	87	112	92	96	95	100
6724182	82	101	89	94	94	90
6724183	80	103	88	95	94	98
6724184	76	96	80	85	87	88
6724185	81	93	92	92	93	98
6724186	76	86	88	91	94	95
6724187	89	106	100	108	104	107
6724188	84	92	98	101	99	108
6724189	77	87	89	92	93	91
Blank	88	112	86	97	95	96
MS	87	112	92	96	95	100
MSD	82	101	89	94	94	90
OPR	79	100	83	88	85	97
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
6724180	99	90	89	93	80	81
6724181	107	99	93	97	87	90
6724182	106	103	95	87	85	83
6724183	104	96	92	98	88	89
6724184	95	90	87	90	79	78
6724185	94	97	93	84	81	81
6724186	102	96	91	78	84	82
6724187	118	107	98	99	95	94

*- 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. Group Number: 1322851
Reported: 07/30/12 at 11:32 PM

Surrogate Quality Control

6724188	109	108	98	82	86	90
6724189	101	97	89	79	83	86
Blank	129	92	93	115	95	95
MS	107	99	93	97	87	90
MSD	106	103	95	87	85	83
OPR	107	83	85	96	79	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
6724180	81	86	86	81	103
6724181	85	91	87	87	119
6724182	84	89	90	83	107
6724183	90	92	89	85	112
6724184	81	86	81	75	102
6724185	82	85	86	85	98
6724186	86	92	89	79	97
6724187	100	98	97	92	117
6724188	89	98	94	92	95
6724189	85	87	83	83	95
Blank	93	102	104	81	120
MS	85	91	87	87	119
MSD	84	89	90	83	107
OPR	81	82	85	75	103
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.

Analysis Request/ Environmental Services Chain of Custody

Lancaster Laboratories

For Lancaster Laboratories use only

Acct. # 13013 Group# 1322851 Sample # 6724180-89

COC # 213688

Please print. Instructions on reverse side correspond with circled numbers.

(1) Client: COM Smith Acct. #:

Project Name/#: SSFL PWSID #:

Project Manager: John Wondolleck P.O.#:

Sampler: Nacalynn Beezay Quote #:

Name of state where samples were collected:

For Lab Use Only
FSC:
SCR#:

Preservation Codes
H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

(2) Sample Identification	Date Collected	Time Collected	(3) Grab	Composite	(4) Matrix: Soil	Water (Potable ☐ NPDES ☐)	Other	Total # of Containers	(5) Analyses Requested: Preservation Codes — Dioxins 1613	Remarks
SL-016-A3-SB-0.0-0.5MS	7/17/12	0855	X		X			1	X	MS/MSD
SL-017-A3-SB-0.0-0.5		0750	X		X			1	X	
SL-316-A3-SB-0.0-0.5		0900	X		X			1	X	
SL-014-A3-SB-0.0-0.5		1035	X		X			1	X	
SL-015-A3-SB-0.0-0.5		0955	X		X			1	X	
SL-011-A3-SB-0.0-0.5		1235	X		X			1	X	
SL-012-A3-SB-0.0-0.5		1320	X		X			1	X	
SL-013-A3-SB-0.0-0.5		1405	X		X			1	X	

(6) Temperature of samples upon receipt (if requested)

(7) **Turnaround Time Requested** (TAT) (please circle): (Normal) Rush
(Rush TAT is subject to Lancaster Laboratories approval and surcharge.) (10 day)
Date results are needed:
Rush results requested by (please circle): Phone Fax E-mail
Phone #: Fax #:
E-mail address:

(8) **Data Package Options** (please circle if required)
Type I (validation/NJ Reg)
Type II (Tier II)
Type III (Reduced NJ)
Type IV (CLP SOW)
Type VI (Raw Data Only)
TX TRRP-13
MA MCP CT RCP
Site-specific QC (MS/MSD/Dup)? Yes No
(If yes, indicate QC sample and submit triplicate volume.)
Internal COC Required? Yes / No

SDG Complete? Yes No

(9)

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	7/17/12	1630			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by: [signature]	7/18/12	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

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

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 of gas 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.

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers		Inorganic Qualifiers	
A	TIC is a possible aldol-condensation product	**B**	Value is <CRDL, but ≥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 LANCASTER LABORATORIES 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 LANCASTER LABORATORIES AND (B) WHETHER LANCASTER LABORATORIES 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 Lancaster Laboratories which includes any conditions that vary from the Standard Terms and Conditions, and Lancaster hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

SAMPLE DELIVERY GROUP

PH024

ANALYTICAL RESULTS

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

Prepared for:

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

July 31, 2012

Project: SSFL Phase 3 Sampling

Submittal Date: 07/19/2012
Group Number: 1323175
SDG: PH024
PO Number: 1203-004-009-AL
Release Number: TRACKING #12571
State of Sample Origin: CA

Client Sample Description	Lancaster Labs (LLI) #
SL-001-A3-SB-0.0-0.5 Soil	6726246
SL-002-A3-SB-0.0-0.5 Soil	6726247
SL-003-A3-SB-0.0-0.5 Soil	6726248
EB-071812 Water	6726249
SL-008-A3-SB-0.0-0.5 Soil	6726250
SL-008-A3-SB-0.0-0.5MS Soil	6726251
SL-008-A3-SB-0.0-0.5MSD Soil	6726252
SL-010-A3-SB-0.0-0.5 Soil	6726253
SL-009-A3-SB-0.0-0.5 Soil	6726254

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

ELECTRONIC COPY TO	CDM Federal Services Program	Attn: Todd Burgesser
ELECTRONIC COPY TO	Data Package Group	

Respectfully Submitted,



Nicole L. Maljovec
Senior Specialist Group Leader

(717) 556-7259

Sample Description: SL-001-A3-SB-0.0-0.5 Soil
SSFL Phase 3 Soil Sampling
SL-001-A3-SB

LLI Sample # SW 6726246
LLI Group # 1323175
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/18/2012 08:10 by JH

Submitted: 07/19/2012 09:25
Reported: 07/31/2012 15:47

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

D0010 SDG#: PH024-01

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Wet Chemistry	**EPA 160.3 modified**		%	%	%	
11625	Moisture CDM	n.a.	10.5	0.50	0.50	1

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

Sample Description: SL-001-A3-SB-0.0-0.5 Soil
SSFL Phase 3 Soil Sampling
SL-001-A3-SB

LLI Sample # SW 6726246
LLI Group # 1323175
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/18/2012 08:10 by JH

Submitted: 07/19/2012 09:25
Reported: 07/31/2012 15:47

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

D0010 SDG#: PH024-01

CAT No.	Analysis Name	CAS Number	Dry Result		Dry EDL*	Dry MRL	Dilution Factor
Dioxins/Furans	**EPA 1613B**		ng/kg		ng/kg	ng/kg	
11031	2378-TCDD	1746-01-6	0.717	JBQ	0.0794	1.11	1
11031	12378-PeCDD	40321-76-4	3.10	JB	0.0982	5.56	1
11031	123478-HxCDD	39227-28-6	8.17	B	0.0798	5.56	1
11031	123678-HxCDD	57653-85-7	19.3	B	0.0871	5.56	1
11031	123789-HxCDD	19408-74-3	11.0	B	0.0829	5.56	1
11031	1234678-HpCDD	35822-46-9	485	B	0.0873	5.56	1
11031	OCDD	3268-87-9	3,930	B	0.0440	11.1	1
11650	2378-TCDF-Conf	51207-31-9	3.19	BC	0.150	1.11	1
11031	12378-PeCDF	57117-41-6	7.99	B	0.0770	5.56	1
11031	23478-PeCDF	57117-31-4	3.17	JB	0.0697	5.56	1
11031	123478-HxCDF	70648-26-9	9.48	B	0.0703	5.56	1
11031	123678-HxCDF	57117-44-9	4.75	JB	0.0709	5.56	1
11031	123789-HxCDF	72918-21-9	0.0673	U	0.0673	5.56	1
11031	234678-HxCDF	60851-34-5	5.05	JB	0.0645	5.56	1
11031	1234678-HpCDF	67562-39-4	72.6	B	0.0438	5.56	1
11031	1234789-HpCDF	55673-89-7	7.21	B	0.0500	5.56	1
11031	OCDF	39001-02-0	214	B	0.0225	11.1	1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	76	25 - 164
13C12-2378-TCDF-Conf	78	24 - 169
13C12-12378-PeCDD	81	25 - 181
13C12-123478-HxCDD	80	32 - 141
13C12-123678-HxCDD	78	28 - 130
13C12-123789-HxCDD	80	28 - 130
13C12-1234678-HpCDD	85	23 - 140
13C12-OCDD	93	17 - 157
13C12-12378-PeCDF	82	24 - 185
13C12-23478-PeCDF	82	21 - 178
13C12-123478-HxCDF	79	26 - 152
13C12-123678-HxCDF	79	26 - 123
13C12-234678-HxCDF	78	28 - 136
13C12-123789-HxCDF	84	29 - 147
13C12-1234678-HpCDF	83	28 - 143
13C12-1234789-HpCDF	80	26 - 138
13C12-OCDF	88	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

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

Sample Description: **SL-001-A3-SB-0.0-0.5 Soil**
SSFL Phase 3 Soil Sampling
SL-001-A3-SB

LLI Sample # SW 6726246
LLI Group # 1323175
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/18/2012 08:10 by JH

Submitted: 07/19/2012 09:25
Reported: 07/31/2012 15:47

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

D0010 SDG#: PH024-01

CAT No.	Analysis Name	CAS Number	Dry Result	Dry EDL*	Dry MRL	Dilution Factor

S *Saturation of detection signal*

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

Sample Description: SL-001-A3-SB-0.0-0.5 Soil
SSFL Phase 3 Soil Sampling
SL-001-A3-SB

LLI Sample # SW 6726246
LLI Group # 1323175
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/18/2012 08:10 by JH

Submitted: 07/19/2012 09:25
Reported: 07/31/2012 15:47

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

D0010 SDG#: PH024-01

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
11031	10a. Dioxins/Furans 10-15 day	EPA 1613B	1	12207003	07/27/2012 15:11	Joseph D Anderson	1
11650	Dioxins/Furans in Solids-Conf	EPA 1613B	1	12207003	07/29/2012 15:55	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	12207003	07/25/2012 12:30	Ginelle L Haines	1
11625	Moisture CDM	EPA 160.3 modified	1	12207162401A	07/25/2012 22:37	Scott W Freisher	1

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

Sample Description: SL-002-A3-SB-0.0-0.5 Soil
SSFL Phase 3 Soil Sampling
SL-002-A3-SB

LLI Sample # SW 6726247
LLI Group # 1323175
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/18/2012 07:30 by JH

Submitted: 07/19/2012 09:25
Reported: 07/31/2012 15:47

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

D0020 SDG#: PH024-02

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Wet Chemistry	**EPA 160.3 modified**		%	%	%	
11625	Moisture CDM	n.a.	1.3	0.50	0.50	1

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

Sample Description: SL-002-A3-SB-0.0-0.5 Soil
SSFL Phase 3 Soil Sampling
SL-002-A3-SB

LLI Sample # SW 6726247
LLI Group # 1323175
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/18/2012 07:30 by JH

Submitted: 07/19/2012 09:25
Reported: 07/31/2012 15:47

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

D0020 SDG#: PH024-02

CAT No.	Analysis Name	CAS Number	Dry Result		Dry EDL*	Dry MRL	Dilution Factor
Dioxins/Furans	**EPA 1613B**		ng/kg		ng/kg	ng/kg	
11031	2378-TCDD	1746-01-6	0.267	JB	0.0312	1.01	1
11031	12378-PeCDD	40321-76-4	0.551	JB	0.0566	5.06	1
11031	123478-HxCDD	39227-28-6	1.30	JB	0.0534	5.06	1
11031	123678-HxCDD	57653-85-7	4.72	JB	0.0552	5.06	1
11031	123789-HxCDD	19408-74-3	2.17	JB	0.0519	5.06	1
11031	1234678-HpCDD	35822-46-9	113	B	0.0567	5.06	1
11031	OCDD	3268-87-9	1,080	B	0.0281	10.1	1
11031	2378-TCDF	51207-31-9	0.334	JB	0.0700	1.01	1
11031	12378-PeCDF	57117-41-6	1.08	JB	0.0401	5.06	1
11031	23478-PeCDF	57117-31-4	0.550	JB	0.0373	5.06	1
11031	123478-HxCDF	70648-26-9	2.18	JB	0.0385	5.06	1
11031	123678-HxCDF	57117-44-9	1.10	JB	0.0347	5.06	1
11031	123789-HxCDF	72918-21-9	0.295	JB	0.0323	5.06	1
11031	234678-HxCDF	60851-34-5	1.37	JB	0.0340	5.06	1
11031	1234678-HpCDF	67562-39-4	20.2	B	0.0291	5.06	1
11031	1234789-HpCDF	55673-89-7	2.11	JB	0.0345	5.06	1
11031	OCDF	39001-02-0	49.5	B	0.0170	10.1	1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	78	25 - 164
13C12-12378-PeCDD	84	25 - 181
13C12-123478-HxCDD	76	32 - 141
13C12-123678-HxCDD	78	28 - 130
13C12-123789-HxCDD	78	28 - 130
13C12-1234678-HpCDD	89	23 - 140
13C12-OCDD	90	17 - 157
13C12-2378-TCDF	75	24 - 169
13C12-12378-PeCDF	86	24 - 185
13C12-23478-PeCDF	83	21 - 178
13C12-123478-HxCDF	72	26 - 152
13C12-123678-HxCDF	76	26 - 123
13C12-234678-HxCDF	77	28 - 136
13C12-123789-HxCDF	89	29 - 147
13C12-1234678-HpCDF	85	28 - 143
13C12-1234789-HpCDF	80	26 - 138
13C12-OCDF	87	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

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

Sample Description: **SL-002-A3-SB-0.0-0.5 Soil**
SSFL Phase 3 Soil Sampling
SL-002-A3-SB

LLI Sample # SW 6726247
LLI Group # 1323175
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/18/2012 07:30 by JH

Submitted: 07/19/2012 09:25
Reported: 07/31/2012 15:47

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

D0020 SDG#: PH024-02

CAT No.	Analysis Name	CAS Number	Dry Result	Dry EDL*	Dry MRL	Dilution Factor

S *Saturation of detection signal*

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

Sample Description: SL-002-A3-SB-0.0-0.5 Soil
SSFL Phase 3 Soil Sampling
SL-002-A3-SB

LLI Sample # SW 6726247
LLI Group # 1323175
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/18/2012 07:30 by JH

Submitted: 07/19/2012 09:25
Reported: 07/31/2012 15:47

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

D0020 SDG#: PH024-02

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
11031	10a. Dioxins/Furans 10-15 day	EPA 1613B	1	12207003	07/27/2012 16:08	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	12207003	07/25/2012 12:30	Ginelle L Haines	1
11625	Moisture CDM	EPA 160.3 modified	1	12207162401A	07/25/2012 22:37	Scott W Freisher	1

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

Sample Description: SL-003-A3-SB-0.0-0.5 Soil
SSFL Phase 3 Soil Sampling
SL-003-A3-SB

LLI Sample # SW 6726248
LLI Group # 1323175
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/18/2012 09:15 by JH

Submitted: 07/19/2012 09:25
Reported: 07/31/2012 15:47

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

D0030 SDG#: PH024-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Wet Chemistry	**EPA 160.3 modified**		%	%	%	
11625	Moisture CDM	n.a.	6.7	0.50	0.50	1

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

Sample Description: SL-003-A3-SB-0.0-0.5 Soil
SSFL Phase 3 Soil Sampling
SL-003-A3-SB

LLI Sample # SW 6726248
LLI Group # 1323175
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/18/2012 09:15 by JH

Submitted: 07/19/2012 09:25
Reported: 07/31/2012 15:47

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

D0030 SDG#: PH024-03

CAT No.	Analysis Name	CAS Number	Dry Result		Dry EDL*	Dry MRL	Dilution Factor
Dioxins/Furans	**EPA 1613B**		ng/kg		ng/kg	ng/kg	
11031	2378-TCDD	1746-01-6	0.679	JB	0.0750	1.07	1
11031	12378-PeCDD	40321-76-4	2.88	JB	0.0992	5.33	1
11031	123478-HxCDD	39227-28-6	6.91	B	0.100	5.33	1
11031	123678-HxCDD	57653-85-7	17.6	B	0.105	5.33	1
11031	123789-HxCDD	19408-74-3	8.62	B	0.0980	5.33	1
11031	1234678-HpCDD	35822-46-9	412	B	0.110	5.33	1
11031	OCDD	3268-87-9	3,880	B	0.0545	10.7	1
11031	2378-TCDF	51207-31-9	1.62	BC	0.213	1.07	1
11031	12378-PeCDF	57117-41-6	13.6	B	0.0939	5.33	1
11031	23478-PeCDF	57117-31-4	1.77	JB	0.0839	5.33	1
11031	123478-HxCDF	70648-26-9	8.35	B	0.0877	5.33	1
11031	123678-HxCDF	57117-44-9	3.83	JB	0.0771	5.33	1
11031	123789-HxCDF	72918-21-9	1.08	JB	0.0810	5.33	1
11031	234678-HxCDF	60851-34-5	4.78	JB	0.0758	5.33	1
11031	1234678-HpCDF	67562-39-4	73.9	B	0.0560	5.33	1
11031	1234789-HpCDF	55673-89-7	7.16	B	0.0667	5.33	1
11031	OCDF	39001-02-0	207	B	0.0262	10.7	1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	77	25 - 164
13C12-12378-PeCDD	80	25 - 181
13C12-123478-HxCDD	79	32 - 141
13C12-123678-HxCDD	78	28 - 130
13C12-123789-HxCDD	80	28 - 130
13C12-1234678-HpCDD	87	23 - 140
13C12-OCDD	93	17 - 157
13C12-2378-TCDF	77	24 - 169
13C12-12378-PeCDF	79	24 - 185
13C12-23478-PeCDF	77	21 - 178
13C12-123478-HxCDF	68	26 - 152
13C12-123678-HxCDF	78	26 - 123
13C12-234678-HxCDF	77	28 - 136
13C12-123789-HxCDF	79	29 - 147
13C12-1234678-HpCDF	84	28 - 143
13C12-1234789-HpCDF	80	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
F Interference is present

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

Sample Description: **SL-003-A3-SB-0.0-0.5 Soil**
SSFL Phase 3 Soil Sampling
SL-003-A3-SB

LLI Sample # SW 6726248
LLI Group # 1323175
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/18/2012 09:15 by JH

Submitted: 07/19/2012 09:25
Reported: 07/31/2012 15:47

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

D0030 SDG#: PH024-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry EDL*	Dry MRL	Dilution Factor

S *Saturation of detection signal*

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

Sample Description: SL-003-A3-SB-0.0-0.5 Soil
SSFL Phase 3 Soil Sampling
SL-003-A3-SB

LLI Sample # SW 6726248
LLI Group # 1323175
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/18/2012 09:15 by JH

Submitted: 07/19/2012 09:25
Reported: 07/31/2012 15:47

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

D0030 SDG#: PH024-03

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
11031	10a. Dioxins/Furans 10-15 day	EPA 1613B	1	12207003	07/27/2012 17:04	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	12207003	07/25/2012 12:30	Ginelle L Haines	1
11625	Moisture CDM	EPA 160.3 modified	1	12207162401A	07/25/2012 22:37	Scott W Freisher	1

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

Sample Description: EB-071812 Water
SSFL Phase 3 Soil Sampling
EB

LLI Sample # WW 6726249
LLI Group # 1323175
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/18/2012 15:00 by JH

Submitted: 07/19/2012 09:25
Reported: 07/31/2012 15:47

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

DEB18 SDG#: PH024-04EB

CAT No.	Analysis Name	CAS Number	As Received Result		As Received EDL*	As Received MRL	Dilution Factor
Dioxins/Furans	**EPA 1613B**		pg/l		pg/l	pg/l	
10915	2378-TCDD	1746-01-6	0.397	U	0.397	2.10	1
10915	12378-PeCDD	40321-76-4	0.457	JQ	0.456	10.5	1
10915	123478-HxCDD	39227-28-6	0.582	JBQ	0.283	10.5	1
10915	123678-HxCDD	57653-85-7	0.614	JBQ	0.300	10.5	1
10915	123789-HxCDD	19408-74-3	0.769	JB	0.231	10.5	1
10915	1234678-HpCDD	35822-46-9	2.98	JBQ	0.250	10.5	1
10915	OCDD	3268-87-9	5.38	JB	0.337	21.0	1
10915	2378-TCDF	51207-31-9	0.265	U	0.265	2.10	1
10915	12378-PeCDF	57117-41-6	0.374	JBQ	0.195	10.5	1
10915	23478-PeCDF	57117-31-4	0.712	JBQ	0.187	10.5	1
10915	123478-HxCDF	70648-26-9	0.594	J	0.278	10.5	1
10915	123678-HxCDF	57117-44-9	0.508	JBQ	0.264	10.5	1
10915	123789-HxCDF	72918-21-9	0.748	JBQ	0.140	10.5	1
10915	234678-HxCDF	60851-34-5	0.439	JBQ	0.159	10.5	1
10915	1234678-HpCDF	67562-39-4	1.37	JB	0.212	10.5	1
10915	1234789-HpCDF	55673-89-7	0.785	JBQ	0.151	10.5	1
10915	OCDF	39001-02-0	1.25	JB	0.396	21.0	1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	51	25 - 164
13C12-12378-PeCDD	49	25 - 181
13C12-123478-HxCDD	42	32 - 141
13C12-123678-HxCDD	41	28 - 130
13C12-123789-HxCDD	52	28 - 130
13C12-1234678-HpCDD	53	23 - 140
13C12-OCDD	55	17 - 157
13C12-2378-TCDF	54	24 - 169
13C12-12378-PeCDF	58	24 - 185
13C12-23478-PeCDF	54	21 - 178
13C12-123478-HxCDF	29	26 - 152
13C12-123678-HxCDF	30	26 - 123
13C12-234678-HxCDF	49	28 - 136
13C12-123789-HxCDF	60	29 - 147
13C12-1234678-HpCDF	33	28 - 143
13C12-1234789-HpCDF	54	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
F Interference is present

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

Sample Description: EB-071812 Water
SSFL Phase 3 Soil Sampling
EB

LLI Sample # WW 6726249
LLI Group # 1323175
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/18/2012 15:00 by JH

Submitted: 07/19/2012 09:25
Reported: 07/31/2012 15:47

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

DEB18 SDG#: PH024-04EB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received EDL*	As Received MRL	Dilution Factor

S *Saturation of detection signal*

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
10915	10b. Dioxins/Furans 10-15 day	EPA 1613B	1	12202002	07/24/2012 13:01	Joseph D Anderson	1
10914	Dioxins/Furans in Water - SepF	EPA 1613B	1	12202002	07/20/2012 12:30	Ginelle L Haines	1

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

Sample Description: SL-008-A3-SB-0.0-0.5 Soil
SSFL Phase 3 Soil Sampling
SL-008-A3-SB

LLI Sample # SW 6726250
LLI Group # 1323175
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/18/2012 12:10 by JH

Submitted: 07/19/2012 09:25
Reported: 07/31/2012 15:47

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

D0080 SDG#: PH024-05BKG

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Wet Chemistry	**EPA 160.3 modified**		%	%	%	
11625	Moisture CDM	n.a.	0.53	0.50	0.50	1

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

Sample Description: SL-008-A3-SB-0.0-0.5 Soil
SSFL Phase 3 Soil Sampling
SL-008-A3-SB

LLI Sample # SW 6726250
LLI Group # 1323175
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/18/2012 12:10 by JH

Submitted: 07/19/2012 09:25
Reported: 07/31/2012 15:47

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

D0080 SDG#: PH024-05BKG

CAT No.	Analysis Name	CAS Number	Dry Result		Dry EDL*	Dry MRL	Dilution Factor
Dioxins/Furans	**EPA 1613B**		ng/kg		ng/kg	ng/kg	
11031	2378-TCDD	1746-01-6	0.0447	U	0.0447	0.998	1
11031	12378-PeCDD	40321-76-4	0.268	JB	0.0331	4.99	1
11031	123478-HxCDD	39227-28-6	0.463	JB	0.0374	4.99	1
11031	123678-HxCDD	57653-85-7	1.01	JB	0.0370	4.99	1
11031	123789-HxCDD	19408-74-3	0.996	JB	0.0347	4.99	1
11031	1234678-HpCDD	35822-46-9	29.9	B	0.0430	4.99	1
11031	OCDD	3268-87-9	403	B	0.0243	9.98	1
11031	2378-TCDF	51207-31-9	0.149	JBQ	0.0528	0.998	1
11031	12378-PeCDF	57117-41-6	0.772	JB	0.0360	4.99	1
11031	23478-PeCDF	57117-31-4	0.278	JB	0.0332	4.99	1
11031	123478-HxCDF	70648-26-9	0.628	JB	0.0389	4.99	1
11031	123678-HxCDF	57117-44-9	0.249	JB	0.0351	4.99	1
11031	123789-HxCDF	72918-21-9	0.265	JB	0.0340	4.99	1
11031	234678-HxCDF	60851-34-5	0.371	JB	0.0357	4.99	1
11031	1234678-HpCDF	67562-39-4	6.34	B	0.0243	4.99	1
11031	1234789-HpCDF	55673-89-7	0.627	JB	0.0323	4.99	1
11031	OCDF	39001-02-0	31.4	B	0.0254	9.98	1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	68	25 - 164
13C12-12378-PeCDD	78	25 - 181
13C12-123478-HxCDD	77	32 - 141
13C12-123678-HxCDD	76	28 - 130
13C12-123789-HxCDD	80	28 - 130
13C12-1234678-HpCDD	88	23 - 140
13C12-OCDD	86	17 - 157
13C12-2378-TCDF	65	24 - 169
13C12-12378-PeCDF	78	24 - 185
13C12-23478-PeCDF	76	21 - 178
13C12-123478-HxCDF	72	26 - 152
13C12-123678-HxCDF	76	26 - 123
13C12-234678-HxCDF	73	28 - 136
13C12-123789-HxCDF	82	29 - 147
13C12-1234678-HpCDF	86	28 - 143
13C12-1234789-HpCDF	75	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
F Interference is present

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

Sample Description: SL-008-A3-SB-0.0-0.5 Soil
SSFL Phase 3 Soil Sampling
SL-008-A3-SB

LLI Sample # SW 6726250
LLI Group # 1323175
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/18/2012 12:10 by JH

Submitted: 07/19/2012 09:25
Reported: 07/31/2012 15:47

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

D0080 SDG#: PH024-05BKG

CAT No.	Analysis Name	CAS Number	Dry Result	Dry EDL*	Dry MRL	Dilution Factor

S *Saturation of detection signal*

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

Sample Description: **SL-008-A3-SB-0.0-0.5 Soil**
SSFL Phase 3 Soil Sampling
SL-008-A3-SB

LLI Sample # SW 6726250
LLI Group # 1323175
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/18/2012 12:10 by JH

Submitted: 07/19/2012 09:25
Reported: 07/31/2012 15:47

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

D0080 SDG#: PH024-05BKG

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
11031	10a. Dioxins/Furans 10-15 day	EPA 1613B	1	12207003	07/27/2012 18:01	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	12207003	07/25/2012 12:30	Ginelle L Haines	1
11625	Moisture CDM	EPA 160.3 modified	2	12209162401A	07/27/2012 09:16	William C Schwebel	1

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

Sample Description: SL-008-A3-SB-0.0-0.5MS Soil
SSFL Phase 3 Soil Sampling
SL-008-A3-SB

LLI Sample # SW 6726251
LLI Group # 1323175
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/18/2012 12:10 by JH

Submitted: 07/19/2012 09:25
Reported: 07/31/2012 15:47

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

D0080 SDG#: PH024-05MS

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Wet Chemistry	**EPA 160.3 modified**		%	%	%	
11625	Moisture CDM	n.a.	0.53	0.50	0.50	1

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

Sample Description: SL-008-A3-SB-0.0-0.5MS Soil
SSFL Phase 3 Soil Sampling
SL-008-A3-SB

LLI Sample # SW 6726251
LLI Group # 1323175
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/18/2012 12:10 by JH

Submitted: 07/19/2012 09:25
Reported: 07/31/2012 15:47

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

D0080 SDG#: PH024-05MS

CAT No.	Analysis Name	CAS Number	Dry Result		Dry EDL*	Dry MRL	Dilution Factor
Dioxins/Furans	**EPA 1613B**		ng/kg		ng/kg	ng/kg	
11031	2378-TCDD	1746-01-6	22.0	B	0.0332	1.00	1
11031	12378-PeCDD	40321-76-4	103	B	0.0291	5.01	1
11031	123478-HxCDD	39227-28-6	105	B	0.0492	5.01	1
11031	123678-HxCDD	57653-85-7	98.1	B	0.0512	5.01	1
11031	123789-HxCDD	19408-74-3	108	B	0.0499	5.01	1
11031	1234678-HpCDD	35822-46-9	135	B	0.0461	5.01	1
11031	OCDD	3268-87-9	592	B	0.0244	10.0	1
11031	2378-TCDF	51207-31-9	20.4	B	0.0497	1.00	1
11031	12378-PeCDF	57117-41-6	108	B	0.0388	5.01	1
11031	23478-PeCDF	57117-31-4	102	B	0.0349	5.01	1
11031	123478-HxCDF	70648-26-9	109	B	0.0420	5.01	1
11031	123678-HxCDF	57117-44-9	103	B	0.0384	5.01	1
11031	123789-HxCDF	72918-21-9	108	B	0.0416	5.01	1
11031	234678-HxCDF	60851-34-5	107	B	0.0397	5.01	1
11031	1234678-HpCDF	67562-39-4	106	B	0.0327	5.01	1
11031	1234789-HpCDF	55673-89-7	102	B	0.0448	5.01	1
11031	OCDF	39001-02-0	238	B	0.0248	10.0	1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	72	25 - 164
13C12-12378-PeCDD	76	25 - 181
13C12-123478-HxCDD	78	32 - 141
13C12-123678-HxCDD	82	28 - 130
13C12-123789-HxCDD	81	28 - 130
13C12-1234678-HpCDD	87	23 - 140
13C12-OCDD	90	17 - 157
13C12-2378-TCDF	71	24 - 169
13C12-12378-PeCDF	75	24 - 185
13C12-23478-PeCDF	73	21 - 178
13C12-123478-HxCDF	75	26 - 152
13C12-123678-HxCDF	83	26 - 123
13C12-234678-HxCDF	75	28 - 136
13C12-123789-HxCDF	78	29 - 147
13C12-1234678-HpCDF	93	28 - 143
13C12-1234789-HpCDF	77	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
F Interference is present

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

Sample Description: **SL-008-A3-SB-0.0-0.5MS Soil**
SSFL Phase 3 Soil Sampling
SL-008-A3-SB

LLI Sample # SW 6726251
LLI Group # 1323175
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/18/2012 12:10 by JH

Submitted: 07/19/2012 09:25
Reported: 07/31/2012 15:47

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

D0080 SDG#: PH024-05MS

CAT No.	Analysis Name	CAS Number	Dry Result	Dry EDL*	Dry MRL	Dilution Factor

S *Saturation of detection signal*

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

Sample Description: SL-008-A3-SB-0.0-0.5MS Soil
SSFL Phase 3 Soil Sampling
SL-008-A3-SB

LLI Sample # SW 6726251
LLI Group # 1323175
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/18/2012 12:10 by JH

Submitted: 07/19/2012 09:25
Reported: 07/31/2012 15:47

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

D0080 SDG#: PH024-05MS

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
11031	10a. Dioxins/Furans 10-15 day	EPA 1613B	1	12207003	07/27/2012 18:58	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	12207003	07/25/2012 12:30	Ginelle L Haines	1
11625	Moisture CDM	EPA 160.3 modified	2	12209162401A	07/27/2012 09:16	William C Schwebel	1

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

Sample Description: SL-008-A3-SB-0.0-0.5MSD Soil
SSFL Phase 3 Soil Sampling
SL-008-A3-SB

LLI Sample # SW 6726252
LLI Group # 1323175
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/18/2012 12:10 by JH

Submitted: 07/19/2012 09:25
Reported: 07/31/2012 15:47

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

D0080 SDG#: PH024-05MSD

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Wet Chemistry	**EPA 160.3 modified**		%	%	%	
11625	Moisture CDM	n.a.	0.53	0.50	0.50	1

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

Sample Description: SL-008-A3-SB-0.0-0.5MSD Soil
SSFL Phase 3 Soil Sampling
SL-008-A3-SB

LLI Sample # SW 6726252
LLI Group # 1323175
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/18/2012 12:10 by JH

Submitted: 07/19/2012 09:25
Reported: 07/31/2012 15:47

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

D0080 SDG#: PH024-05MSD

CAT No.	Analysis Name	CAS Number	Dry Result		Dry EDL*	Dry MRL	Dilution Factor
Dioxins/Furans	**EPA 1613B**		ng/kg		ng/kg	ng/kg	
11031	2378-TCDD	1746-01-6	21.6	B	0.0318	0.999	1
11031	12378-PeCDD	40321-76-4	106	B	0.0294	5.00	1
11031	123478-HxCDD	39227-28-6	99.3	B	0.0419	5.00	1
11031	123678-HxCDD	57653-85-7	102	B	0.0450	5.00	1
11031	123789-HxCDD	19408-74-3	105	B	0.0387	5.00	1
11031	1234678-HpCDD	35822-46-9	130	B	0.0425	5.00	1
11031	OCDD	3268-87-9	549	B	0.0276	9.99	1
11031	2378-TCDF	51207-31-9	20.3	B	0.0497	0.999	1
11031	12378-PeCDF	57117-41-6	108	B	0.0386	5.00	1
11031	23478-PeCDF	57117-31-4	102	B	0.0348	5.00	1
11031	123478-HxCDF	70648-26-9	107	B	0.0447	5.00	1
11031	123678-HxCDF	57117-44-9	106	B	0.0442	5.00	1
11031	123789-HxCDF	72918-21-9	109	B	0.0396	5.00	1
11031	234678-HxCDF	60851-34-5	105	B	0.0406	5.00	1
11031	1234678-HpCDF	67562-39-4	105	B	0.0318	5.00	1
11031	1234789-HpCDF	55673-89-7	102	B	0.0366	5.00	1
11031	OCDF	39001-02-0	234	B	0.0248	9.99	1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	76	25 - 164
13C12-12378-PeCDD	74	25 - 181
13C12-123478-HxCDD	82	32 - 141
13C12-123678-HxCDD	79	28 - 130
13C12-123789-HxCDD	87	28 - 130
13C12-1234678-HpCDD	85	23 - 140
13C12-OCDD	87	17 - 157
13C12-2378-TCDF	75	24 - 169
13C12-12378-PeCDF	74	24 - 185
13C12-23478-PeCDF	71	21 - 178
13C12-123478-HxCDF	75	26 - 152
13C12-123678-HxCDF	78	26 - 123
13C12-234678-HxCDF	77	28 - 136
13C12-123789-HxCDF	87	29 - 147
13C12-1234678-HpCDF	83	28 - 143
13C12-1234789-HpCDF	76	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
F Interference is present

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

Sample Description: SL-008-A3-SB-0.0-0.5MSD Soil
SSFL Phase 3 Soil Sampling
SL-008-A3-SB

LLI Sample # SW 6726252
LLI Group # 1323175
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/18/2012 12:10 by JH

Submitted: 07/19/2012 09:25
Reported: 07/31/2012 15:47

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

D0080 SDG#: PH024-05MSD

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

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

Sample Description: SL-008-A3-SB-0.0-0.5MSD Soil
SSFL Phase 3 Soil Sampling
SL-008-A3-SB

LLI Sample # SW 6726252
LLI Group # 1323175
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/18/2012 12:10 by JH

Submitted: 07/19/2012 09:25
Reported: 07/31/2012 15:47

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

D0080 SDG#: PH024-05MSD

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
11031	10a. Dioxins/Furans 10-15 day	EPA 1613B	1	12207003	07/27/2012 19:54	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	12207003	07/25/2012 12:30	Ginelle L Haines	1
11625	Moisture CDM	EPA 160.3 modified	2	12209162401A	07/27/2012 09:16	William C Schwebel	1

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

Sample Description: SL-010-A3-SB-0.0-0.5 Soil
SSFL Phase 3 Soil Sampling
SL-010-A3-SB

LLI Sample # SW 6726253
LLI Group # 1323175
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/18/2012 13:40 by JH

Submitted: 07/19/2012 09:25
Reported: 07/31/2012 15:47

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

D0100 SDG#: PH024-06

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Wet Chemistry	**EPA 160.3 modified**		%	%	%	
11625	Moisture CDM	n.a.	7.1	0.50	0.50	1

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

Sample Description: SL-010-A3-SB-0.0-0.5 Soil
SSFL Phase 3 Soil Sampling
SL-010-A3-SB

LLI Sample # SW 6726253
LLI Group # 1323175
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/18/2012 13:40 by JH

Submitted: 07/19/2012 09:25
Reported: 07/31/2012 15:47

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

D0100 SDG#: PH024-06

CAT No.	Analysis Name	CAS Number	Dry Result		Dry EDL*	Dry MRL	Dilution Factor
Dioxins/Furans	**EPA 1613B**		ng/kg		ng/kg	ng/kg	
11031	2378-TCDD	1746-01-6	0.726	JB	0.0382	1.04	1
11031	12378-PeCDD	40321-76-4	5.73	B	0.0732	5.18	1
11031	123478-HxCDD	39227-28-6	10.6	B	0.0683	5.18	1
11031	123678-HxCDD	57653-85-7	18.1	B	0.0708	5.18	1
11031	123789-HxCDD	19408-74-3	21.3	B	0.0665	5.18	1
11031	1234678-HpCDD	35822-46-9	463	B	0.0938	5.18	1
11031	OCDD	3268-87-9	5,480	EB	0.0486	10.4	1
11031	2378-TCDF	51207-31-9	0.312	JB	0.0723	1.04	1
11031	12378-PeCDF	57117-41-6	1.44	JB	0.0483	5.18	1
11031	23478-PeCDF	57117-31-4	0.812	JB	0.0454	5.18	1
11031	123478-HxCDF	70648-26-9	3.37	JB	0.0534	5.18	1
11031	123678-HxCDF	57117-44-9	3.81	JB	0.0525	5.18	1
11031	123789-HxCDF	72918-21-9	0.760	JB	0.0546	5.18	1
11031	234678-HxCDF	60851-34-5	5.64	B	0.0525	5.18	1
11031	1234678-HpCDF	67562-39-4	79.5	B	0.0421	5.18	1
11031	1234789-HpCDF	55673-89-7	5.32	B	0.0547	5.18	1
11031	OCDF	39001-02-0	173	B	0.0263	10.4	1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	89	25 - 164
13C12-12378-PeCDD	88	25 - 181
13C12-123478-HxCDD	87	32 - 141
13C12-123678-HxCDD	87	28 - 130
13C12-123789-HxCDD	89	28 - 130
13C12-1234678-HpCDD	95	23 - 140
13C12-OCDD	103	17 - 157
13C12-2378-TCDF	86	24 - 169
13C12-12378-PeCDF	87	24 - 185
13C12-23478-PeCDF	84	21 - 178
13C12-123478-HxCDF	87	26 - 152
13C12-123678-HxCDF	89	26 - 123
13C12-234678-HxCDF	83	28 - 136
13C12-123789-HxCDF	87	29 - 147
13C12-1234678-HpCDF	97	28 - 143
13C12-1234789-HpCDF	81	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
F Interference is present

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

Sample Description: **SL-010-A3-SB-0.0-0.5 Soil**
SSFL Phase 3 Soil Sampling
SL-010-A3-SB

LLI Sample # SW 6726253
LLI Group # 1323175
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/18/2012 13:40 by JH

Submitted: 07/19/2012 09:25
Reported: 07/31/2012 15:47

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

D0100 SDG#: PH024-06

CAT No.	Analysis Name	CAS Number	Dry Result	Dry EDL*	Dry MRL	Dilution Factor

S *Saturation of detection signal*

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

Sample Description: SL-010-A3-SB-0.0-0.5 Soil
SSFL Phase 3 Soil Sampling
SL-010-A3-SB

LLI Sample # SW 6726253
LLI Group # 1323175
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/18/2012 13:40 by JH

Submitted: 07/19/2012 09:25
Reported: 07/31/2012 15:47

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

D0100 SDG#: PH024-06

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
11031	10a. Dioxins/Furans 10-15 day	EPA 1613B	1	12207003	07/27/2012 20:51	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	12207003	07/25/2012 12:30	Ginelle L Haines	1
11625	Moisture CDM	EPA 160.3 modified	1	12207162401A	07/25/2012 22:37	Scott W Freisher	1

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

Sample Description: SL-009-A3-SB-0.0-0.5 Soil
SSFL Phase 3 Soil Sampling
SL-009-A3-SB

LLI Sample # SW 6726254
LLI Group # 1323175
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/18/2012 13:05 by JH

Submitted: 07/19/2012 09:25
Reported: 07/31/2012 15:47

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

D0090 SDG#: PH024-07

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Wet Chemistry	**EPA 160.3 modified**		%	%	%	
11625	Moisture CDM	n.a.	3.9	0.50	0.50	1

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

Sample Description: SL-009-A3-SB-0.0-0.5 Soil
SSFL Phase 3 Soil Sampling
SL-009-A3-SB

LLI Sample # SW 6726254
LLI Group # 1323175
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/18/2012 13:05 by JH

Submitted: 07/19/2012 09:25
Reported: 07/31/2012 15:47

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

D0090 SDG#: PH024-07

CAT No.	Analysis Name	CAS Number	Dry Result	Dry EDL*	Dry MRL	Dilution Factor
Dioxins/Furans	**EPA 1613B**		ng/kg	ng/kg	ng/kg	
11031	2378-TCDD	1746-01-6	0.765 JB	0.0713	1.03	1
11031	12378-PeCDD	40321-76-4	6.36 B	0.122	5.17	1
11031	123478-HxCDD	39227-28-6	16.9 B	0.150	5.17	1
11031	123678-HxCDD	57653-85-7	56.3 B	0.156	5.17	1
11031	123789-HxCDD	19408-74-3	32.0 B	0.146	5.17	1
11031	1234678-HpCDD	35822-46-9	1,290 B	0.140	5.17	1
11031	OCDD	3268-87-9	14,200 EB	0.0593	10.3	1
11031	2378-TCDF	51207-31-9	1.07 BC	0.151	1.03	1
11031	12378-PeCDF	57117-41-6	4.49 JB	0.0682	5.17	1
11031	23478-PeCDF	57117-31-4	2.01 JB	0.0638	5.17	1
11031	123478-HxCDF	70648-26-9	10.1 B	0.0911	5.17	1
11031	123678-HxCDF	57117-44-9	6.92 B	0.0788	5.17	1
11031	123789-HxCDF	72918-21-9	1.94 JB	0.0693	5.17	1
11031	234678-HxCDF	60851-34-5	11.4 B	0.0777	5.17	1
11031	1234678-HpCDF	67562-39-4	184 B	0.0805	5.17	1
11031	1234789-HpCDF	55673-89-7	13.9 B	0.0894	5.17	1
11031	OCDF	39001-02-0	475 B	0.0338	10.3	1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	79	25 - 164
13C12-12378-PeCDD	84	25 - 181
13C12-123478-HxCDD	80	32 - 141
13C12-123678-HxCDD	81	28 - 130
13C12-123789-HxCDD	85	28 - 130
13C12-1234678-HpCDD	92	23 - 140
13C12-OCDD	98	17 - 157
13C12-2378-TCDF	78	24 - 169
13C12-12378-PeCDF	84	24 - 185
13C12-23478-PeCDF	81	21 - 178
13C12-123478-HxCDF	69	26 - 152
13C12-123678-HxCDF	78	26 - 123
13C12-234678-HxCDF	76	28 - 136

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

Sample Description: SL-009-A3-SB-0.0-0.5 Soil
SSFL Phase 3 Soil Sampling
SL-009-A3-SB

LLI Sample # SW 6726254
LLI Group # 1323175
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/18/2012 13:05 by JH

Submitted: 07/19/2012 09:25
Reported: 07/31/2012 15:47

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

D0090 SDG#: PH024-07

CAT No.	Analysis Name	CAS Number	Dry Result	Dry EDL*	Dry MRL	Dilution Factor

Labeled Compounds	%Rec	Windows
13C12-123789-HxCDF	84	29 - 147
13C12-1234678-HpCDF	85	28 - 143
13C12-1234789-HpCDF	81	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*
F *Interference is present*
S *Saturation of detection signal*

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

Sample Description: SL-009-A3-SB-0.0-0.5 Soil
SSFL Phase 3 Soil Sampling
SL-009-A3-SB

LLI Sample # SW 6726254
LLI Group # 1323175
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/18/2012 13:05 by JH

Submitted: 07/19/2012 09:25
Reported: 07/31/2012 15:47

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

D0090 SDG#: PH024-07

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
11031	10a. Dioxins/Furans 10-15 day	EPA 1613B	1	12207003	07/27/2012 21:47	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	EPA 1613B	1	12207003	07/25/2012 12:30	Ginelle L Haines	1
11625	Moisture CDM	EPA 160.3 modified	1	12207162401A	07/25/2012 22:37	Scott W Freisher	1

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

Quality Control Summary

Client Name: CDM Federal Programs Corp. Group Number: 1323175
Reported: 07/31/12 at 03:47 PM

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

Analysis Name	Blank Result		Blank MDL**	Blank LOQ	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 12207162401A	Sample number(s): 6726246-6726248,6726253-6726254									
Moisture CDM						100		80-120		
Batch number: 12209162401A	Sample number(s): 6726250-6726252									
Moisture CDM						100		80-120		

Analysis Name	Blank Result		Blank EDL**	Blank MRL	Report Units	OPR %REC	OPRD %REC	OPR/OPRD Limits	RPD	RPD Max
Batch number: 12202002	Sample number(s): 6726249									
2378-TCDD	1.06	J	0.427	2.00	pg/l	112		67-158		
12378-PeCDD	0.368	U	0.368	10.0	pg/l	110		70-142		
123478-HxCDD	0.654	J	0.286	10.0	pg/l	109		70-164		
123678-HxCDD	0.747	J	0.282	10.0	pg/l	106		76-134		
123789-HxCDD	0.928	J	0.272	10.0	pg/l	113		64-162		
1234678-HpCDD	3.87	J	0.247	10.0	pg/l	107		70-140		
OCDD	6.40	J	0.316	20.0	pg/l	106		78-144		
2378-TCDF	0.441	J	0.272	2.00	pg/l	98		75-158		
12378-PeCDF	0.300	J	0.180	10.0	pg/l	105		80-134		
23478-PeCDF	0.481	J	0.166	10.0	pg/l	102		68-160		
123478-HxCDF	0.146	U	0.146	10.0	pg/l	107		72-134		
123678-HxCDF	0.483	J	0.135	10.0	pg/l	106		84-130		
123789-HxCDF	0.731	J	0.122	10.0	pg/l	102		78-130		
234678-HxCDF	0.393	J	0.136	10.0	pg/l	103		70-156		
1234678-HpCDF	0.574	J	0.121	10.0	pg/l	98		82-122		
1234789-HpCDF	0.669	J	0.135	10.0	pg/l	101		78-138		
OCDF	1.62	J	0.380	20.0	pg/l	101		63-170		
Batch number: 12207003	Sample number(s): 6726246-6726248,6726250-6726254									
2378-TCDD	0.124	J	0.0312	1.00	ng/kg	109		67-158		
12378-PeCDD	0.370	J	0.0219	5.00	ng/kg	107		70-142		
123478-HxCDD	0.179	J	0.0236	5.00	ng/kg	101		70-164		
123678-HxCDD	0.183	J	0.0242	5.00	ng/kg	105		76-134		
123789-HxCDD	0.183	J	0.0221	5.00	ng/kg	107		64-162		
1234678-HpCDD	0.289	J	0.0174	5.00	ng/kg	104		70-140		
OCDD	0.448	J	0.0149	10.0	ng/kg	100		78-144		
2378-TCDF	0.111	J	0.0261	1.00	ng/kg	103		75-158		
2378-TCDF-Conf	0.0775	J	0.0181	1.00	ng/kg	103		75-158		
12378-PeCDF	0.382	J	0.0171	5.00	ng/kg	108		80-134		
23478-PeCDF	0.369	J	0.0176	5.00	ng/kg	102		68-160		
123478-HxCDF	0.257	J	0.0198	5.00	ng/kg	108		72-134		
123678-HxCDF	0.200	J	0.0174	5.00	ng/kg	103		84-130		
123789-HxCDF	0.186	J	0.0179	5.00	ng/kg	107		78-130		

*- 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. Group Number: 1323175
Reported: 07/31/12 at 03:47 PM

Analysis Name	Blank Result		Blank EDL**	Blank MRL	Report Units	OPR %REC	OPRD %REC	OPR/OPRD Limits	RPD	RPD Max
234678-HxCDF	0.176	J	0.0184	5.00	ng/kg	108		70-156		
1234678-HpCDF	0.149	J	0.00879	5.00	ng/kg	98		82-122		
1234789-HpCDF	0.101	J	0.0123	5.00	ng/kg	102		78-138		
OCDF	0.157	J	0.0153	10.0	ng/kg	103		63-170		

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: 12207162401A	Sample number(s): 6726246-6726248,6726253-6726254 BKG: P726228								
Moisture CDM						1.6	0.54	100* (1)	20
Batch number: 12209162401A	Sample number(s): 6726250-6726252 BKG: P726228								
Moisture CDM						0.53	0.67	22* (1)	20
Batch number: 12207003	Sample number(s): 6726246-6726248,6726250-6726254 UNSPK: 6726250								
2378-TCDD	110	108	67-158	2	25				
12378-PeCDD	103	106	70-142	2	25				
123478-HxCDD	104	99	70-164	5	25				
123678-HxCDD	97	101	76-134	4	25				
123789-HxCDD	107	104	64-162	2	25				
1234678-HpCDD	105	100	70-140	4	25				
OCDD	94	73*	78-144	8	25				
2378-TCDF	101	101	75-158	0	25				
2378-TCDF-Conf	101	101	75-158	0	25				
12378-PeCDF	107	108	80-134	0	25				
23478-PeCDF	102	101	68-160	1	25				
123478-HxCDF	108	106	72-134	2	25				
123678-HxCDF	103	105	84-130	2	25				
123789-HxCDF	107	108	78-130	1	25				
234678-HxCDF	106	105	70-156	1	25				
1234678-HpCDF	99	99	82-122	1	25				
1234789-HpCDF	101	101	78-138	0	25				
OCDF	103	101	63-170	2	25				

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: 10b. Dioxins/Furans 10-15 day
Batch number: 12202002

	13C12-2378-TCDD	13C12-23478-PeCDF	13C12-123478-HxCDF	13C12-123678-HxCDF	13C12-234678-HxCDF	13C12-123789-HxCDF
6726249	51	54	29	30	49	60
Blank	57	70	58	58	59	70
OPR	69	88	78	77	81	84

*- 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. Group Number: 1323175
Reported: 07/31/12 at 03:47 PM

Surrogate Quality Control

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
6726249	33	54	49	49	42	41
Blank	62	63	61	64	57	57
OPR	88	91	94	84	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	13C12-2378-TCDF-Conf
6726249	52	53	55	54	58	
Blank	59	64	63	67	70	
OPR	82	92	99	76	87	76

Limits:	28-130	23-140	17-157	24-169	24-185	22-152

Analysis Name: 10a. Dioxins/Furans 10-15 day
Batch number: 12207003

	13C12-2378-TCDD	13C12-23478-PeCDF	13C12-123478-HxCDF	13C12-123678-HxCDF	13C12-234678-HxCDF	13C12-123789-HxCDF
6726246	76	82	79	79	78	84
6726247	78	83	72	76	77	89
6726248	77	77	68	78	77	79
6726250	68	76	72	76	73	82
6726251	72	73	75	83	75	78
6726252	76	71	75	78	77	87
6726253	89	84	87	89	83	87
6726254	79	81	69	78	76	84
Blank	71	74	74	79	75	87
MS	72	73	75	83	75	78
MSD	76	71	75	78	77	87
OPR	65	71	73	78	74	82

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
6726246	83	80	88	81	80	78
6726247	85	80	87	84	76	78
6726248	84	80	84	80	79	78
6726250	86	75	82	78	77	76
6726251	93	77	82	76	78	82
6726252	83	76	83	74	82	79
6726253	97	81	91	88	87	87
6726254	85	81	84	84	80	81
Blank	100	77	77	74	77	76
MS	93	77	82	76	78	82
MSD	83	76	83	74	82	79
OPR	92	81	87	69	77	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	13C12-2378-TCDF-Conf

*- 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. Group Number: 1323175
Reported: 07/31/12 at 03:47 PM

Surrogate Quality Control

6726246	80	85	93		82	78
6726247	78	89	90	75	86	
6726248	80	87	93	77	79	
6726250	80	88	86	65	78	
6726251	81	87	90	71	75	
6726252	87	85	87	75	74	
6726253	89	95	103	86	87	
6726254	85	92	98	78	84	
Blank	78	84	91	67	79	69
MS	81	87	90	71	75	71
MSD	87	85	87	75	74	75
OPR	77	84	93	64	71	64
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.

Analysis Request/ Environmental Services Chain of Custody

Lancaster Laboratories

For Lancaster Laboratories use only

Acct. # 13013 Group# 1323175 Sample # 6726246-54

COC # 213690

Please print. Instructions on reverse side correspond with circled numbers.

(1) Client: CDM Smith Acct. #:

Project Name/#: SSFL PWSID #:

Project Manager: John Wondolleck P.O.#:

Sampler: John Halseth Quote #:

Name of state where samples were collected: CA

For Lab Use Only

FSC:

SCR#:

Preservation Codes

H=HCl T=Thiosulfate

N=HNO_3 B=NaOH

S=H_2SO_4 O=Other

(2) Sample Identification	Date Collected	Time Collected	(3) Grab	Composite	Matrix (4) Soil	Water	Other	Total # of Containers	(5) Analyses Requested: Preservation Codes — Dioxin 1613	Terphenyls 8015	Remarks	(6) Temperature of samples upon receipt (if requested)
SL-001-A3-SB-0.0-0.5	7/18/12	0810	X		X			X	X	X	(1 sleeve)	
SL-002-A3-SB-0.0-0.5		0730	X		X			X	X	X	(1 sleeve)	
SL-003-A3-SB-0.0-0.5		0915	X		X			1	X	X		
EB-071812		1500				X		3	X	X	3 1L Ambers	
SL-008-A3-SB-0.0-0.5MS		1210	X		X			2	X	X	MS/MSD	
SL-010-A3-SB-0.0-0.5		1340	X		X			1	X	X		
SL-009-A3-SB-0.0-0.5		1305	X		X			1	X	X		

(7) **Turnaround Time Requested** (TAT) (please circle): (Normal) Rush

(Rush TAT is subject to Lancaster Laboratories approval and surcharge.) 10 day

Date results are needed:

Rush results requested by (please circle): Phone Fax E-mail

Phone #: Fax #:

E-mail address:

(8) **Data Package Options** (please circle if required)

Type I (validation/NJ Reg) TX TRRP-13

Type II (Tier II) MA MCP CT RCP

Type III (Reduced NJ)

Type IV (CLP SOW)

Type VI (Raw Data Only)

SDG Complete? Yes No

Site-specific QC (MS/MSD/Dup)? Yes No

(If yes, indicate QC sample and submit triplicate volume.)

Internal COC Required? Yes / No

(9)

Relinquished by:	Date	Time	Received by:	Date	Time
Pamela Hartman	7/18/12	1600			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by: Anneliese H. Owen	7/19/12	0925

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

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

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 of gas 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.

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 ≥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 LANCASTER LABORATORIES 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 LANCASTER LABORATORIES AND (B) WHETHER LANCASTER LABORATORIES 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 Lancaster Laboratories which includes any conditions that vary from the Standard Terms and Conditions, and Lancaster hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

SAMPLE DELIVERY GROUP

PT022

ANALYTICAL RESULTS

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

Prepared for:

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

August 02, 2012

Project: SSFL Phase 3 Sampling

Submittal Date: 07/18/2012
Group Number: 1322850
SDG: PT022
PO Number: 1203-004-009-AL
Release Number: TRACKING #12571
State of Sample Origin: CA

Client Sample Description	Lancaster Labs (LLI) #
SL-016-A3-SB-0.0-0.5 Grab Soil	6724170
SL-016-A3-SB-0.0-0.5 MS Grab Soil	6724171
SL-016-A3-SB-0.0-0.5 MSD Grab Soil	6724172
SL-017-A3-SB-0.0-0.5 Grab Soil	6724173
SL-316-A3-SB-0.0-0.5 Grab Soil	6724174
SL-014-A3-SB-0.0-0.5 Grab Soil	6724175
SL-015-A3-SB-0.0-0.5 Grab Soil	6724176
SL-011-A3-SB-0.0-0.5 Grab Soil	6724177
SL-012-A3-SB-0.0-0.5 Grab Soil	6724178
SL-013-A3-SB-0.0-0.5 Grab Soil	6724179

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

ELECTRONIC COPY TO	CDM Federal Services Program	Attn: Todd Burgesser
1 COPY TO	Data Package Group	

Respectfully Submitted,



Nicole L. Maljovec
Senior Specialist Group Leader

(717) 556-7259

Sample Description: SL-016-A3-SB-0.0-0.5 Grab Soil
SSFL Phase 3 Soil Sampling
SL-016-A3-SB

LLI Sample # SW 6724170
LLI Group # 1322850
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/17/2012 08:55

Submitted: 07/18/2012 09:20
Reported: 08/02/2012 13:57

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

T2201 SDG#: PT022-01BKG

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC Petroleum Hydrocarbons	**SW-846 8015B**		**mg/kg**		**mg/kg**	**mg/kg**	
10318	m-Terphenyl	92-06-8	3.1	U	3.1	7.1	1
10318	o-Terphenyl	84-15-1	3.1	U	3.1	7.1	1
10318	p-Terphenyl	92-94-4	3.1	U	3.1	7.1	1
Wet Chemistry	**EPA 160.3 modified**		**%**		**%**	**%**	
11624	Moisture Content by 160.3	n.a.	1.7		0.50	0.50	1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above 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
10318	22a Terphenyls by 8015B	SW-846 8015B	1	122060020A	07/31/2012 20:32	Tracy A Cole	1
10303	Terphenyls soil prep	SW-846 3550B	1	122060020A	07/25/2012 10:35	Denise L Trimby	1
11624	Moisture Content by 160.3	EPA 160.3 modified	1	12206162401B	07/24/2012 22:41	Scott W Freisher	1

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

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2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 •717-656-2300 Fax:717-656-2681• www.lancasterlabs.com

Analysis Report

Sample Description: SL-016-A3-SB-0.0-0.5 MS Grab Soil
SSFL Phase 3 Soil Sampling
SL-016-A3-SB

LLI Sample # SW 6724171
LLI Group # 1322850
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/17/2012 08:55

Submitted: 07/18/2012 09:20
Reported: 08/02/2012 13:57

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

T2201 SDG#: PT022-01MS

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC Petroleum Hydrocarbons	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
10318	m-Terphenyl	92-06-8	17	3.1	7.1	1
10318	o-Terphenyl	84-15-1	17	3.1	7.1	1
10318	p-Terphenyl	92-94-4	17	3.1	7.1	1
Wet Chemistry	**EPA 160.3 modified**		**%**	**%**	**%**	
11625	Moisture Content by 160.3	n.a.	1.7	0.50	0.50	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
10318	22a Terphenyls by 8015B	SW-846 8015B	1	122060020A	07/31/2012 20:54	Tracy A Cole	1
10303	Terphenyls soil prep	SW-846 3550B	1	122060020A	07/25/2012 10:35	Denise L Trimby	1
11625	Moisture Content by 160.3	EPA 160.3 modified	1	12206162401B	07/24/2012 22:41	Scott W Freisher	1

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

Sample Description: SL-016-A3-SB-0.0-0.5 MSD Grab Soil
SSFL Phase 3 Soil Sampling
SL-016-A3-SB

LLI Sample # SW 6724172
LLI Group # 1322850
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/17/2012 08:55

Submitted: 07/18/2012 09:20
Reported: 08/02/2012 13:57

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

T2201 SDG#: PT022-01MSD

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC Petroleum Hydrocarbons	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
10318	m-Terphenyl	92-06-8	16	3.1	7.1	1
10318	o-Terphenyl	84-15-1	16	3.1	7.1	1
10318	p-Terphenyl	92-94-4	16	3.1	7.1	1
Wet Chemistry	**EPA 160.3 modified**		**%**	**%**	**%**	
11626	28a Moisture Content by 160.3	n.a.	1.5	0.50	0.50	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.					
11625	Moisture Content by 160.3	n.a.	1.7	0.50	0.50	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
10318	22a Terphenyls by 8015B	SW-846 8015B	1	122060020A	07/31/2012 21:17	Tracy A Cole	1
10303	Terphenyls soil prep	SW-846 3550B	1	122060020A	07/25/2012 10:35	Denise L Trimby	1
11626	28a Moisture Content by 160.3	EPA 160.3 modified	1	12206162401B	07/24/2012 22:41	Scott W Freisher	1
11625	Moisture Content by 160.3	EPA 160.3 modified	1	12206162401B	07/24/2012 22:41	Scott W Freisher	1

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

Sample Description: SL-017-A3-SB-0.0-0.5 Grab Soil
SSFL Phase 3 Soil Sampling
SL-017-A3-SB

LLI Sample # SW 6724173
LLI Group # 1322850
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/17/2012 07:50

Submitted: 07/18/2012 09:20
Reported: 08/02/2012 13:57

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

T2202 SDG#: PT022-02

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC Petroleum Hydrocarbons	**SW-846 8015B**		**mg/kg**		**mg/kg**	**mg/kg**	
10318	m-Terphenyl	92-06-8	3.2	U	3.2	7.4	1
10318	o-Terphenyl	84-15-1	3.2	U	3.2	7.4	1
10318	p-Terphenyl	92-94-4	3.2	U	3.2	7.4	1
Wet Chemistry	**EPA 160.3 modified**		**%**		**%**	**%**	
11624	Moisture Content by 160.3	n.a.	5.4		0.50	0.50	1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above 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
10318	22a Terphenyls by 8015B	SW-846 8015B	1	122060020A	07/31/2012 20:10	Tracy A Cole	1
10303	Terphenyls soil prep	SW-846 3550B	1	122060020A	07/25/2012 10:35	Denise L Trimby	1
11624	Moisture Content by 160.3	EPA 160.3 modified	1	12206162401B	07/24/2012 22:41	Scott W Freisher	1

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

Sample Description: SL-316-A3-SB-0.0-0.5 Grab Soil
SSFL Phase 3 Soil Sampling
SL-316-A3-SB

LLI Sample # SW 6724174
LLI Group # 1322850
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/17/2012 09:00

Submitted: 07/18/2012 09:20
Reported: 08/02/2012 13:57

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

T2203 SDG#: PT022-03

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC Petroleum Hydrocarbons	**SW-846 8015B**		**mg/kg**		**mg/kg**	**mg/kg**	
10318	m-Terphenyl	92-06-8	3.0	U	3.0	7.1	1
10318	o-Terphenyl	84-15-1	3.0	U	3.0	7.1	1
10318	p-Terphenyl	92-94-4	3.0	U	3.0	7.1	1
Wet Chemistry	**EPA 160.3 modified**		**%**		**%**	**%**	
11624	Moisture Content by 160.3	n.a.	1.7		0.50	0.50	1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above 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
10318	22a Terphenyls by 8015B	SW-846 8015B	1	122060020A	07/31/2012 22:01	Tracy A Cole	1
10303	Terphenyls soil prep	SW-846 3550B	1	122060020A	07/25/2012 10:35	Denise L Trimby	1
11624	Moisture Content by 160.3	EPA 160.3 modified	1	12206162401B	07/24/2012 22:41	Scott W Freisher	1

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

Sample Description: SL-014-A3-SB-0.0-0.5 Grab Soil
SSFL Phase 3 Soil Sampling
SL-014-A3-SB

LLI Sample # SW 6724175
LLI Group # 1322850
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/17/2012 10:35

Submitted: 07/18/2012 09:20
Reported: 08/02/2012 13:57

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

T2204 SDG#: PT022-04

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC Petroleum Hydrocarbons	**SW-846 8015B**		**mg/kg**		**mg/kg**	**mg/kg**	
10318	m-Terphenyl	92-06-8	3.2	U	3.2	7.4	1
10318	o-Terphenyl	84-15-1	3.2	U	3.2	7.4	1
10318	p-Terphenyl	92-94-4	3.2	U	3.2	7.4	1
Wet Chemistry	**EPA 160.3 modified**		**%**		**%**	**%**	
11624	Moisture Content by 160.3	n.a.	6.0		0.50	0.50	1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above 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
10318	22a Terphenyls by 8015B	SW-846 8015B	1	122060020A	07/31/2012 23:31	Tracy A Cole	1
10303	Terphenyls soil prep	SW-846 3550B	1	122060020A	07/25/2012 10:35	Denise L Trimby	1
11624	Moisture Content by 160.3	EPA 160.3 modified	1	12206162401B	07/24/2012 22:41	Scott W Freisher	1

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

Sample Description: SL-015-A3-SB-0.0-0.5 Grab Soil
SSFL Phase 3 Soil Sampling
SL-015-A3-SB

LLI Sample # SW 6724176
LLI Group # 1322850
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/17/2012 09:55

Submitted: 07/18/2012 09:20
Reported: 08/02/2012 13:57

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

T2205 SDG#: PT022-05

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC Petroleum Hydrocarbons	**SW-846 8015B**		**mg/kg**		**mg/kg**	**mg/kg**	
10318	m-Terphenyl	92-06-8	3.1	U	3.1	7.2	1
10318	o-Terphenyl	84-15-1	3.1	U	3.1	7.2	1
10318	p-Terphenyl	92-94-4	3.1	U	3.1	7.2	1
Wet Chemistry	**EPA 160.3 modified**		**%**		**%**	**%**	
11624	Moisture Content by 160.3	n.a.	3.5		0.50	0.50	1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above 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
10318	22a Terphenyls by 8015B	SW-846 8015B	1	122060020A	07/31/2012 22:24	Tracy A Cole	1
10303	Terphenyls soil prep	SW-846 3550B	1	122060020A	07/25/2012 10:35	Denise L Trimby	1
11624	Moisture Content by 160.3	EPA 160.3 modified	1	12206162401B	07/24/2012 22:41	Scott W Freisher	1

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

Sample Description: SL-011-A3-SB-0.0-0.5 Grab Soil
SSFL Phase 3 Soil Sampling
SL-011-A3-SB

LLI Sample # SW 6724177
LLI Group # 1322850
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/17/2012 12:35

Submitted: 07/18/2012 09:20
Reported: 08/02/2012 13:57

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

T2206 SDG#: PT022-06

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC Petroleum Hydrocarbons	**SW-846 8015B**		**mg/kg**		**mg/kg**	**mg/kg**	
10318	m-Terphenyl	92-06-8	3.2	U	3.2	7.4	1
10318	o-Terphenyl	84-15-1	3.2	U	3.2	7.4	1
10318	p-Terphenyl	92-94-4	3.2	U	3.2	7.4	1
Wet Chemistry	**EPA 160.3 modified**		**%**		**%**	**%**	
11624	Moisture Content by 160.3	n.a.	5.5		0.50	0.50	1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above 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
10318	22a Terphenyls by 8015B	SW-846 8015B	1	122060020A	07/31/2012 22:46	Tracy A Cole	1
10303	Terphenyls soil prep	SW-846 3550B	1	122060020A	07/25/2012 10:35	Denise L Trimby	1
11624	Moisture Content by 160.3	EPA 160.3 modified	1	12206162401B	07/24/2012 22:41	Scott W Freisher	1

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

Sample Description: SL-012-A3-SB-0.0-0.5 Grab Soil
SSFL Phase 3 Soil Sampling
SL-012-A3-SB

LLI Sample # SW 6724178
LLI Group # 1322850
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/17/2012 13:20

Submitted: 07/18/2012 09:20
Reported: 08/02/2012 13:57

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

T2207 SDG#: PT022-07

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC Petroleum Hydrocarbons	**SW-846 8015B**		**mg/kg**		**mg/kg**	**mg/kg**	
10318	m-Terphenyl	92-06-8	3.1	U	3.1	7.3	1
10318	o-Terphenyl	84-15-1	3.1	U	3.1	7.3	1
10318	p-Terphenyl	92-94-4	3.1	U	3.1	7.3	1
Wet Chemistry	**EPA 160.3 modified**		**%**		**%**	**%**	
11624	Moisture Content by 160.3	n.a.	3.7		0.50	0.50	1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above 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
10318	22a Terphenyls by 8015B	SW-846 8015B	1	122060020A	07/31/2012 23:53	Tracy A Cole	1
10303	Terphenyls soil prep	SW-846 3550B	1	122060020A	07/25/2012 10:35	Denise L Trimby	1
11624	Moisture Content by 160.3	EPA 160.3 modified	1	12206162401B	07/24/2012 22:41	Scott W Freisher	1

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

Sample Description: SL-013-A3-SB-0.0-0.5 Grab Soil
SSFL Phase 3 Soil Sampling
SL-013-A3-SB

LLI Sample # SW 6724179
LLI Group # 1322850
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/17/2012 14:05

Submitted: 07/18/2012 09:20
Reported: 08/02/2012 13:57

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

T2208 SDG#: PT022-08*

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC Petroleum Hydrocarbons	**SW-846 8015B**		**mg/kg**		**mg/kg**	**mg/kg**	
10318	m-Terphenyl	92-06-8	3.2	U	3.2	7.4	1
10318	o-Terphenyl	84-15-1	3.2	U	3.2	7.4	1
10318	p-Terphenyl	92-94-4	3.2	U	3.2	7.4	1
Wet Chemistry	**EPA 160.3 modified**		**%**		**%**	**%**	
11624	Moisture Content by 160.3	n.a.	5.2		0.50	0.50	1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above 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
10318	22a Terphenyls by 8015B	SW-846 8015B	1	122060020A	07/31/2012 23:09	Tracy A Cole	1
10303	Terphenyls soil prep	SW-846 3550B	1	122060020A	07/25/2012 10:35	Denise L Trimby	1
11624	Moisture Content by 160.3	EPA 160.3 modified	1	12206162401B	07/24/2012 22:41	Scott W Freisher	1

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

Quality Control Summary

Client Name: CDM Federal Programs Corp. Group Number: 1322850
Reported: 08/02/12 at 01:57 PM

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

Analysis Name	Blank Result		Blank MDL**	Blank LOQ	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 122060020A	Sample number(s): 6724170-6724179									
m-Terphenyl	3.0	U	3.0	7.0	mg/kg	105		64-111		
o-Terphenyl	3.0	U	3.0	7.0	mg/kg	104		75-125		
p-Terphenyl	3.0	U	3.0	7.0	mg/kg	102		69-109		
Batch number: 12206162401B	Sample number(s): 6724170-6724179									
28a Moisture Content by 160.3						100		80-120		
Moisture Content by 160.3						100		80-120		
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: 122060020A	Sample number(s): 6724170-6724179 UNSPK: 6724170								
m-Terphenyl	102	98	75-125	3	20				
o-Terphenyl	100	97	75-125	3	20				
p-Terphenyl	98	95	75-125	3	20				
Batch number: 12206162401B	Sample number(s): 6724170-6724179 BKG: 6724170								
28a Moisture Content by 160.3						1.7	1.5	12 (1)	20
Moisture Content by 160.3						1.7	1.5	12 (1)	20
Moisture Content by 160.3						1.7	1.5	12 (1)	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: 22a Terphenyls by 8015B
Batch number: 122060020A

	n-Triacontane-d62
6724170	78
6724171	82

*- 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. Group Number: 1322850
Reported: 08/02/12 at 01:57 PM

Surrogate Quality Control

6724172	78
6724173	83
6724174	67
6724175	73
6724176	74
6724177	85
6724178	70
6724179	79
Blank	72
LCS	80
MS	82
MSD	78
Limits:	19-152

*- 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.

Analysis Request/ Environmental Services Chain of Custody

Lancaster Laboratories

For Lancaster Laboratories use only

Acct. # 13013 Group# 1322850 Sample # 6724170-79

COC # 213688

Please print. Instructions on reverse side correspond with circled numbers.

(1)
Client: COM Smith Acct. #:
Project Name/#: SSFL PWSID #:
Project Manager: John Wandelleck P.O.#:
Sampler: Nacalynn Keegan Quote #:
Name of state where samples were collected:

For Lab Use Only
FSC:
SCR#:

Preservation Codes
H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

(6) Temperature of samples upon receipt (if requested)

(2) Sample Identification	Date Collected	Time Collected	(3) Grab	(3) Composite	(4) Matrix: Soil (Potable / NPDES)	Water	Other	Total # of Containers	(5) Analyses Requested / Preservation Codes: Nicxim 1613	Remarks
SL-016-A3-SB-0.0-0.5MS	7/17/12	0855	X		X			1	X	MS/MSD
SL-017-A3-SB-0.0-0.5		0750	X		X			1	X	
SL-316-A3-SB-0.0-0.5		0900	X		X			1	X	
SL-014-A3-SB-0.0-0.5		1035	X		X			1	X	
SL-015-A3-SB-0.0-0.5		0955	X		X			1	X	
SL-011-A3-SB-0.0-0.5		1235	X		X			1	X	
SL-012-A3-SB-0.0-0.5		1320	X		X			1	X	
SL-013-A3-SB-0.0-0.5		1405	X		X			1	X	

(7) **Turnaround Time Requested** (TAT) (please circle): Normal Rush (10 day)
(Rush TAT is subject to Lancaster Laboratories approval and surcharge.)
Date results are needed:
Rush results requested by (please circle): Phone Fax E-mail
Phone #: Fax #:
E-mail address:

(8) **Data Package Options** (please circle if required)
Type I (validation/NJ Reg)
Type II (Tier II)
Type III (Reduced NJ)
Type IV (CLP SOW)
Type VI (Raw Data Only)
TX TRRP-13
MA MCP CT RCP
SDG Complete? Yes No
Site-specific QC (MS/MSD/Dup)? Yes No
(If yes, indicate QC sample and submit triplicate volume.)
Internal COC Required? Yes / No

(9) Relinquished by:	Date	Time	Received by:	Date	Time
	7/17/12	1630			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by: Deborah Vesh	7/18/12	0920

Analysis Request/ Environmental Services Chain of Custody

Lancaster Laboratories

For Lancaster Laboratories use only
Acct. # 13013 Group# 132285 Sample # 6724170-79

COC # 213688

Please print. Instructions on reverse side correspond with circled numbers.

(1)
Client: CDM Smith
Acct. #:
Project Name/#: SSTL
PWSID #:
Project Manager: John Wondolleck
P.O.#:
Sampler: Naralynn Bergan
Quote #:
Name of state where samples were collected:

(2) (3) (4) (5) Preservation Codes

| Sample Identification | Date Collected | Time Collected | | | | | Dioxins 1613 | Terphenyls | | | | |

Nicole Maljovec

From: Nicole Maljovec
Sent: Wednesday, July 18, 2012 10:00 AM
To: 'Hartman, Pamela'; Burgesser, Todd
Cc: Mysel, Stefanie
Subject: RE: Add Terphenyls

Good morning Pam,
Sure, I'll have the Area 3 entry group updated. We should have enough volume for both tests, but I'm not sure about the QC sample. I'll have a better idea once the samples are here.

Thanks,
Nicole

-----Original Message-----
From: Hartman, Pamela [mailto:HartmanPM@cdmsmith.com]
Sent: Wednesday, July 18, 2012 9:21 AM
To: Nicole Maljovec; Burgesser, Todd
Cc: Mysel, Stefanie
Subject: Add Terphenyls

Hi Nicole

We shipped 8 sleeves yesterday for Dioxins. Can you please add terphenyls to all of the samples shipped, we forgot to include it on the COC. Also,just to confirm, will you guys have enough soil from one sleeve for both dioxin and terphenyls?

Thank you

Pam

Pamela Hartman
CDM Smith
523 West Sixth Street Suite 400
Los Angeles, CA 90014
818 466 8007 (Santa Susana Field Site)
714 900 0916 (Cell)

eurofins | Lancaster Laboratories

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

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

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 of gas 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.

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 ≥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 LANCASTER LABORATORIES 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 LANCASTER LABORATORIES AND (B) WHETHER LANCASTER LABORATORIES 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 Lancaster Laboratories which includes any conditions that vary from the Standard Terms and Conditions, and Lancaster hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

SAMPLE DELIVERY GROUP

PT024

ANALYTICAL RESULTS

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

Prepared for:

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

August 02, 2012

Project: SSFL Phase 3 Sampling

Submittal Date: 07/19/2012
Group Number: 1323172
SDG: PT024
PO Number: 1203-004-009-AL
Release Number: TRACKING #12571
State of Sample Origin: CA

Client Sample Description	Lancaster Labs (LLI) #
SL-001-A3-SB-0.0-0.5 Soil	6726224
SL-002-A3-SB-0.0-0.5 Soil	6726225
SL-003-A3-SB-0.0-0.5 Soil	6726226
EB-071812 Water	6726227
SL-008-A3-SB-0.0-0.5 Soil	6726228
SL-008-A3-SB-0.0-0.5MS Soil	6726229
SL-008-A3-SB-0.0-0.5MSD Soil	6726230
SL-010-A3-SB-0.0-0.5 Soil	6726231
SL-009-A3-SB-0.0-0.5 Soil	6726232

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

ELECTRONIC COPY TO	CDM Federal Services Program	Attn: Todd Burgesser
1 COPY TO	Data Package Group	

Respectfully Submitted,



Nicole L. Maljovec
Senior Specialist Group Leader

(717) 556-7259

Sample Description: SL-001-A3-SB-0.0-0.5 Soil
SSFL Phase 3 Soil Sampling
SL-001-A3-SB

LLI Sample # SW 6726224
LLI Group # 1323172
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/18/2012 08:10 by JH

Submitted: 07/19/2012 09:25
Reported: 08/02/2012 14:06

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

00100 SDG#: PT024-01

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC Petroleum Hydrocarbons	**SW-846 8015B**		**mg/kg**		**mg/kg**	**mg/kg**	
10318	m-Terphenyl	92-06-8	3.4	U	3.4	7.8	1
10318	o-Terphenyl	84-15-1	3.4	U	3.4	7.8	1
10318	p-Terphenyl	92-94-4	3.4	U	3.4	7.8	1
Wet Chemistry	**EPA 160.3 modified**		**%**		**%**	**%**	
11624	Moisture Content by 160.3	n.a.	10.5		0.50	0.50	1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above 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
10318	22a Terphenyls by 8015B	SW-846 8015B	1	122100007A	08/01/2012 02:52	Tracy A Cole	1
10303	Terphenyls soil prep	SW-846 3550B	1	122100007A	07/29/2012 12:00	David S Schrum	1
11624	Moisture Content by 160.3	EPA 160.3 modified	1	12207162401A	07/25/2012 22:37	Scott W Freisher	1

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

Sample Description: SL-002-A3-SB-0.0-0.5 Soil
SSFL Phase 3 Soil Sampling
SL-002-A3-SB

LLI Sample # SW 6726225
LLI Group # 1323172
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/18/2012 07:30 by JH

Submitted: 07/19/2012 09:25
Reported: 08/02/2012 14:06

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

00200 SDG#: PT024-02

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC Petroleum Hydrocarbons	**SW-846 8015B**		**mg/kg**		**mg/kg**	**mg/kg**	
10318	m-Terphenyl	92-06-8	3.0	U	3.0	7.1	1
10318	o-Terphenyl	84-15-1	3.0	U	3.0	7.1	1
10318	p-Terphenyl	92-94-4	3.0	U	3.0	7.1	1
Wet Chemistry	**EPA 160.3 modified**		**%**		**%**	**%**	
11624	Moisture Content by 160.3	n.a.	1.3		0.50	0.50	1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above 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
10318	22a Terphenyls by 8015B	SW-846 8015B	1	122100007A	08/01/2012 03:15	Tracy A Cole	1
10303	Terphenyls soil prep	SW-846 3550B	1	122100007A	07/29/2012 12:00	David S Schrum	1
11624	Moisture Content by 160.3	EPA 160.3 modified	1	12207162401A	07/25/2012 22:37	Scott W Freisher	1

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

Sample Description: SL-003-A3-SB-0.0-0.5 Soil
SSFL Phase 3 Soil Sampling
SL-003-A3-SB

LLI Sample # SW 6726226
LLI Group # 1323172
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/18/2012 09:15 by JH

Submitted: 07/19/2012 09:25
Reported: 08/02/2012 14:06

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

00300 SDG#: PT024-03

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC Petroleum Hydrocarbons	**SW-846 8015B**		**mg/kg**		**mg/kg**	**mg/kg**	
10318	m-Terphenyl	92-06-8	3.2	U	3.2	7.5	1
10318	o-Terphenyl	84-15-1	3.2	U	3.2	7.5	1
10318	p-Terphenyl	92-94-4	3.2	U	3.2	7.5	1
Wet Chemistry	**EPA 160.3 modified**		**%**		**%**	**%**	
11624	Moisture Content by 160.3	n.a.	6.7		0.50	0.50	1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above 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
10318	22a Terphenyls by 8015B	SW-846 8015B	1	122100007A	08/01/2012 03:37	Tracy A Cole	1
10303	Terphenyls soil prep	SW-846 3550B	1	122100007A	07/29/2012 12:00	David S Schrum	1
11624	Moisture Content by 160.3	EPA 160.3 modified	1	12207162401A	07/25/2012 22:37	Scott W Freisher	1

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

Sample Description: EB-071812 Water
SSFL Phase 3 Soil Sampling
EB

LLI Sample # WW 6726227
LLI Group # 1323172
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/18/2012 15:00 by JH

Submitted: 07/19/2012 09:25
Reported: 08/02/2012 14:06

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

EB-18 SDG#: PT024-04EB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC Petroleum Hydrocarbons	**SW-846 8015B**		**mg/l**	**mg/l**	**mg/l**	
10319	m-Terphenyl	92-06-8	0.088 U	0.088	0.28	1
10319	o-Terphenyl	84-15-1	0.088 U	0.088	0.28	1
10319	p-Terphenyl	92-94-4	0.088 U	0.088	0.28	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
10319	22b Terphenyls by 8015B	SW-846 8015B	1	122050017A	07/31/2012 19:03	Tracy A Cole	1
10304	Terphenyls water prep	SW-846 3510C	1	122050017A	07/24/2012 03:00	Sherry L Morrow	1

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

Sample Description: SL-008-A3-SB-0.0-0.5 Soil
SSFL Phase 3 Soil Sampling
SL-008-A3-SB

LLI Sample # SW 6726228
LLI Group # 1323172
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/18/2012 12:10 by JH

Submitted: 07/19/2012 09:25
Reported: 08/02/2012 14:06

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

00800 SDG#: PT024-05BKG

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC Petroleum Hydrocarbons	**SW-846 8015B**		**mg/kg**		**mg/kg**	**mg/kg**	
10318	m-Terphenyl	92-06-8	3.0	U	3.0	7.0	1
10318	o-Terphenyl	84-15-1	3.0	U	3.0	7.0	1
10318	p-Terphenyl	92-94-4	3.0	U	3.0	7.0	1
Wet Chemistry	**EPA 160.3 modified**		**%**		**%**	**%**	
11624	Moisture Content by 160.3	n.a.	0.53		0.50	0.50	1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above 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
10318	22a Terphenyls by 8015B	SW-846 8015B	1	122100007A	08/01/2012 01:23	Tracy A Cole	1
10303	Terphenyls soil prep	SW-846 3550B	1	122100007A	07/29/2012 12:00	David S Schrum	1
11624	Moisture Content by 160.3	EPA 160.3 modified	2	12209162401A	07/27/2012 09:16	William C Schwebel	1

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

Sample Description: SL-008-A3-SB-0.0-0.5MS Soil
SSFL Phase 3 Soil Sampling
SL-008-A3-SB

LLI Sample # SW 6726229
LLI Group # 1323172
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/18/2012 12:10 by JH

Submitted: 07/19/2012 09:25
Reported: 08/02/2012 14:06

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

00800 SDG#: PT024-05MS

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC Petroleum Hydrocarbons	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
10318	m-Terphenyl	92-06-8	16	3.0	7.0	1
10318	o-Terphenyl	84-15-1	16	3.0	7.0	1
10318	p-Terphenyl	92-94-4	15	3.0	7.0	1
Wet Chemistry	**EPA 160.3 modified**		**%**	**%**	**%**	
11625	Moisture Content by 160.3	n.a.	0.53	0.50	0.50	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
10318	22a Terphenyls by 8015B	SW-846 8015B	1	122100007A	08/01/2012 02:08	Tracy A Cole	1
10303	Terphenyls soil prep	SW-846 3550B	1	122100007A	07/29/2012 12:00	David S Schrum	1
11625	Moisture Content by 160.3	EPA 160.3 modified	2	12209162401A	07/27/2012 09:16	William C Schwebel	1

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

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Analysis Report

Sample Description: SL-008-A3-SB-0.0-0.5MSD Soil
SSFL Phase 3 Soil Sampling
SL-008-A3-SB

LLI Sample # SW 6726230
LLI Group # 1323172
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/18/2012 12:10 by JH

Submitted: 07/19/2012 09:25
Reported: 08/02/2012 14:06

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

00800 SDG#: PT024-05MSD

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC Petroleum Hydrocarbons	**SW-846 8015B**		**mg/kg**	**mg/kg**	**mg/kg**	
10318	m-Terphenyl	92-06-8	16	3.0	7.0	1
10318	o-Terphenyl	84-15-1	16	3.0	7.0	1
10318	p-Terphenyl	92-94-4	16	3.0	7.0	1
Wet Chemistry	**EPA 160.3 modified**		**%**	**%**	**%**	
11626	28a Moisture Content by 160.3	n.a.	0.67	0.50	0.50	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.					
11625	Moisture Content by 160.3	n.a.	0.53	0.50	0.50	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
10318	22a Terphenyls by 8015B	SW-846 8015B	1	122100007A	08/01/2012 02:30	Tracy A Cole	1
10303	Terphenyls soil prep	SW-846 3550B	1	122100007A	07/29/2012 12:00	David S Schrum	1
11626	28a Moisture Content by 160.3	EPA 160.3 modified	2	12209162401A	07/27/2012 09:16	William C Schwebel	1
11625	Moisture Content by 160.3	EPA 160.3 modified	2	12209162401A	07/27/2012 09:16	William C Schwebel	1

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

Sample Description: SL-010-A3-SB-0.0-0.5 Soil
SSFL Phase 3 Soil Sampling
SL-010-A3-SB

LLI Sample # SW 6726231
LLI Group # 1323172
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/18/2012 13:40 by JH

Submitted: 07/19/2012 09:25
Reported: 08/02/2012 14:06

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

01000 SDG#: PT024-06

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC Petroleum Hydrocarbons	**SW-846 8015B**		**mg/kg**		**mg/kg**	**mg/kg**	
10318	m-Terphenyl	92-06-8	3.2	U	3.2	7.5	1
10318	o-Terphenyl	84-15-1	3.2	U	3.2	7.5	1
10318	p-Terphenyl	92-94-4	3.2	U	3.2	7.5	1
Wet Chemistry	**EPA 160.3 modified**		**%**		**%**	**%**	
11624	Moisture Content by 160.3	n.a.	7.1		0.50	0.50	1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above 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
10318	22a Terphenyls by 8015B	SW-846 8015B	1	122100007A	08/01/2012 04:00	Tracy A Cole	1
10303	Terphenyls soil prep	SW-846 3550B	1	122100007A	07/29/2012 12:00	David S Schrum	1
11624	Moisture Content by 160.3	EPA 160.3 modified	1	12207162401A	07/25/2012 22:37	Scott W Freisher	1

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

Sample Description: SL-009-A3-SB-0.0-0.5 Soil
SSFL Phase 3 Soil Sampling
SL-009-A3-SB

LLI Sample # SW 6726232
LLI Group # 1323172
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/18/2012 13:05 by JH

Submitted: 07/19/2012 09:25
Reported: 08/02/2012 14:06

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

00900 SDG#: PT024-07*

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC Petroleum Hydrocarbons	**SW-846 8015B**		**mg/kg**		**mg/kg**	**mg/kg**	
10318	m-Terphenyl	92-06-8	3.1	U	3.1	7.3	1
10318	o-Terphenyl	84-15-1	3.1	U	3.1	7.3	1
10318	p-Terphenyl	92-94-4	3.1	U	3.1	7.3	1
Wet Chemistry	**EPA 160.3 modified**		**%**		**%**	**%**	
11624	Moisture Content by 160.3	n.a.	3.9		0.50	0.50	1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above 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
10318	22a Terphenyls by 8015B	SW-846 8015B	1	122100007A	08/01/2012 04:22	Tracy A Cole	1
10303	Terphenyls soil prep	SW-846 3550B	1	122100007A	07/29/2012 12:00	David S Schrum	1
11624	Moisture Content by 160.3	EPA 160.3 modified	1	12207162401A	07/25/2012 22:37	Scott W Freisher	1

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

Quality Control Summary

Client Name: CDM Federal Programs Corp. Group Number: 1323172
Reported: 08/02/12 at 02:06 PM

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

Analysis Name	Blank Result		Blank MDL**	Blank LOQ	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 122050017A	Sample number(s): 6726227									
m-Terphenyl	0.080	U	0.080	0.25	mg/l	88	94	61-108	7	20
o-Terphenyl	0.080	U	0.080	0.25	mg/l	86	92	75-125	7	20
p-Terphenyl	0.080	U	0.080	0.25	mg/l	84	90	63-110	7	20
Batch number: 122100007A	Sample number(s): 6726224-6726226,6726228-6726232									
m-Terphenyl	3.0	U	3.0	7.0	mg/kg	105		64-111		
o-Terphenyl	3.0	U	3.0	7.0	mg/kg	103		75-125		
p-Terphenyl	3.0	U	3.0	7.0	mg/kg	102		69-109		
Batch number: 12207162401A	Sample number(s): 6726224-6726226,6726231-6726232									
Moisture Content by 160.3						100		80-120		
Batch number: 12209162401A	Sample number(s): 6726228-6726230									
28a Moisture Content by 160.3						100		80-120		
Moisture Content by 160.3						100		80-120		
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: 122100007A	Sample number(s): 6726224-6726226,6726228-6726232 UNSPK: 6726228								
m-Terphenyl	95	95	75-125	1	20				
o-Terphenyl	92	93	75-125	0	20				
p-Terphenyl	91	92	75-125	1	20				
Batch number: 12207162401A	Sample number(s): 6726224-6726226,6726231-6726232 BKG: P726228								
Moisture Content by 160.3						1.6	0.54	100* (1)	20
Batch number: 12209162401A	Sample number(s): 6726228-6726230 BKG: 6726228								
28a Moisture Content by 160.3						0.53	0.67	22* (1)	20
Moisture Content by 160.3						0.53	0.67	22* (1)	20
Moisture Content by 160.3						0.53	0.67	22* (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.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: CDM Federal Programs Corp. Group Number: 1323172
Reported: 08/02/12 at 02:06 PM

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: 22b Terphenyls by 8015B
Batch number: 122050017A

	n-Triacontane-d62
6726227	61
Blank	273*
LCS	72
LCSD	58
Limits:	46-100

Analysis Name: 22a Terphenyls by 8015B
Batch number: 122100007A

	n-Triacontane-d62
6726224	78
6726225	79
6726226	79
6726228	78
6726229	72
6726230	72
6726231	76
6726232	84
Blank	78
LCS	80
MS	72
MSD	72
Limits:	19-152

*- 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.

Analysis Request/ Environmental Services Chain of Custody

Lancaster Laboratories

For Lancaster Laboratories use only

Acct. # 13013 Group# 1323172 Sample # 6726224-32

COC # 213690

Please print. Instructions on reverse side correspond with circled numbers.

(1) Client: CDM Smith Acct. #:

Project Name/#: SSFL PWSID #:

Project Manager: John Wandelleck P.O.#:

Sampler: John Halseth Quote #:

Name of state where samples were collected: CA

For Lab Use Only
FSC:
SCR#:

Preservation Codes
H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

(6) Temperature of samples upon receipt (if requested)

(2) Sample Identification	Date Collected	Time Collected	(3) Grab	Composite	Matrix (4) Soil	Water (Potable ☐ NPDES ☐ Check if Applicable)	Other	Total # of Containers	(5) Analyses Requested / Preservation Codes: Dioxin 1613	Terphenyls 8015	Remarks
SL-001-A3-SB-0.0-0.5	7/18/12	0810	X		X			X	X	X	(1 sleeve)
SL-002-A3-SB-0.0-0.5		0730	X		X			X	X	X	(1 sleeve)
SL-003-A3-SB-0.0-0.5		0915	X		X			1	X	X	
EB-071812		1500				X		3	X	X	3 1L Ambers
SL-003-A3-SB-0.0-0.5MS		1210	X		X			2	X	X	MS/MSD
SL-010-A3-SB-0.0-0.5		1340	X		X			1	X	X	
SL-009-A3-SB-0.0-0.5		1305	X		X			1	X	X	

(7) **Turnaround Time Requested** (TAT) (please circle): (Normal) Rush
(Rush TAT is subject to Lancaster Laboratories approval and surcharge.) 10 day
Date results are needed:
Rush results requested by (please circle): Phone Fax E-mail
Phone #: Fax #:
E-mail address:

(8) **Data Package Options** (please circle if required)
Type I (validation/NJ Reg)
Type II (Tier II)
Type III (Reduced NJ)
Type IV (CLP SOW)
Type VI (Raw Data Only)
TX TRRP-13
MA MCP CT RCP
SDG Complete? Yes No
Site-specific QC (MS/MSD/Dup)? Yes No
(If yes, indicate QC sample and submit triplicate volume.)
Internal COC Required? Yes / No

(9)

Relinquished by:	Date	Time	Received by:	Date	Time
Pamela Hartman	7/18/12	1600			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by: Anneliese H. Owen	7/19/12	0925

Lancaster Laboratories, Inc., 2425 New Holland Pike, Lancaster, PA 17601 (717) 656-2300 Fax: (717) 656-6766
Copies: White and yellow should accompany samples to Lancaster Laboratories. The pink copy should be retained by the client.

2102.03

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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

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

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 of gas 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.

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 ≥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

PT029

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

Analysis Report

ANALYTICAL RESULTS

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

Prepared for:

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

August 02, 2012

Project: SSFL Phase 3 Sampling

Submittal Date: 07/25/2012
Group Number: 1324384
SDG: PT029
PO Number: 1203-004-009-AL
Release Number: TRACKING #12571
State of Sample Origin: CA

Client Sample Description	Lancaster Labs (LLI) #
SL-004-A3-SB-0.0-0.5 Soil	6732501
SL-005-A3-SB-0.0-0.5 Soil	6732502
SL-006-A3-SB-0.0-0.5 Soil	6732503
SL-007-A3-SB-0.0-0.5 Soil	6732504
EB-072412 Water	6732505

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

ELECTRONIC COPY TO CDM Federal Services Program Attn: Todd Burgesser
1 COPY TO Data Package Group

Respectfully Submitted,

Nicole L. Maljovec
Senior Specialist Group Leader

(717) 556-7259

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

Sample Description: SL-004-A3-SB-0.0-0.5 Soil
SSFL Phase 3 Soil Sampling
SL-004-A3-SB

LLI Sample # SW 6732501
LLI Group # 1324384
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/24/2012 09:45

Submitted: 07/25/2012 09:20
Reported: 08/02/2012 14:12

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

T2901 SDG#: PT029-01

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC Petroleum Hydrocarbons	**SW-846 8015B**		**mg/kg**		**mg/kg**	**mg/kg**	
10318	m-Terphenyl	92-06-8	20	U	20	46	1
10318	o-Terphenyl	84-15-1	20	U	20	46	1
10318	p-Terphenyl	92-94-4	20	U	20	46	1
Wet Chemistry	**EPA 160.3 modified**		**%**		**%**	**%**	
11624	Moisture Content by 160.3	n.a.	69.6		0.50	0.50	1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above 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
10318	22a Terphenyls by 8015B	SW-846 8015B	1	122100007A	08/01/2012 04:45	Tracy A Cole	1
10303	Terphenyls soil prep	SW-846 3550B	1	122100007A	07/29/2012 12:00	David S Schrum	1
11624	Moisture Content by 160.3	EPA 160.3 modified	1	12209162401B	07/27/2012 09:16	William C Schwebel	1

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

Sample Description: SL-005-A3-SB-0.0-0.5 Soil
SSFL Phase 3 Soil Sampling
SL-005-A3-SB

LLI Sample # SW 6732502
LLI Group # 1324384
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/24/2012 10:15

Submitted: 07/25/2012 09:20
Reported: 08/02/2012 14:12

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

T2902 SDG#: PT029-02

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC Petroleum Hydrocarbons	**SW-846 8015B**		**mg/kg**		**mg/kg**	**mg/kg**	
10318	m-Terphenyl	92-06-8	16	U	16	38	1
10318	o-Terphenyl	84-15-1	16	U	16	38	1
10318	p-Terphenyl	92-94-4	16	U	16	38	1
Wet Chemistry	**EPA 160.3 modified**		**%**		**%**	**%**	
11624	Moisture Content by 160.3	n.a.	62.8		0.50	0.50	1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above 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
10318	22a Terphenyls by 8015B	SW-846 8015B	1	122100007A	08/01/2012 05:51	Tracy A Cole	1
10303	Terphenyls soil prep	SW-846 3550B	1	122100007A	07/29/2012 12:00	David S Schrum	1
11624	Moisture Content by 160.3	EPA 160.3 modified	1	12209162401B	07/27/2012 09:16	William C Schwebel	1

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

Sample Description: SL-006-A3-SB-0.0-0.5 Soil
SSFL Phase 3 Soil Sampling
SL-006-A3-SB

LLI Sample # SW 6732503
LLI Group # 1324384
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/24/2012 08:35

Submitted: 07/25/2012 09:20
Reported: 08/02/2012 14:12

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

T2903 SDG#: PT029-03

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC Petroleum Hydrocarbons	**SW-846 8015B**		**mg/kg**		**mg/kg**	**mg/kg**	
10318	m-Terphenyl	92-06-8	15	U	15	34	1
10318	o-Terphenyl	84-15-1	15	U	15	34	1
10318	p-Terphenyl	92-94-4	15	U	15	34	1
Wet Chemistry	**EPA 160.3 modified**		**%**		**%**	**%**	
11624	Moisture Content by 160.3	n.a.	58.7		0.50	0.50	1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above 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
10318	22a Terphenyls by 8015B	SW-846 8015B	1	122100007A	08/01/2012 06:36	Tracy A Cole	1
10303	Terphenyls soil prep	SW-846 3550B	1	122100007A	07/29/2012 12:00	David S Schrum	1
11624	Moisture Content by 160.3	EPA 160.3 modified	1	12209162401B	07/27/2012 09:16	William C Schwebel	1

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

Sample Description: SL-007-A3-SB-0.0-0.5 Soil
SSFL Phase 3 Soil Sampling
SL-007-A3-SB

LLI Sample # SW 6732504
LLI Group # 1324384
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/24/2012 08:00

Submitted: 07/25/2012 09:20
Reported: 08/02/2012 14:12

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

T2904 SDG#: PT029-04

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC Petroleum Hydrocarbons	**SW-846 8015B**		**mg/kg**		**mg/kg**	**mg/kg**	
10318	m-Terphenyl	92-06-8	15	U	15	36	1
10318	o-Terphenyl	84-15-1	15	U	15	36	1
10318	p-Terphenyl	92-94-4	15	U	15	36	1
Wet Chemistry	**EPA 160.3 modified**		**%**		**%**	**%**	
11624	Moisture Content by 160.3	n.a.	60.6		0.50	0.50	1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above 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
10318	22a Terphenyls by 8015B	SW-846 8015B	1	122100007A	08/01/2012 07:20	Tracy A Cole	1
10303	Terphenyls soil prep	SW-846 3550B	1	122100007A	07/29/2012 12:00	David S Schrum	1
11624	Moisture Content by 160.3	EPA 160.3 modified	1	12209162401B	07/27/2012 09:16	William C Schwebel	1

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

Sample Description: EB-072412 Water
SSFL Phase 3 Soil Sampling
EB

LLI Sample # WW 6732505
LLI Group # 1324384
Account # 13013

Project Name: SSFL Phase 3 Sampling

Collected: 07/24/2012 14:00

Submitted: 07/25/2012 09:20
Reported: 08/02/2012 14:12

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

T2905 SDG#: PT029-05EB*

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC Petroleum Hydrocarbons	**SW-846 8015B**		**mg/l**	**mg/l**	**mg/l**	
10319	m-Terphenyl	92-06-8	0.079 U	0.079	0.25	1
10319	o-Terphenyl	84-15-1	0.079 U	0.079	0.25	1
10319	p-Terphenyl	92-94-4	0.079 U	0.079	0.25	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. Since the recovery is high and the target analyte(s) was not detected in the sample, the data is reported.

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
10319	22b Terphenyls by 8015B	SW-846 8015B	1	122100006A	08/01/2012 09:56	Tracy A Cole	1
10304	Terphenyls water prep	SW-846 3510C	1	122100006A	07/29/2012 10:00	Olivia Arosemena	1

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

Quality Control Summary

Client Name: CDM Federal Programs Corp. Group Number: 1324384
Reported: 08/02/12 at 02:12 PM

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

Analysis Name	Blank Result		Blank MDL**	Blank LOQ	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 122100006A	Sample number(s): 6732505									
m-Terphenyl	0.080	U	0.080	0.25	mg/l	98	110*	61-108	12	20
o-Terphenyl	0.080	U	0.080	0.25	mg/l	96	106	75-125	10	20
p-Terphenyl	0.080	U	0.080	0.25	mg/l	94	104	63-110	10	20
Batch number: 122100007A	Sample number(s): 6732501-6732504									
m-Terphenyl	3.0	U	3.0	7.0	mg/kg	105		64-111		
o-Terphenyl	3.0	U	3.0	7.0	mg/kg	103		75-125		
p-Terphenyl	3.0	U	3.0	7.0	mg/kg	102		69-109		
Batch number: 12209162401B	Sample number(s): 6732501-6732504									
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: 122100007A	Sample number(s): 6732501-6732504 UNSPK: P726228								
m-Terphenyl	95	95	75-125	1	20				
o-Terphenyl	92	93	75-125	0	20				
p-Terphenyl	91	92	75-125	1	20				
Batch number: 12209162401B	Sample number(s): 6732501-6732504 BKG: 6732502								
Moisture Content by 160.3						62.8	62.4	1	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: 22b Terphenyls by 8015B
Batch number: 122100006A

	n-Triacontane-d62
6732505	92

*- 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. Group Number: 1324384
Reported: 08/02/12 at 02:12 PM

Surrogate Quality Control

	n-Triacontane-d62
Blank	170*
LCS	89
LCSD	82
Limits:	46-100

Analysis Name: 22a Terphenyls by 8015B
Batch number: 122100007A

	n-Triacontane-d62
6732501	66
6732502	69
6732503	73
6732504	71
Blank	78
LCS	80
MS	72
MSD	72
Limits:	19-152

*- 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.

A3L acct#13013 Ap#1324384 Sample# 6732501-05

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 7/24/2012

CarrierName: FedEx

AirbillNo: 793825487299

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

No: 20120724-06

Cooler #:

Lab: Lancaster

Lab Phone: 717-556-7259

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	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-004-A3-SB-0.0-0.5	7/24/12 09:45	SO	None	1 - 16 oz glass	10 day									X														X	X							
SL-005-A3-SB-0.0-0.5	7/24/12 10:15	SO	None	1 - 16 oz glass	10 day									X														X	X							
SL-006-A3-SB-0.0-0.5	7/24/12 08:35	SO	None	1 - 16 oz glass	10 day									X														X	X							
SL-007-A3-SB-0.0-0.5	7/24/12 08:00	SO	None	1 - 16 oz glass	10 day									X														X	X							
EB-072412	7/24/12 14:00	WQ	None	3 - 1 L Amber	10 day									X														X	X							For Area 3 Pond

Special Instructions:

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
	Stephanie Mylod	07/24/2012									
										7/25/12	920

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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

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

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 of gas 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.

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 ≥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 D
Chemical Data Usability Assessment Report and Data Validation Reports
(On CD)

Appendix D
Data Usability Assessment Report

The purposes of this data usability and assessment report (DUAR) are to 1) summarize the data validation performed on the data sets for the Phase 3 drainage sediment samples within Area III, and 2) 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. 3 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, Drainage Sediment Sampling in Area III* (CDM Smith 2012b) (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 2012c), which also includes Appendix B, Quality Assurance Project Plan (QAPP), Appendix C, Worker Safety and Health Program, and Appendix D, Standard Operating Procedures (SOPs).

D.1 Usability Summary

For this data usability assessment, eight data sets were reviewed. 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, or SDG. The analyses performed are discussed in Section 2.0 of the Area III Technical Memorandum (TM).

Samples were collected and analyzed in accordance with the WP/FSAP (CDM Smith 2012c). Deviations were encountered during the field investigation for the Area III sampling activities and are discussed in detail in Section 2.0 of the Area III TM.

The validated data for Area III samples are usable as reported. No sample results were rejected during validation. Specific details are provided in the validation reports in this Appendix and below in Section D.8.

D.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 employed 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.

Table D-1 shows all SDGs that include Area III 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 Area III 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.

D.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 WP/FSAP (CDM Smith 2012c) have been met. The following data measurement tasks were evaluated:

- Specification and adherence to analytical method and reporting detection limit requirements
- Identification of the appropriate laboratory analytical QC requirements and verification of whether these QC requirements were met
- Verification that measurement performance criteria (representativeness and completeness) for the data have been 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 (except for the rejected results) to support their intended use.

D.4 Summary of Field and Laboratory QA Activities

CDM Smith completed sampling activities in Area III in accordance with the approved WP/FSAP (CDM Smith 2012c). A total of 17 sediment samples were collected from 17 locations in Area III. Table 2-1 in the Area III TM provides a summary of the samples collected and the laboratory analyses requested.

Table D-1 in this report presents the SDGs and validation level for the Area III sample data. An index of samples associated with each SDG is presented at the beginning of the data validation reports presented in this appendix. The WP/FSAP (CDM Smith 2012c) defined the procedures to be followed and the data quality requirements for the field sampling events.

D.5 Field Quality QA/QC

Field QC samples, such as matrix spike/matrix spike duplicates (MS/MSDs) and field duplicates, were to be collected at a frequency of 1 per 20 samples (5 percent) for MS/MSDs and field duplicates. One MS/MSD and field duplicate sample was collected at one Area III location meeting the required criteria. One field blank sample and two equipment blank samples were collected during the Area III sampling. The field blank results and equipment rinsate blank results are presented in Tables D-2 and D-3 respectively. Sample results requiring qualification based on these blanks have been appropriately applied during the validation procedures.

No trip blank samples were collected during the Phase 3 Area III sampling activities as no volatile organic analyses utilizing Encore samples was required. Data qualifications based on blank detections are discussed in Section D.7.3 and in the Appendix D validation reports.

Temperature blanks were to be included with each shipment of samples. Based on validation results, all temperature blanks for sampling activities in Area III met criteria.

The number of field QC samples collected satisfies the minimum requirements for the Area III sampling program. Field QA/QC objectives were also attained through the use of appropriate sampling techniques.

D.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. All of the laboratory QC sample criteria met project requirements as indicated in the data validation reports in this appendix with the appropriate qualifiers applied. No sample results were rejected.

D.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 WP/FSAP (CDM Smith 2012c). 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.

D.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:

$$\text{RPD} = \text{absolute value } [(C1-C2)/\{(C1+C2)/2)\}] \times 100\%$$

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 WP/FSAP (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. Table D-4 shows the field duplicate pairs and RPD results for Area III sampling. RPD results outside of criteria are highlighted.

The following individual analyte results were qualified as estimated "J/UJ" based on precision criteria for Phase 3 Area III samples:

- Eight dioxin results were qualified as estimated based on second column RPD results

- One dioxin result and one metal result were qualified based on field duplicate criteria

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. Sample results that have been qualified as estimated "J/UJ" due to precision criteria are usable for project decisions with a degree of caution.

D.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:

$$\text{Percent Recovery} = \frac{(\text{Total Analyte Found} - \text{Analyte Originally Present})}{\text{Analyte Added}} \times 100$$

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 EPA method and approved 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 D.

The following individual analyte results were qualified as nondetect “U” or nondetect estimated “UJ" based on accuracy criteria for Phase 3 Area III samples:

- Twenty-seven metal analyte results were qualified as estimated based on MS percent recovery criteria

- Sixty SVOC SIM results were qualified as estimated based on surrogate recovery criteria

Sample preservation, handling, and holding times are additional measures of accuracy of the data. All sample preservation, holding times and handling criteria were met.

Sample results that have been qualified as estimated "J/UJ" due to accuracy criteria are usable for project decisions.

D.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 Phase 3 Area III samples:

- Fifty dioxin results (17%) were qualified as non-detect due to blank contamination criteria

For the dioxins, the method detection limits (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 D-2 through D-3 provide a summary of chemicals observed in the field and equipment blank samples. Most of the field and equipment blanks detected compounds were below the RLs but above the MDLs. Compounds detected above the RL in field and equipment blanks are highlighted yellow in the associated tables.

ASTM International Type II water is not typically certified "clean" to the RLs established for the low level methods used for Phase 3 Area III sampling. As shown in Table D-2, low levels of dioxin and metals were detected in the field blank; dioxin results were all below the RL. No analytes were qualified as non-detect based on field blank contamination. The evaluation of ASTM International Type II water used in the field will continue throughout the sampling program. The ASTM International Type II water is being analyzed before sampling starts to ensure that the decontamination water is as clean as possible.

A review of the Phase 3 Area III equipment blanks 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 in order 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. No qualification of sample results was required during the validation process regarding equipment blank contamination. To date, chemical detections in equipment blank samples appear to be random occurrences.

D.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 WP/FSAP (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.

D.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 WP/FSAP (CDM Smith 2012c) 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 WP/FSAP (CDM Smith 2012c) 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.

D.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 LLI and EMAX. Utilizing such procedures and methods enables the current data to be comparable with previous and future data sets generated with similar methods.

D.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 Phase 3 Area III samples:

- Method 1613B (Dioxins)
  - Eighty-two individual analyte results
- Methods 6020 (Metals)
  - Ninety-one individual analyte results
- Method 7471A (Mercury)
  - Six individual analyte results
- Method 8015B (TPH EFH)
  - Four individual analyte results
- Method 8082 (PCBs)
  - Six individual analyte results
- Method 8270C SIM (SVOCs)
  - Eighty-one individual analyte results

As discussed in Section D.7.3, the MDLs for the dioxins are very low resulting in numerous results qualified as estimated "J" values because they are below the RL as indicated above. The qualification of the dioxins results as estimated “J” based on RL criteria does not falsely diminish identification of site-related contaminants.

In general, for the data validated in this report, detection limits for the sample results were low enough to compare to the action levels stated in the WP/FSAP (CDM Smith 2012c). The detection limits for this project are lower than "normal" environmental data analyses. Analytical laboratory methods were modified in order to achieve the lowest practicable RL. Current laboratory instrumentation technology cannot achieve all of these low project RLs, and thus some of the RLs were above project criteria. These results are still considered usable for project decisions.

D.8 Review of Selected Validation Reports

CDM Smith performed a review of 10 percent of the validation reports identified in Table D-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.

D.9 Data Completeness

Completeness of the data collection program is defined as the percentage of samples planned for collection as listed in the WP/FSAP (CDM Smith 2012c) 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. $$\%\text{Completeness} = C_x \frac{100}{n}$$

Where:

C = actual number of samples collected
n = total number of samples planned

B. $$\%\text{Completeness} = V_x \frac{100}{n'}$$

Where:

V = number of measurements judged valid
n' = total number of measurements made

The overall completeness goal, as defined in the WP/FSAP (CDM Smith 2012c), for these sampling events was 90 percent for all project data.

A total of 18 Phase 3 Area III samples including the field duplicate were collected and analyzed. The completeness goal for the actual number of samples collected compared to the number of samples planned is considered acceptable.

The completeness goal achieved for acceptable data was 100 percent of the number of measurements judged to be valid versus the total number of measurements made for all Area III samples analyzed. Table D-5, Completeness Calculation Summary, shows a summary of the results that were estimated.

The completeness goals for both the locations sampled and the number of measurements judged to be valid were met.

Sampling deviations from procedures described in the WP/FSAP (CDM Smith 2012c) are discussed in Section 2 of the 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 WP/FSAP (CDM

Smith 2012c) 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.

D.10 Assessment of Data Usability and Reconciliation with WP/FSAP Goals

A hundred percent of the data validated and reported for Phase 3 Area III samples are suitable for their intended use for site characterization. No sample results were rejected. The detection limits reported generally met the expected limits proposed by the analytical laboratory in their contract agreement with CDM Smith.

Sample results that were qualified as estimated are usable for project decisions. Numerous dioxin results were qualified as estimated and/or non-detect due to the low detection limits. This data is considered usable.

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 D-1 Sample Delivery Groups and Validation Levels for Phase 3 Drainage Sediment Samples within Area III

Sample Delivery Group	Level of Validation Performed	CDM Smith Review
12G123	Level III	
12G140	Level IV	Yes
12G198	Level III	
PH020	Level IV	
PH024	Level III	Yes
PT022	Level IV	Yes
PT024	Level III	
PT029	Level IV	Yes

Note: Some SDGs may contain samples from other subareas, but all samples in an SDG were validated together.

Table D2 - Area III - Field Blank

		Sample Name:	FB-062012	
		Location:	Area III_DG-FB	
		Sample Date:	06/20/2012	
		Sample Type	FB	
Analyte	Analytic Method	Units	Concentration	Final Qualifer
1,1,1,2-Tetrachloroethane	8260B	µg/L	1	U
1,1,1-Trichloroethane	8260B	µg/L	1	U
1,1,2,2-Tetrachloroethane	8260B	µg/L	1	U
1,1,2-Trichloro-1,2,2-trifluoroethane	8260B	µg/L	1	U
1,1,2-Trichloroethane	8260B	µg/L	1	U
1,1'-Biphenyl	8270C SIM	µg/L	2	U
1,1-Dichloroethane	8260B	µg/L	1	U
1,1-Dichloroethene	8260B	µg/L	1	U
1,1-Dichloropropene	8260B	µg/L	1	U
1,2,3,4,6,7,8-Heptachlorodibenzo-p-Dioxin	1613B	pg/L	9.83	U
1,2,3,4,6,7,8-Heptachlorodibenzo-p-Dioxin	E1613B	pg/L		
1,2,3,4,6,7,8-HPCDF	1613B	pg/L	9.83	U
1,2,3,4,6,7,8-HPCDF	E1613B	pg/L		
1,2,3,4,7,8,9-HPCDF	1613B	pg/L	9.83	U
1,2,3,4,7,8,9-HPCDF	E1613B	pg/L		
1,2,3,4,7,8-Hexachlorodibenzo-p-Dioxin	1613B	pg/L	1.05	J
1,2,3,4,7,8-Hexachlorodibenzo-p-Dioxin	E1613B	pg/L		
1,2,3,4,7,8-HXCDF	1613B	pg/L	9.83	U
1,2,3,4,7,8-HXCDF	E1613B	pg/L		
1,2,3,6,7,8-Hexachlorodibenzo-p-Dioxin	1613B	pg/L	9.83	U
1,2,3,6,7,8-Hexachlorodibenzo-p-Dioxin	E1613B	pg/L		
1,2,3,6,7,8-HXCDF	1613B	pg/L	9.83	U
1,2,3,6,7,8-HXCDF	E1613B	pg/L		
1,2,3,7,8,9-Hexachlorodibenzo-p-Dioxin	1613B	pg/L	9.83	U
1,2,3,7,8,9-Hexachlorodibenzo-p-Dioxin	E1613B	pg/L		
1,2,3,7,8,9-HXCDF	1613B	pg/L	9.83	U
1,2,3,7,8,9-HXCDF	E1613B	pg/L		
1,2,3,7,8-Pentachlorodibenzofuran	1613B	pg/L	9.83	U
1,2,3,7,8-Pentachlorodibenzofuran	E1613B	pg/L		
1,2,3,7,8-Pentachlorodibenzo-p-Dioxin	1613B	pg/L	0.97	J
1,2,3,7,8-Pentachlorodibenzo-p-Dioxin	E1613B	pg/L		
1,2,3-Trichlorobenzene	8260B	µg/L	1	U
1,2,3-Trichloropropane	8260B	µg/L	2	U
1,2,4-Trichlorobenzene	8260B	µg/L	1	U
1,2,4-Trichlorobenzene	8270C	µg/L	10	U
1,2,4-Trimethylbenzene	8260B	µg/L	1	U
1,2-Dibromo-3-chloropropane	8260B	µg/L	2	U
1,2-Dibromoethane	8260B	µg/L	1	U
1,2-Dichlorobenzene	8260B	µg/L	1	U
1,2-Dichlorobenzene	8270C	µg/L	10	U
1,2-Dichloroethane	8260B	µg/L	1	U
1,2-Dichloropropane	8260B	µg/L	1	U
1,2-Diphenylhydrazine	8270C	µg/L	10	U
1,3,5-Trimethylbenzene	8260B	µg/L	1	U
1,3,5-Trinitrobenzene	8330A	µg/L	0.6	U
1,3-Dichlorobenzene	8260B	µg/L	1	U
1,3-Dichlorobenzene	8270C	µg/L	10	U
1,3-Dichloropropane	8260B	µg/L	1	U
1,4-Dichlorobenzene	8260B	µg/L	1	U
1,4-Dichlorobenzene	8270C	µg/L	10	U
1,4-Dioxane	8260B SIM	µg/L	2	U
1-Chlorohexane	8260B	µg/L	1	U
1-Methylnaphthalene	8270C SIM	µg/L	0.2	U
2,2-Dichloropropane	8260B	µg/L	1	U
2,2-Dichlor-Propionic Acid	8151A	µg/L	0.8	U
2,3,4,6,7,8-HXCDF	1613B	pg/L	9.83	U
2,3,4,6,7,8-HXCDF	E1613B	pg/L		
2,3,4,7,8-PECDF	1613B	pg/L	9.83	U
2,3,4,7,8-PECDF	E1613B	pg/L		
2,3,7,8-TCDD	1613B	pg/L	1.97	U
2,3,7,8-TCDD	E1613B	pg/L		
2,3,7,8-Tetrachlorodibenzofuran	1613B	pg/L	1.97	U
2,3,7,8-Tetrachlorodibenzofuran	E1613B	pg/L		
2,4,5-T	8151A	µg/L	0.8	U
2,4,5-Trichlorophenol	8270C	µg/L	10	U
2,4,6-Trichlorophenol	8270C	µg/L	10	U
2,4,6-Trinitrotoluene	8330A	µg/L	0.6	U
2,4-D	8151A	µg/L	0.8	U
2,4-DB	8151A	µg/L	0.8	U
2,4-Diamino-6-nitrotoluene	8330A	µg/L	2	U
2,4-Dichlorophenol	8270C	µg/L	10	U
2,4-Dimethylphenol	8270C	µg/L	10	U
2,4-Dinitrophenol	8270C	µg/L	20	U
2,4-Dinitrotoluene	8330A	µg/L	0.6	U
2,6-Diamino-4-nitrotoluene	8330A	µg/L	2	U
2,6-Dinitrotoluene	8330A	µg/L	0.6	U
2-Amino-4,6-Dinitrotoluene	8330A	µg/L	0.6	U
2-Butanone (MEK)	8260B	µg/L	6.2	J
2-butoxyethanol	8270C	µg/L	10	U
2-Chloro-1,1,1-trifluoroethane	8260B	µg/L	1	U
2-Chloroethyl Vinyl Ether	8260B	µg/L	2	U
2-Chloronaphthalene	8270C	µg/L	10	U
2-Chlorophenol	8270C	µg/L	10	UJ
2-Chlorotoluene	8260B	µg/L	1	U
2-Hexanone	8260B	µg/L	10	U
2-Methylnaphthalene	8270C SIM	µg/L	0.2	U
2-Methylphenol	8270C	µg/L	10	U
2-Nitroaniline	8270C	µg/L	10	U
2-Nitrophenol	8270C	µg/L	10	U
2-Nitrotoluene	8330A	µg/L	0.6	U
2-phenoxyethanol	8270C	µg/L	10	U
2-Phenylbutane	8260B	µg/L	1	U
2-Propanol	8015B	µg/L	1000	U
3,3'-Dichlorobenzidine	8270C	µg/L	10	UJ
3,5-Dimethylphenol	8270C	µg/L	20	U
3-Nitroaniline	8270C	µg/L	10	U
3-Nitrotoluene	8330A	µg/L	0.6	U
4,4'-DDD	8081A	µg/L	0.099	U
4,4'-DDD	SW8081A	µg/L		
4,4'-DDE	8081A	µg/L	0.099	U
4,4'-DDE	SW8081A	µg/L		
4,4'-DDT	8081A	µg/L	0.099	U
4,4'-DDT	SW8081A	µg/L		
4,6-Dinitro-2-methylphenol	8270C	µg/L	20	U
4-Amino-2,6-Dinitrotoluene	8330A	µg/L	0.6	U
4-Bromophenyl-phenylether	8270C	µg/L	10	U
4-Chloro-3-methylphenol	8270C	µg/L	10	U
4-Chloroaniline	8270C	µg/L	10	UJ
4-Chlorophenyl-phenylether	8270C	µg/L	10	U
4-Chlorotoluene	8260B	µg/L	1	U
4-Methyl-2-pentanone (MIBK)	8260B	µg/L	10	U
4-Methylphenol	8270C	µg/L	10	U
4-Nitroaniline	8270C	µg/L	10	U
4-Nitrophenol	8270C	µg/L	20	U

Table D2 - Area III - Field Blank

		Sample Name:	FB-062012	
		Location:	Area III_DG-FB	
		Sample Date:	06/20/2012	
		Sample Type	FB	
Analyte	Analytic Method	Units	Concentration	Final Qualifer
4-Nitrotoluene	8330A	µg/L	0.6	U
Acenaphthene	8270C SIM	µg/L	0.2	U
Acenaphthylene	8270C SIM	µg/L	0.2	U
Acetone	8260B	µg/L	10	U
Acrolein	8260B	µg/L	10	U
Acrylonitrile	8260B	µg/L	10	U
Aldrin	8081A	µg/L	0.099	U
Aldrin	SW8081A	µg/L		
Alpha-Bhc	8081A	µg/L	0.099	U
Alpha-Bhc	SW8081A	µg/L		
Aluminum	6020	mg/L	0.0271	J
Aniline	8270C	µg/L	20	UJ
Anthracene	8270C SIM	µg/L	0.2	U
Antimony	6020	mg/L	0.001	U
Aroclor 1016	8082	µg/L	0.99	U
Aroclor 1221	8082	µg/L	0.99	U
Aroclor 1232	8082	µg/L	0.99	U
Aroclor 1242	8082	µg/L	0.99	U
Aroclor 1248	8082	µg/L	0.99	U
Aroclor 1254	8082	µg/L	0.99	U
Aroclor 1260	8082	µg/L	0.99	U
Aroclor 1262	8082	µg/L	0.99	U
Aroclor 1268	8082	µg/L	0.99	U
Aroclor 5432	8082	µg/L	2	U
Aroclor 5442	8082	µg/L	2	U
Aroclor 5460	8082	µg/L	2	U
Arsenic	6020	mg/L	0.001	U
Azobenzene	8270C SIM	µg/L	1	U
Barium	6020	mg/L	0.001	U
Benzene	8260B	µg/L	1	U
Benzidine	8270C	µg/L	51	R
Benzo(a)anthracene	8270C SIM	µg/L	0.2	U
Benzo(a)pyrene	8270C SIM	µg/L	0.2	U
Benzo(b)fluoranthene	8270C SIM	µg/L	0.2	U
Benzo(e)pyrene	8270C SIM	µg/L	0.2	U
Benzo(g,h,i)perylene	8270C SIM	µg/L	0.2	U
Benzo(k)fluoranthene	8270C SIM	µg/L	0.2	U
Benzoic Acid	8270C	µg/L	41	U
Benzyl Alcohol	8270C	µg/L	10	U
Beryllium	6020	mg/L	0.001	U
Beta-Bhc	8081A	µg/L	0.099	U
Beta-Bhc	SW8081A	µg/L		
bis(2-chloroethoxy)methane	8270C	µg/L	10	U
bis(2-chloroethyl) ether	8270C	µg/L	10	U
bis(2-chloroisopropyl) ether	8270C	µg/L	10	U
Bis(2-ethylhexyl)phthalate	8270C	µg/L	20	U
Boron	6020	mg/L	0.00916	J
Bromobenzene	8260B	µg/L	1	U
Bromochloromethane	8260B	µg/L	1	U
Bromodichloromethane	8260B	µg/L	1	U
Bromoform	8260B	µg/L	1	U
Bromomethane	8260B	µg/L	1	U
Butylbenzylphthalate	8270C	µg/L	10	U
Cadmium	6020	mg/L	0.001	U
Calcium	6020	mg/L	0.0438	J
Carbazole	8270C	µg/L	10	U
Carbon Disulfide	8260B	µg/L	1	U
Carbon Tetrachloride	8260B	µg/L	1	U
Chlordane (Technical)	8081A	µg/L	0.99	U
Chlordane (Technical)	SW8081A	µg/L		
Chlorobenzene	8260B	µg/L	1	U
Chloroethane	8260B	µg/L	1	U
Chloroform	8260B	µg/L	1	U
Chloromethane	8260B	µg/L	1	U
Chlorotrifluoroethylene	8260B	µg/L	1	U
Chromium	6020	mg/L	0.001	U
Chromium (Hexavalent Compounds)	7199	µg/L	0.2	U
Chrysene	8270C SIM	µg/L	0.2	U
cis-1,2-Dichloroethene	8260B	µg/L	1	U
cis-1,3-Dichloropropene	8260B	µg/L	1	U
Cobalt	6020	mg/L	0.001	U
Copper	6020	mg/L	0.00112	
Cymene	8260B	µg/L	1	U
Delta-Bhc	8081A	µg/L	0.099	U
Delta-Bhc	SW8081A	µg/L		
Di isopropyl Ether	8260B	µg/L	1	U
Dibenzo(a,h)anthracene	8270C SIM	µg/L	0.2	U
Dibenzofuran	8270C	µg/L	10	U
Dibromochloromethane	8260B	µg/L	1	U
Dibromomethane	8260B	µg/L	1	U
Dicamba	8151A	µg/L	0.8	U
Dichlorodifluoromethane	8260B	µg/L	1	U
Dichlorprop	8151A	µg/L	0.8	U
Dieldrin	8081A	µg/L	0.099	U
Dieldrin	SW8081A	µg/L		
Diethylene Glycol	8015M	mg/L	10	U
Diethylphthalate	8270C	µg/L	10	U
Dimethylphthalate	8270C	µg/L	10	U
Di-n-butylphthalate	8270C	µg/L	10	U
Dinitrobutyl Phenol	8151A	µg/L	0.8	U
Di-n-octylphthalate	8270C	µg/L	10	U
EFH (C12-C14)	8015B EFH	mg/L	0.097	U
EFH (C15-C20)	8015B EFH	mg/L	0.097	U
EFH (C21-C30)	8015B EFH	mg/L	0.097	U
EFH (C30-C40)	8015B EFH	mg/L	0.097	U
EFH (C8-C11)	8015B EFH	mg/L	0.097	U
Endosulfan I	8081A	µg/L	0.099	U
Endosulfan I	SW8081A	µg/L		
Endosulfan II	8081A	µg/L	0.099	U
Endosulfan II	SW8081A	µg/L		
Endosulfan Sulfate	8081A	µg/L	0.099	U
Endosulfan Sulfate	SW8081A	µg/L		
Endrin	8081A	µg/L	0.099	U
Endrin	SW8081A	µg/L		
Endrin Aldehyde	8081A	µg/L	0.099	U
Endrin Aldehyde	SW8081A	µg/L		
Endrin Ketone	8081A	µg/L	0.099	U
Endrin Ketone	SW8081A	µg/L		
Ethanol	8015B	µg/L	1000	U
Ethylbenzene	8260B	µg/L	1	U
Ethylene Glycol	8015M	mg/L	10	U
Fluoranthene	8270C SIM	µg/L	0.2	U
Fluorene	8270C SIM	µg/L	0.2	U
Formaldehyde	8315A	µg/L	50	UJ

Table D2 - Area III - Field Blank

		Sample Name:	FB-062012	
		Location:	Area III_DG-FB	
		Sample Date:	06/20/2012	
		Sample Type	FB	
Analyte	Analytic Method	Units	Concentration	Final Qualifer
Formaldehyde	SW8315A	µg/L		
Gamma-Bhc (Lindane)	8081A	µg/L	0.099	U
Gamma-Bhc (Lindane)	SW8081A	µg/L		
Gasoline Range Organics (C5-C12)	8015B GRO	µg/L	28	J
Heptachlor	8081A	µg/L	0.099	U
Heptachlor	SW8081A	µg/L		
Heptachlor Epoxide	8081A	µg/L	0.099	U
Heptachlor Epoxide	SW8081A	µg/L		
Hexachloro-1,3-butadiene	8260B	µg/L	1	U
Hexachlorobenzene	8270C	µg/L	10	U
Hexachlorobutadiene	8270C	µg/L	10	U
Hexachlorocyclopentadiene	8270C	µg/L	20	U
Hexachloroethane	8270C	µg/L	10	U
HMX	8330A	µg/L	0.6	U
Indeno(1,2,3-cd)pyrene	8270C SIM	µg/L	0.2	U
Iron	6020	mg/L	0.1	U
Isophorone	8270C	µg/L	10	U
Isopropylbenzene	8260B	µg/L	1	U
Lead	6020	mg/L	0.001	U
Lithium	6020	mg/L	0.002	U
m,p-Xylene	8260B	µg/L	2	U
Magnesium	6020	mg/L	0.1	U
Manganese	6020	mg/L	0.001	U
MCPA	8151A	µg/L	100	U
MCPP	8151A	µg/L	100	U
M-Dinitrobenzene	8330A	µg/L	0.6	U
Methanol	8015B	µg/L	1000	U
Methoxychlor	8081A	µg/L	0.99	U
Methoxychlor	SW8081A	µg/L		
Methyl Iodide	8260B	µg/L	1	U
Methyl Tert-Butyl Ether	8260B	µg/L	1	U
Methylene Chloride	8260B	µg/L	4.1	
Mirex	8081A	µg/L	0.099	U
Mirex	SW8081A	µg/L		
Molybdenum	6020	mg/L	0.002	U
Naphthalene	8270C SIM	µg/L	0.26	
n-Butylbenzene	8260B	µg/L	1	U
Nickel	6020	mg/L	0.001	U
Nitrobenzene	8270C	µg/L	10	U
Nitrobenzene	8330A	µg/L	0.6	U
Nitroglycerin	8332	µg/L	250	U
N-Nitrosodimethylamine	8270C SIM	µg/L	1	U
N-Nitroso-di-n-propylamine	8270C	µg/L	10	U
N-Nitrosodiphenylamine	8270C	µg/L	10	U
n-Propylbenzene	8260B	µg/L	1	U
OCDD	1613B	pg/L	19.7	U
OCDD	E1613B	pg/L		
OCDF	1613B	pg/L	19.7	U
OCDF	E1613B	pg/L		
o-Xylene	8260B	µg/L	1	U
Pentachlorophenol	8270C	µg/L	20	U
Perchlorate	6850	µg/L	0.2	U
PETN	8332	µg/L	250	U
Phenanthrene	8270C SIM	µg/L	0.2	U
Phenol	8270C	µg/L	10	U
Phosphorus	6020	mg/L	0.05	U
Potassium	6020	mg/L	0.1	U
Propylene Glycol	8015M	mg/L	10	U
Pyrene	8270C SIM	µg/L	0.2	U
RDX	8330A	µg/L	0.6	U
Selenium	6020	mg/L	0.001	U
Silver	6020	mg/L	0.001	U
Silvex (2,4,5-TP)	8151A	µg/L	0.8	U
Sodium	6020	mg/L	0.1	U
Strontium	6020	mg/L	0.002	U
Styrene	8260B	µg/L	1	U
Technical Toxaphene	8081A	µg/L	2	U
Technical Toxaphene	SW8081A	µg/L		
tert-Butyl ethyl ether	8260B	µg/L	1	U
tert-Butylbenzene	8260B	µg/L	1	U
Tertiary amyl methyl ether	8260B	µg/L	1	U
Tertiary butyl alcohol	8260B	µg/L	10	U
Tetrachloroethene	8260B	µg/L	1	U
Tetralin	8270C	µg/L	10	U
Tetryl	8330A	µg/L	0.6	U
Thallium	6020	mg/L	0.001	U
Tin	6020	mg/L	0.001	U
Titanium	6020	mg/L	0.002	U
Toluene	8260B	µg/L	0.29	J
trans-1,2-Dichloroethene	8260B	µg/L	1	U
trans-1,3-Dichloropropene	8260B	µg/L	1	U
Trichloroethene	8260B	µg/L	1	U
Trichlorofluoromethane	8260B	µg/L	1	U
Vanadium	6020	mg/L	0.001	U
Vinyl Acetate	8260B	µg/L	1	U
Vinyl Chloride	8260B	µg/L	1	U
Zinc	6020	mg/L	0.02	U
Zirconium	6020	mg/L	0.005	U

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
(a) Some SVOC results had two values - one for SVOC and one for SVOC SIM. The validators used the value with the lowest detection limit for validation purposes

Table D3 - Area III Equipment Blanks

		Sample Name:	EB-071812		EB-072412	
		Location:	A3_SED_DG-EB		A3_SED_DG-EB	
		Sample Date:	07/18/2012		07/24/2012	
		Sample Type	EB		EB	
Analyte	Analytic Method	Units	Concentration	Final Qualifer	Concentration	Final Qualifer
1,1'-Biphenyl	8270C SIM	µg/L	2	U	1.9	U
1,2,3,4,6,7,8-Heptachlorodibenzo-p-Dioxin	1613B	pg/L	10.5	U	10.2	U
1,2,3,4,6,7,8-HPCDF	1613B	pg/L	10.5	U	10.2	U
1,2,3,4,7,8,9-HPCDF	1613B	pg/L	10.5	U	10.2	U
1,2,3,4,7,8-Hexachlorodibenzo-p-Dioxin	1613B	pg/L	10.5	U	10.2	U
1,2,3,4,7,8-HXCDF	1613B	pg/L	0.594	J	10.2	U
1,2,3,6,7,8-Hexachlorodibenzo-p-Dioxin	1613B	pg/L	10.5	U	10.2	U
1,2,3,6,7,8-HXCDF	1613B	pg/L	10.5	U	10.2	U
1,2,3,7,8,9-Hexachlorodibenzo-p-Dioxin	1613B	pg/L	10.5	U	10.2	U
1,2,3,7,8,9-HXCDF	1613B	pg/L	10.5	U	10.2	U
1,2,3,7,8-Pentachlorodibenzofuran	1613B	pg/L	10.5	U	10.2	U
1,2,3,7,8-Pentachlorodibenzo-p-Dioxin	1613B	pg/L	0.457	J	10.2	U
1-Methylnaphthalene	8270C SIM	µg/L	0.2	U	0.19	U
2,3,4,6,7,8-HXCDF	1613B	pg/L	10.5	U	10.2	U
2,3,4,7,8-PECDF	1613B	pg/L	10.5	U	10.2	U
2,3,7,8-TCDD	1613B	pg/L	2.1	U	2.04	U
2,3,7,8-Tetrachlorodibenzofuran	1613B	pg/L	2.1	U	2.04	U
2-Methylnaphthalene	8270C SIM	µg/L	0.2	U	0.19	U
Acenaphthene	8270C SIM	µg/L	0.15	J	0.21	
Acenaphthylene	8270C SIM	µg/L	0.2	U	0.19	U
Aluminum	6020	mg/L	0.1	U	0.0331	J
Anthracene	8270C SIM	µg/L	0.2	U	0.19	U
Antimony	6020	mg/L	0.001	U	0.001	U
Aroclor 1016	8082	µg/L	1	U	0.95	U
Aroclor 1221	8082	µg/L	1	U	0.95	U
Aroclor 1232	8082	µg/L	1	U	0.95	U
Aroclor 1242	8082	µg/L	1	U	0.95	U
Aroclor 1248	8082	µg/L	1	U	0.95	U
Aroclor 1254	8082	µg/L	1	U	0.95	U
Aroclor 1260	8082	µg/L	1	U	0.95	U
Aroclor 1262	8082	µg/L	1	U	0.95	U
Aroclor 1268	8082	µg/L	1	U	0.95	U
Aroclor 5432	8082	µg/L	2.1	U	1.9	U
Aroclor 5442	8082	µg/L	2.1	U	1.9	U
Aroclor 5460	8082	µg/L	2.1	U	1.9	U
Arsenic	6020	mg/L	0.001	U	0.001	U
Azobenzene	8270C SIM	µg/L	1	U	0.97	U
Barium	6020	mg/L	0.001	U	0.001	U
Benzo(a)anthracene	8270C SIM	µg/L	0.2	U	0.19	U
Benzo(a)pyrene	8270C SIM	µg/L	0.2	U	0.19	U
Benzo(b)fluoranthene	8270C SIM	µg/L	0.2	U	0.19	U
Benzo(e)pyrene	8270C SIM	µg/L	0.2	U	0.19	U
Benzo(g,h,i)perylene	8270C SIM	µg/L	0.2	U	0.19	U
Benzo(k)fluoranthene	8270C SIM	µg/L	0.2	U	0.19	U
Beryllium	6020	mg/L	0.001	U	0.001	U
Boron	6020	mg/L	0.00918	J	0.00942	J
Cadmium	6020	mg/L	0.001	U	0.001	U
Calcium	6020	mg/L	0.1	U	0.0262	J
Chromium	6020	mg/L	0.001	U	0.001	U
Chrysene	8270C SIM	µg/L	0.2	U	0.19	U
Cobalt	6020	mg/L	0.001	U	0.001	U
Copper	6020	mg/L	0.000594	J	0.00118	
Dibenzo(a,h)anthracene	8270C SIM	µg/L	0.2	U	0.19	U
EFH (C12-C14)	8015B EFH	mg/L	0.12	U	0.096	U
EFH (C15-C20)	8015B EFH	mg/L	0.12	U	0.096	U
EFH (C21-C30)	8015B EFH	mg/L	0.12	U	0.096	U
EFH (C30-C40)	8015B EFH	mg/L	0.12	U	0.096	U

Table D3 - Area III Equipment Blanks

			Sample Name:		EB-071812		EB-072412
			Location:		A3_SED_DG-EB		A3_SED_DG-EB
			Sample Date:		07/18/2012		07/24/2012
			Sample Type		EB		EB
Analyte	Analytic Method	Units	Concentration	Final Qualifer	Concentration	Final Qualifer
EFH (C8-C11)	8015B EFH	mg/L	0.12	U	0.096	U
Fluoranthene	8270C SIM	µg/L	0.2	U	0.19	U
Fluorene	8270C SIM	µg/L	0.2	U	0.19	U
Indeno(1,2,3-cd)pyrene	8270C SIM	µg/L	0.2	U	0.19	U
Iron	6020	mg/L	0.1	U	0.1	U
Lead	6020	mg/L	0.001	U	0.001	U
Lithium	6020	mg/L	0.002	U	0.002	U
Magnesium	6020	mg/L	0.1	U	0.1	U
Manganese	6020	mg/L	0.001	U	0.000742	J
Molybdenum	6020	mg/L	0.002	U	0.002	U
Naphthalene	8270C SIM	µg/L	0.17	J	0.23	
Nickel	6020	mg/L	0.001	U	0.001	U
N-Nitrosodimethylamine	8270C SIM	µg/L	1	U	0.97	U
OCDD	1613B	pg/L	21	U	20.4	U
OCDF	1613B	pg/L	21	U	20.4	U
Perchlorate	6850	µg/L	0.2	U		
Phenanthrene	8270C SIM	µg/L	0.2	U	0.19	U
Phosphorus	6020	mg/L	0.05	U	0.05	U
Potassium	6020	mg/L	0.1	U	0.1	U
Pyrene	8270C SIM	µg/L	0.2	U	0.19	U
Selenium	6020	mg/L	0.001	U	0.001	U
Silver	6020	mg/L	0.001	U	0.001	U
Sodium	6020	mg/L	0.1	U	0.0521	J
Strontium	6020	mg/L	0.002	U	0.002	U
Thallium	6020	mg/L	0.001	U	0.001	U
Tin	6020	mg/L	0.001	U	0.001	U
Titanium	6020	mg/L	0.002	U	0.002	U
Vanadium	6020	mg/L	0.001	U	0.001	U
Zinc	6020	mg/L	0.02	U	0.02	U
Zirconium	6020	mg/L	0.005	U	0.005	U

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

(a) Some SVOC results had two values - one for SVOC and one for SVOC SIM. The validators used the value with the lowest detection limit for validation purposes

Table D4 - Area III Field Duplicate

				Location	A3_SED_DG-16		A3_SED_DG-16		RPD
				Sample Name:	SL-316-A3-SB-0.0-0.5		SL-016-A3-SB-0.0-0.5		
				Sample Date	07/17/2012		07/17/2012		
				Start Depth:	0		0		
				End Depth:	0.5		0.5		
				Area:	A3_Sed_DG		A3_Sed_DG		
				Matrix:	SE		SE		
				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	63.3		57.7		9.26
Dioxins	1,2,3,4,6,7,8-HPCDF	67562-39-4	1613B	ng/kg	11.9		11		7.86
Dioxins	1,2,3,4,7,8,9-HPCDF	55673-89-7	1613B	ng/kg	1.35	J	1.28	J	5.32
Dioxins	1,2,3,4,7,8-Hexachlorodibenzo-p-Dioxin	39227-28-6	1613B	ng/kg	1.01	J	5.03	U	200.00
Dioxins	1,2,3,4,7,8-HXCDF	70648-26-9	1613B	ng/kg	4.9	U	5.03	U	--
Dioxins	1,2,3,6,7,8-Hexachlorodibenzo-p-Dioxin	57653-85-7	1613B	ng/kg	2.14	J	1.9	J	11.88
Dioxins	1,2,3,6,7,8-HXCDF	57117-44-9	1613B	ng/kg	4.9	U	5.03	U	--
Dioxins	1,2,3,7,8,9-Hexachlorodibenzo-p-Dioxin	19408-74-3	1613B	ng/kg	2.08	J	1.9	J	9.05
Dioxins	1,2,3,7,8,9-HXCDF	72918-21-9	1613B	ng/kg	4.9	U	5.03	U	--
Dioxins	1,2,3,7,8-Pentachlorodibenzofuran	57117-41-6	1613B	ng/kg	4.9	U	5.03	U	--
Dioxins	1,2,3,7,8-Pentachlorodibenzo-p-Dioxin	40321-76-4	1613B	ng/kg	0.667	J	5.03	U	200.00
Dioxins	2,3,4,6,7,8-HXCDF	60851-34-5	1613B	ng/kg	4.9	U	5.03	U	--
Dioxins	2,3,4,7,8-PECDF	57117-31-4	1613B	ng/kg	4.9	U	5.03	U	--
Dioxins	2,3,7,8-TCDD	1746-01-6	1613B	ng/kg	0.981	UJ	1.01	UJ	--
Dioxins	2,3,7,8-Tetrachlorodibenzofuran	51207-31-9	1613B	ng/kg	0.981	U	1.01	U	--
Dioxins	OCDD	3268-87-9	1613B	ng/kg	954		805		16.94
Dioxins	OCDF	39001-02-0	1613B	ng/kg	68		63.5		6.84
Mercury	Mercury	7439-97-6	7471A	mg/kg	0.101	U	0.103	U	--
Metals	Aluminum	7429-90-5	6020	mg/kg	20200		19000		6.12
Metals	Antimony	7440-36-0	6020	mg/kg	0.267	J	0.203	J	27.23
Metals	Arsenic	7440-38-2	6020	mg/kg	6.28		6.28		0.00
Metals	Barium	7440-39-3	6020	mg/kg	127		119		6.50
Metals	Beryllium	7440-41-7	6020	mg/kg	0.751		0.708		5.89
Metals	Boron	7440-42-8	6020	mg/kg	3.73	J	4	J	6.99
Metals	Cadmium	7440-43-9	6020	mg/kg	0.402	J	0.4	J	0.50
Metals	Calcium	7440-70-2	6020	mg/kg	3510		3680		4.73
Metals	Chromium	7440-47-3	6020	mg/kg	26.9		25.5		5.34
Metals	Cobalt	7440-48-4	6020	mg/kg	8.73		8.43		3.50
Metals	Copper	7440-50-8	6020	mg/kg	13.5		13.3		1.49
Metals	Iron	7439-89-6	6020	mg/kg	24900		24300		2.44
Metals	Lead	7439-92-1	6020	mg/kg	11.4		10.3		10.14
Metals	Lithium	7439-93-2	6020	mg/kg	26.3		25.6		2.70
Metals	Magnesium	7439-95-4	6020	mg/kg	5970		6090		1.99
Metals	Manganese	7439-96-5	6020	mg/kg	365		344		5.92
Metals	Molybdenum	7439-98-7	6020	mg/kg	0.824		0.74		10.74
Metals	Nickel	7440-02-0	6020	mg/kg	17.1		16.4		4.18
Metals	Phosphorus	7723-14-0	6020	mg/kg	436		453		3.82
Metals	Potassium	7440-09-07	6020	mg/kg	4920		4680		5.00
Metals	Selenium	7782-49-2	6020	mg/kg	0.509	U	0.508	U	--
Metals	Silver	7440-22-4	6020	mg/kg	0.274	J	0.399	J	37.15
Metals	Sodium	7440-23-5	6020	mg/kg	113		113		0.00
Metals	Strontium	7440-24-6	6020	mg/kg	26		24.8		4.72
Metals	Thallium	7440-28-0	6020	mg/kg	0.318	J	0.313	J	1.58
Metals	Tin	7440-31-5	6020	mg/kg	10.2	U	10.2	U	--
Metals	Titanium	7440-32-6	6020	mg/kg	1020		957		6.37
Metals	Vanadium	7440-62-2	6020	mg/kg	46.3	J	43.7	J	5.78
Metals	Zinc	7440-66-6	6020	mg/kg	76.9		75.6		1.70
Metals	Zirconium	7440-67-7	6020	mg/kg	2.65	J	5.08	UJ	200.00
Moisture Content	Moisture	MOIST	160.3M	%	1.7		1.7		0.00
PAHs	1,1'-Biphenyl	92-52-4	8270C SIM	µg/kg	5.1	U	5.1	U	--
PAHs	1-Methylnaphthalene	90-12-0	8270C SIM	µg/kg	10	U	10	U	--
PAHs	2-Methylnaphthalene	91-57-6	8270C SIM	µg/kg	10	U	10	U	--
PAHs	Acenaphthene	83-32-9	8270C SIM	µg/kg	10	U	10	U	--
PAHs	Acenaphthylene	208-96-8	8270C SIM	µg/kg	10	U	10	U	--
PAHs	Anthracene	120-12-7	8270C SIM	µg/kg	10	U	10	U	--
PAHs	Azobenzene	103-33-3	8270C SIM	µg/kg	5.1	U	5.1	U	--
PAHs	Benzo(a)anthracene	56-55-3	8270C SIM	µg/kg	7	J	7.1	J	1.42
PAHs	Benzo(a)pyrene	50-32-8	8270C SIM	µg/kg	7.1	J	7.3	J	2.78
PAHs	Benzo(b)fluoranthene	205-99-2	8270C SIM	µg/kg	10		11		9.52
PAHs	Benzo(e)pyrene	192-97-2	8270C SIM	µg/kg	5.2		5.7		9.17
PAHs	Benzo(g,h,i)perylene	191-24-2	8270C SIM	µg/kg	4.3	J	4.9	J	13.04
PAHs	Benzo(k)fluoranthene	207-08-9	8270C SIM	µg/kg	3.1	J	3.1	J	0.00
PAHs	Chrysene	218-01-9	8270C SIM	µg/kg	8.3	J	7.9	J	4.94
PAHs	Dibenzo(a,h)anthracene	53-70-3	8270C SIM	µg/kg	10	U	10	U	--
PAHs	Fluoranthene	206-44-0	8270C SIM	µg/kg	13		14		7.41
PAHs	Fluorene	86-73-7	8270C SIM	µg/kg	10	U	10	U	--
PAHs	Indeno(1,2,3-cd)pyrene	193-39-5	8270C SIM	µg/kg	3.3	J	3.7	J	11.43
PAHs	Naphthalene	91-20-3	8270C SIM	µg/kg	10	U	10	U	--
PAHs	N-Nitrosodimethylamine	62-75-9	8270C SIM	µg/kg	10	U	10	U	--
PAHs	Phenanthrene	85-01-8	8270C SIM	µg/kg	6.3	J	6.6	J	4.65
PAHs	Pyrene	129-00-0	8270C SIM	µg/kg	13		13		0.00
PCBsPCTs	Aroclor 1016	12674-11-2	8082	µg/kg	20	U	21	U	--
PCBsPCTs	Aroclor 1221	11104-28-2	8082	µg/kg	20	U	21	U	--
PCBsPCTs	Aroclor 1232	11141-16-5	8082	µg/kg	20	U	21	U	--
PCBsPCTs	Aroclor 1242	53469-21-9	8082	µg/kg	20	U	21	U	--
PCBsPCTs	Aroclor 1248	12672-29-6	8082	µg/kg	20	U	21	U	--
PCBsPCTs	Aroclor 1254	11097-69-1	8082	µg/kg	20	U	21	U	--
PCBsPCTs	Aroclor 1260	11096-82-5	8082	µg/kg	20	U	21	U	--
PCBsPCTs	Aroclor 1262	37324-23-5	8082	µg/kg	20	U	21	U	--

Table D4 - Area III Field Duplicate

				Location	A3_SED_DG-16		A3_SED_DG-16		RPD
				Sample Name:	SL-316-A3-SB-0.0-0.5		SL-016-A3-SB-0.0-0.5		
				Sample Date	07/17/2012		07/17/2012		
				Start Depth:	0		0		
				End Depth:	0.5		0.5		
				Area:	A3_Sed_DG		A3_Sed_DG		
				Matrix:	SE		SE		
				Sample Type:	FD		N		
MAG:	Chemical Name:	CAS No.:	Lab Method:	Result Unit					
PCBsPCTs	Aroclor 1268	11100-14-4	8082	µg/kg	20	U	21	U	--
PCBsPCTs	Aroclor 5432	63496-31-1	8082	µg/kg	41	U	41	U	--
PCBsPCTs	Aroclor 5442	12642-23-8	8082	µg/kg	41	U	41	U	--
PCBsPCTs	Aroclor 5460	11126-42-4	8082	µg/kg	41	U	41	U	--
TPH-EFH	EFH (C12-C14)	PHCC12C14	8015B EFH	mg/kg	5.1	U	5.1	U	--
TPH-EFH	EFH (C15-C20)	PHCC15C20	8015B EFH	mg/kg	5.1	U	5.1	U	--
TPH-EFH	EFH (C21-C30)	PHCC21C30	8015B EFH	mg/kg	4	J	5.3		27.96
TPH-EFH	EFH (C30-C40)	PHCC30C40	8015B EFH	mg/kg	6.5	J	9.7	J	39.51
TPH-EFH	EFH (C8-C11)	PHCC8C11	8015B EFH	mg/kg	5.1	U	5.1	U	--

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 D-5 Summary of Data Completeness Following Data Validation – Phase 3 Drainage Sediment Area III

	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	146	90		52	1	289	100
Perchlorate-6850				7		7	100
Metals	359	98		40	13	510	100
Mercury		6		11		17	100
TPH EFH	38	4		43		85	100
Terphenyls				51		51	100
PCBs/PCTs	23	6		175		204	100
SVOCs SIM	48	85		199	42	374	100
Completeness Total for All Phase 3 Drainage Sediment Area III Samples Collected and Judged Valid							**100**

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June 17, 2013

Mr. Todd Burgesser
CDM Federal Programs Corp.
Suite 400
3201 Jermantown Road
Fairfax, VA 22030

Dear Todd:

In response to the inquiry by Shauna McKellar of Lab Data Consultants, Inc., we have reviewed the ICAL data presented on pp 635, 636 and 659 of CDM SSFL SDG PH019. We have confirmed Ms. McKellar's observation that 123478-HxCDD and 123678-HxCDD were assigned the same retention time (RT) and hence the same relative response factor (RRF). 123678-HxCDD was mistakenly using the same RT and RRF as the 123478-HxCDD isomer. We have corrected the RT assignment in the ICAL and therefore also corrected the RRF.

Since the two compounds involved are from the same homolog/chlorination series, the difference in the RRF is relatively small, on the order of 1.34%. Therefore, any change in a reported result for 123678-HxCDD will be relatively small. However, as we investigated this finding, we determined that the ICAL had been used across several CDM SDGs. In the attached spreadsheet we have detailed each of the SDGs, the samples within each SDG that were affected, as well as the originally reported result for 123678-HxCDD and the corrected result for 123678-HxCDD. Revised analytical reports, Form 1s and EDDs are being submitted under separate cover.

I apologize for any inconvenience that this has caused. We value you as a client and the professional relationship we have with CDM. If there is any other assistance I can provide, please do not hesitate to contact me.

Regards,

Charles J. Neslund
Specialty Services
Manager

CJN/mc

Enclosure

cc: Natalie Luciano
Nicole Maljovec
Dorothy Love

ICAL Issue for 123678-HxCDD

SDG	LLI #	SAMPLE ID	Originally Reported Result (ng/kg)	Revised Result (ng/kg)	MDL (ng/kg)	LOQ (ng/kg)	Comments
PH015	6706210	SL-578-SA5C-SB-4.0-5.0 Soil	0.859 JB	0.871 JB	0.0964	5.30	
PH015	6706211	SL-747-SA5C-SB-2.5-3.5 Soil	20.8 B	21.1 B	0.245	5.42	
PH015	6706212	SL-501-SA5C-SB-4.0-5.0 Soil	1.20 JB	1.22 JB	0.115	5.44	
PH015	6706213	SL-502-SA5C-SB-4.5-5.5 Soil	1.22 JB	1.24 JB	0.0701	5.55	
PH016	6711855	SL-520-SA5B-SB-0.0-0.5 Soil	0.317 JQ	0.321 JQ	0.108	5.07	
PH016	6711856	SL-521-SA5B-SB-0.0-0.5 Soil	0.671 J	0.680 J	0.139	5.02	
PH016	6711857	SL-528-SA5B-SB-0.0-0.5 Soil	1.38 J	1.40 J	0.476	5.03	
PH016	6711858	SL-531-SA5B-SB-0.0-0.5 Soil	0.551 J	0.558 J	0.113	5.04	
PH016	6711859	SL-530-SA5B-SB-0.0-0.5 Soil	2.01 JQ	2.04 JQ	0.416	5.08	
PH016	6711860	SL-532-SA5B-SB-0.0-0.5 Soil	0.475 J	0.482 J	0.173	4.98	
PH016	6711861	SL-532-SA5B-SB-0.0-0.5MS Soil	102	104	0.104	5.01	QC
PH016	6711862	SL-532-SA5B-SB-0.0-0.5MSD Soil	98.8	100	0.131	5.05	QC
PH016	6711863	SL-932-SA5B-SB-0.0-0.5 Soil	0.679 J	0.688 J	0.0660	5.00	
PH016	6713200	SL-519-SA5B-SB-0.0-0.5 Soil	0.610 JQ	0.618 JQ	0.0822	5.00	
PH016	6713201	SL-538-SA5B-SB-0.0-0.5 Soil	0.823 JQ	0.834 JQ	0.0832	5.06	
PH016	6713202	SL-539-SA5B-SB-0.0-0.5 Soil	0.685 JQ	0.694 JQ	0.0747	5.03	
PH016	6713203	SL-540-SA5B-SB-0.0-0.5 Soil	0.549 JQ	0.556 JQ	0.0887	5.04	
PH016	6713204	SL-541-SA5B-SB-0.0-0.5 Soil	0.679 J	0.688 J	0.0925	4.87	
PH016	6713205	SL-542-SA5B-SB-0.0-0.5 Soil	1.36 JQ	1.38 JQ	0.0913	4.91	
PH016	6713206	EB-070612 Water	0.304 JBQ	0.309 JBQ	0.287	10.7	water- pg/l
PH016	6713207	SL-534-SA5B-SB-0.0-0.5 Soil	0.571 J	0.578 J	0.0722	4.97	
PH016	6713208	SL-537-SA5B-SB-0.0-0.5 Soil	1.13 JQ	1.15 JQ	0.0798	4.95	
PH016	6717296	FB-071112 Water	0.482 JBQ	0.488 JBQ	0.336	10.6	water- pg/l
PH016	6717297	SL-586-SA5C-SB-4.0-5.0 Soil	0.120 JBQ	0.122 JBQ	0.0347	5.42	
PH016	6717298	SL-586-SA5C-SB-9.0-10.0 Soil	0.342 JBQ	0.347 JBQ	0.0409	5.39	
PH016	6717299	SL-588-SA5C-SB-4.0-5.0 Soil	1.64 JB	1.66 JB	0.0501	5.73	
PH016	6717300	SL-588-SA5C-SB-9.0-10.0 Soil	0.0526 JBQ	0.0533 JBQ	0.0315	5.12	
PH016	6717301	SL-589-SA5C-SB-4.0-5.0 Soil	0.386 JBQ	0.391 JBQ	0.0246	5.56	
PH017	6715886	SL-530-SA5C-SB-4.0-5.0 Soil	0.0567 JQ	0.0575 JQ	0.0365	5.42	
PH017	6715888	SL-522-SA5C-SB-4.0-5.0 Soil	0.344 J	0.349 J	0.0725	5.38	
PH017	6715889	SL-522-SA5C-SB-4.0-5.0 MS Soil	101	102	0.0661	5.21	QC
PH017	6715890	SL-522-SA5C-SB-4.0-5.0 MSD Soil	101	103	0.0759	5.21	QC
PH017	6715891	SL-522-SA5C-SB-9.0-10.0 Soil	0.0718 J	0.0727 J	0.0497	5.22	
PH017	6715892	SL-822-SA5C-SB-4.0-5.0 Soil	0.296 J	0.300 J	0.0564	5.44	
PH017	6715893	SL-531-SA5C-SB-4.0-5.0 Soil	0.0905 J	0.0918 J	0.0186	5.35	
PH017	6715894	SL-531-SA5C-SB-9.0-10.0 Soil	0.239 J	0.242 J	0.0249	5.55	
PH017	6715895	SL-623-SA5C-SB-4.0-5.0 Soil	0.301 J	0.305 J	0.0296	5.34	
PH017	6715896	SL-623-SA5C-SB-9.0-10.0 Soil	0.392 JQ	0.398 JQ	0.0299	5.19	
PH017	6715897	SL-523-SA5C-SB-4.0-5.0 Soil	0.0237 J	0.0240 J	0.0197	5.35	
PH017	6715898	SL-523-SA5C-SB-9.0-10.0 Soil	0.173 J	0.175 J	0.0239	5.23	
PH017	6715899	SL-754-SA5C-SB-0.0-0.5 Soil	0.127 JQ	0.128 JQ	0.0230	5.27	
PH017	6715900	SL-754-SA5C-SB-4.0-5.0 Soil	0.115 J	0.117 J	0.0195	5.48	
PH017	6715901	SL-754-SA5C-SB-6.5-7.5 Soil	0.0711 J	0.0721 J	0.0201	5.10	
PH017	6715902	SL-533-SA5C-SB-4.0-5.0 Soil	0.0647 J	0.0656 J	0.0292	5.37	
PH017	6715903	SL-533-SA5C-SB-9.0-10.0 Soil	0.0808 JQ	0.0819 JQ	0.0298	5.44	
PH017	6715904	SL-755-SA5C-SB-0.0-0.5 Soil	2.18 J	2.21 J	0.0496	4.98	
PH017	6715905	SL-755-SA5C-SB-4.0-5.0 Soil	0.688 J	0.698 J	0.0357	5.55	
PH017	6715906	SL-755-SA5C-SB-5.5-6.5 Soil	0.351 JQ	0.355 JQ	0.0368	5.32	
PH017	6715907	SL-640-SA5C-SB-5.0-6.0 Soil	0.0387 JQ	0.0393 JQ	0.0281	5.42	
PH018	6715911	SL-640-SA5C-SB-10.0-11.0 Soil	0.0685 JQ	0.0694 JQ	0.0197	5.61	

ICAL Issue for 123678-HxCDD

SDG	LLI #	SAMPLE ID	Originally Reported Result (ng/kg)	Revised Result (ng/kg)	MDL (ng/kg)	LOQ (ng/kg)	Comments
PH018	6715912	SL-640-SA5C-SB-15.0-16.0 Soil	0.0581 J	0.0588 J	0.0208	5.65	
PH018	6715913	SL-640-SA5C-SB-19.0-20.0 Soil	0.0352 JQ	0.0356 JQ	0.0183	5.95	
PH018	6715914	SL-641-SA5C-SB-4.0-5.0 Soil	0.229 J	0.232 J	0.0274	5.37	
PH018	6715915	SL-641-SA5C-SB-9.0-10.0 Soil	0.0746 J	0.0756 J	0.0199	5.28	
PH018	6715916	SL-641-SA5C-SB-14.0-15.0 Soil	0.0647 J	0.0656 J	0.0254	5.55	
PH018	6715917	SL-641-SA5C-SB-18.5-19.5 Soil	0.0588 JQ	0.0596 JQ	0.0186	5.55	
PH018	6715918	SL-642-SA5C-SB-4.0-5.0 Soil	0.103 J	0.104 J	0.0178	5.32	
PH018	6715919	SL-642-SA5C-SB-9.0-10.0 Soil	0.219 J	0.222 J	0.0243	5.21	
PH018	6715920	SL-642-SA5C-SB-14.0-15.0 Soil	0.0902 JQ	0.0915 JQ	0.0205	5.48	
PH018	6715921	SL-642-SA5C-SB-17.5-18.5 Soil	0.0389 JQ	0.0394 JQ	0.0159	5.35	
PH018	6717302	SL-591-SA5C-SB-4.0-5.0 Soil	0.346 J	0.351 J	0.0181	5.58	
PH018	6717303	SL-592-SA5C-SB-5.0-6.0 Soil	0.350 JQ	0.354 JQ	0.0282	5.15	
PH018	6717304	SL-607-SA5C-SB-0.0-0.5 Soil	0.157 JQ	0.159 JQ	0.0271	5.60	
PH018	6717305	SL-607-SA5C-SB-4.0-5.0 Soil	0.0507 JQ	0.0513 JQ	0.0207	5.50	
PH018	6717306	SL-607-SA5C-SB-9.0-10.0 Soil	0.0742 J	0.0753 J	0.0169	5.33	
PH018	6718953	SL-502-SA5B-SB-0.0-0.5 Soil	1.32 J	1.34 J	0.0299	5.66	
PH018	6718954	SL-502-SA5B-SB-4.0-5.0 Soil	0.0580 JQ	0.0588 JQ	0.0184	5.91	
PH018	6718955	SL-502-SA5B-SB-9.0-10.0 Soil	0.216 JQ	0.219 JQ	0.0180	5.24	
PH019	6718956	SL-505-SA5B-SB-0.0-0.5 Soil	0.158 JBQ	0.160 JBQ	0.0256	5.42	
PH019	6718957	SL-505-SA5B-SB-4.0-5.0 Soil	0.236 JBQ	0.239 JBQ	0.0266	5.16	
PH019	6718958	SL-505-SA5B-SB-9.0-10.0 Soil	0.0533 JBQ	0.0540 JBQ	0.0223	5.60	
PH019	6718959	SL-506-SA5B-SB-0.0-0.5 Soil	0.180 JB	0.183 JB	0.0240	5.12	
PH019	6722487	SL-526-SA5B-SB-0.0-0.5 Soil	0.305 JBQ	0.310 JBQ	0.0311	5.08	
PH019	6722488	SL-526-SA5B-SB-4.0-5.0 Soil	0.245 JBQ	0.248 JBQ	0.0274	5.41	
PH019	6722489	SL-526-SA5B-SB-4.0-5.0MS Soil	111 B	113 B	0.0342	5.48	QC
PH019	6722490	SL-526-SA5B-SB-4.0-5.0MSD Soil	111 B	112 B	0.0426	5.42	QC
PH019	6722491	SL-526-SA5B-SB-9.0-10.0 Soil	1.57 JB	1.60 JB	0.0440	5.46	
PH019	6722492	SL-526-SA5B-SB-14.0-15.0 Soil	0.221 JBQ	0.224 JBQ	0.0262	5.57	
PH019	6722493	SL-531-SA5B-SB-4.0-5.0 Soil	1.08 JB	1.09 JB	0.0323	5.47	
PH019	6722494	SL-531-SA5B-SB-9.0-10.0 Soil	1.70 JB	1.72 JB	0.0321	5.48	
PH019	6722495	SL-531-SA5B-SB-14.0-15.0 Soil	0.444 JB	0.450 JB	0.0257	5.59	
PH019	6722496	SL-926-SA5B-SB-4.0-5.0 Soil	0.920 JB	0.933 JB	0.0329	5.44	
PH020	6724180	SL-016-A3-SB-0.0-0.5 Grab Soil	1.90 JB	1.92 JB	0.0358	5.03	
PH020	6724181	SL-016-A3-SB-0.0-0.5 MS Grab Soil	116 B	117 B	0.0487	5.08	QC
PH020	6724182	SL-016-A3-SB-0.0-0.5 MSD Grab Soi	116 B	118 B	0.0519	4.99	QC
PH020	6724183	SL-017-A3-SB-0.0-0.5 Grab Soil	1.21 JB	1.23 JB	0.0361	5.15	
PH020	6724184	SL-316-A3-SB-0.0-0.5 Grab Soil	2.14 JB	2.17 JB	0.0448	4.90	
PH020	6724185	SL-014-A3-SB-0.0-0.5 Grab Soil	113 B	114 B	0.154	5.27	
PH020	6724186	SL-015-A3-SB-0.0-0.5 Grab Soil	39.3 B	39.8 B	0.0931	5.01	
PH020	6724187	SL-011-A3-SB-0.0-0.5 Grab Soil	5.04 JB	5.11 JB	0.0557	5.19	
PH020	6724188	SL-012-A3-SB-0.0-0.5 Grab Soil	39.3 B	39.8 B	0.0814	5.11	
PH020	6724189	SL-013-A3-SB-0.0-0.5 Grab Soil	17.3 B	17.5 B	0.0657	5.22	
PH021	6724208	SL-533-SA5B-SB-4.0-5.0 Soil	0.692 JB	0.702 JB	0.0331	5.02	
PH021	6724209	SL-533-SA5B-SB-9.0-10.0 Soil	4.89 JB	4.96 JB	0.0404	5.43	
PH021	6724210	SL-533-SA5B-SB-14.0-15.0 Soil	0.485 JB	0.492 JB	0.0337	5.33	
PH021	6724211	SL-535-SA5B-SB-0.0-0.5 Soil	0.681 JBQ	0.690 JBQ	0.0320	5.10	
PH021	6724212	SL-535-SA5B-SB-4.0-5.0 Soil	0.702 JB	0.712 JB	0.0304	5.40	
PH021	6724213	SL-535-SA5B-SB-4.0-5.0 MS Soil	117 B	119 B	0.0474	5.36	QC
PH021	6724214	SL-535-SA5B-SB-4.0-5.0 MSD Soil	116 B	118 B	0.0397	5.36	QC
PH021	6724215	SL-935-SA5B-SB-4.0-5.0 Soil	1.34 JB	1.36 JB	0.0317	5.38	

ICAL Issue for 123678-HxCDD

SDG	LLI #	SAMPLE ID	Originally Reported Result (ng/kg)	Revised Result (ng/kg)	MDL (ng/kg)	LOQ (ng/kg)	Comments
PH021	6724216	SL-535-SA5B-SB-7.0-8.0 Soil	0.688 JB	0.697 JB	0.0353	5.51	
PH021	6724217	SL-530-SA5B-SB-4.0-5.0 Soil	1.02 JBQ	1.04 JBQ	0.0228	4.86	
PH021	6724218	SL-530-SA5B-SB-9.0-10.0 Soil	0.0633 JBQ	0.0642 JBQ	0.0225	5.34	
PH021	6724219	SL-532-SA5B-SB-4.0-5.0 Soil	0.777 JBQ	0.788 JBQ	0.0289	5.30	
PH021	6724220	SL-532-SA5B-SB-9.5-10.5 Soil	0.720 JB	0.730 JB	0.0299	5.38	
PH021	6724221	SL-532-SA5B-SB-14.0-15.0 Soil	0.397 JB	0.403 JB	0.0212	5.39	
PH021	6727564	EB-071912 Water	1.53 JB	1.55 JB	0.230	11.1	water- pg/l
PH021	6727565	SL-519-SA5B-SB-4.0-5.0 Soil	0.288 JBQ	0.292 JBQ	0.0265	5.94	
PH021	6727566	SL-519-SA5B-SB-9.0-10.0 Soil	0.234 JBQ	0.237 JBQ	0.0229	5.57	
PH021	6727567	SL-528-SA5B-SB-4.0-5.0 Soil	0.493 JBQ	0.500 JBQ	0.0264	5.27	
PH021	6727568	SL-528-SA5B-SB-8.5-9.5 Soil	23.2 B	23.5 B	0.0275	5.53	
PH021	6727569	SL-534-SA5B-SB-6.5-7.5 Soil	1.03 JB	1.04 JB	0.0334	5.34	
PH021	6727570	SL-539-SA5B-SB-4.0-5.0 Soil	0.660 JB	0.669 JB	0.0333	4.99	
PH021	6727571	SL-539-SA5B-SB-9.0-10.0 Soil	4.40 JB	4.46 JB	0.0273	5.53	
PH024	6726249	EB-071812 Water	0.614 JBQ	0.622 JBQ	0.300	10.5	water- pg/l
PH024	6732510	EB-072412 Water	0.771 JBQ	0.781 JBQ	0.340	10.2	water- pg/l
PH026	6733516	SL-551-SA5B-SB-3.0-4.0 Soil	0.274 JB	0.278 JB	0.0212	5.14	
PH026	6733517	SL-552-SA5B-SB-0.0-0.5 Soil	0.952 JBQ	0.965 JBQ	0.0346	5.09	
PH026	6733518	SL-552-SA5B-SB-6.5-7.5 Soil	0.397 JB	0.403 JB	0.0238	5.21	
PH026	6733519	SL-553-SA5B-SB-0.0-0.5 Soil	34.0 B	34.5 B	0.105	5.18	
PH026	6733520	SL-553-SA5B-SB-3.0-4.0 Soil	0.164 JBQ	0.166 JBQ	0.0258	5.08	
PH026	6733521	SL-545-SA5B-SB-0.0-0.5 Soil	0.356 JB	0.361 JB	0.0277	5.37	
PH026	6733522	SL-545-SA5B-SB-3.0-4.0 Soil	0.187 JB	0.189 JB	0.0250	5.33	
PH026	6733523	SL-546-SA5B-SB-1.5-2.5 Soil	22.2 B	22.5 B	0.0592	5.19	

SAMPLE DELIVERY GROUP

12G123

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
17-Jul-2012	SL-017-A3-SB-0.0-0.5	G123-02	N	3550B	8015B EFH	III
17-Jul-2012	SL-017-A3-SB-0.0-0.5	G123-02	N	3550B	8082	III
17-Jul-2012	SL-017-A3-SB-0.0-0.5	G123-02	N	3550B	8270C SIM	III
17-Jul-2012	SL-017-A3-SB-0.0-0.5	G123-02	N	7471A	7471A	III
17-Jul-2012	SL-017-A3-SB-0.0-0.5	G123-02	N	TOTAL	6020	III
17-Jul-2012	SL-016-A3-SB-0.0-0.5	G123-01	N	3550B	8015B EFH	III
17-Jul-2012	SL-016-A3-SB-0.0-0.5	G123-01	N	3550B	8082	III
17-Jul-2012	SL-016-A3-SB-0.0-0.5	G123-01	N	3550B	8270C SIM	III
17-Jul-2012	SL-016-A3-SB-0.0-0.5	G123-01	N	7471A	7471A	III
17-Jul-2012	SL-016-A3-SB-0.0-0.5	G123-01	N	TOTAL	6020	III
17-Jul-2012	SL-016-A3-SB-0.0-0.5MS	G123-01M	MS	3550B	8015B EFH	III
17-Jul-2012	SL-016-A3-SB-0.0-0.5MS	G123-01M	MS	3550B	8082	III
17-Jul-2012	SL-016-A3-SB-0.0-0.5MS	G123-01M	MS	3550B	8270C SIM	III
17-Jul-2012	SL-016-A3-SB-0.0-0.5MS	G123-01M	MS	7471A	7471A	III
17-Jul-2012	SL-016-A3-SB-0.0-0.5MS	G123-01M	MS	TOTAL	6020	III
17-Jul-2012	SL-016-A3-SB-0.0-0.5MSD	G123-01S	MSD	3550B	8015B EFH	III
17-Jul-2012	SL-016-A3-SB-0.0-0.5MSD	G123-01S	MSD	3550B	8082	III
17-Jul-2012	SL-016-A3-SB-0.0-0.5MSD	G123-01S	MSD	3550B	8270C SIM	III
17-Jul-2012	SL-016-A3-SB-0.0-0.5MSD	G123-01S	MSD	7471A	7471A	III
17-Jul-2012	SL-016-A3-SB-0.0-0.5MSD	G123-01S	MSD	TOTAL	6020	III
17-Jul-2012	SL-316-A3-SB-0.0-0.5	G123-03	FD	3550B	8015B EFH	III
17-Jul-2012	SL-316-A3-SB-0.0-0.5	G123-03	FD	3550B	8082	III
17-Jul-2012	SL-316-A3-SB-0.0-0.5	G123-03	FD	3550B	8270C SIM	III
17-Jul-2012	SL-316-A3-SB-0.0-0.5	G123-03	FD	7471A	7471A	III
17-Jul-2012	SL-316-A3-SB-0.0-0.5	G123-03	FD	TOTAL	6020	III
17-Jul-2012	SL-015-A3-SB-0.0-0.5	G123-05	N	3550B	8015B EFH	III

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

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
17-Jul-2012	SL-015-A3-SB-0.0-0.5	G123-05	N	3550B	8082	III
17-Jul-2012	SL-015-A3-SB-0.0-0.5	G123-05	N	3550B	8270C SIM	III
17-Jul-2012	SL-015-A3-SB-0.0-0.5	G123-05	N	7471A	7471A	III
17-Jul-2012	SL-015-A3-SB-0.0-0.5	G123-05	N	GEN PREP	6850	III
17-Jul-2012	SL-015-A3-SB-0.0-0.5	G123-05	N	TOTAL	6020	III
17-Jul-2012	SL-014-A3-SB-0.0-0.5	G123-04	N	3550B	8015B EFH	III
17-Jul-2012	SL-014-A3-SB-0.0-0.5	G123-04	N	3550B	8082	III
17-Jul-2012	SL-014-A3-SB-0.0-0.5	G123-04	N	3550B	8270C SIM	III
17-Jul-2012	SL-014-A3-SB-0.0-0.5	G123-04	N	7471A	7471A	III
17-Jul-2012	SL-014-A3-SB-0.0-0.5	G123-04	N	GEN PREP	6850	III
17-Jul-2012	SL-014-A3-SB-0.0-0.5	G123-04	N	TOTAL	6020	III
17-Jul-2012	SL-011-A3-SB-0.0-0.5	G123-06	N	3550B	8015B EFH	III
17-Jul-2012	SL-011-A3-SB-0.0-0.5	G123-06	N	3550B	8082	III
17-Jul-2012	SL-011-A3-SB-0.0-0.5	G123-06	N	3550B	8270C SIM	III
17-Jul-2012	SL-011-A3-SB-0.0-0.5	G123-06	N	7471A	7471A	III
17-Jul-2012	SL-011-A3-SB-0.0-0.5	G123-06	N	GEN PREP	6850	III
17-Jul-2012	SL-011-A3-SB-0.0-0.5	G123-06	N	TOTAL	6020	III
17-Jul-2012	SL-012-A3-SB-0.0-0.5	G123-07	N	3550B	8015B EFH	III
17-Jul-2012	SL-012-A3-SB-0.0-0.5	G123-07	N	3550B	8082	III
17-Jul-2012	SL-012-A3-SB-0.0-0.5	G123-07	N	3550B	8270C SIM	III
17-Jul-2012	SL-012-A3-SB-0.0-0.5	G123-07	N	7471A	7471A	III
17-Jul-2012	SL-012-A3-SB-0.0-0.5	G123-07	N	GEN PREP	6850	III
17-Jul-2012	SL-012-A3-SB-0.0-0.5	G123-07	N	TOTAL	6020	III
17-Jul-2012	SL-013-A3-SB-0.0-0.5	G123-08	N	3550B	8015B EFH	III
17-Jul-2012	SL-013-A3-SB-0.0-0.5	G123-08	N	3550B	8082	III
17-Jul-2012	SL-013-A3-SB-0.0-0.5	G123-08	N	3550B	8270C SIM	III

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

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
17-Jul-2012	SL-013-A3-SB-0.0-0.5	G123-08	N	7471A	7471A	III
17-Jul-2012	SL-013-A3-SB-0.0-0.5	G123-08	N	GEN PREP	6850	III
17-Jul-2012	SL-013-A3-SB-0.0-0.5	G123-08	N	TOTAL	6020	III

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

Attachment II

Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: 12G123 **Laboratory: EMXT**

EDD Filename: Prep12G123 **eQAPP Name: CDM_SSFL_120730_EMAX**

Method Category: **METALS**

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

Sample ID: **SL-011-A3-SB-0.0-0.5** ***Collected:*** **7/17/2012 12:35:00** ***Analysis Type:*** **RES/TOT** ***Dilution:*** **0.976**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	0.229	J	0.104	MDL	0.520	PQL	MG/KG	J	Z, Q
SILVER	0.187	J	0.0520	MDL	0.520	PQL	MG/KG	J	Z
SODIUM	97.0	J	52.0	MDL	104	PQL	MG/KG	J	Z
THALLIUM	0.222	J	0.0520	MDL	0.416	PQL	MG/KG	J	Z
VANADIUM	36.3		0.0520	MDL	0.520	PQL	MG/KG	J	Q
Zirconium	5.20	U	2.60	MDL	5.20	PQL	MG/KG	UJ	Q

Sample ID: **SL-012-A3-SB-0.0-0.5** ***Collected:*** **7/17/2012 1:20:00** ***Analysis Type:*** **RES/TOT** ***Dilution:*** **0.980**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	0.296	J	0.102	MDL	0.511	PQL	MG/KG	J	Z, Q
BORON	3.12	J	2.56	MDL	5.11	PQL	MG/KG	J	Z
MOLYBDENUM	0.460	J	0.0511	MDL	0.511	PQL	MG/KG	J	Z
SILVER	0.248	J	0.0511	MDL	0.511	PQL	MG/KG	J	Z
SODIUM	91.6	J	51.1	MDL	102	PQL	MG/KG	J	Z
THALLIUM	0.199	J	0.0511	MDL	0.409	PQL	MG/KG	J	Z
VANADIUM	31.2		0.0511	MDL	0.511	PQL	MG/KG	J	Q
Zirconium	5.11	U	2.56	MDL	5.11	PQL	MG/KG	UJ	Q

Sample ID: **SL-013-A3-SB-0.0-0.5** ***Collected:*** **7/17/2012 2:05:00** ***Analysis Type:*** **RES/TOT** ***Dilution:*** **0.985**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	0.312	J	0.104	MDL	0.520	PQL	MG/KG	J	Z, Q
BORON	4.70	J	2.60	MDL	5.20	PQL	MG/KG	J	Z
CADMIUM	0.478	J	0.0520	MDL	0.520	PQL	MG/KG	J	Z
MOLYBDENUM	0.392	J	0.0520	MDL	0.520	PQL	MG/KG	J	Z
SILVER	0.148	J	0.0520	MDL	0.520	PQL	MG/KG	J	Z
SODIUM	78.5	J	52.0	MDL	104	PQL	MG/KG	J	Z
THALLIUM	0.249	J	0.0520	MDL	0.416	PQL	MG/KG	J	Z
VANADIUM	43.4		0.0520	MDL	0.520	PQL	MG/KG	J	Q
Zirconium	5.20	U	2.60	MDL	5.20	PQL	MG/KG	UJ	Q

* denotes a non-reportable result

Project Name and Number: PHASE3 - SSFL PHASE 3

Data Qualifier Summary

Lab Reporting Batch ID: 12G123 **Laboratory: EMXT**

EDD Filename: Prep12G123 **eQAPP Name: CDM_SSFL_120730_EMAX**

Method Category: **METALS**

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

Sample ID: **SL-014-A3-SB-0.0-0.5** ***Collected:*** **7/17/2012 10:35:00** ***Analysis Type:*** **RES/TOT** ***Dilution:*** **0.962**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	0.293	J	0.101	MDL	0.503	PQL	MG/KG	J	Z, Q
BERYLLIUM	0.453	J	0.0503	MDL	0.503	PQL	MG/KG	J	Z
BORON	3.15	J	2.52	MDL	5.03	PQL	MG/KG	J	Z
CADMIUM	0.395	J	0.0503	MDL	0.503	PQL	MG/KG	J	Z
MOLYBDENUM	0.448	J	0.0503	MDL	0.503	PQL	MG/KG	J	Z
SILVER	0.107	J	0.0503	MDL	0.503	PQL	MG/KG	J	Z
THALLIUM	0.209	J	0.0503	MDL	0.403	PQL	MG/KG	J	Z
VANADIUM	33.4		0.0503	MDL	0.503	PQL	MG/KG	J	Q
Zirconium	5.03	U	2.52	MDL	5.03	PQL	MG/KG	UJ	Q

Sample ID: **SL-015-A3-SB-0.0-0.5** ***Collected:*** **7/17/2012 9:55:00** ***Analysis Type:*** **RES/TOT** ***Dilution:*** **0.980**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	0.177	J	0.102	MDL	0.508	PQL	MG/KG	J	Z, Q
BORON	2.89	J	2.54	MDL	5.08	PQL	MG/KG	J	Z
CADMIUM	0.359	J	0.0508	MDL	0.508	PQL	MG/KG	J	Z
MOLYBDENUM	0.394	J	0.0508	MDL	0.508	PQL	MG/KG	J	Z
SILVER	0.134	J	0.0508	MDL	0.508	PQL	MG/KG	J	Z
SODIUM	84.5	J	50.8	MDL	102	PQL	MG/KG	J	Z
THALLIUM	0.243	J	0.0508	MDL	0.407	PQL	MG/KG	J	Z
VANADIUM	39.3		0.0508	MDL	0.508	PQL	MG/KG	J	Q
Zirconium	5.08	U	2.54	MDL	5.08	PQL	MG/KG	UJ	Q

Sample ID: **SL-016-A3-SB-0.0-0.5** ***Collected:*** **7/17/2012 8:55:00** ***Analysis Type:*** **RES/TOT** ***Dilution:*** **0.990**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	0.203	J	0.102	MDL	0.508	PQL	MG/KG	J	Z, Q
BORON	4.00	J	2.54	MDL	5.08	PQL	MG/KG	J	Z
CADMIUM	0.400	J	0.0508	MDL	0.508	PQL	MG/KG	J	Z
SILVER	0.399	J	0.0508	MDL	0.508	PQL	MG/KG	J	Z
THALLIUM	0.313	J	0.0508	MDL	0.406	PQL	MG/KG	J	Z
VANADIUM	43.7		0.0508	MDL	0.508	PQL	MG/KG	J	Q

* denotes a non-reportable result

Project Name and Number: PHASE3 - SSFL PHASE 3

Data Qualifier Summary

Lab Reporting Batch ID: 12G123 **Laboratory: EMXT**

EDD Filename: Prep12G123 **eQAPP Name: CDM_SSFL_120730_EMAX**

Method Category: METALS

Method: 6020 **Matrix: SO**

Sample ID: SL-016-A3-SB-0.0-0.5 *Collected:* 7/17/2012 8:55:00 *Analysis Type:* RES/TOT *Dilution:* 0.990

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
Zirconium	5.08	U	2.54	MDL	5.08	PQL	MG/KG	UJ	Q, FD

Sample ID: SL-017-A3-SB-0.0-0.5 *Collected:* 7/17/2012 7:50:00 *Analysis Type:* RES/TOT *Dilution:* 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	0.258	J	0.105	MDL	0.526	PQL	MG/KG	J	Z, Q
CADMIUM	0.319	J	0.0526	MDL	0.526	PQL	MG/KG	J	Z
MOLYBDENUM	0.470	J	0.0526	MDL	0.526	PQL	MG/KG	J	Z
SELENIUM	0.276	J	0.211	MDL	0.526	PQL	MG/KG	J	Z
SODIUM	96.9	J	52.6	MDL	105	PQL	MG/KG	J	Z
THALLIUM	0.243	J	0.0526	MDL	0.421	PQL	MG/KG	J	Z
VANADIUM	46.7		0.0526	MDL	0.526	PQL	MG/KG	J	Q
Zirconium	5.26	U	2.63	MDL	5.26	PQL	MG/KG	UJ	Q

Sample ID: SL-316-A3-SB-0.0-0.5 *Collected:* 7/17/2012 9:00:00 *Analysis Type:* RES/TOT *Dilution:* 0.995

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	0.267	J	0.102	MDL	0.509	PQL	MG/KG	J	Z, Q
BORON	3.73	J	2.55	MDL	5.09	PQL	MG/KG	J	Z
CADMIUM	0.402	J	0.0509	MDL	0.509	PQL	MG/KG	J	Z
SILVER	0.274	J	0.0509	MDL	0.509	PQL	MG/KG	J	Z
THALLIUM	0.318	J	0.0509	MDL	0.407	PQL	MG/KG	J	Z
VANADIUM	46.3		0.0509	MDL	0.509	PQL	MG/KG	J	Q
Zirconium	2.65	J	2.55	MDL	5.09	PQL	MG/KG	J	Z, Q, FD

Method Category: METALS

Method: 7471A **Matrix: SO**

Sample ID: SL-011-A3-SB-0.0-0.5 *Collected:* 7/17/2012 12:35:00 *Analysis Type:* RES/TOT *Dilution:* 0.992

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
MERCURY	0.0639	J	0.0528	MDL	0.106	PQL	MG/KG	J	Z

* denotes a non-reportable result

Project Name and Number: PHASE3 - SSFL PHASE 3

Data Qualifier Summary

Lab Reporting Batch ID: 12G123 **Laboratory: EMXT**

EDD Filename: Prep12G123 **eQAPP Name: CDM_SSFL_120730_EMAX**

Method Category: METALS

Method: 7471A **Matrix: SO**

Sample ID: SL-012-A3-SB-0.0-0.5 *Collected:* 7/17/2012 1:20:00 *Analysis Type:* RES/TOT *Dilution:* 0.998

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
MERCURY	0.0875	J	0.0521	MDL	0.104	PQL	MG/KG	J	Z

Method Category: SVOA

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

Sample ID: SL-013-A3-SB-0.0-0.5 *Collected:* 7/17/2012 2:05:00 *Analysis Type:* RES *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
EFH(C30-C40)	9.9	J	5.3	MDL	11	PQL	MG/KG	J	Z

Sample ID: SL-016-A3-SB-0.0-0.5 *Collected:* 7/17/2012 8:55:00 *Analysis Type:* RES *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
EFH(C30-C40)	9.7	J	5.1	MDL	10	PQL	MG/KG	J	Z

Sample ID: SL-316-A3-SB-0.0-0.5 *Collected:* 7/17/2012 9:00:00 *Analysis Type:* RES *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
EFH(C21-C30)	4.0	J	2.6	MDL	5.1	PQL	MG/KG	J	Z
EFH(C30-C40)	6.5	J	5.1	MDL	10	PQL	MG/KG	J	Z

Method Category: SVOA

Method: 8082 **Matrix: SO**

Sample ID: SL-011-A3-SB-0.0-0.5 *Collected:* 7/17/2012 12:35:00 *Analysis Type:* RES *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
Aroclor 5460	42	J	21	MDL	43	PQL	UG/KG	J	Z

* denotes a non-reportable result

Project Name and Number: PHASE3 - SSFL PHASE 3

Data Qualifier Summary

Lab Reporting Batch ID: 12G123 **Laboratory: EMXT**

EDD Filename: Prep12G123 **eQAPP Name: CDM_SSFL_120730_EMAX**

Method Category: SVOA

Method: 8082 **Matrix: SO**

Sample ID: SL-013-A3-SB-0.0-0.5 *Collected:* 7/17/2012 2:05:00 *Analysis Type:* RES-BASE/NEUTRAL *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
AROCLOR 1260	19	J	11	MDL	21	PQL	UG/KG	J	Z

Method Category: SVOA

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

Sample ID: SL-011-A3-SB-0.0-0.5 *Collected:* 7/17/2012 12:35:00 *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(K)FLUORANTHENE	7.5	J	2.7	MDL	11	PQL	UG/KG	J	Z
DIBENZO(A,H)ANTHRACENE	2.9	J	2.7	MDL	11	PQL	UG/KG	J	Z
INDENO(1,2,3-CD)PYRENE	8.7	J	2.7	MDL	11	PQL	UG/KG	J	Z
PHENANTHRENE	8.5	J	2.7	MDL	11	PQL	UG/KG	J	Z

Sample ID: SL-012-A3-SB-0.0-0.5 *Collected:* 7/17/2012 1:20:00 *Analysis Type:* RES-BASE/NEUTRAL *Dilution:* 2

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BENZO(A)ANTHRACENE	6.2	J	5.2	MDL	21	PQL	UG/KG	J	Z
BENZO(A)PYRENE	8.2	J	5.2	MDL	21	PQL	UG/KG	J	Z
BENZO(B)FLUORANTHENE	13	J	5.2	MDL	21	PQL	UG/KG	J	Z
BENZO(G,H,I)PERYLENE	11	J	5.2	MDL	21	PQL	UG/KG	J	Z
CHRYSENE	8.0	J	5.2	MDL	21	PQL	UG/KG	J	Z
FLUORANTHENE	13	J	5.2	MDL	21	PQL	UG/KG	J	Z
PYRENE	13	J	5.2	MDL	21	PQL	UG/KG	J	Z

Sample ID: SL-013-A3-SB-0.0-0.5 *Collected:* 7/17/2012 2:05:00 *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	3.6	J	2.6	MDL	11	PQL	UG/KG	J	Z
BENZO(G,H,I)PERYLENE	2.9	J	2.6	MDL	11	PQL	UG/KG	J	Z
FLUORANTHENE	4.2	J	2.6	MDL	11	PQL	UG/KG	J	Z
PYRENE	4.0	J	2.6	MDL	11	PQL	UG/KG	J	Z

* denotes a non-reportable result

Project Name and Number: PHASE3 - SSFL PHASE 3

Data Qualifier Summary

Lab Reporting Batch ID: 12G123 **Laboratory: EMXT**

EDD Filename: Prep12G123 **eQAPP Name: CDM_SSFL_120730_EMAX**

Method Category: **SVOA**

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

Sample ID: **SL-014-A3-SB-0.0-0.5** ***Collected:*** **7/17/2012 10:35:00** ***Analysis Type:*** **RES-BASE/NEUTRAL** ***Dilution:*** **3**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BENZO(A)PYRENE	12	J	7.8	MDL	31	PQL	UG/KG	J	Z
BENZO(B)FLUORANTHENE	19	J	7.8	MDL	31	PQL	UG/KG	J	Z
BENZO(G,H,I)PERYLENE	14	J	7.8	MDL	31	PQL	UG/KG	J	Z
CHRYSENE	11	J	7.8	MDL	31	PQL	UG/KG	J	Z
FLUORANTHENE	21	J	7.8	MDL	31	PQL	UG/KG	J	Z
PHENANTHRENE	13	J	7.8	MDL	31	PQL	UG/KG	J	Z
PYRENE	19	J	7.8	MDL	31	PQL	UG/KG	J	Z

Sample ID: **SL-015-A3-SB-0.0-0.5** ***Collected:*** **7/17/2012 9:55:00** ***Analysis Type:*** **RES-BASE/NEUTRAL** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTHRACENE	4.6	J	2.6	MDL	10	PQL	UG/KG	J	Z
DIBENZO(A,H)ANTHRACENE	3.3	J	2.6	MDL	10	PQL	UG/KG	J	Z

Sample ID: **SL-016-A3-SB-0.0-0.5** ***Collected:*** **7/17/2012 8:55:00** ***Analysis Type:*** **RES-BASE/NEUTRAL** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BENZO(A)ANTHRACENE	7.1	J	2.6	MDL	10	PQL	UG/KG	J	Z
BENZO(A)PYRENE	7.3	J	2.6	MDL	10	PQL	UG/KG	J	Z
BENZO(G,H,I)PERYLENE	4.9	J	2.6	MDL	10	PQL	UG/KG	J	Z
BENZO(K)FLUORANTHENE	3.1	J	2.6	MDL	10	PQL	UG/KG	J	Z
CHRYSENE	7.9	J	2.6	MDL	10	PQL	UG/KG	J	Z
INDENO(1,2,3-CD)PYRENE	3.7	J	2.6	MDL	10	PQL	UG/KG	J	Z
PHENANTHRENE	6.6	J	2.6	MDL	10	PQL	UG/KG	J	Z

Sample ID: **SL-017-A3-SB-0.0-0.5** ***Collected:*** **7/17/2012 7:50:00** ***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	3.7	J	2.6	MDL	11	PQL	UG/KG	J	Z
FLUORANTHENE	3.9	J	2.6	MDL	11	PQL	UG/KG	J	Z
PYRENE	3.8	J	2.6	MDL	11	PQL	UG/KG	J	Z

* denotes a non-reportable result

Project Name and Number: PHASE3 - SSFL PHASE 3

Data Qualifier Summary

Lab Reporting Batch ID: 12G123 **Laboratory: EMXT**

EDD Filename: Prep12G123 **eQAPP Name: CDM_SSFL_120730_EMAX**

Method Category: **SVOA**

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

Sample ID: **SL-316-A3-SB-0.0-0.5** ***Collected:*** **7/17/2012 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*
BENZO(A)ANTHRACENE	7.0	J	2.6	MDL	10	PQL	UG/KG	J	Z
BENZO(A)PYRENE	7.1	J	2.6	MDL	10	PQL	UG/KG	J	Z
BENZO(G,H,I)PERYLENE	4.3	J	2.6	MDL	10	PQL	UG/KG	J	Z
BENZO(K)FLUORANTHENE	3.1	J	2.6	MDL	10	PQL	UG/KG	J	Z
CHRYSENE	8.3	J	2.6	MDL	10	PQL	UG/KG	J	Z
INDENO(1,2,3-CD)PYRENE	3.3	J	2.6	MDL	10	PQL	UG/KG	J	Z
PHENANTHRENE	6.3	J	2.6	MDL	10	PQL	UG/KG	J	Z

* denotes a non-reportable result

Project Name and Number: PHASE3 - SSFL PHASE 3

Data Qualifier Summary

Lab Reporting Batch ID: 12G123 **Laboratory: EMXT**

EDD Filename: Prep12G123 **eQAPP Name: CDM_SSFL_120730_EMAX**

Reason Code Legend

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

* denotes a non-reportable result

Project Name and Number: PHASE3 - SSFL PHASE 3

Enclosure I

Level III ADR Outliers
(including Manual Review Outliers)

Quality Control
Outlier Reports

12G123

Matrix Spike/Matrix Spike Duplicate Outlier Report

Lab Reporting Batch ID: 12G123 **Laboratory: EMXT**

EDD Filename: 12G123 **eQAPP Name: CDM_SSFL_120730_EMAX**

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

QC Sample ID (Associated Samples)	*Compound*	*MS %R*	*MSD %R*	*%R Limits*	*RPD (Limits)*	*Affected Compounds*	*Flag*
SL-016-A3-SB-0.0-0.5MS	ALUMINUM	20	-	75.00-125.00	-	ALUMINUM	
(TOT)	TITANIUM	-111	40	75.00-125.00	-	TITANIUM	
SL-016-A3-SB-0.0-0.5MSD							
(TOT)							
(SL-011-A3-SB-0.0-0.5							
SL -012-A3-SB-0.0-0.5							No Qual, >4x
SL -013-A3-SB-0.0-0.5							
SL -014-A3-SB-0.0-0.5							
SL -015-A3-SB-0.0-0.5							
SL -016-A3-SB-0.0-0.5							
SL -017-A3-SB-0.0-0.5							
SL -316-A3-SB-0.0-0.5)							
SL-016-A3-SB-0.0-0.5MS	ANTIMONY	67	69	75.00-125.00	-	ANTIMONY	
(TOT)	IRON	53	-	75.00-125.00	-	IRON	
SL-016-A3-SB-0.0-0.5MSD	MANGANESE	59	-	75.00-125.00	-	MANGANESE	J(all detects)
(TOT)	VANADIUM	74	-	75.00-125.00	-	VANADIUM	UJ(all non-detects)
(SL-011-A3-SB-0.0-0.5	Zirconium	49	57	75.00-125.00	-	Zirconium	
SL -012-A3-SB-0.0-0.5							
SL -013-A3-SB-0.0-0.5							
SL -014-A3-SB-0.0-0.5							
SL -015-A3-SB-0.0-0.5							
SL -016-A3-SB-0.0-0.5							Fe, Mn, No Qual, >4x
SL -017-A3-SB-0.0-0.5							
SL -316-A3-SB-0.0-0.5)							

Project Name and Number: PHASE3 - SSFL PHASE 3

Field Duplicate RPD Report

Lab Reporting Batch ID: 12G123 **Laboratory: EMXT**

EDD Filename: Prep12G123 **eQAPP Name: CDM_SSFL_120730_EMAX**

Method: 6020
Matrix: SO

Analyte	Concentration (MG/KG) SL-016-A3-SB-0.0-0.5 (TOT)	Concentration (MG/KG) SL-316-A3-SB-0.0-0.5 (TOT)	Sample RPD	eQAPP RPD	Flag
ALUMINUM	19000	20200	6	50.00	
ANTIMONY	0.203	0.267	27	50.00	
ARSENIC	6.28	6.28	0	50.00	
BARIUM	119	127	7	50.00	
BERYLLIUM	0.708	0.751	6	50.00	
BORON	4.00	3.73	7	50.00	
CADMIUM	0.400	0.402	0	50.00	
CALCIUM	3680	3510	5	50.00	
CHROMIUM	25.5	26.9	5	50.00	
COBALT	8.43	8.73	3	50.00	
COPPER	13.3	13.5	1	50.00	
IRON	24300	24900	2	50.00	
LEAD	10.3	11.4	10	50.00	
LITHIUM	25.6	26.3	3	50.00	No Qualifiers Applied
MAGNESIUM	6090	5970	2	50.00	
MANGANESE	344	365	6	50.00	
MOLYBDENUM	0.740	0.824	11	50.00	
NICKEL	16.4	17.1	4	50.00	
PHOSPHORUS	453	436	4	50.00	
POTASSIUM	4680	4920	5	50.00	
SILVER	0.399	0.274	37	50.00	
SODIUM	113	113	0	50.00	
STRONTIUM	24.8	26.0	5	50.00	
THALLIUM	0.313	0.318	2	50.00	
TITANIUM	957	1020	6	50.00	
VANADIUM	43.7	46.3	6	50.00	
ZINC	75.6	76.9	2	50.00	
Zirconium	5.08 U	2.65	200	50.00	J(all detects) UJ(all non-detects)

Method: 8015B EFH
Matrix: SO

Analyte	Concentration (MG/KG) SL-016-A3-SB-0.0-0.5	Concentration (MG/KG) SL-316-A3-SB-0.0-0.5	Sample RPD	eQAPP RPD	Flag
EFH(C21-C30)	5.3	4.0	28	50.00	No Qualifiers Applied
EFH(C30-C40)	9.7	6.5	40	50.00	

Project Name and Number: PHASE3 - SSFL PHASE 3

Field Duplicate RPD Report

Lab Reporting Batch ID: 12G123 **Laboratory: EMXT**

EDD Filename: Prep12G123 **eQAPP Name: CDM_SSFL_120730_EMAX**

Method: 8270C SIM
Matrix: SO

Analyte	Concentration (UG/KG)		Sample RPD	eQAPP RPD	Flag
	SL-016-A3-SB-0.0-0.5	SL-316-A3-SB-0.0-0.5			
BENZO(A)ANTHRACENE	7.1	7.0	1	50.00	
BENZO(A)PYRENE	7.3	7.1	3	50.00	
BENZO(B)FLUORANTHENE	11	10	10	50.00	
BENZO(E)PYRENE	5.7	5.2	9	50.00	
BENZO(G,H,I)PERYLENE	4.9	4.3	13	50.00	
BENZO(K)FLUORANTHENE	3.1	3.1	0	50.00	No Qualifiers Applied
CHRYSENE	7.9	8.3	5	50.00	
FLUORANTHENE	14	13	7	50.00	
INDENO(1,2,3-CD)PYRENE	3.7	3.3	11	50.00	
PHENANTHRENE	6.6	6.3	5	50.00	
PYRENE	13	13	0	50.00	

Reporting Limit Outliers

Lab Reporting Batch ID: 12G123 **Laboratory: EMXT**

EDD Filename: Prep12G123 **eQAPP Name: CDM_SSFL_120730_EMAX**

Method: 6020

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-011-A3-SB-0.0-0.5	ANTIMONY	J	0.229	0.520	PQL	MG/KG	J (all detects)
	SILVER	J	0.187	0.520	PQL	MG/KG	
	SODIUM	J	97.0	104	PQL	MG/KG	
	THALLIUM	J	0.222	0.416	PQL	MG/KG	
SL-012-A3-SB-0.0-0.5	ANTIMONY	J	0.296	0.511	PQL	MG/KG	J (all detects)
	BORON	J	3.12	5.11	PQL	MG/KG	
	MOLYBDENUM	J	0.460	0.511	PQL	MG/KG	
	SILVER	J	0.248	0.511	PQL	MG/KG	
	SODIUM	J	91.6	102	PQL	MG/KG	
	THALLIUM	J	0.199	0.409	PQL	MG/KG	
SL-013-A3-SB-0.0-0.5	ANTIMONY	J	0.312	0.520	PQL	MG/KG	J (all detects)
	BORON	J	4.70	5.20	PQL	MG/KG	
	CADMIUM	J	0.478	0.520	PQL	MG/KG	
	MOLYBDENUM	J	0.392	0.520	PQL	MG/KG	
	SILVER	J	0.148	0.520	PQL	MG/KG	
	SODIUM	J	78.5	104	PQL	MG/KG	
	THALLIUM	J	0.249	0.416	PQL	MG/KG	
SL-014-A3-SB-0.0-0.5	ANTIMONY	J	0.293	0.503	PQL	MG/KG	J (all detects)
	BERYLLIUM	J	0.453	0.503	PQL	MG/KG	
	BORON	J	3.15	5.03	PQL	MG/KG	
	CADMIUM	J	0.395	0.503	PQL	MG/KG	
	MOLYBDENUM	J	0.448	0.503	PQL	MG/KG	
	SILVER	J	0.107	0.503	PQL	MG/KG	
	THALLIUM	J	0.209	0.403	PQL	MG/KG	
SL-015-A3-SB-0.0-0.5	ANTIMONY	J	0.177	0.508	PQL	MG/KG	J (all detects)
	BORON	J	2.89	5.08	PQL	MG/KG	
	CADMIUM	J	0.359	0.508	PQL	MG/KG	
	MOLYBDENUM	J	0.394	0.508	PQL	MG/KG	
	SILVER	J	0.134	0.508	PQL	MG/KG	
	SODIUM	J	84.5	102	PQL	MG/KG	
	THALLIUM	J	0.243	0.407	PQL	MG/KG	
SL-016-A3-SB-0.0-0.5	ANTIMONY	J	0.203	0.508	PQL	MG/KG	J (all detects)
	BORON	J	4.00	5.08	PQL	MG/KG	
	CADMIUM	J	0.400	0.508	PQL	MG/KG	
	SILVER	J	0.399	0.508	PQL	MG/KG	
	THALLIUM	J	0.313	0.406	PQL	MG/KG	
SL-017-A3-SB-0.0-0.5	ANTIMONY	J	0.258	0.526	PQL	MG/KG	J (all detects)
	CADMIUM	J	0.319	0.526	PQL	MG/KG	
	MOLYBDENUM	J	0.470	0.526	PQL	MG/KG	
	SELENIUM	J	0.276	0.526	PQL	MG/KG	
	SODIUM	J	96.9	105	PQL	MG/KG	
	THALLIUM	J	0.243	0.421	PQL	MG/KG	
SL-316-A3-SB-0.0-0.5	ANTIMONY	J	0.267	0.509	PQL	MG/KG	J (all detects)
	BORON	J	3.73	5.09	PQL	MG/KG	
	CADMIUM	J	0.402	0.509	PQL	MG/KG	
	SILVER	J	0.274	0.509	PQL	MG/KG	
	THALLIUM	J	0.318	0.407	PQL	MG/KG	
	Zirconium	J	2.65	5.09	PQL	MG/KG	

Reporting Limit Outliers

Lab Reporting Batch ID: 12G123 **Laboratory: EMXT**

EDD Filename: Prep12G123 **eQAPP Name: CDM_SSFL_120730_EMAX**

Method: 7471A

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-011-A3-SB-0.0-0.5	MERCURY	J	0.0639	0.106	PQL	MG/KG	J (all detects)
SL-012-A3-SB-0.0-0.5	MERCURY	J	0.0875	0.104	PQL	MG/KG	J (all detects)

Method: 8015B EFH

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-013-A3-SB-0.0-0.5	EFH(C30-C40)	J	9.9	11	PQL	MG/KG	J (all detects)
SL-016-A3-SB-0.0-0.5	EFH(C30-C40)	J	9.7	10	PQL	MG/KG	J (all detects)
SL-316-A3-SB-0.0-0.5	EFH(C21-C30) EFH(C30-C40)	J J	4.0 6.5	5.1 10	PQL PQL	MG/KG MG/KG	J (all detects)

Method: 8082

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-011-A3-SB-0.0-0.5	Aroclor 5460	J	42	43	PQL	UG/KG	J (all detects)
SL-013-A3-SB-0.0-0.5	AROCLOR 1260	J	19	21	PQL	UG/KG	J (all detects)

Method: 8270C SIM

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-011-A3-SB-0.0-0.5	BENZO(K)FLUORANTHENE DIBENZO(A,H)ANTHRACENE INDENO(1,2,3-CD)PYRENE PHENANTHRENE	J J J J	7.5 2.9 8.7 8.5	11 11 11 11	PQL PQL PQL PQL	UG/KG UG/KG UG/KG UG/KG	J (all detects)
SL-012-A3-SB-0.0-0.5	BENZO(A)ANTHRACENE BENZO(A)PYRENE BENZO(B)FLUORANTHENE BENZO(G,H,I)PERYLENE CHRYSENE FLUORANTHENE PYRENE	J J J J J J J	6.2 8.2 13 11 8.0 13 13	21 21 21 21 21 21 21	PQL PQL PQL PQL PQL PQL PQL	UG/KG UG/KG UG/KG UG/KG UG/KG UG/KG UG/KG	J (all detects)
SL-013-A3-SB-0.0-0.5	BENZO(B)FLUORANTHENE BENZO(G,H,I)PERYLENE FLUORANTHENE PYRENE	J J J J	3.6 2.9 4.2 4.0	11 11 11 11	PQL PQL PQL PQL	UG/KG UG/KG UG/KG UG/KG	J (all detects)

Reporting Limit Outliers

Lab Reporting Batch ID: 12G123 **Laboratory: EMXT**

EDD Filename: Prep12G123 **eQAPP Name: CDM_SSFL_120730_EMAX**

Method: **8270C SIM**

Matrix: **SO**

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-014-A3-SB-0.0-0.5	BENZO(A)PYRENE	J	12	31	PQL	UG/KG	
	BENZO(B)FLUORANTHENE	J	19	31	PQL	UG/KG	
	BENZO(G,H,I)PERYLENE	J	14	31	PQL	UG/KG	
	CHRYSENE	J	11	31	PQL	UG/KG	J (all detects)
	FLUORANTHENE	J	21	31	PQL	UG/KG	
	PHENANTHRENE	J	13	31	PQL	UG/KG	
	PYRENE	J	19	31	PQL	UG/KG	
SL-015-A3-SB-0.0-0.5	ANTHRACENE	J	4.6	10	PQL	UG/KG	J (all detects)
	DIBENZO(A,H)ANTHRACENE	J	3.3	10	PQL	UG/KG	
SL-016-A3-SB-0.0-0.5	BENZO(A)ANTHRACENE	J	7.1	10	PQL	UG/KG	
	BENZO(A)PYRENE	J	7.3	10	PQL	UG/KG	
	BENZO(G,H,I)PERYLENE	J	4.9	10	PQL	UG/KG	
	BENZO(K)FLUORANTHENE	J	3.1	10	PQL	UG/KG	J (all detects)
	CHRYSENE	J	7.9	10	PQL	UG/KG	
	INDENO(1,2,3-CD)PYRENE	J	3.7	10	PQL	UG/KG	
	PHENANTHRENE	J	6.6	10	PQL	UG/KG	
SL-017-A3-SB-0.0-0.5	BENZO(B)FLUORANTHENE	J	3.7	11	PQL	UG/KG	
	FLUORANTHENE	J	3.9	11	PQL	UG/KG	J (all detects)
	PYRENE	J	3.8	11	PQL	UG/KG	
SL-316-A3-SB-0.0-0.5	BENZO(A)ANTHRACENE	J	7.0	10	PQL	UG/KG	
	BENZO(A)PYRENE	J	7.1	10	PQL	UG/KG	
	BENZO(G,H,I)PERYLENE	J	4.3	10	PQL	UG/KG	
	BENZO(K)FLUORANTHENE	J	3.1	10	PQL	UG/KG	J (all detects)
	CHRYSENE	J	8.3	10	PQL	UG/KG	
	INDENO(1,2,3-CD)PYRENE	J	3.3	10	PQL	UG/KG	
	PHENANTHRENE	J	6.3	10	PQL	UG/KG	

LDC #: 29237A4
SDG #: 12G123
Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 2/22/13
Page: 1 of 1
Reviewer: CL
2nd Reviewer: W

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

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

	Validation Area		Comments
I.	Technical holding times	-	Sampling dates: 7/17/12
II.	ICP/MS Tune	-	
III.	Calibration	-	
IV.	Blanks	A	
V.	ICP Interference Check Sample (ICS) Analysis	-	
VI.	Matrix Spike Analysis	N	MS/D (Al, Fe, Mn, Ti >4X)
VII.	Duplicate Sample Analysis	N	
VIII.	Laboratory Control Samples (LCS)	N	LCS/D
IX.	Internal Standard (ICP-MS)	N	
X.	Furnace Atomic Absorption QC	N	
XI.	ICP Serial Dilution	A	
XII.	Sample Result Verification	N	
XIII.	Overall Assessment of Data	N	
XIV.	Field Duplicates	-	
XV	Field Blanks	SW	EB= EB-071812 (12G140)

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

Validated Samples: soil

1	SL-016-A3-SB-0.0-0.5	11		21		31	
2	SL-017-A3-SB-0.0-0.5	12		22		32	
3	SL-316-A3-SB-0.0-0.5	13		23		33	
4	SL-014-A3-SB-0.0-0.5	14		24		34	
5	SL-015-A3-SB-0.0-0.5	15		25		35	
6	SL-011-A3-SB-0.0-0.5	16		26		36	
7	SL-012-A3-SB-0.0-0.5	17		27		37	
8	SL-013-A3-SB-0.0-0.5	18		28		38	
9	SL-016-A3-SB-0.0-0.5MS	19		29		39	
10	SL-016-A3-SB-0.0-0.5MSD	20		30		40	

Notes:

LDC#: 29237A4

SDG #: —

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: AL

2nd Reviewer:

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

(Y) N N/A Field blanks were identified in this SDG.

(Y) N N/A Were target analytes detected in the field blanks?

Blank units: mg/L **Associated sample units:** mg/KG

Sampling date: 7/18/12 Soil factor applied ~~100x~~ 50x

Field blank type: (circle one) Field Blank / Rinsate / Other: (EB) **Associated Samples:** All

Analyte	Blank ID		Sample Identification								
	EB-071812	Action Level	~~1~~	~~3~~	~~4~~	~~5~~	~~7~~	No Qualifiers			
B	0.00918	~~4.59~~ 2.30	~~4.00~~	3.73	3.15	2.89	3.12	or			
Cu	0.000594	~~0.00297~~ 0.00125									

ALL RESULTS WERE QUALIFIED BY THE FOLLOWING STATEMENT:

Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

SAMPLE DELIVERY GROUP

12G140

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
18-Jul-2012	SL-002-A3-SB-0.0-0.5	G140-02	N	3550B	8015B EFH	III
18-Jul-2012	SL-002-A3-SB-0.0-0.5	G140-02	N	3550B	8082	III
18-Jul-2012	SL-002-A3-SB-0.0-0.5	G140-02	N	3550B	8270C SIM	III
18-Jul-2012	SL-002-A3-SB-0.0-0.5	G140-02	N	7471A	7471A	III
18-Jul-2012	SL-002-A3-SB-0.0-0.5	G140-02	N	TOTAL	6020	III
18-Jul-2012	SL-001-A3-SB-0.0-0.5	G140-01	N	3550B	8015B EFH	III
18-Jul-2012	SL-001-A3-SB-0.0-0.5	G140-01	N	3550B	8082	III
18-Jul-2012	SL-001-A3-SB-0.0-0.5	G140-01	N	3550B	8270C SIM	III
18-Jul-2012	SL-001-A3-SB-0.0-0.5	G140-01	N	7471A	7471A	III
18-Jul-2012	SL-001-A3-SB-0.0-0.5	G140-01	N	TOTAL	6020	III
18-Jul-2012	SL-003-A3-SB-0.0-0.5	G140-03	N	3550B	8015B EFH	III
18-Jul-2012	SL-003-A3-SB-0.0-0.5	G140-03	N	3550B	8082	III
18-Jul-2012	SL-003-A3-SB-0.0-0.5	G140-03	N	3550B	8270C SIM	III
18-Jul-2012	SL-003-A3-SB-0.0-0.5	G140-03	N	7471A	7471A	III
18-Jul-2012	SL-003-A3-SB-0.0-0.5	G140-03	N	TOTAL	6020	III
18-Jul-2012	SL-008-A3-SB-0.0-0.5	G140-05	N	3550B	8015B EFH	IV
18-Jul-2012	SL-008-A3-SB-0.0-0.5	G140-05	N	3550B	8082	IV
18-Jul-2012	SL-008-A3-SB-0.0-0.5	G140-05	N	3550B	8270C SIM	IV
18-Jul-2012	SL-008-A3-SB-0.0-0.5	G140-05	N	7471A	7471A	IV
18-Jul-2012	SL-008-A3-SB-0.0-0.5	G140-05	N	TOTAL	6020	IV
18-Jul-2012	SL-008-A3-SB-0.0-0.5MS	G140-05M	MS	3550B	8015B EFH	IV
18-Jul-2012	SL-008-A3-SB-0.0-0.5MS	G140-05M	MS	3550B	8082	IV
18-Jul-2012	SL-008-A3-SB-0.0-0.5MS	G140-05M	MS	3550B	8270C SIM	IV
18-Jul-2012	SL-008-A3-SB-0.0-0.5MS	G140-05M	MS	7471A	7471A	IV
18-Jul-2012	SL-008-A3-SB-0.0-0.5MS	G140-05M	MS	TOTAL	6020	IV
18-Jul-2012	SL-008-A3-SB-0.0-0.5MSD	G140-05S	MSD	3550B	8015B EFH	IV

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

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
18-Jul-2012	SL-008-A3-SB-0.0-0.5MSD	G140-05S	MSD	3550B	8082	IV
18-Jul-2012	SL-008-A3-SB-0.0-0.5MSD	G140-05S	MSD	3550B	8270C SIM	IV
18-Jul-2012	SL-008-A3-SB-0.0-0.5MSD	G140-05S	MSD	7471A	7471A	IV
18-Jul-2012	SL-008-A3-SB-0.0-0.5MSD	G140-05S	MSD	TOTAL	6020	IV
18-Jul-2012	SL-009-A3-SB-0.0-0.5	G140-07	N	3550B	8015B EFH	III
18-Jul-2012	SL-009-A3-SB-0.0-0.5	G140-07	N	3550B	8082	III
18-Jul-2012	SL-009-A3-SB-0.0-0.5	G140-07	N	3550B	8270C SIM	III
18-Jul-2012	SL-009-A3-SB-0.0-0.5	G140-07	N	7471A	7471A	III
18-Jul-2012	SL-009-A3-SB-0.0-0.5	G140-07	N	GEN PREP	6850	III
18-Jul-2012	SL-009-A3-SB-0.0-0.5	G140-07	N	TOTAL	6020	III
18-Jul-2012	SL-010-A3-SB-0.0-0.5	G140-06	N	3550B	8015B EFH	IV
18-Jul-2012	SL-010-A3-SB-0.0-0.5	G140-06	N	3550B	8082	IV
18-Jul-2012	SL-010-A3-SB-0.0-0.5	G140-06	N	3550B	8270C SIM	IV
18-Jul-2012	SL-010-A3-SB-0.0-0.5	G140-06	N	7471A	7471A	IV
18-Jul-2012	SL-010-A3-SB-0.0-0.5	G140-06	N	GEN PREP	6850	IV
18-Jul-2012	SL-010-A3-SB-0.0-0.5	G140-06	N	TOTAL	6020	IV
18-Jul-2012	EB-071812	G140-04	EB	3520C	8015B EFH	III
18-Jul-2012	EB-071812	G140-04	EB	3520C	8082	III
18-Jul-2012	EB-071812	G140-04	EB	3520C	8270C SIM	III
18-Jul-2012	EB-071812	G140-04	EB	7470A	7470A	III
18-Jul-2012	EB-071812	G140-04	EB	GEN PREP	6850	III
18-Jul-2012	EB-071812	G140-04	EB	TOTAL	6020	III

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

Attachment II

Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: 12G140 **Laboratory: EMXT**

EDD Filename: 12G140 **eQAPP Name: CDM_SSFL_120730_EMAX**

Method Category: **METALS**

Method: **6020** ***Matrix:*** **AQ**

Sample ID: EB-071812 ***Collected:*** 7/18/2012 3:00:00 ***Analysis Type:*** RES/TOT ***Dilution:*** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BORON	0.00918	J	0.00500	MDL	0.0100	PQL	MG/L	J	Z
COPPER	0.000594	J	0.000500	MDL	0.00100	PQL	MG/L	J	Z

Method Category: **METALS**

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

Sample ID: SL-001-A3-SB-0.0-0.5 ***Collected:*** 7/18/2012 8:10:00 ***Analysis Type:*** RES/TOT ***Dilution:*** 0.971

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	0.168	J	0.0990	MDL	0.495	PQL	MG/KG	J	Z
BERYLLIUM	0.281	J	0.0495	MDL	0.495	PQL	MG/KG	J	Z
CADMIUM	0.350	J	0.0495	MDL	0.495	PQL	MG/KG	J	Z
SODIUM	75.4	J	49.5	MDL	99.0	PQL	MG/KG	J	Z
THALLIUM	0.137	J	0.0495	MDL	0.396	PQL	MG/KG	J	Z
Zirconium	4.95	U	2.47	MDL	4.95	PQL	MG/KG	UJ	Q

Sample ID: SL-002-A3-SB-0.0-0.5 ***Collected:*** 7/18/2012 7:30:00 ***Analysis Type:*** RES/TOT ***Dilution:*** 0.976

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	0.243	J	0.100	MDL	0.500	PQL	MG/KG	J	Z
BERYLLIUM	0.369	J	0.0500	MDL	0.500	PQL	MG/KG	J	Z
SODIUM	75.2	J	50.0	MDL	100	PQL	MG/KG	J	Z
THALLIUM	0.164	J	0.0500	MDL	0.400	PQL	MG/KG	J	Z
Zirconium	5.00	U	2.50	MDL	5.00	PQL	MG/KG	UJ	Q

Sample ID: SL-003-A3-SB-0.0-0.5 ***Collected:*** 7/18/2012 9:15:00 ***Analysis Type:*** RES/TOT ***Dilution:*** 0.966

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	0.294	J	0.104	MDL	0.521	PQL	MG/KG	J	Z
THALLIUM	0.254	J	0.0521	MDL	0.417	PQL	MG/KG	J	Z
Zirconium	5.21	U	2.61	MDL	5.21	PQL	MG/KG	UJ	Q

* denotes a non-reportable result

Project Name and Number: PHASE3 - SSFL PHASE 3

Data Qualifier Summary

Lab Reporting Batch ID: 12G140 **Laboratory: EMXT**

EDD Filename: 12G140 **eQAPP Name: CDM_SSFL_120730_EMAX**

Method Category: **METALS**

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

Sample ID: **SL-008-A3-SB-0.0-0.5** ***Collected:*** **7/18/2012 12:10:00** ***Analysis Type:*** **RES/TOT** ***Dilution:*** **0.980**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	0.156	J	0.0990	MDL	0.495	PQL	MG/KG	J	Z
BERYLLIUM	0.380	J	0.0495	MDL	0.495	PQL	MG/KG	J	Z
CADMIUM	0.182	J	0.0495	MDL	0.495	PQL	MG/KG	J	Z
MOLYBDENUM	0.441	J	0.0495	MDL	0.495	PQL	MG/KG	J	Z
SILVER	0.0560	J	0.0495	MDL	0.495	PQL	MG/KG	J	Z
SODIUM	57.4	J	49.5	MDL	99.0	PQL	MG/KG	J	Z
THALLIUM	0.186	J	0.0495	MDL	0.396	PQL	MG/KG	J	Z
Zirconium	4.95	U	2.47	MDL	4.95	PQL	MG/KG	UJ	Q

Sample ID: **SL-009-A3-SB-0.0-0.5** ***Collected:*** **7/18/2012 1:05:00** ***Analysis Type:*** **RES/TOT** ***Dilution:*** **0.980**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	0.261	J	0.103	MDL	0.514	PQL	MG/KG	J	Z
BERYLLIUM	0.340	J	0.0514	MDL	0.514	PQL	MG/KG	J	Z
BORON	4.14	J	2.57	MDL	5.14	PQL	MG/KG	J	Z
MOLYBDENUM	0.497	J	0.0514	MDL	0.514	PQL	MG/KG	J	Z
THALLIUM	0.188	J	0.0514	MDL	0.411	PQL	MG/KG	J	Z
Zirconium	5.14	U	2.57	MDL	5.14	PQL	MG/KG	UJ	Q

Sample ID: **SL-010-A3-SB-0.0-0.5** ***Collected:*** **7/18/2012 1:40:00** ***Analysis Type:*** **RES/TOT** ***Dilution:*** **0.971**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	0.424	J	0.105	MDL	0.526	PQL	MG/KG	J	Z
BERYLLIUM	0.503	J	0.0526	MDL	0.526	PQL	MG/KG	J	Z
BORON	2.73	J	2.63	MDL	5.26	PQL	MG/KG	J	Z
CADMIUM	0.414	J	0.0526	MDL	0.526	PQL	MG/KG	J	Z
MOLYBDENUM	0.517	J	0.0526	MDL	0.526	PQL	MG/KG	J	Z
THALLIUM	0.223	J	0.0526	MDL	0.421	PQL	MG/KG	J	Z
Zirconium	5.26	U	2.63	MDL	5.26	PQL	MG/KG	UJ	Q

* denotes a non-reportable result

Project Name and Number: PHASE3 - SSFL PHASE 3

Data Qualifier Summary

Lab Reporting Batch ID: 12G140 **Laboratory: EMXT**

EDD Filename: 12G140 **eQAPP Name: CDM_SSFL_120730_EMAX**

Method Category: METALS

Method: 7471A **Matrix: SO**

Sample ID: SL-003-A3-SB-0.0-0.5 *Collected:* 7/18/2012 9:15:00 *Analysis Type:* RES/TOT *Dilution:* 0.987

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
MERCURY	0.0657	J	0.0532	MDL	0.106	PQL	MG/KG	J	Z

Sample ID: SL-009-A3-SB-0.0-0.5 *Collected:* 7/18/2012 1:05:00 *Analysis Type:* RES/TOT *Dilution:* 0.990

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
MERCURY	0.0712	J	0.0519	MDL	0.104	PQL	MG/KG	J	Z

Method Category: SVOA

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

Sample ID: SL-001-A3-SB-0.0-0.5 *Collected:* 7/18/2012 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(C30-C40)	5.4	J	5.1	MDL	10	PQL	MG/KG	J	Z

Method Category: SVOA

Method: 8082 **Matrix: SO**

Sample ID: SL-002-A3-SB-0.0-0.5 *Collected:* 7/18/2012 7:30:00 *Analysis Type:* RES *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
Aroclor 5460	23	J	20	MDL	41	PQL	UG/KG	J	Z

Sample ID: SL-009-A3-SB-0.0-0.5 *Collected:* 7/18/2012 1:05:00 *Analysis Type:* RES-BASE/NEUTRAL *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
AROCLOR 1260	15	J	10	MDL	21	PQL	UG/KG	J	Z

Sample ID: SL-010-A3-SB-0.0-0.5 *Collected:* 7/18/2012 1:40:00 *Analysis Type:* RES-BASE/NEUTRAL *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
AROCLOR 1260	19	J	11	MDL	22	PQL	UG/KG	J	Z

* denotes a non-reportable result

Project Name and Number: PHASE3 - SSFL PHASE 3

Data Qualifier Summary

Lab Reporting Batch ID: 12G140 **Laboratory: EMXT**

EDD Filename: 12G140 **eQAPP Name: CDM_SSFL_120730_EMAX**

Method Category: SVOA

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

Sample ID: EB-071812 *Collected:* 7/18/2012 3:00:00 *Analysis Type:* RES-BASE/NEUTRAL *Dilution:* 1.02

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ACENAPHTHENE	0.15	J	0.10	MDL	0.20	PQL	UG/L	J	Z
NAPHTHALENE	0.17	J	0.10	MDL	0.20	PQL	UG/L	J	Z

Method Category: SVOA

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

Sample ID: SL-001-A3-SB-0.0-0.5 *Collected:* 7/18/2012 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
BENZO(A)PYRENE	3.1	J	2.5	MDL	10	PQL	UG/KG	J	Z
BENZO(B)FLUORANTHENE	6.1	J	2.5	MDL	10	PQL	UG/KG	J	Z
BENZO(E)PYRENE	4.8	J	2.5	MDL	5.1	PQL	UG/KG	J	Z
BENZO(G,H,I)PERYLENE	5.6	J	2.5	MDL	10	PQL	UG/KG	J	Z
FLUORANTHENE	4.1	J	2.5	MDL	10	PQL	UG/KG	J	Z
PYRENE	5.1	J	2.5	MDL	10	PQL	UG/KG	J	Z

Sample ID: SL-002-A3-SB-0.0-0.5 *Collected:* 7/18/2012 7:30:00 *Analysis Type:* RES-BASE/NEUTRAL *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BENZO(A)PYRENE	3.2	J	2.6	MDL	10	PQL	UG/KG	J	Z
BENZO(B)FLUORANTHENE	6.3	J	2.6	MDL	10	PQL	UG/KG	J	Z
BENZO(E)PYRENE	4.8	J	2.6	MDL	5.1	PQL	UG/KG	J	Z
BENZO(G,H,I)PERYLENE	5.5	J	2.6	MDL	10	PQL	UG/KG	J	Z
FLUORANTHENE	4.5	J	2.6	MDL	10	PQL	UG/KG	J	Z
INDENO(1,2,3-CD)PYRENE	3.1	J	2.6	MDL	10	PQL	UG/KG	J	Z
PYRENE	5.0	J	2.6	MDL	10	PQL	UG/KG	J	Z

Sample ID: SL-003-A3-SB-0.0-0.5 *Collected:* 7/18/2012 9:15:00 *Analysis Type:* RES-BASE/NEUTRAL *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1-METHYLNAPHTHALENE	11	U	2.7	MDL	11	PQL	UG/KG	UJ	S
2-METHYLNAPHTHALENE	11	U	2.7	MDL	11	PQL	UG/KG	UJ	S

* denotes a non-reportable result

Project Name and Number: PHASE3 - SSFL PHASE 3

Data Qualifier Summary

Lab Reporting Batch ID: 12G140 **Laboratory: EMXT**

EDD Filename: 12G140 **eQAPP Name: CDM_SSFL_120730_EMAX**

Method Category: **SVOA**

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

Sample ID: **SL-003-A3-SB-0.0-0.5** ***Collected:*** **7/18/2012 9:15:00** ***Analysis Type:*** **RES-BASE/NEUTRAL** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ACENAPHTHENE	11	U	2.7	MDL	11	PQL	UG/KG	UJ	S
ACENAPHTHYLENE	11	U	2.7	MDL	11	PQL	UG/KG	UJ	S
ANTHRACENE	11	U	2.7	MDL	11	PQL	UG/KG	UJ	S
BENZO(A)ANTHRACENE	5.0	J	2.7	MDL	11	PQL	UG/KG	J	Z, S
BENZO(A)PYRENE	8.3	J	2.7	MDL	11	PQL	UG/KG	J	Z, S
BENZO(B)FLUORANTHENE	13		2.7	MDL	11	PQL	UG/KG	J	S
BENZO(E)PYRENE	7.7		2.7	MDL	5.4	PQL	UG/KG	J	S
BENZO(G,H,I)PERYLENE	7.4	J	2.7	MDL	11	PQL	UG/KG	J	Z, S
BENZO(K)FLUORANTHENE	3.5	J	2.7	MDL	11	PQL	UG/KG	J	Z, S
CHRYSENE	7.5	J	2.7	MDL	11	PQL	UG/KG	J	Z, S
DIBENZO(A,H)ANTHRACENE	11	U	2.7	MDL	11	PQL	UG/KG	UJ	S
FLUORANTHENE	15		2.7	MDL	11	PQL	UG/KG	J	S
FLUORENE	11	U	2.7	MDL	11	PQL	UG/KG	UJ	S
INDENO(1,2,3-CD)PYRENE	5.0	J	2.7	MDL	11	PQL	UG/KG	J	Z, S
NAPHTHALENE	11	U	2.7	MDL	11	PQL	UG/KG	UJ	S
N-NITROSODIMETHYLAMINE	11	U	2.7	MDL	11	PQL	UG/KG	UJ	S
PHENANTHRENE	7.5	J	2.7	MDL	11	PQL	UG/KG	J	Z, S
PYRENE	14		2.7	MDL	11	PQL	UG/KG	J	S

Sample ID: **SL-008-A3-SB-0.0-0.5** ***Collected:*** **7/18/2012 12:10:00** ***Analysis Type:*** **RES-BASE/NEUTRAL** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BENZO(B)FLUORANTHENE	3.0	J	2.5	MDL	10	PQL	UG/KG	J	Z
FLUORANTHENE	2.9	J	2.5	MDL	10	PQL	UG/KG	J	Z
PYRENE	2.9	J	2.5	MDL	10	PQL	UG/KG	J	Z

Sample ID: **SL-009-A3-SB-0.0-0.5** ***Collected:*** **7/18/2012 1:05:00** ***Analysis Type:*** **RES-BASE/NEUTRAL** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
2-METHYLNAPHTHALENE	3.2	J	2.6	MDL	10	PQL	UG/KG	J	Z
ACENAPHTHYLENE	3.0	J	2.6	MDL	10	PQL	UG/KG	J	Z
ANTHRACENE	6.1	J	2.6	MDL	10	PQL	UG/KG	J	Z

* denotes a non-reportable result

Project Name and Number: PHASE3 - SSFL PHASE 3

Data Qualifier Summary

Lab Reporting Batch ID: 12G140 **Laboratory: EMXT**

EDD Filename: 12G140 **eQAPP Name: CDM_SSFL_120730_EMAX**

Method Category: **SVOA**

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

Sample ID: **SL-009-A3-SB-0.0-0.5** ***Collected:*** **7/18/2012 1:05:00** ***Analysis Type:*** **RES-BASE/NEUTRAL** ***Dilution:*** 1

Analyte	*Lab Result*	*Lab Qual*	*DL*	*DL Type*	*RL*	*RL Type*	*Units*	*Data Review Qual*	*Reason Code*
NAPHTHALENE	2.8	J	2.6	MDL	10	PQL	UG/KG	J	Z

Sample ID: **SL-010-A3-SB-0.0-0.5** ***Collected:*** **7/18/2012 1:40:00** ***Analysis Type:*** **RES-BASE/NEUTRAL** ***Dilution:*** 1

Analyte	*Lab Result*	*Lab Qual*	*DL*	*DL Type*	*RL*	*RL Type*	*Units*	*Data Review Qual*	*Reason Code*
ANTHRACENE	3.7	J	2.7	MDL	11	PQL	UG/KG	J	Z
BENZO(K)FLUORANTHENE	8.7	J	2.7	MDL	11	PQL	UG/KG	J	Z

* denotes a non-reportable result

Project Name and Number: PHASE3 - SSFL PHASE 3

Data Qualifier Summary

Lab Reporting Batch ID: 12G140 **Laboratory: EMXT**

EDD Filename: 12G140 **eQAPP Name: CDM_SSFL_120730_EMAX**

Reason Code Legend

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

* denotes a non-reportable result

Project Name and Number: PHASE3 - SSFL PHASE 3

Enclosure I

Level III ADR Outliers
(including Manual Review Outliers)

Quality Control
Outlier Reports

12G140

Surrogate Outlier Report

Lab Reporting Batch ID: 12G140 **Laboratory: EMXT**

EDD Filename: 12G140 **eQAPP Name: CDM_SSFL_120730_EMAX**

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

Sample ID (Analysis Type)	*Surrogate*	*Sample % Recovery*	*% Recovery Limits*	*Affected Compounds*	*Flag*
SL-002-A3-SB-0.0-0.5	2-FLUOROBIPHENYL	41.6	45.00-130.00	No Affected Compounds	
SL-003-A3-SB-0.0-0.5	2-FLUOROBIPHENYL Nitrobenzene-d5	30.5 35.1	45.00-130.00 40.00-130.00	All Base/Neutral Target Analytes	J(all detects) UJ(all non-detects)

Matrix Spike/Matrix Spike Duplicate Outlier Report

Lab Reporting Batch ID: 12G140 **Laboratory: EMXT**

EDD Filename: 12G140 **eQAPP Name: CDM_SSFL_120730_EMAX**

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

QC Sample ID (Associated Samples)	*Compound*	*MS %R*	*MSD %R*	*%R Limits*	*RPD (Limits)*	*Affected Compounds*	*Flag*
SL-008-A3-SB-0.0-0.5MS	ALUMINUM	160	165	75.00-125.00	-	ALUMINUM	
(TOT)	MANGANESE	-	131	75.00-125.00	-	MANGANESE	
SL-008-A3-SB-0.0-0.5MSD	TITANIUM	410	300	75.00-125.00	-	TITANIUM	
(TOT)							
(SL-001-A3-SB-0.0-0.5							No Qual, >4X
SL -002-A3-SB-0.0-0.5							
SL -003-A3-SB-0.0-0.5							
SL -008-A3-SB-0.0-0.5							
SL -009-A3-SB-0.0-0.5							
SL -010-A3-SB-0.0-0.5)							
SL-**008-A3-SB-0.0-0.5MS**	Zirconium	68	70	75.00-125.00	-	Zirconium	
(TOT)							
SL-008-A3-SB-0.0-0.5MSD							
(TOT)							
(SL-001-A3-SB-0.0-0.5							J(all detects)
SL -002-A3-SB-0.0-0.5							UJ(all non-detects)
SL -003-A3-SB-0.0-0.5							
SL -008-A3-SB-0.0-0.5							
SL -009-A3-SB-0.0-0.5							
SL -010-A3-SB-0.0-0.5)							

Reporting Limit Outliers

Lab Reporting Batch ID: 12G140 **Laboratory: EMXT**

EDD Filename: 12G140 **eQAPP Name: CDM_SSFL_120730_EMAX**

Method: 6020
Matrix: AQ

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
EB-071812	BORON	J	0.00918	0.0100	PQL	MG/L	J (all detects)
	COPPER	J	0.000594	0.00100	PQL	MG/L	

Method: 8270C SIM
Matrix: AQ

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
EB-071812	ACENAPHTHENE	J	0.15	0.20	PQL	UG/L	J (all detects)
	NAPHTHALENE	J	0.17	0.20	PQL	UG/L	

Method: 6020
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-001-A3-SB-0.0-0.5	ANTIMONY	J	0.168	0.495	PQL	MG/KG	J (all detects)
	BERYLLIUM	J	0.281	0.495	PQL	MG/KG	
	CADMIUM	J	0.350	0.495	PQL	MG/KG	
	SODIUM	J	75.4	99.0	PQL	MG/KG	
	THALLIUM	J	0.137	0.396	PQL	MG/KG	
SL-002-A3-SB-0.0-0.5	ANTIMONY	J	0.243	0.500	PQL	MG/KG	J (all detects)
	BERYLLIUM	J	0.369	0.500	PQL	MG/KG	
	SODIUM	J	75.2	100	PQL	MG/KG	
	THALLIUM	J	0.164	0.400	PQL	MG/KG	
SL-003-A3-SB-0.0-0.5	ANTIMONY	J	0.294	0.521	PQL	MG/KG	J (all detects)
	THALLIUM	J	0.254	0.417	PQL	MG/KG	
SL-008-A3-SB-0.0-0.5	ANTIMONY	J	0.156	0.495	PQL	MG/KG	J (all detects)
	BERYLLIUM	J	0.380	0.495	PQL	MG/KG	
	CADMIUM	J	0.182	0.495	PQL	MG/KG	
	MOLYBDENUM	J	0.441	0.495	PQL	MG/KG	
	SILVER	J	0.0560	0.495	PQL	MG/KG	
	SODIUM	J	57.4	99.0	PQL	MG/KG	
	THALLIUM	J	0.186	0.396	PQL	MG/KG	
SL-009-A3-SB-0.0-0.5	ANTIMONY	J	0.261	0.514	PQL	MG/KG	J (all detects)
	BERYLLIUM	J	0.340	0.514	PQL	MG/KG	
	BORON	J	4.14	5.14	PQL	MG/KG	
	MOLYBDENUM	J	0.497	0.514	PQL	MG/KG	
	THALLIUM	J	0.188	0.411	PQL	MG/KG	
SL-010-A3-SB-0.0-0.5	ANTIMONY	J	0.424	0.526	PQL	MG/KG	J (all detects)
	BERYLLIUM	J	0.503	0.526	PQL	MG/KG	
	BORON	J	2.73	5.26	PQL	MG/KG	
	CADMIUM	J	0.414	0.526	PQL	MG/KG	
	MOLYBDENUM	J	0.517	0.526	PQL	MG/KG	
	THALLIUM	J	0.223	0.421	PQL	MG/KG	

Reporting Limit Outliers

Lab Reporting Batch ID: 12G140 **Laboratory: EMXT**

EDD Filename: 12G140 **eQAPP Name: CDM_SSFL_120730_EMAX**

Method: 7471A
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-003-A3-SB-0.0-0.5	MERCURY	J	0.0657	0.106	PQL	MG/KG	J (all detects)
SL-009-A3-SB-0.0-0.5	MERCURY	J	0.0712	0.104	PQL	MG/KG	J (all detects)

Method: 8015B EFH
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-001-A3-SB-0.0-0.5	EFH(C30-C40)	J	5.4	10	PQL	MG/KG	J (all detects)

Method: 8082
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-002-A3-SB-0.0-0.5	Aroclor 5460	J	23	41	PQL	UG/KG	J (all detects)
SL-009-A3-SB-0.0-0.5	AROCLOR 1260	J	15	21	PQL	UG/KG	J (all detects)
SL-010-A3-SB-0.0-0.5	AROCLOR 1260	J	19	22	PQL	UG/KG	J (all detects)

Method: 8270C SIM
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-001-A3-SB-0.0-0.5	BENZO(A)PYRENE	J	3.1	10	PQL	UG/KG	J (all detects)
	BENZO(B)FLUORANTHENE	J	6.1	10	PQL	UG/KG	
	BENZO(E)PYRENE	J	4.8	5.1	PQL	UG/KG	
	BENZO(G,H,I)PERYLENE	J	5.6	10	PQL	UG/KG	
	FLUORANTHENE	J	4.1	10	PQL	UG/KG	
	PYRENE	J	5.1	10	PQL	UG/KG	
SL-002-A3-SB-0.0-0.5	BENZO(A)PYRENE	J	3.2	10	PQL	UG/KG	J (all detects)
	BENZO(B)FLUORANTHENE	J	6.3	10	PQL	UG/KG	
	BENZO(E)PYRENE	J	4.8	5.1	PQL	UG/KG	
	BENZO(G,H,I)PERYLENE	J	5.5	10	PQL	UG/KG	
	FLUORANTHENE	J	4.5	10	PQL	UG/KG	
	INDENO(1,2,3-CD)PYRENE	J	3.1	10	PQL	UG/KG	
	PYRENE	J	5.0	10	PQL	UG/KG	
SL-003-A3-SB-0.0-0.5	BENZO(A)ANTHRACENE	J	5.0	11	PQL	UG/KG	J (all detects)
	BENZO(A)PYRENE	J	8.3	11	PQL	UG/KG	
	BENZO(G,H,I)PERYLENE	J	7.4	11	PQL	UG/KG	
	BENZO(K)FLUORANTHENE	J	3.5	11	PQL	UG/KG	
	CHRYSENE	J	7.5	11	PQL	UG/KG	
	INDENO(1,2,3-CD)PYRENE	J	5.0	11	PQL	UG/KG	
	PHENANTHRENE	J	7.5	11	PQL	UG/KG	

Reporting Limit Outliers

Lab Reporting Batch ID: 12G140 **Laboratory: EMXT**

EDD Filename: 12G140 **eQAPP Name: CDM_SSFL_120730_EMAX**

Method: **8270C SIM**

Matrix: **SO**

SampleID	*Analyte*	*Lab Qual*	*Result*	*Reporting Limit*	*RL Type*	*Units*	*Flag*
SL-008-A3-SB-0.0-0.5	BENZO(B)FLUORANTHENE	J	3.0	10	PQL	UG/KG	J (all detects)
	FLUORANTHENE	J	2.9	10	PQL	UG/KG	
	PYRENE	J	2.9	10	PQL	UG/KG	
SL-009-A3-SB-0.0-0.5	2-METHYLNAPHTHALENE	J	3.2	10	PQL	UG/KG	J (all detects)
	ACENAPHTHYLENE	J	3.0	10	PQL	UG/KG	
	ANTHRACENE	J	6.1	10	PQL	UG/KG	
	NAPHTHALENE	J	2.8	10	PQL	UG/KG	
SL-010-A3-SB-0.0-0.5	ANTHRACENE	J	3.7	11	PQL	UG/KG	J (all detects)
	BENZO(K)FLUORANTHENE	J	8.7	11	PQL	UG/KG	

LDC #: 29237B4
SDG #: 12G140
Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

ADR/IV
7471A/7470A

Date: 2/22/13
Page: 1 of 1
Reviewer: CA
2nd Reviewer: VV

METHOD: Metals (EPA SW 846 Method 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: 7/18/12
II.	ICP/MS Tune	A	
III.	Calibration	A	
IV.	Blanks	A	
V.	ICP Interference Check Sample (ICS) Analysis	A	
VI.	Matrix Spike Analysis	SW	Not reviewed for ADR validation. MS/D (Al, Mn, Ti > 4X)
VII.	Duplicate Sample Analysis	N	Not reviewed for ADR validation.
VIII.	Laboratory Control Samples (LCS)	A	Not reviewed for ADR validation. LCS/D
IX.	Internal Standard (ICP-MS)	A	Not reviewed for ADR validation.
X.	Furnace Atomic Absorption QC	N	Not reviewed for ADR validation.
XI.	ICP Serial Dilution	A	
XII.	Sample Result Verification	A	Not reviewed for ADR validation.
XIII.	Overall Assessment of Data	A	Not reviewed for ADR validation.
XIV.	Field Duplicates	N	
XV	Field Blanks	SW	EB=4

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

Validated Samples: ** Indicates sample underwent Level IV validation

soil / water

1	SL-001-A3-SB-0.0-0.5	11		21		31	
2	SL-002-A3-SB-0.0-0.5	12		22		32	
3	SL-003-A3-SB-0.0-0.5	13		23		33	
4	EB-071812 W	14		24		34	
5	SL-008-A3-SB-0.0-0.5**	15		25		35	
6	SL-010-A3-SB-0.0-0.5**	16		26		36	
7	SL-009-A3-SB-0.0-0.5	17		27		37	
8	SL-008-A3-SB-0.0-0.5MS	18		28		38	
9	SL-008-A3-SB-0.0-0.5MSD	19		29		39	
10		20		30		40	

Notes: _____

LDC#: 29237B4
SDG #: —

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: CS
2nd Reviewer: LS

METHOD: Trace Metals (EPA SW 846 Method 6010/7000)
(Y) N N/A Field blanks were identified in this SDG.
(Y) N N/A Were target analytes detected in the field blanks?
Blank units: mg/L Associated sample units: mg/KG ~~100x~~ 50x
Sampling date: 7/18/12 Soil factor applied
Field blank type: (circle one) Field Blank / Rinsate / Other: (EB) Associated Samples: All Soil

Analyte	Blank ID		Sample Identification									
	4	Action Level	~~6~~ 7		No Qualifiers							
B	0.00918	~~2.295 4.59~~	~~2.73~~ 4.14									
Cu	0.000594	0.15 ~~0.297~~										

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

Enclosure II

Level IV Validation Reports

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Santa Susana Field Laboratory

Collection Date: July 18, 2012

LDC Report Date: February 28, 2013

Matrix: Soil

Parameters: Polynuclear Aromatic Hydrocarbons

Validation Level: Level IV

Laboratory: EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 12G140

Sample Identification

SL-008-A3-SB-0.0-0.5
SL-010-A3-SB-0.0-0.5
SL-008-A3-SB-0.0-0.5MS
SL-008-A3-SB-0.0-0.5MSD

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 8270C using Selected Ion Monitoring (SIM) for Polynuclear Aromatic Hydrocarbons.

This review follows the Quality Assurance Project Plan for Santa Susana Field Laboratory (SSFL), RCRA Facility Investigation, Surficial Media Operable Unit (March 2009, Revision 4) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

NJ Presumptive evidence of presence of the compound at an estimated quantity.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals. All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard.

Percent relative standard deviations (%RSD) were less than or equal to 30.0% for all compounds.

In the case where the laboratory used a calibration curve to evaluate the compounds, all coefficients of determination (r^2) were greater than or equal to 0.990 .

Average relative response factors (RRF) for all compounds were within method and validation criteria.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

Percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were within the method criteria of less than or equal to 20.0% for calibration check compounds (CCCs) and 25.0% for all other compounds.

The percent differences (%D) of the second source calibration standard were less than or equal to 25.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within method and validation criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polynuclear aromatic hydrocarbon contaminants were found in the method.

Sample EB-071812 was identified as an equipment blank. No polynuclear aromatic hydrocarbon contaminants were found with the following exceptions:

Blank ID	Sampling Date	Compound	Concentration	Associated Samples
EB-071812	7/18/12	Acenaphthene Naphthalene	0.15 ug/L 0.17 ug/L	All samples in SDG 12G140

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria.

XII. Compound Quantitation and RLs

All compound quantitation and RLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 12G140	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
Polynuclear Aromatic Hydrocarbons - Data Qualification Summary - SDG 12G140

SDG	Sample	Compound	Flag	A or P	Reason (Code)
12G140	SL-008-A3-SB-0.0-0.5 SL-010-A3-SB-0.0-0.5	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and RLs (Z)

Santa Susana Field Laboratory
Polynuclear Aromatic Hydrocarbons - Laboratory Blank Data Qualification Summary - SDG 12G140

No Sample Data Qualified in this SDG

Santa Susana Field Laboratory
Polynuclear Aromatic Hydrocarbons - Field Blank Data Qualification Summary - SDG 12G140

No Sample Data Qualified in this SDG

LDC #: 29237B2b **VALIDATION COMPLETENESS WORKSHEET** Date: 2/26/13
SDG #: 12G140 Level IV Page: 1 of 1
Laboratory: EMAX Laboratories, Inc. Reviewer: BR
2nd Reviewer:

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: 7/18/12
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	A	RSD ≤ 30%, r^2
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/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A	
XI.	Target compound identification	A	
XII.	Compound quantitation/RL/LOQ/LODs	A	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	A	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	SW	EB = EB-071812 (same SDG)

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

Validated Samples: Soil

1	SL-008-A3-SB-0.0-0.5	11		21		31	MBLK1S
2	SL-010-A3-SB-0.0-0.5	12		22		32	
3	#1 MS	13		23		33	
4	#2 MSD	14		24		34	
5	1	15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

LDC #: 29237B26

VALIDATION FINDINGS CHECKLIST

Reviewer: BR
2nd Reviewer: A

Method: Semivolatiles (EPA SW 846 Method 8270)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. GC/MS Instrument performance check				
Were the DFTPP performance results reviewed and found to be within the specified criteria?	✓			
Were all samples analyzed within the 12 hour clock criteria?	✓			
III. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	✓			
Was a curve fit used for evaluation?	✓			
Did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?	✓			
Were all percent relative standard deviations (%RSD) ≤ 30%/~~15%~~ 25% and relative response factors (RRF) ≥ 0.05?	✓			
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	✓			
Were all percent differences (%D) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	✓			
Were all percent differences (%D) ≤ ~~20%~~ 25 and relative response factors (RRF) ≥ 0.05?	✓			
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed for each matrix and concentration?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Surrogate spikes				
Were all surrogate %R within QC limits?	✓			
If 2 or more base neutral or acid surrogates were outside QC limits, was a reanalysis performed to confirm %R?			✓	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?			✓	
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.	✓			
Was a MS/MSD analyzed every 20 samples of each matrix?	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?	✓			
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			

Validation Area	Yes	No	NA	Findings/Comments
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		✓		
Were the performance evaluation (PE) samples within the acceptance limits?			✓	
X. Internal standards				
Were internal standard area counts within -50% or +100% of the associated calibration standard?	✓			
Were retention times within ± 30 seconds from the associated calibration standard?	✓			
XI. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?	✓			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	✓			
Were chromatogram peaks verified and accounted for?	✓			
XII. Compound quantitation/CRQLs				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Tentatively identified compounds (TICs)				
Were the major ions (> 10 percent relative intensity) in the reference spectrum evaluated in sample spectrum?			✓	
Were relative intensities of the major ions within ± 20% between the sample and the reference spectra?			✓	
Did the raw data indicate that the laboratory performed a library search for all required peaks in the chromatograms (samples and blanks)?		✓		
XIV. System performance				
System performance was found to be acceptable.	✓			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XVI. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target compounds were detected in the field duplicates.			✓	
XVII. Field blanks				
Field blanks were identified in this SDG.	✓			
Target compounds were detected in the field blanks.	✓			

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

A. Phenol**	P. Bis(2-chloroethoxy)methane	EE. 2,6-Dinitrotoluene	TT. Pentachlorophenol**	III. Benzo(a)pyrene**
B. Bis (2-chloroethyl) ether	Q. 2,4-Dichlorophenol**	FF. 3-Nitroaniline	UU. Phenanthrene	JJJ. Indeno(1,2,3-cd)pyrene
C. 2-Chlorophenol	R. 1,2,4-Trichlorobenzene	GG. Acenaphthene**	VV. Anthracene	KKK. Dibenz(a,h)anthracene
D. 1,3-Dichlorobenzene	S. Naphthalene	HH. 2,4-Dinitrophenol*	WW. Carbazole	LLL. Benzo(g,h,i)perylene
E. 1,4-Dichlorobenzene**	T. 4-Chloroaniline	II. 4-Nitrophenol*	XX. Di-n-butylphthalate	MMM. Bis(2-Chloroisopropyl)ether
F. 1,2-Dichlorobenzene	U. Hexachlorobutadiene**	JJ. Dibenzofuran	YY. Fluoranthene**	NNN. Aniline
G. 2-Methylphenol	V. 4-Chloro-3-methylphenol**	KK. 2,4-Dinitrotoluene	ZZ. Pyrene	OOO. N-Nitrosodimethylamine
H. 2,2'-Oxybis(1-chloropropane)	W. 2-Methylnaphthalene	LL. Diethylphthalate	AAA. Butylbenzylphthalate	PPP. Benzoic Acid
I. 4-Methylphenol	X. Hexachlorocyclopentadiene*	MM. 4-Chlorophenyl-phenyl ether	BBB. 3,3'-Dichlorobenzidine	QQQ. Benzyl alcohol
J. N-Nitroso-di-n-propylamine*	Y. 2,4,6-Trichlorophenol**	NN. Fluorene	CCC. Benzo(a)anthracene	RRR. Pyridine
K. Hexachloroethane	Z. 2,4,5-Trichlorophenol	OO. 4-Nitroaniline	DDD. Chrysene	SSS. Benzidine
L. Nitrobenzene	AA. 2-Chloronaphthalene	PP. 4,6-Dinitro-2-methylphenol	EEE. Bis(2-ethylhexyl)phthalate	TTT.
M. Isophorone	BB. 2-Nitroaniline	QQ. N-Nitrosodiphenylamine (1)**	FFF. Di-n-octylphthalate**	UUU
N. 2-Nitrophenol**	CC. Dimethylphthalate	RR. 4-Bromophenyl-phenylether	GGG. Benzo(b)fluoranthene	VVV.
O. 2,4-Dimethylphenol	DD. Acenaphthylene	SS. Hexachlorobenzene	HHH. Benzo(k)fluoranthene	WWW.

Notes:* = System performance check compound (SPCC) for RRF; ** = Calibration check compound (CCC) for %RSD.

LDC #: 29237B26

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: BR
2nd Reviewer: ✗

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

Y N N/A Were field blanks identified in this SDG?

Y N N/A Were target compounds detected in the field blanks?

EB = EB-071812 (same SDG)

Blank units: ug/L **Associated sample units:** ug/kg

Sampling date: 7/18/12

Field blank type: (circle one) Field Blank / Rinsate / (Other:) EB Associated Samples: All (ND)

Compound	Blank ID	Sample Identification								
	EB									
GG	0.15									
S	0.17									
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as the phthalates and TICs noted above that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

LDC #: 29237B2b

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: BR
2nd Reviewer:

METHOD: GC/MS SVOA (EPA SW 846 Method 8270C)

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 (RRF 40 std)	Recalculated RRF (RRF 40 std)	Reported Average RRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL	07/03/12	Naphthalene (IS1)	3.528	3.528	4.065	4.065	11.74	11.74
	E4		Phenanthrene (IS2)	1.062	1.062	1.199	1.199	10.16	10.15
			Benzo(b)fluoranthene (IS3)	1.101	1.101	1.052	1.052	7.04	7.04

Cis/Cx	Ax	Ais
40/40	1849720	524343
40/40	1787466	1683616
40/40	1808305	1641804

Conc	Naphthalene	Phenanthrene	Benzo(b)fluoranth
0.05	4.974	1.497	1.058
0.075	4.436	1.168	0.940
0.15	4.427	1.246	0.927
0.5	4.309	1.238	1.004
2	4.011	1.162	1.015
5	4.257	1.242	1.147
10	3.945	1.155	1.115
20	3.792	1.101	1.125
25	3.743	1.119	1.098
40	3.528	1.062	1.101
50	3.290		1.042
X =	4.065	1.199	1.052
S =	0.477	0.122	0.074

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 #: 29237B2b

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Calculation Verification

Page: 1 of 1
Reviewer: BR
2nd Reviewer:

METHOD: GC/MS SVOA (EPA SW 846 Method 8270C)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
RRF = (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 Reference IS)	Average RRF (Initial)	Reported RRF (CCV)	Recalculated RRF (CCV)	Reported % D	Recalculated %D
1	RGJ371	07/31/12	Naphthalene (IS1	4.065	3.641	3.641	10.4	10.4
			Phenanthrene (IS2	1.199	1.081	1.081	9.8	9.9
			Benzo(b)fluoranthene (IS3	1.052	1.127	1.127	7.1	7.1

CCV1

Cis/Cx	Ax	Ais
40/25	2208935	970695
40/25	2144549	3174855
40/25	2156041	3060944

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 #: 29237B26
SDG #: See cover

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Page: 1 of 1
Reviewer: BR
2nd reviewer: A

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	10.0	7.55	75.5	75.5	0
2-Fluorobiphenyl	↓	6.41	64.1	64.1	0
Terphenyl-d14	↓	8.83	88.3	88.3	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 #: 29237B26

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates Results Verification

Reviewer: BR
2nd Reviewer: A

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 concentation

RPD = I MSC - MSC I * 2/(MSC + MSDC) MSC = Matrix spike concentration MSDC = Matrix spike duplicate concentration

MS/MSD samples: 3|4

Compound	Spike Added (ug/kg)		Sample Concentration (ug/kg)	Spiked Sample Concentration (ug/kg)		Matrix Spike Percent Recovery		Matrix Spike Duplicate Percent Recovery		MS/MSD RPD	
	MS	MSD	-----	MS	MSD	Reported	Recalc	Reported	Recalc	Reported	Recalculated
Phenol											
N-Nitroso-di-n-propylamine											
4-Chloro-3-methylphenol											
Acenaphthene	337	337	0	253	249	75	75	74	74	1	1.6
Pentachlorophenol											
Pyrene	337	337	2.89	311	276	91	91	81	81	12	12

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 #: 29237B26
SDG #: See cover

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Reviewer: BR
2nd Reviewer: A

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 = I LCS - LCSD I * 2/(LCS + LCSD) LCS = Laboratory control sample percent recovery LCSD = Laboratory control sample duplicate percent recovery

LCS/LCSD samples: LCS1S / LCD1S

Compound	Spike Added (ug/kg)		Spike Concentration (ug/kg)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalculated
Phenol										
N-Nitroso-di-n-propylamine										
4-Chloro-3-methylphenol										
Acenaphthene	333	333	248	260	74	74	78	78	5	4.7
Pentachlorophenol										
Pyrene	333	333	279	254	84	84	76	76	9	9.4

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 29237B26

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: BR
2nd reviewer: A

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

(Y) N N/A Were all reported results recalculated and verified for all level IV samples?
(Y) N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(V_t)(DF)(2.0)}{(A_{is})(RRF)(V_o)(V_i)(\%S)}$

A_x	=	Area of the characteristic ion (EICP) for the compound to be measured
A_{is}	=	Area of the characteristic ion (EICP) for the specific internal standard
I_s	=	Amount of internal standard added in nanograms (ng)
V_o	=	Volume or weight of sample extract in milliliters (ml) or grams (g).
V_i	=	Volume of extract injected in microliters (ul)
V_t	=	Volume of the concentrated extract in microliters (ul)
Df	=	Dilution Factor.
%S	=	Percent solids, applicable to soil and solid matrices only.
2.0	=	Factor of 2 to account for GPC cleanup

Example: GGG = 48 ug/kg

Sample I.D. 2, GGG:

Conc. = $\frac{(61134)(40)(1)(1000)(\quad)}{(1755619)(1.052)(0.99)(30.02)(0.923)}$

= 47.7842 ug/kg

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Santa Susana Field Laboratory

Collection Date: July 18, 2012

LDC Report Date: February 28, 2013

Matrix: Soil

Parameters: Polychlorinated Biphenyls

Validation Level: Level IV

Laboratory: EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 12G140

Sample Identification

SL-008-A3-SB-0.0-0.5
SL-010-A3-SB-0.0-0.5
SL-008-A3-SB-0.0-0.5MS
SL-008-A3-SB-0.0-0.5MSD

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 8082 for Polychlorinated Biphenyls.

This review follows the Quality Assurance Project Plan for Santa Susana Field Laboratory (SSFL), RCRA Facility Investigation, Surficial Media Operable Unit (March 2009, Revision 4) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

NJ Presumptive evidence of presence of the compound at an estimated quantity.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/ECD Instrument Performance Check

Instrument performance was acceptable unless noted otherwise under initial calibration and continuing calibration sections.

III. Initial Calibration

Initial calibration of multicomponent compounds was performed for the primary (quantitation) column as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

Retention time windows were evaluated and considered technically acceptable.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 20.0% QC limits.

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-071812 was identified as an equipment blank. No polychlorinated biphenyl contaminants were found.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

XI. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XII. Target Compound Identification

All target compound identifications were within validation criteria.

XIII. Compound Quantitation and Reported RLs

All compound quantitation and RLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 12G140	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 12G140

SDG	Sample	Compound	Flag	A or P	Reason (Code)
12G140	SL-008-A3-SB-0.0-0.5 SL-010-A3-SB-0.0-0.5	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and RLs (Z)

Santa Susana Field Laboratory
Polychlorinated Biphenyls - Laboratory Blank Data Qualification Summary - SDG 12G140

No Sample Data Qualified in this SDG

Santa Susana Field Laboratory
Polychlorinated Biphenyls - Field Blank Data Qualification Summary - SDG 12G140

No Sample Data Qualified in this SDG

LDC #: 29237B3b

VALIDATION COMPLETENESS WORKSHEET

SDG #: 12G140

Level IV

Laboratory: EMAX Laboratories, Inc.

Date: 2/26/13

Page: 1 of 1

Reviewer: BR

2nd Reviewer: A

METHOD: GC Polychlorinated Biphenyls (EPA SW 846 Method 8082)

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

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 7/18/12
II.	GC/ECD Instrument Performance Check	N	
III.	Initial calibration	A	RSD ≤ 20%.
IV.	Continuing calibration/ICV	A	ICV/CCV ≤ 20%
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	
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-071812 (same SDG)

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

Validated Samples: Soil

1	SL-008-A3-SB-0.0-0.5	11		21		31	MBLK1S
2	SL-010-A3-SB-0.0-0.5	12		22		32	
3	#1 MS	13		23		33	
4	#1 MSD	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 #: 29237B36

VALIDATION FINDINGS CHECKLIST

Reviewer: KR
2nd Reviewer: A

Method: Pesticides/PCBs (EPA SW 846 Method 8081/8082)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. GC/ECD Instrument performance check				
Was the instrument performance found to be acceptable?			✓	
III. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Was a linear fit used for evaluation? If yes, were all percent relative standard deviations (%RSD) ≤ 20%?	✓			
Was a curve fit used for evaluation? If Yes, what was the acceptance criteria used?		✓		
Did the initial calibration meet the curve fit acceptance criteria?			✓	
Were the RT windows properly established?	✓			
Were the required standard concentrations analyzed in the initial calibration?	✓			
IV. Continuing calibration				
What type of continuing calibration calculation was performed? X %D or ___%R	✓			
Were Evaluation mix standards analyzed prior to the initial calibration and sample analysis?			✓	
Were endrin and 4,4'-DDT breakdowns ≤ 15%.0 for individual breakdown in the Evaluation mix standards?			✓	
Was a continuing calibration analyzed daily?	✓		✓	8a
Were all percent differences (%D) ≤ 20%.0 or percent recovieries 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:_____

LDC#: 29237B3b

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
Reviewer: BR
2nd Reviewer:

METHOD: GC PCBs (EPA SW 846 Method 8082)

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 (100 std)	Recalculated CF (100 std)	Reported Average CF (Initial)	Recalculated Average CF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL GCTO08	7/17/2012	PCB1260-1 (STX-CLPE	2053.85	2053.85	2034.404	2034.373	16.2	16.2
			PCB1260-1 (STX-CLPE	2449.05	2449.05	2410.023	2410.063	11.3	11.3

	STX-CLPEST		STX-CLPESTII	
Conc	PCB1260-1	Area	PCB1260-1	Area
10.0	2511.90		2801.20	
20.0	2433.75		2714.40	
50.0	2204.62		2562.40	
100.0	2053.85	205385	2449.05	244905
150.0	1932.30		2342.68	
200.0	1816.32		2232.77	
300.0	1707.00		2134.00	
400.0	1615.24		2044.00	
S =	2034.373		2410.063	
X =	329.0		271.6	

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#: 29237B3b

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:

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	SH03003A	8/3/2012	PCB-1260 (CLPEST)	500	502.412	502.410	1	0.5
			PCB-1260 (CLPESTII)	500	525.359	525.350	5	5

CCV1

Compound	STX-CLPEST	STC-CLPESTII		
PCB1260-1	96.77	97.90		
PCB1260-2	95.28	101.67		
PCB1260-3	107.72	102.93		
PCB1260-4	94.42	108.76		
PCB1260-5	108.22	114.09		
SUM	502.41	525.35		

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 #: 29237B3b

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Reviewer: BR
2nd reviewer: A

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	Ch. B	40	42.63	107	107	0
Tetrachloro-m-xylene						
Decachlorobiphenyl	Ch. A	40	47.20	118	118	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 #: 29237B3J

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates Results Verification

Reviewer: BR
2nd Reviewer: A

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

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 = Concentration

RPD = I MS - MSD I * 2/(MS + MSD)

MS = Matrix spike percent recovery

MSD = Matrix spike duplicate percent recovery

MS/MSD samples: 3/4

Compound	Spike Added (ug/kg)		Sample Concentration (ug/kg)	Spiked Sample Concentration (ug/kg)		Matrix Spike Percent Recovery		Matrix Spike Duplicate Percent Recovery		MS/MSD RPD	
	MS	MSD	-	MS	MSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalculated
gamma-BHC											
4,4'-DDT											
Aroclor 1260	168	168	0	177	170	105	105	101	101	4	4

Comments: Refer ot 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 #: 29237B36

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample/Laboratory Control Sample Duplicate Results Verification

Reviewer: BR
2nd Reviewer: A

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

The percent recoveries (%R) and Relative Percent difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100* (SSC-SC)/SA

Where: SSC = Spiked sample concentration
SA = Spike added
SC = Concentration

RPD = I LCS - LCSD I * 2/(LCS + LCSD)

LCS = Laboratory control sample percent recovery

LCSD = Laboratory control sample duplicate percent recovery

LCS/LCSD samples: LCS15 / LCD15

Compound	Spike Added (ug/kg)		Spiked Sample Concentration (ug/kg)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
gamma-BHC										
4,4'-DDT										
Aroclor 1260	167	167	175	173	105	105	104	104	1	1

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 29237B3b

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 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?

PCB 1260-1 = 6.83
-2 = 15.57
-3 = 12.49
-4 = 12.16
-5 = 5.15
Total = 52.20

PCB 1260-1 = 16461 / 2410.823
= 6.83023

Example:

Sample I.D. 2 BB:

Conc. = (52.20)(10) / (30)(0.923)

= 18.85157 ug/kg

BB = 19 ug/kg

#	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:	July 18, 2012
LDC Report Date:	February 28, 2013
Matrix:	Soil
Parameters:	Metals
Validation Level:	Level IV
Laboratory:	EMAX Laboratories, Inc.
Sample Delivery Group (SDG):	12G140

Sample Identification

SL-008-A3-SB-0.0-0.5
SL-010-A3-SB-0.0-0.5
SL-008-A3-SB-0.0-0.5MS
SL-008-A3-SB-0.0-0.5MSD

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 Methods 6020 and 7471A for Metals. The metals analyzed were Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, 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

An initial calibration was performed.

The frequency and analysis criteria of the initial calibration verification (ICV) and continuing calibration verification (CCV) were met.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No metal contaminants were found in the initial, continuing and preparation blanks.

Sample EB-071812 was identified as an equipment blank. No metal contaminants were found with the following exceptions:

Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
EB-071812	7/18/12	Boron Copper	0.00918 mg/L 0.000594 mg/L	All samples in SDG 12G140

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks.

V. ICP Interference Check Sample (ICS) Analysis

The frequency of analysis was met.

The criteria for analysis were met.

VI. Matrix Spike Analysis

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Analyte	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
SL-008-A3-SB-0.0-0.5MS/MSD (All samples in SDG 12G140)	Zirconium	68 (75-125)	70 (75-125)	-	J (all detects) UJ (all non-detects)	A

VII. Duplicate Sample Analysis

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Internal Standards

All internal standard percent recoveries (%R) were within QC limits.

X. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

XI. ICP Serial Dilution

ICP serial dilution analysis was performed by the laboratory. The analysis criteria were met.

XII. Sample Result Verification

All sample result verifications were acceptable.

All metals reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 12G140	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 12G140

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
12G140	SL-008-A3-SB-0.0-0.5 SL-010-A3-SB-0.0-0.5	Zirconium	J (all detects) UJ (all non-detects)	A	Matrix spike/Matrix spike duplicate (%R) (Q)
12G140	SL-008-A3-SB-0.0-0.5 SL-010-A3-SB-0.0-0.5	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (Z)

Santa Susana Field Laboratory
Metals - Laboratory Blank Data Qualification Summary - SDG 12G140

No Sample Data Qualified in this SDG

Santa Susana Field Laboratory
Metals - Field Blank Data Qualification Summary - SDG 12G140

No Sample Data Qualified in this SDG

LDC #: 29237B4
SDG #: 12G140
Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

ADR/IV

7471A/7470A

Date: 2/22/13
Page: 1 of 1
Reviewer: CA
2nd Reviewer: [signature]

METHOD: Metals (EPA SW 846 Method 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: 7/18/12
II.	ICP/MS Tune	A	
III.	Calibration	A	
IV.	Blanks	A	
V.	ICP Interference Check Sample (ICS) Analysis	A	
VI.	Matrix Spike Analysis	SW	Not reviewed for ADR validation. MS/D (Al, Mn, Ti >4x)
VII.	Duplicate Sample Analysis	N	Not reviewed for ADR validation.
VIII.	Laboratory Control Samples (LCS)	A	Not reviewed for ADR validation. LCS/D
IX.	Internal Standard (ICP-MS)	A	Not reviewed for ADR validation.
X.	Furnace Atomic Absorption QC	N	Not reviewed for ADR validation.
XI.	ICP Serial Dilution	A	
XII.	Sample Result Verification	A	Not reviewed for ADR validation.
XIII.	Overall Assessment of Data	A	Not reviewed for ADR validation.
XIV.	Field Duplicates	N	
XV	Field Blanks	SW	EB=4

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

Validated Samples: ** Indicates sample underwent Level IV validation

Soil ~~/ water~~

~~1~~	~~SL-001-A3-SB-0.0-0.5~~	11		21		31	
2	SL-002-A3-SB-0.0-0.5	12		22		32	
3	SL-003-A3-SB-0.0-0.5	13		23		33	
~~4~~	~~EB-071812~~ W	14		24		34	
5	SL-008-A3-SB-0.0-0.5**	15		25		35	
6	SL-010-A3-SB-0.0-0.5**	16		26		36	
~~7~~	~~SL-009-A3-SB-0.0-0.5~~	17		27		37	
8	SL-008-A3-SB-0.0-0.5MS	18		28		38	
9	~~SL-008-A3-SB-0.0-0.5MSD~~	19		29		39	
10		20		30		40	

Notes: _____

LDC #: 29285T3Y

VALIDATION FINDINGS CHECKLIST

Reviewer: CR
2nd Reviewer: LV

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

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. ICP/MS Tune				
Were all isotopes in the tuning solution mass resolution within 0.1 amu?	✓			
Were %RSD of isotopes in the tuning solution ≤5%?	✓			
III. Calibration				
Were all instruments calibrated daily, each set-up time?	✓			
Were the proper number of standards used?	✓			
Were all initial and continuing calibration verification %Rs within the 90-110% (80-120% for mercury) QC limits?	✓			
Were all initial calibration correlation coefficients ≥ 0.995?	✓			
IV. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
V. ICP Interference Check Sample				
Were ICP interference check samples performed daily?	✓			
Were the AB solution percent recoveries (%R) with the 80-120% QC limits?	✓			
VI. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water.	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 75-125 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.		✓		
Were the MS/MSD or duplicate relative percent differences (RPD) ≤ 20% for waters and ≤ 35% for soil samples? A control limit of +/- RL(+/-2X RL for soil) was used for samples that were ≤ 5X the RL, including when only one of the duplicate sample values were ≤ 5X the RL.	✓			
VII. Laboratory control samples				
Was an LCS anaylzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 80-120% QC limits for water samples and laboratory established QC limits for soils?	✓			

LDC #: 29237B4

VALIDATION FINDINGS CHECKLIST

Reviewer: CR
2nd Reviewer: [illegible]

Validation Area	Yes	No	NA	Findings/Comments
VIII. Furnace Atomic Absorption QC				
If MSA was performed, was the correlation coefficients > 0.995?			✓	
Do all applicable analysies have duplicate injections? (Level IV only)			✓	
For sample concentrations > RL, are applicable duplicate injection RSD values < 20%? (Level IV only)			✓	
Were analytical spike recoveries within the 85-115% QC limits?				✓
IX. ICP Serial Dilution				
Was an ICP serial dilution analyzed if analyte concentrations were > 50X the MDL (ICP)/>100X the MDL(ICP/MS)?	✓			
Were all percent differences (%Ds) < 10%?	✓			
Was there evidence of negative interference? If yes, professional judgement will be used to qualify the data.		✓		
X. Internal Standards (EPA SW 846 Method 6020/EPA 200.8)				
Were all the percent recoveries (%R) within the 30-120% (6020)/60-125% (200.8) of the intensity of the internal standard in the associated initial calibration?	✓	✓		
If the %Rs were outside the criteria, was a reanalysis performed?				
XI. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		✓		
Were the performance evaluation (PE) samples within the acceptance limits?			✓	
XII. Sample Result Verification				
Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XIV. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target analytes were detected in the field duplicates.			✓	
XV. Field blanks				
Field blanks were identified in this SDG.	✓			
Target analytes were detected in the field blanks.	✓			

LDC #: 29237B4

VALIDATION FINDINGS WORKSHEET
Sample Specific Element Reference

Reviewer: CR
2nd reviewer:

All circled elements are applicable to each sample.

Sample ID	Matrix	Target Analyte List (TAL)
All		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr
Analysis Method		
ICP		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr
ICP-MS		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr

Comments: Mercury by CVAA if performed

LDC#: 09235B4
SDG #: —

VALIDATION FINDINGS WORKSHEET
Field Blanks

Page: 1 of 1
Reviewer: CR
2nd Reviewer: [illegible]

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

(Y) N N/A Field blanks were identified in this SDG.
(Y) N N/A Were target analytes detected in the field blanks?

Blank units: mg/L **Associated sample units:** mg/kg
Sampling date: 7/18/12 Soil factor applied 50X
Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: All

Analyte	Blank ID		Sample Identification									
	4	Action Level	NoQual									
B	0.00918	2.3										
Cu	0.000594	0.15										

ALL RESULTS 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 #: 29235B4

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Page: 1 of 1
Reviewer: ar
2nd Reviewer: [illegible]

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

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

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

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

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

LEVEL IV ONLY:

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

#	MS/MSD ID	Matrix	Analyte	MS %Recovery	MSD %Recovery	RPD (Limits)	Associated Samples	Qualifications
	8/9	S	Zr	68	70		All ~~Soils~~	J/UJ/A (Q)

Comments: _____

LDC #: 89937B4

VALIDATION FINDINGS WORKSHEET
Initial and Continuing Calibration Calculation Verification

Reviewer: GR
2nd Reviewer:

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

An initial and continuing calibration verification percent recovery (%R) was recalculated for each type of analysis using the following formula:

%R = Found x 100 / True

Where, Found = concentration (in ug/L) of each analyte measured in the analysis of the ICV or CCV solution
True = concentration (in ug/L) of each analyte in the ICV or CCV source

Standard ID	Type of Analysis	Element	Found (ug/L)	True (ug/L)	Recalculated %R	Reported %R	Acceptable (Y/N)
	ICP (Initial calibration)						
ICV	ICP/MS (Initial calibration)	V	29.93	30	100	100	Y
ICV	CVAA (Initial calibration)	Hg	2.05	2	103	-	
	ICP (Continuing calibration)						
CCV7	ICP/MS (Continuing calibration)	As	25.02	25	100	100	
CCV5	CVAA (Continuing calibration)	Hg	4.85	5	97	-	
	GFAA (Initial calibration)						
	GFAA (Continuing calibation)						

Comments: Refer to Calibration Verification findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 29937B4

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

Page: 1 of 1
Reviewer: 9R
2nd Reviewer:

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

Percent recoveries (%R) for an ICP interference check sample, a laboratory control sample and a matrix spike sample were recalculated using the following formula:

$\%R = \frac{Found}{True} \times 100$ Where, Found = Concentration of each analyte measured in the analysis of the sample. For the matrix spike calculation, Found = SSR (spiked sample result) - SR (sample result).
True = Concentration of each analyte in the source.

A sample and duplicate relative percent difference (RPD) was recalculated using the following formula:

$RPD = \frac{|S-D|}{(S+D)/2} \times 100$ Where, S = Original sample concentration
D = Duplicate sample concentration

An ICP serial dilution percent difference (%D) was recalculated using the following formula:

$\%D = \frac{|I-SDR|}{I} \times 100$ Where, I = Initial Sample Result (mg/L)
SDR = Serial Dilution Result (mg/L) (Instrument Reading x 5)

Sample ID	Type of Analysis	Element	Found / S / I (units)	True / D / SDR (units)	Recalculated %R / RPD / %D	Reported %R / RPD / %D	Acceptable (Y/N)
ICSAB	ICP interference check	Pb	18.44	20	92	92	Y
LCS	Laboratory control sample	Cd	23.2	25	93	93	
8	Matrix spike	Sn	(SSR-SR) 26.4	24.4	108	108	
8/9	Duplicate	Sr	37.5	37.7	1	1	
5	ICP serial dilution	Ni	8.38	8.67	3	3	

Comments: Refer to appropriate worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 29837B1

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

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

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 = $\frac{(RD)(FV)(Dil)}{(In.\ Vol.)}$

RD = Raw data concentration
FV = Final volume (ml)
In. Vol. = Initial volume (ml) or weight (G)
Dil = Dilution factor

Recalculation:

$$\frac{100mL(10)(28330\ ug/L)}{0.99(2.04g)(1000)} = 14027.5\ mg/kg$$

#	Sample ID	Analyte	Reported Concentration (mg/kg)	Calculated Concentration (mg/kg)	Acceptable (Y/N)
	5	Al	10200	10200	Y
		Sb	0.156	0.156	
		As	3.61	3.61	
		Ba	77.0	77.0	
		Be	0.380	0.380	
		Cd	0.182	0.182	
		Ca	1430	1430	
		Cr	13.1	13.1	
		Co	4.28	4.28	
		Cu	6.23	6.23	
		Fe	14000	14000	
		Pb	5.96	5.96	
		Mg	3150	3150	
		Mn	200	200	
		Mo	0.441	0.441	
		Ni	8.38	8.38	
		K	2580	2580	
		Ag	0.0560	0.0560	
		Na	57.4	57.4	
		Sr	13.8	13.8	
		Tl	0.186	0.186	
		Ti	655	655	
		V	24.0	24.0	
		Zn	40.1	40.1	
		Li	12.4	12.4	
		P	230	230	

Note:

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Santa Susana Field Laboratory

Collection Date: July 18, 2012

LDC Report Date: February 28, 2013

Matrix: Soil

Parameters: Total Petroleum Hydrocarbons as Extractables

Validation Level: Level IV

Laboratory: EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 12G140

Sample Identification

SL-008-A3-SB-0.0-0.5
SL-010-A3-SB-0.0-0.5
SL-008-A3-SB-0.0-0.5MS
SL-008-A3-SB-0.0-0.5MSD

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 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-071812 was identified as an equipment 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) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

All target compound identifications were within validation criteria.

IX. Compound Quantitation and RLs

All compound quantitation and RLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 12G140	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 12G140

SDG	Sample	Compound	Flag	A or P	Reason (Code)
12G140	SL-008-A3-SB-0.0-0.5 SL-010-A3-SB-0.0-0.5	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and RLs (Z)

Santa Susana Field Laboratory
Total Petroleum Hydrocarbons as Extractables - Laboratory Blank Data Qualification Summary - SDG 12G140

No Sample Data Qualified in this SDG

Santa Susana Field Laboratory
Total Petroleum Hydrocarbons as Extractables - Field Blank Data Qualification Summary - SDG 12G140

No Sample Data Qualified in this SDG

LDC #: 29237B8 **VALIDATION COMPLETENESS WORKSHEET** Date: 2/26/13
SDG #: 12G140 Level IV Page: 1 of 1
Laboratory: EMAX Laboratories, Inc. Reviewer: BR
2nd Reviewer:

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: 7/18/12
II	Initial calibration	A	RSD ≤ 20%
III.	Calibration verification/ICV	A	ICV/CCV ≤ 20%
IV.	Blanks	A	
V	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	A	
VII.	Laboratory control samples	A	LCS/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	FB = EB-071812 (same SDG)

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

Validated Samples: Soil

1	SL-008-A3-SB-0.0-0.5	11		21		31	MBLK1S
2	SL-010-A3-SB-0.0-0.5	12		22		32	
3	#1MS	13		23		33	
4	#1MSD	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 #: 2923788

VALIDATION FINDINGS CHECKLIST

Reviewer: BR
2nd Reviewer:

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? X %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?	✓			

VALIDATION FINDINGS CHECKLIST

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 #: 29237B8

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

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 100 std)	Recalculated (CF 100 std)	Reported Average RRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL	6/20/2012	EFH (C21-C30)	26121	26121	26081.9	26081.9	7.4	7.4
	GCT-105								

Conc	EFH (C21-C30)
5	29692
10	26269
50	24958
100	26121
500	24958
1500	26959
3000	23616
X=	26081.9
S=	1934.150

Area

2612092

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 #: 29237B8

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Calculation Verification

Reviewer: BR
2nd Reviewer:

METHOD: GC 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	LG25015	7/25/2012	EFH (C8-C40)	500	514.20	514.20	3	3
2	LG25027	7/25/2012	EFH (C8-C40)	500	522.89	522.89	5	5

	Compound	CF	Area
CCV1	EFH (C8-C40)	26081.9	13411404
CCV2	EFH (C8-C40)	26081.9	13637884

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 #: 29237B8
SDG #: See cover

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Reviewer: BR
2nd reviewer: A

METHOD: X 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	
Bromobenzene	~~BR DB~~ HP5	100	68.54	68.5	68.5	0
Hexacosane	↓	25	24.49	98.0	98.0	0

Sample ID:

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	

Sample ID:

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	

LDC #: 29237B8
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates Results Verification

Reviewer: BR
2nd Reviewer: [illegible]

METHOD: X GC ___HPLC

The percent recoveries (%R) and relative percent differences (RPD) of the matrix spike and matrix spike duplicate were recalculated for the compounds identified below using the following calculation:

%Recovery = 100 * (SSC - SC)/SA Where SSC = Spiked sample concentration SC = Sample concentration
SA = Spike added
RPD =(({SSCMS - SSCMSD} * 2) / (SSCMS + SSCMSD))*100 MS = Matrix spike MSD = Matrix spike duplicate

MS/MSD samples: 3/4

Compound	Spike Added (mg/kg)		Sample Conc. (mg/kg)	Spike Sample Concentration (mg/kg)		Matrix spike Percent Recovery		Matrix Spike Duplicate Percent Recovery		MS/MSD RPD	
	MS	MSD	---	MS	MSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline (8015)											
Diesel (EFH C8-C40/8015)	505	505	0	415	386	82	82	76	76	7	7.2
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 #: 29237B8

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Reviewer: BR

2nd Reviewer: [signature]

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:

%Recovery = 100 * (SSC - SC)/SA

Where SSC = Spiked sample concentration; SA = Spike added; SC = Sample concentration

RPD =({{SSCLCS - SSCLCSD} * 2) / (SSCLCS + SSCLCSD))*100

LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample duplicate

LCS/LCSD samples: LCS15 | LCD15

Compound	Spike Added (mg/kg)		Spike Sample Concentration (mg/kg)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline (8015)										
Diesel (EFH C_8-C_{40}) (8015)	500	500	444	429	89	89	86	86	3	3.4
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 #: 2923758

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?

C21 - C30 = 22 mg/kg

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. 2 Compound Name EFH (C21-C30)

Concentration = $\frac{(536760)(10)}{(26081.86457)(10.0)(0.923)}$ (+R)

= 22.27439 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: July 18, 2012

LDC Report Date: February 28, 2013

Matrix: Soil

Parameters: Perchlorate

Validation Level: Level IV

Laboratory: EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 12G140

Sample Identification

SL-010-A3-SB-0.0-0.5

Introduction

This data review covers one soil sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 6850 for Perchlorate.

This review follows the Quality Assurance Project Plan for Santa Susana Field Laboratory (SSFL), RCRA Facility Investigation, Surficial Media Operable Unit (March 2009, Revision 4) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

NJ Presumptive evidence of presence of the compound at an estimated quantity.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals. All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination (r^2) was greater than or equal to 0.990 .

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

All of the continuing calibration percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were less than or equal to 15.0% for unlabeled compounds and less than or equal to 50.0% for labeled compounds.

The percent differences (%D) of the second source calibration standard were less than or equal to 15.0% for unlabeled compounds and less than or equal to 50.0% for labeled compounds.

The percent differences (%D) of the limit of detection verification (LODV) calibration standard were less than or equal to 50.0% for perchlorate.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No perchlorate was found in the method blanks.

Sample EB-071812 was identified as an equipment 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) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria.

XII. Compound Quantitation and RLs

All compound quantitation and RLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 12G140	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 12G140

SDG	Sample	Compound	Flag	A or P	Reason (Code)
12G140	SL-010-A3-SB-0.0-0.5	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and RLs (Z)

Santa Susana Field Laboratory
Perchlorate - Laboratory Blank Data Qualification Summary - SDG 12G140

No Sample Data Qualified in this SDG

Santa Susana Field Laboratory
Perchlorate - Field Blank Data Qualification Summary - SDG 12G140

No Sample Data Qualified in this SDG

LDC #: 29237B87 **VALIDATION COMPLETENESS WORKSHEET** Date: 2/26/13
SDG #: 12G140 Level IV Page: 1 of 1
Laboratory: EMAX Laboratories, Inc. Reviewer: BR
2nd Reviewer: C

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: 7/18/12
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	A	r^2
IV.	Continuing calibration/ICV	A	ICV/CCV ≤ 15/50 LODV ≤ 50
V.	Blanks	A	
VI.	Surrogate spikes	N	
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.	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-071812 (same SDG)

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-010-A3-SB-0.0-0.5	11		21		31	MB2K15
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

LDC #: 29237B87 **VALIDATION FINDINGS CHECKLIST** Page: 1 of 2
Reviewer: BR
2nd Reviewer: C

Method: ____ 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) ≤ 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) ≤ 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 #: 29237B87

VALIDATION FINDINGS CHECKLIST

Reviewer: BR
2nd Reviewer: C

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?	✓			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	✓			
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#:29237B87

VALIDATION FINDINGS WORKSHEET

Initial Calibration Calculation Verification

Page: 1 of 1
Reviewer: BR
2nd Reviewer:

Method: LCMS Perchlorate (EPA SW 846 Method 6850)

Calibration Date	Instrument	Compound	Standard	(Y) Response Ratio	(X) Concentration Ratio	CF
6/25/2012	#G0	Perchlorate (m/z 83)	1	0.067103175	0.10	0.6710
			2	0.130070633	0.20	0.6504
			3	0.346967063	0.50	0.6939
			4	0.678531776	1.00	0.6785
			5	1.275311383	2.00	0.6377
			6	3.776283473	5.00	0.7553
			7	6.971792634	10.00	0.6972
					Ave	0.6834

Regression Output		*Calculated*	*Reported*
Constant	c =	*-7.6806E-03*	*0.00914599*
Std Err of Y Est			
R Squared	r2 =	*0.9978*	*0.9972*
Degrees of Freedom			
X Coefficient(s)	m =	*0.7074*	*0.707982*
Std Err of Coef.			
Correlation Coefficient		*0.999*	
Coefficient of Determination (r^2)		*0.998*	*0.997*

LDC # 29237B87

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Calculation Verification

Reviewer: BR
2nd Reviewer:

Method: LCMS Perchlorate (EPA SW 846 Method 6850)

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/Rec	Recalculated %D/Rec
1			Perchlorate (m/z 83)	2	1.968	1.967	98	98

Conc= (Response-b)/m

CCV1	Response	m	b	Conc
Perchlorate (m/z 83)	1.383814675	0.707437463	-0.007680595	1.97

LDC #: 29237B87

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Page: 1 of 1
Reviewer: BR
2nd Reviewer:

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: LCS1S / LCD1S

Compound	Spike Added (ug/kg)		Spike Concentration (ug/kg)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc	Reported	Recalc	Reported	Recalc
Perchlorate	25.0	25.0	26.6	25.9	106	106	104	104	3	2.7

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 29237B87 (BR)

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: BR
2nd reviewer:

METHOD: LCMS Perchlorate (EPA SW 846 Method 6850/6860)

Y N N/A (2) Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(V_t)(DF)(2.0)}{(A_{is})(RRF)(V_o)(V_i)(\%S)}$

A_x	=	Area of the characteristic ion (EICP) for the compound to be measured
A_{is}	=	Area of the characteristic ion (EICP) for the specific internal standard
I_s	=	Amount of internal standard added in nanograms (ng)
V_o	=	Volume or weight of sample extract in milliliters (ml) or grams (g).
V_i	=	Volume of extract injected in microliters (ul)
V_t	=	Volume of the concentrated extract in microliters (ul)
Df	=	Dilution Factor.
%S	=	Percent solids, applicable to soil and solid matrices only.
2.0	=	Factor of 2 to account for GPC cleanup

Example:

Sample I.D. 1 , BR ~~A~~ ND:

Conc. = ( )( )( )( )( ) / ( )( )( )( )( )

=

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

SAMPLE DELIVERY GROUP

12G198

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
24-Jul-2012	SL-007-A3-SB-0.0-0.5	G198-04	N	3550B	8015B EFH	III
24-Jul-2012	SL-007-A3-SB-0.0-0.5	G198-04	N	3550B	8082	III
24-Jul-2012	SL-007-A3-SB-0.0-0.5	G198-04	N	3550B	8270C SIM	III
24-Jul-2012	SL-007-A3-SB-0.0-0.5	G198-04	N	7471A	7471A	III
24-Jul-2012	SL-007-A3-SB-0.0-0.5	G198-04	N	TOTAL	6020	III
24-Jul-2012	SL-006-A3-SB-0.0-0.5	G198-03	N	3550B	8015B EFH	III
24-Jul-2012	SL-006-A3-SB-0.0-0.5	G198-03	N	3550B	8082	III
24-Jul-2012	SL-006-A3-SB-0.0-0.5	G198-03	N	3550B	8270C SIM	III
24-Jul-2012	SL-006-A3-SB-0.0-0.5	G198-03	N	7471A	7471A	III
24-Jul-2012	SL-006-A3-SB-0.0-0.5	G198-03	N	TOTAL	6020	III
24-Jul-2012	SL-004-A3-SB-0.0-0.5	G198-01	N	3550B	8015B EFH	III
24-Jul-2012	SL-004-A3-SB-0.0-0.5	G198-01	N	3550B	8082	III
24-Jul-2012	SL-004-A3-SB-0.0-0.5	G198-01	N	3550B	8270C SIM	III
24-Jul-2012	SL-004-A3-SB-0.0-0.5	G198-01	N	7471A	7471A	III
24-Jul-2012	SL-004-A3-SB-0.0-0.5	G198-01	N	TOTAL	6020	III
24-Jul-2012	SL-005-A3-SB-0.0-0.5	G198-02	N	3550B	8015B EFH	III
24-Jul-2012	SL-005-A3-SB-0.0-0.5	G198-02	N	3550B	8082	III
24-Jul-2012	SL-005-A3-SB-0.0-0.5	G198-02	N	3550B	8270C SIM	III
24-Jul-2012	SL-005-A3-SB-0.0-0.5	G198-02	N	7471A	7471A	III
24-Jul-2012	SL-005-A3-SB-0.0-0.5	G198-02	N	TOTAL	6020	III
24-Jul-2012	EB-072412	G198-05	EB	3520C	8015B EFH	III
24-Jul-2012	EB-072412	G198-05	EB	3520C	8082	III
24-Jul-2012	EB-072412	G198-05	EB	3520C	8270C SIM	III
24-Jul-2012	EB-072412	G198-05	EB	7470A	7470A	III
24-Jul-2012	EB-072412	G198-05	EB	TOTAL	6020	III

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

Attachment II

Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: 12G198 **Laboratory: EMXT**

EDD Filename: 12G198 **eQAPP Name: CDM_SSFL_120730_EMAX**

Method Category: METALS
Method: 6020 **Matrix: AQ**

Sample ID: EB-072412 *Collected:* 7/24/2012 2:00:00 *Analysis Type:* RES/TOT *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ALUMINUM	0.0331	J	0.0200	MDL	0.100	PQL	MG/L	J	Z
BORON	0.00942	J	0.00500	MDL	0.0100	PQL	MG/L	J	Z
CALCIUM	0.0262	J	0.0250	MDL	0.100	PQL	MG/L	J	Z
MANGANESE	0.000742	J	0.000200	MDL	0.00100	PQL	MG/L	J	Z
SODIUM	0.0521	J	0.0500	MDL	0.100	PQL	MG/L	J	Z

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

Sample ID: SL-004-A3-SB-0.0-0.5 *Collected:* 7/24/2012 9:45:00 *Analysis Type:* RES/TOT *Dilution:* 0.962

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	0.878	J	0.280	MDL	1.40	PQL	MG/KG	J	Z
BERYLLIUM	1.26	J	0.140	MDL	1.40	PQL	MG/KG	J	Z
BORON	12.1	J	6.99	MDL	14.0	PQL	MG/KG	J	Z
MOLYBDENUM	1.38	J	0.140	MDL	1.40	PQL	MG/KG	J	Z
SELENIUM	0.746	J	0.559	MDL	1.40	PQL	MG/KG	J	Z
THALLIUM	0.407	J	0.140	MDL	1.12	PQL	MG/KG	J	Z

Sample ID: SL-005-A3-SB-0.0-0.5 *Collected:* 7/24/2012 10:15:00 *Analysis Type:* RES/TOT *Dilution:* 0.966

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	0.930	J	0.276	MDL	1.38	PQL	MG/KG	J	Z
BERYLLIUM	0.958	J	0.138	MDL	1.38	PQL	MG/KG	J	Z
BORON	10.4	J	6.90	MDL	13.8	PQL	MG/KG	J	Z
SELENIUM	0.576	J	0.552	MDL	1.38	PQL	MG/KG	J	Z
THALLIUM	0.372	J	0.138	MDL	1.10	PQL	MG/KG	J	Z

Sample ID: SL-006-A3-SB-0.0-0.5 *Collected:* 7/24/2012 8:35:00 *Analysis Type:* RES/TOT *Dilution:* 0.980

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	0.698	J	0.207	MDL	1.03	PQL	MG/KG	J	Z

* denotes a non-reportable result

Project Name and Number: PHASE3 - SSFL PHASE 3

Data Qualifier Summary

Lab Reporting Batch ID: 12G198 **Laboratory: EMXT**

EDD Filename: 12G198 **eQAPP Name: CDM_SSFL_120730_EMAX**

Method Category: METALS

Method: 6020 **Matrix: SO**

Sample ID: SL-006-A3-SB-0.0-0.5 *Collected:* 7/24/2012 8:35:00 *Analysis Type:* RES/TOT *Dilution:* 0.980

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BERYLLIUM	0.924	J	0.103	MDL	1.03	PQL	MG/KG	J	Z
BORON	8.18	J	5.17	MDL	10.3	PQL	MG/KG	J	Z
SELENIUM	0.477	J	0.414	MDL	1.03	PQL	MG/KG	J	Z
THALLIUM	0.338	J	0.103	MDL	0.827	PQL	MG/KG	J	Z

Sample ID: SL-007-A3-SB-0.0-0.5 *Collected:* 7/24/2012 8:00:00 *Analysis Type:* RES/TOT *Dilution:* 0.995

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	0.485	J	0.245	MDL	1.23	PQL	MG/KG	J	Z
BERYLLIUM	0.524	J	0.123	MDL	1.23	PQL	MG/KG	J	Z
CADMIUM	1.06	J	0.123	MDL	1.23	PQL	MG/KG	J	Z
THALLIUM	0.198	J	0.123	MDL	0.980	PQL	MG/KG	J	Z

Method Category: METALS

Method: 7471A **Matrix: SO**

Sample ID: SL-005-A3-SB-0.0-0.5 *Collected:* 7/24/2012 10:15:00 *Analysis Type:* RES/TOT *Dilution:* 0.995

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
MERCURY	0.161	J	0.142	MDL	0.284	PQL	MG/KG	J	Z

Sample ID: SL-006-A3-SB-0.0-0.5 *Collected:* 7/24/2012 8:35:00 *Analysis Type:* RES/TOT *Dilution:* 0.997

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
MERCURY	0.170	J	0.105	MDL	0.210	PQL	MG/KG	J	Z

* denotes a non-reportable result

Project Name and Number: PHASE3 - SSFL PHASE 3

Data Qualifier Summary

Lab Reporting Batch ID: 12G198 **Laboratory: EMXT**

EDD Filename: 12G198 **eQAPP Name: CDM_SSFL_120730_EMAX**

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

Sample ID: SL-004-A3-SB-0.0-0.5 *Collected:* 7/24/2012 9:45:00 *Analysis Type:* RES *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
EFH(C12-C14)	8.5	J	7.3	MDL	15	PQL	MG/KG	J	Z

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

Sample ID: SL-004-A3-SB-0.0-0.5 *Collected:* 7/24/2012 9:45:00 *Analysis Type:* RES *Dilution:* 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
Aroclor 5460	95	J	58	MDL	120	PQL	UG/KG	J	Z

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

Sample ID: SL-004-A3-SB-0.0-0.5 *Collected:* 7/24/2012 9:45:00 *Analysis Type:* RES-BASE/NEUTRAL *Dilution:* 3

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BENZO(A)PYRENE	23	J	22	MDL	87	PQL	UG/KG	J	Z
BENZO(B)FLUORANTHENE	32	J	22	MDL	87	PQL	UG/KG	J	Z
BENZO(G,H,I)PERYLENE	32	J	22	MDL	87	PQL	UG/KG	J	Z
FLUORANTHENE	37	J	22	MDL	87	PQL	UG/KG	J	Z
PYRENE	42	J	22	MDL	87	PQL	UG/KG	J	Z

Sample ID: SL-005-A3-SB-0.0-0.5 *Collected:* 7/24/2012 10:15:00 *Analysis Type:* RES-BASE/NEUTRAL *Dilution:* 3

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1-METHYLNAPHTHALENE	86	U	21	MDL	86	PQL	UG/KG	UJ	S
2-METHYLNAPHTHALENE	86	U	21	MDL	86	PQL	UG/KG	UJ	S
ACENAPHTHENE	86	U	21	MDL	86	PQL	UG/KG	UJ	S
ACENAPHTHYLENE	86	U	21	MDL	86	PQL	UG/KG	UJ	S
ANTHRACENE	86	U	21	MDL	86	PQL	UG/KG	UJ	S
BENZO(A)ANTHRACENE	86	U	21	MDL	86	PQL	UG/KG	UJ	S
BENZO(A)PYRENE	86	U	21	MDL	86	PQL	UG/KG	UJ	S

* denotes a non-reportable result

Project Name and Number: PHASE3 - SSFL PHASE 3

Data Qualifier Summary

Lab Reporting Batch ID: 12G198 **Laboratory: EMXT**

EDD Filename: 12G198 **eQAPP Name: CDM_SSFL_120730_EMAX**

Method Category: SVOA

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

Sample ID: SL-005-A3-SB-0.0-0.5 *Collected:* 7/24/2012 10:15:00 *Analysis Type:* RES-BASE/NEUTRAL *Dilution:* 3

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BENZO(B)FLUORANTHENE	25	J	21	MDL	86	PQL	UG/KG	J	Z, S
BENZO(E)PYRENE	43	U	21	MDL	43	PQL	UG/KG	UJ	S
BENZO(G,H,I)PERYLENE	24	J	21	MDL	86	PQL	UG/KG	J	Z, S
BENZO(K)FLUORANTHENE	86	U	21	MDL	86	PQL	UG/KG	UJ	S
CHRYSENE	86	U	21	MDL	86	PQL	UG/KG	UJ	S
DIBENZO(A,H)ANTHRACENE	86	U	21	MDL	86	PQL	UG/KG	UJ	S
FLUORANTHENE	35	J	21	MDL	86	PQL	UG/KG	J	Z, S
FLUORENE	86	U	21	MDL	86	PQL	UG/KG	UJ	S
INDENO(1,2,3-CD)PYRENE	86	U	21	MDL	86	PQL	UG/KG	UJ	S
NAPHTHALENE	86	U	21	MDL	86	PQL	UG/KG	UJ	S
N-NITROSODIMETHYLAMINE	86	U	21	MDL	86	PQL	UG/KG	UJ	S
PHENANTHRENE	86	U	21	MDL	86	PQL	UG/KG	UJ	S
PYRENE	44	J	21	MDL	86	PQL	UG/KG	J	Z, S

Sample ID: SL-006-A3-SB-0.0-0.5 *Collected:* 7/24/2012 8:35:00 *Analysis Type:* RES-BASE/NEUTRAL *Dilution:* 3

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BENZO(A)PYRENE	17	J	16	MDL	63	PQL	UG/KG	J	Z
BENZO(B)FLUORANTHENE	24	J	16	MDL	63	PQL	UG/KG	J	Z
BENZO(E)PYRENE	17	J	16	MDL	32	PQL	UG/KG	J	Z
BENZO(G,H,I)PERYLENE	36	J	16	MDL	63	PQL	UG/KG	J	Z
FLUORANTHENE	35	J	16	MDL	63	PQL	UG/KG	J	Z
PYRENE	49	J	16	MDL	63	PQL	UG/KG	J	Z

Sample ID: SL-007-A3-SB-0.0-0.5 *Collected:* 7/24/2012 8:00:00 *Analysis Type:* RES-BASE/NEUTRAL *Dilution:* 3

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1-METHYLNAPHTHALENE	74	U	18	MDL	74	PQL	UG/KG	UJ	S
2-METHYLNAPHTHALENE	74	U	18	MDL	74	PQL	UG/KG	UJ	S
ACENAPHTHENE	74	U	18	MDL	74	PQL	UG/KG	UJ	S
ACENAPHTHYLENE	74	U	18	MDL	74	PQL	UG/KG	UJ	S
ANTHRACENE	74	U	18	MDL	74	PQL	UG/KG	UJ	S

* denotes a non-reportable result

Project Name and Number: PHASE3 - SSFL PHASE 3

Data Qualifier Summary

Lab Reporting Batch ID: 12G198 **Laboratory: EMXT**

EDD Filename: 12G198 **eQAPP Name: CDM_SSFL_120730_EMAX**

Method Category: **SVOA**

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

Sample ID: **SL-007-A3-SB-0.0-0.5** ***Collected:*** **7/24/2012 8:00:00** ***Analysis Type:*** **RES-BASE/NEUTRAL** ***Dilution:*** **3**

Analyte	*Lab Result*	*Lab Qual*	*DL*	*DL Type*	*RL*	*RL Type*	*Units*	*Data Review Qual*	*Reason Code*
BENZO(A)ANTHRACENE	74	U	18	MDL	74	PQL	UG/KG	UJ	S
BENZO(A)PYRENE	74	U	18	MDL	74	PQL	UG/KG	UJ	S
BENZO(B)FLUORANTHENE	74	U	18	MDL	74	PQL	UG/KG	UJ	S
BENZO(E)PYRENE	37	U	18	MDL	37	PQL	UG/KG	UJ	S
BENZO(G,H,I)PERYLENE	24	J	18	MDL	74	PQL	UG/KG	J	Z, S
BENZO(K)FLUORANTHENE	74	U	18	MDL	74	PQL	UG/KG	UJ	S
CHRYSENE	74	U	18	MDL	74	PQL	UG/KG	UJ	S
DIBENZO(A,H)ANTHRACENE	74	U	18	MDL	74	PQL	UG/KG	UJ	S
FLUORANTHENE	22	J	18	MDL	74	PQL	UG/KG	J	Z, S
FLUORENE	74	U	18	MDL	74	PQL	UG/KG	UJ	S
INDENO(1,2,3-CD)PYRENE	74	U	18	MDL	74	PQL	UG/KG	UJ	S
NAPHTHALENE	74	U	18	MDL	74	PQL	UG/KG	UJ	S
N-NITROSODIMETHYLAMINE	74	U	18	MDL	74	PQL	UG/KG	UJ	S
PHENANTHRENE	74	U	18	MDL	74	PQL	UG/KG	UJ	S
PYRENE	28	J	18	MDL	74	PQL	UG/KG	J	Z, S

* denotes a non-reportable result

Project Name and Number: PHASE3 - SSFL PHASE 3

Data Qualifier Summary

Lab Reporting Batch ID: 12G198 **Laboratory: EMXT**

EDD Filename: 12G198 **eQAPP Name: CDM_SSFL_120730_EMAX**

Reason Code Legend

Reason Code	*Description*
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: PHASE3 - SSFL PHASE 3

Enclosure I

Level III ADR Outliers
(including Manual Review Outliers)

Quality Control
Outlier Reports

12G198

Surrogate Outlier Report

Lab Reporting Batch ID: 12G198 **Laboratory: EMXT**

EDD Filename: 12G198 **eQAPP Name: CDM_SSFL_120730_EMAX**

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

Sample ID (Analysis Type)	*Surrogate*	*Sample % Recovery*	*% Recovery Limits*	*Affected Compounds*	*Flag*
SL-004-A3-SB-0.0-0.5	Nitrobenzene-d5	36.9	40.00-130.00	No Affected Compounds	
SL-005-A3-SB-0.0-0.5	2-FLUOROBIPHENYL Nitrobenzene-d5	40.7 28.9	45.00-130.00 40.00-130.00	All Base/Neutral Target Analytes	J(all detects) UJ(all non-detects)
SL-006-A3-SB-0.0-0.5	Nitrobenzene-d5	39.5	40.00-130.00	No Affected Compounds	
SL-007-A3-SB-0.0-0.5	2-FLUOROBIPHENYL Nitrobenzene-d5	42.6 34.7	45.00-130.00 40.00-130.00	All Base/Neutral Target Analytes	J(all detects) UJ(all non-detects)

Reporting Limit Outliers

Lab Reporting Batch ID: 12G198 **Laboratory: EMXT**

EDD Filename: 12G198 **eQAPP Name: CDM_SSFL_120730_EMAX**

Method: 6020
Matrix: AQ

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
EB-072412	ALUMINUM	J	0.0331	0.100	PQL	MG/L	J (all detects)
	BORON	J	0.00942	0.0100	PQL	MG/L	
	CALCIUM	J	0.0262	0.100	PQL	MG/L	
	MANGANESE	J	0.000742	0.00100	PQL	MG/L	
	SODIUM	J	0.0521	0.100	PQL	MG/L	

Method: 6020
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-004-A3-SB-0.0-0.5	ANTIMONY	J	0.878	1.40	PQL	MG/KG	J (all detects)
	BERYLLIUM	J	1.26	1.40	PQL	MG/KG	
	BORON	J	12.1	14.0	PQL	MG/KG	
	MOLYBDENUM	J	1.38	1.40	PQL	MG/KG	
	SELENIUM	J	0.746	1.40	PQL	MG/KG	
	THALLIUM	J	0.407	1.12	PQL	MG/KG	
SL-005-A3-SB-0.0-0.5	ANTIMONY	J	0.930	1.38	PQL	MG/KG	J (all detects)
	BERYLLIUM	J	0.958	1.38	PQL	MG/KG	
	BORON	J	10.4	13.8	PQL	MG/KG	
	SELENIUM	J	0.576	1.38	PQL	MG/KG	
	THALLIUM	J	0.372	1.10	PQL	MG/KG	
SL-006-A3-SB-0.0-0.5	ANTIMONY	J	0.698	1.03	PQL	MG/KG	J (all detects)
	BERYLLIUM	J	0.924	1.03	PQL	MG/KG	
	BORON	J	8.18	10.3	PQL	MG/KG	
	SELENIUM	J	0.477	1.03	PQL	MG/KG	
	THALLIUM	J	0.338	0.827	PQL	MG/KG	
SL-007-A3-SB-0.0-0.5	ANTIMONY	J	0.485	1.23	PQL	MG/KG	J (all detects)
	BERYLLIUM	J	0.524	1.23	PQL	MG/KG	
	CADMIUM	J	1.06	1.23	PQL	MG/KG	
	THALLIUM	J	0.198	0.980	PQL	MG/KG	

Method: 7471A
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-005-A3-SB-0.0-0.5	MERCURY	J	0.161	0.284	PQL	MG/KG	J (all detects)
SL-006-A3-SB-0.0-0.5	MERCURY	J	0.170	0.210	PQL	MG/KG	J (all detects)

Method: 8015B EFH
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-004-A3-SB-0.0-0.5	EFH(C12-C14)	J	8.5	15	PQL	MG/KG	J (all detects)

Project Name and Number: PHASE3 - SSFL PHASE 3

Reporting Limit Outliers

Lab Reporting Batch ID: 12G198 **Laboratory: EMXT**

EDD Filename: 12G198 **eQAPP Name: CDM_SSFL_120730_EMAX**

Method: 8082
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-004-A3-SB-0.0-0.5	Aroclor 5460	J	95	120	PQL	UG/KG	J (all detects)

Method: 8270C SIM
Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-004-A3-SB-0.0-0.5	BENZO(A)PYRENE	J	23	87	PQL	UG/KG	J (all detects)
	BENZO(B)FLUORANTHENE	J	32	87	PQL	UG/KG	
	BENZO(G,H,I)PERYLENE	J	32	87	PQL	UG/KG	
	FLUORANTHENE	J	37	87	PQL	UG/KG	
	PYRENE	J	42	87	PQL	UG/KG	
SL-005-A3-SB-0.0-0.5	BENZO(B)FLUORANTHENE	J	25	86	PQL	UG/KG	J (all detects)
	BENZO(G,H,I)PERYLENE	J	24	86	PQL	UG/KG	
	FLUORANTHENE	J	35	86	PQL	UG/KG	
	PYRENE	J	44	86	PQL	UG/KG	
SL-006-A3-SB-0.0-0.5	BENZO(A)PYRENE	J	17	63	PQL	UG/KG	J (all detects)
	BENZO(B)FLUORANTHENE	J	24	63	PQL	UG/KG	
	BENZO(E)PYRENE	J	17	32	PQL	UG/KG	
	BENZO(G,H,I)PERYLENE	J	36	63	PQL	UG/KG	
	FLUORANTHENE	J	35	63	PQL	UG/KG	
	PYRENE	J	49	63	PQL	UG/KG	
SL-007-A3-SB-0.0-0.5	BENZO(G,H,I)PERYLENE	J	24	74	PQL	UG/KG	J (all detects)
	FLUORANTHENE	J	22	74	PQL	UG/KG	
	PYRENE	J	28	74	PQL	UG/KG	

LDC #: 29237C4
SDG #: 12G198
Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET
ADR

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

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

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

	Validation Area		Comments
I.	Technical holding times	—	Sampling dates: 7/24/12
II.	ICP/MS Tune	—	
III.	Calibration	—	
IV.	Blanks	A	
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	—	
XV	Field Blanks	SW	EB=5

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

Validated Samples: soil/water

1	SL-004-A3-SB-0.0-0.5	11		21		31	
2	SL-005-A3-SB-0.0-0.5	12		22		32	
3	SL-006-A3-SB-0.0-0.5	13		23		33	
4	SL-007-A3-SB-0.0-0.5	14		24		34	
5	EB-072412 W	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#: 29253C4
SDG #: —

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: 02
2nd Reviewer: [illegible]

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

(Y) N N/A Field blanks were identified in this SDG.
(Y) N N/A Were target analytes detected in the field blanks?

Blank units: mg/L **Associated sample units:** mg/kg
Sampling date: 7/24/12 Soil factor applied 50X
Field blank type: (circle one) Field Blank / Rinsate / Other: (EB) Associated Samples: All Soil

Analyte	Blank ID		Sample Identification							
	5	Action Level	No Qualifiers							
Al	0.0331	8.3								
B	0.00942	2.36								
Ca	0.0262	6.55								
Cu	0.00118	0.295								
Mn	0.000742	0.186								
Na	0.0521	13.03								

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

SAMPLE DELIVERY GROUP

PH020

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
17-Jul-2012	SL-017-A3-SB-0.0-0.5	6724183	N	METHOD	1613B	III
17-Jul-2012	SL-016-A3-SB-0.0-0.5	6724180	N	METHOD	1613B	III
17-Jul-2012	SL-016-A3-SB-0.0-0.5 MS	6724181	MS	METHOD	1613B	III
17-Jul-2012	SL-016-A3-SB-0.0-0.5 MSD	6724182	MSD	METHOD	1613B	III
17-Jul-2012	SL-316-A3-SB-0.0-0.5	6724184	FD	METHOD	1613B	III
17-Jul-2012	SL-015-A3-SB-0.0-0.5	6724186	N	METHOD	1613B	III
17-Jul-2012	SL-014-A3-SB-0.0-0.5	6724185	N	METHOD	1613B	IV
17-Jul-2012	SL-011-A3-SB-0.0-0.5	6724187	N	METHOD	1613B	IV
17-Jul-2012	SL-012-A3-SB-0.0-0.5	6724188	N	METHOD	1613B	III
17-Jul-2012	SL-013-A3-SB-0.0-0.5	6724189	N	METHOD	1613B	III

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

Attachment II

Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: PH020 **Laboratory: LL**

EDD Filename: PH020_v1. **eQAPP Name: CDM_SSFL_120718_Lan**

Method Category: SVOA

Method: 1613B **Matrix: SO**

Sample ID: SL-011-A3-SB-0.0-0.5 **Collected: 7/17/2012 12:35:00** **Analysis Type: RES** **Dilution: 1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,7,8,9-HPCDF	1.28	JBQ	0.0478	MDL	5.19	PQL	ng/Kg	J	Z
1,2,3,4,7,8-HxCDD	1.49	JB	0.0548	MDL	5.19	PQL	ng/Kg	J	Z
1,2,3,4,7,8-HXCDF	2.44	JB	0.0441	MDL	5.19	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDD	5.04	JB	0.0557	MDL	5.19	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDF	0.923	JB	0.0394	MDL	5.19	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDD	3.44	JB	0.0495	MDL	5.19	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDF	1.02	JB	0.0443	MDL	5.19	PQL	ng/Kg	U	B
1,2,3,7,8-PECDD	1.02	JB	0.0723	MDL	5.19	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDF	4.97	JB	0.0409	MDL	5.19	PQL	ng/Kg	J	Z
2,3,4,6,7,8-HXCDF	1.00	JB	0.0408	MDL	5.19	PQL	ng/Kg	J	Z
2,3,4,7,8-PECDF	0.816	JB	0.0410	MDL	5.19	PQL	ng/Kg	U	B
2,3,7,8-TCDD	0.248	JB	0.0565	MDL	1.04	PQL	ng/Kg	U	B
2,3,7,8-TCDF	0.170	JB	0.109	MDL	1.04	PQL	ng/Kg	U	B

Sample ID: SL-012-A3-SB-0.0-0.5 **Collected: 7/17/2012 1:20:00** **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-HXCDF	3.47	JB	0.0477	MDL	5.11	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDF	3.46	JB	0.0444	MDL	5.11	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDF	0.850	JBQ	0.0437	MDL	5.11	PQL	ng/Kg	U	B
1,2,3,7,8-PECDD	3.64	JB	0.0696	MDL	5.11	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDF	2.32	JB	0.0255	MDL	5.11	PQL	ng/Kg	J	Z
2,3,4,7,8-PECDF	1.35	JB	0.0236	MDL	5.11	PQL	ng/Kg	J	Z
2,3,7,8-TCDD	0.424	JB	0.0406	MDL	1.02	PQL	ng/Kg	U	B
2,3,7,8-TCDF	0.281	JB	0.0489	MDL	1.02	PQL	ng/Kg	U	B
OCDD	6400	EB	0.109	MDL	10.2	PQL	ng/Kg	J	*XI

Sample ID: SL-013-A3-SB-0.0-0.5 **Collected: 7/17/2012 2:05:00** **Analysis Type: RES** **Dilution: 1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,7,8,9-HPCDF	4.46	JB	0.0557	MDL	5.22	PQL	ng/Kg	J	Z
1,2,3,4,7,8-HXCDF	3.36	JB	0.0505	MDL	5.22	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDF	1.91	JB	0.0457	MDL	5.22	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDF	1.01	JB	0.0495	MDL	5.22	PQL	ng/Kg	U	B
1,2,3,7,8-PECDD	4.18	JB	0.0776	MDL	5.22	PQL	ng/Kg	J	Z

* denotes a non-reportable result

Project Name and Number: 1203-004-009-AL - SSFL Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH020 **Laboratory: LL**

EDD Filename: PH020_v1. **eQAPP Name: CDM_SSFL_120718_Lan**

Method Category: SVOA

Method: 1613B **Matrix: SO**

Sample ID: **SL-013-A3-SB-0.0-0.5** ***Collected:*** **7/17/2012 2:05:00** ***Analysis Type:*** **RES** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
2,3,4,6,7,8-HXCDF	2.71	JB	0.0457	MDL	5.22	PQL	ng/Kg	J	Z
2,3,4,7,8-PECDF	1.52	JB	0.0423	MDL	5.22	PQL	ng/Kg	J	Z
2,3,7,8-TCDD	0.762	JB	0.0746	MDL	1.04	PQL	ng/Kg	U	B
2,3,7,8-TCDF	0.810	JB	0.126	MDL	1.04	PQL	ng/Kg	J	Z

Sample ID: **SL-014-A3-SB-0.0-0.5** ***Collected:*** **7/17/2012 10:35:00** ***Analysis Type:*** **RES** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,6,7,8-HPCDD	2490	EB	0.423	MDL	5.27	PQL	ng/Kg	J	*XI
1,2,3,7,8,9-HXCDF	2.36	JB	0.0844	MDL	5.27	PQL	ng/Kg	J	Z
2,3,4,7,8-PECDF	2.98	JB	0.0588	MDL	5.27	PQL	ng/Kg	J	Z
2,3,7,8-TCDF	0.457	JB	0.163	MDL	1.05	PQL	ng/Kg	U	B
OCDD	26400	EB	0.277	MDL	10.5	PQL	ng/Kg	J	*XI

Sample ID: **SL-015-A3-SB-0.0-0.5** ***Collected:*** **7/17/2012 9:55:00** ***Analysis Type:*** **RES** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,7,8-HXCDF	4.18	JB	0.0542	MDL	5.01	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDF	2.33	JB	0.0503	MDL	5.01	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDF	1.57	JB	0.0517	MDL	5.01	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDF	1.63	JB	0.0355	MDL	5.01	PQL	ng/Kg	J	Z
2,3,4,6,7,8-HXCDF	3.32	JB	0.0484	MDL	5.01	PQL	ng/Kg	J	Z
2,3,4,7,8-PECDF	1.11	JBQ	0.0384	MDL	5.01	PQL	ng/Kg	U	B
2,3,7,8-TCDD	0.763	JB	0.0490	MDL	1.00	PQL	ng/Kg	U	B
2,3,7,8-TCDF	0.273	JB	0.0778	MDL	1.00	PQL	ng/Kg	U	B
OCDD	21300	EB	0.213	MDL	10.0	PQL	ng/Kg	J	*XI

Sample ID: **SL-016-A3-SB-0.0-0.5** ***Collected:*** **7/17/2012 8:55:00** ***Analysis Type:*** **RES** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,7,8,9-HPCDF	1.28	JB	0.0317	MDL	5.03	PQL	ng/Kg	J	Z
1,2,3,4,7,8-HxCDD	0.810	JB	0.0339	MDL	5.03	PQL	ng/Kg	U	B
1,2,3,4,7,8-HXCDF	0.535	JB	0.0240	MDL	5.03	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDD	1.90	JB	0.0358	MDL	5.03	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDF	0.418	JB	0.0218	MDL	5.03	PQL	ng/Kg	U	B

* denotes a non-reportable result

Project Name and Number: 1203-004-009-AL - SSFL Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH020 **Laboratory: LL**

EDD Filename: PH020_v1. **eQAPP Name: CDM_SSFL_120718_Lan**

Method Category: SVOA

Method: 1613B **Matrix: SO**

Sample ID: SL-016-A3-SB-0.0-0.5 **Collected: 7/17/2012 8:55:00** **Analysis Type: RES** **Dilution: 1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,7,8,9-HXCDD	1.90	JB	0.0339	MDL	5.03	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDF	0.793	JBQ	0.0259	MDL	5.03	PQL	ng/Kg	U	B
1,2,3,7,8-PECDD	0.490	JB	0.0371	MDL	5.03	PQL	ng/Kg	U	B
1,2,3,7,8-PECDF	0.449	JB	0.0217	MDL	5.03	PQL	ng/Kg	U	B
2,3,4,6,7,8-HXCDF	0.538	JB	0.0226	MDL	5.03	PQL	ng/Kg	U	B
2,3,4,7,8-PECDF	0.332	JB	0.0215	MDL	5.03	PQL	ng/Kg	U	B
2,3,7,8-TCDD	0.0771	JBQ	0.0378	MDL	1.01	PQL	ng/Kg	UJ	B, FD
2,3,7,8-TCDF	0.141	JB	0.0469	MDL	1.01	PQL	ng/Kg	U	B

Sample ID: SL-017-A3-SB-0.0-0.5 **Collected: 7/17/2012 7:50:00** **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	4.15	JB	0.0291	MDL	5.15	PQL	ng/Kg	J	Z
1,2,3,4,7,8,9-HPCDF	0.580	JB	0.0384	MDL	5.15	PQL	ng/Kg	U	B
1,2,3,4,7,8-HxCDD	0.644	JB	0.0382	MDL	5.15	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDD	1.21	JB	0.0361	MDL	5.15	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDF	0.524	JB	0.0304	MDL	5.15	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDD	1.20	JBQ	0.0371	MDL	5.15	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDF	0.522	JBQ	0.0317	MDL	5.15	PQL	ng/Kg	U	B
1,2,3,7,8-PECDD	0.497	JB	0.0454	MDL	5.15	PQL	ng/Kg	U	B
1,2,3,7,8-PECDF	1.54	JB	0.0437	MDL	5.15	PQL	ng/Kg	J	Z
2,3,4,6,7,8-HXCDF	0.586	JB	0.0299	MDL	5.15	PQL	ng/Kg	U	B
2,3,4,7,8-PECDF	1.49	JB	0.0423	MDL	5.15	PQL	ng/Kg	J	Z
2,3,7,8-TCDD	0.143	JBQ	0.0463	MDL	1.03	PQL	ng/Kg	U	B
2,3,7,8-TCDF	0.769	JB	0.105	MDL	1.03	PQL	ng/Kg	J	Z

Sample ID: SL-316-A3-SB-0.0-0.5 **Collected: 7/17/2012 9:00:00** **Analysis Type: RES** **Dilution: 1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,7,8,9-HPCDF	1.35	JB	0.0457	MDL	4.90	PQL	ng/Kg	J	Z
1,2,3,4,7,8-HxCDD	1.01	JB	0.0431	MDL	4.90	PQL	ng/Kg	J	Z
1,2,3,4,7,8-HXCDF	0.729	JB	0.0327	MDL	4.90	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDD	2.14	JB	0.0448	MDL	4.90	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDF	0.520	JB	0.0293	MDL	4.90	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDD	2.08	JB	0.0406	MDL	4.90	PQL	ng/Kg	J	Z

* denotes a non-reportable result

Project Name and Number: 1203-004-009-AL - SSFL Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH020 **Laboratory: LL**

EDD Filename: PH020_v1. **eQAPP Name: CDM_SSFL_120718_Lan**

Method Category: **SVOA**

Method: **1613B** ***Matrix:*** **SO**

Sample ID: **SL-316-A3-SB-0.0-0.5** ***Collected:*** **7/17/2012 9:00:00** ***Analysis Type:*** **RES** ***Dilution:*** **1**

Analyte	*Lab Result*	*Lab Qual*	*DL*	*DL Type*	*RL*	*RL Type*	*Units*	*Data Review Qual*	*Reason Code*
1,2,3,7,8,9-HXCDF	0.907	JB	0.0310	MDL	4.90	PQL	ng/Kg	U	B
1,2,3,7,8-PECDD	0.667	JB	0.0489	MDL	4.90	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDF	0.478	JB	0.0285	MDL	4.90	PQL	ng/Kg	U	B
2,3,4,6,7,8-HXCDF	0.612	JB	0.0283	MDL	4.90	PQL	ng/Kg	U	B
2,3,4,7,8-PECDF	0.306	JB	0.0287	MDL	4.90	PQL	ng/Kg	U	B
2,3,7,8-TCDD	0.0457	U	0.0457	MDL	0.981	PQL	ng/Kg	UJ	FD
2,3,7,8-TCDF	0.176	JB	0.0629	MDL	0.981	PQL	ng/Kg	U	B

* denotes a non-reportable result

Project Name and Number: 1203-004-009-AL - SSFL Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH020 **Laboratory: LL**

EDD Filename: PH020_v1. **eQAPP Name: CDM_SSFL_120718_Lan**

Reason Code Legend

Reason Code	*Description*
*XI	Exceeds Calibration Range
A	Professional Judgment
B	Method Blank Contamination
FD	Field Duplicate Precision
Z	Reporting Limit Trace Value

* denotes a non-reportable result

Project Name and Number: 1203-004-009-AL - SSFL Phase 3

Enclosure I

Level III ADR Outliers
(including Manual Review Outliers)

Quality Control Outlier Reports

PH020

Method Blank Outlier Report

Lab Reporting Batch ID: PH020 **Laboratory: LL**

EDD Filename: PH020_v1. **eQAPP Name: CDM_SSFL_120718_Lan**

Method: **1613B**
Matrix: **SO**

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples
BLK2050B372209	7/27/2012 10:09:00 PM	1,2,3,4,6,7,8-HPCDD	0.382 ng/Kg	SL-011-A3-SB-0.0-0.5
		1,2,3,4,6,7,8-HPCDF	0.196 ng/Kg	SL-012-A3-SB-0.0-0.5
		1,2,3,4,7,8,9-HPCDF	0.152 ng/Kg	SL-013-A3-SB-0.0-0.5
		1,2,3,4,7,8-HxCDD	0.164 ng/Kg	SL-014-A3-SB-0.0-0.5
		1,2,3,4,7,8-HXCDF	0.155 ng/Kg	SL-015-A3-SB-0.0-0.5
		1,2,3,6,7,8-HXCDD	0.169 ng/Kg	SL-016-A3-SB-0.0-0.5
		1,2,3,6,7,8-HXCDF	0.163 ng/Kg	SL-017-A3-SB-0.0-0.5
		1,2,3,7,8,9-HXCDD	0.179 ng/Kg	SL-316-A3-SB-0.0-0.5
		1,2,3,7,8,9-HXCDF	0.292 ng/Kg	
		1,2,3,7,8-PECDD	0.115 ng/Kg	
		1,2,3,7,8-PECDF	0.151 ng/Kg	
		2,3,4,6,7,8-HXCDF	0.164 ng/Kg	
		2,3,4,7,8-PECDF	0.246 ng/Kg	
		2,3,7,8-TCDD	0.160 ng/Kg	
		2,3,7,8-TCDF	0.116 ng/Kg	
		OCDD	0.589 ng/Kg	
		OCDF	0.257 ng/Kg	

The following samples and their listed target analytes were qualified due to contamination reported in this blank

Sample ID	Analyte	Reported Result	Modified Final Result
SL-011-A3-SB-0.0-0.5(RES)	1,2,3,7,8,9-HXCDF	1.02 ng/Kg	1.02U ng/Kg
SL-011-A3-SB-0.0-0.5(RES)	2,3,4,7,8-PECDF	0.816 ng/Kg	0.816U ng/Kg
SL-011-A3-SB-0.0-0.5(RES)	2,3,7,8-TCDD	0.248 ng/Kg	0.248U ng/Kg
SL-011-A3-SB-0.0-0.5(RES)	2,3,7,8-TCDF	0.170 ng/Kg	0.170U ng/Kg
SL-012-A3-SB-0.0-0.5(RES)	1,2,3,7,8,9-HXCDF	0.850 ng/Kg	0.850U ng/Kg
SL-012-A3-SB-0.0-0.5(RES)	2,3,7,8-TCDD	0.424 ng/Kg	0.424U ng/Kg
SL-012-A3-SB-0.0-0.5(RES)	2,3,7,8-TCDF	0.281 ng/Kg	0.281U ng/Kg
SL-013-A3-SB-0.0-0.5(RES)	1,2,3,7,8,9-HXCDF	1.01 ng/Kg	1.01U ng/Kg
SL-013-A3-SB-0.0-0.5(RES)	2,3,7,8-TCDD	0.762 ng/Kg	0.762U ng/Kg
SL-014-A3-SB-0.0-0.5(RES)	2,3,7,8-TCDF	0.457 ng/Kg	0.457U ng/Kg
SL-015-A3-SB-0.0-0.5(RES)	2,3,4,7,8-PECDF	1.11 ng/Kg	1.11U ng/Kg
SL-015-A3-SB-0.0-0.5(RES)	2,3,7,8-TCDD	0.763 ng/Kg	0.763U ng/Kg
SL-015-A3-SB-0.0-0.5(RES)	2,3,7,8-TCDF	0.273 ng/Kg	0.273U ng/Kg
SL-016-A3-SB-0.0-0.5(RES)	1,2,3,4,7,8-HxCDD	0.810 ng/Kg	0.810U ng/Kg
SL-016-A3-SB-0.0-0.5(RES)	1,2,3,4,7,8-HXCDF	0.535 ng/Kg	0.535U ng/Kg
SL-016-A3-SB-0.0-0.5(RES)	1,2,3,6,7,8-HXCDF	0.418 ng/Kg	0.418U ng/Kg
SL-016-A3-SB-0.0-0.5(RES)	1,2,3,7,8,9-HXCDF	0.793 ng/Kg	0.793U ng/Kg
SL-016-A3-SB-0.0-0.5(RES)	1,2,3,7,8-PECDD	0.490 ng/Kg	0.490U ng/Kg
SL-016-A3-SB-0.0-0.5(RES)	1,2,3,7,8-PECDF	0.449 ng/Kg	0.449U ng/Kg
SL-016-A3-SB-0.0-0.5(RES)	2,3,4,6,7,8-HXCDF	0.538 ng/Kg	0.538U ng/Kg
SL-016-A3-SB-0.0-0.5(RES)	2,3,4,7,8-PECDF	0.332 ng/Kg	0.332U ng/Kg
SL-016-A3-SB-0.0-0.5(RES)	2,3,7,8-TCDD	0.0771 ng/Kg	0.0771U ng/Kg
SL-016-A3-SB-0.0-0.5(RES)	2,3,7,8-TCDF	0.141 ng/Kg	0.141U ng/Kg
SL-017-A3-SB-0.0-0.5(RES)	1,2,3,4,7,8,9-HPCDF	0.580 ng/Kg	0.580U ng/Kg
SL-017-A3-SB-0.0-0.5(RES)	1,2,3,4,7,8-HxCDD	0.644 ng/Kg	0.644U ng/Kg
SL-017-A3-SB-0.0-0.5(RES)	1,2,3,6,7,8-HXCDF	0.524 ng/Kg	0.524U ng/Kg

Method Blank Outlier Report

Lab Reporting Batch ID: PH020 **Laboratory: LL**

EDD Filename: PH020_v1. **eQAPP Name: CDM_SSFL_120718_Lan**

Method: **1613B**
Matrix: **SO**

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples

The following samples and their listed target analytes were qualified due to contamination reported in this blank

Sample ID	Analyte	Reported Result	Modified Final Result
SL-017-A3-SB-0.0-0.5(RES)	1,2,3,7,8,9-HXCDF	0.522 ng/Kg	0.522U ng/Kg
SL-017-A3-SB-0.0-0.5(RES)	1,2,3,7,8-PECDD	0.497 ng/Kg	0.497U ng/Kg
SL-017-A3-SB-0.0-0.5(RES)	2,3,4,6,7,8-HXCDF	0.586 ng/Kg	0.586U ng/Kg
SL-017-A3-SB-0.0-0.5(RES)	2,3,7,8-TCDD	0.143 ng/Kg	0.143U ng/Kg
SL-316-A3-SB-0.0-0.5(RES)	1,2,3,4,7,8-HXCDF	0.729 ng/Kg	0.729U ng/Kg
SL-316-A3-SB-0.0-0.5(RES)	1,2,3,6,7,8-HXCDF	0.520 ng/Kg	0.520U ng/Kg
SL-316-A3-SB-0.0-0.5(RES)	1,2,3,7,8,9-HXCDF	0.907 ng/Kg	0.907U ng/Kg
SL-316-A3-SB-0.0-0.5(RES)	1,2,3,7,8-PECDF	0.478 ng/Kg	0.478U ng/Kg
SL-316-A3-SB-0.0-0.5(RES)	2,3,4,6,7,8-HXCDF	0.612 ng/Kg	0.612U ng/Kg
SL-316-A3-SB-0.0-0.5(RES)	2,3,4,7,8-PECDF	0.306 ng/Kg	0.306U ng/Kg
SL-316-A3-SB-0.0-0.5(RES)	2,3,7,8-TCDF	0.176 ng/Kg	0.176U ng/Kg

Field Duplicate RPD Report

Lab Reporting Batch ID: PH020 **Laboratory: LL**

EDD Filename: PH020_v1. **eQAPP Name: CDM_SSFL_120718_Lan**

Method: 160.3M
Matrix: SO

Analyte	Concentration (%)		Sample RPD	eQAPP RPD	Flag
	SL-016-A3-SB-0.0-0.5	SL-316-A3-SB-0.0-0.5			
MOISTURE	1.7	1.7	0		No Qualifiers Applied

Method: 1613B
Matrix: SO

Analyte	Concentration (ng/Kg)		Sample RPD	eQAPP RPD	Flag
	SL-016-A3-SB-0.0-0.5	SL-316-A3-SB-0.0-0.5			
1,2,3,4,6,7,8-HPCDD	57.7	63.3	9	50.00	
1,2,3,4,6,7,8-HPCDF	11.0	11.9	8	50.00	
1,2,3,4,7,8,9-HPCDF	1.28	1.35	5	50.00	
1,2,3,4,7,8-HxCDD	0.810	1.01	22	50.00	
1,2,3,4,7,8-HXCDF	0.535	0.729	31	50.00	
1,2,3,6,7,8-HXCDD	1.90	2.14	12	50.00	
1,2,3,6,7,8-HXCDF	0.418	0.520	22	50.00	
1,2,3,7,8,9-HXCDD	1.90	2.08	9	50.00	No Qualifiers Applied
1,2,3,7,8,9-HXCDF	0.793	0.907	13	50.00	
1,2,3,7,8-PECDD	0.490	0.667	31	50.00	
1,2,3,7,8-PECDF	0.449	0.478	6	50.00	
2,3,4,6,7,8-HXCDF	0.538	0.612	13	50.00	
2,3,4,7,8-PECDF	0.332	0.306	8	50.00	
2,3,7,8-TCDF	0.141	0.176	22	50.00	
OCDD	805	954	17	50.00	
OCDF	63.5	68.0	7	50.00	
2,3,7,8-TCDD	0.0771	0.981 U	200	50.00	J(all detects) UJ(all non-detects)

Project Name and Number: 1203-004-009-AL - SSFL Phase 3

Reporting Limit Outliers

Lab Reporting Batch ID: PH020 **Laboratory: LL**

EDD Filename: PH020_v1. **eQAPP Name: CDM_SSFL_120718_Lan**

Method: **1613B**

Matrix: **SO**

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-011-A3-SB-0.0-0.5	1,2,3,4,7,8,9-HPCDF	JBQ	1.28	5.19	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JB	1.49	5.19	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JB	2.44	5.19	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	JB	5.04	5.19	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JB	0.923	5.19	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDD	JB	3.44	5.19	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	JB	1.02	5.19	PQL	ng/Kg	J (all detects)
	1,2,3,7,8-PECDD	JB	1.02	5.19	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JB	4.97	5.19	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JB	1.00	5.19	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JB	0.816	5.19	PQL	ng/Kg	
	2,3,7,8-TCDD	JB	0.248	1.04	PQL	ng/Kg	
	2,3,7,8-TCDF	JB	0.170	1.04	PQL	ng/Kg	
SL-012-A3-SB-0.0-0.5	1,2,3,4,7,8-HXCDF	JB	3.47	5.11	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JB	3.46	5.11	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	JBQ	0.850	5.11	PQL	ng/Kg	
	1,2,3,7,8-PECDD	JB	3.64	5.11	PQL	ng/Kg	J (all detects)
	1,2,3,7,8-PECDF	JB	2.32	5.11	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JB	1.35	5.11	PQL	ng/Kg	
	2,3,7,8-TCDD	JB	0.424	1.02	PQL	ng/Kg	
	2,3,7,8-TCDF	JB	0.281	1.02	PQL	ng/Kg	
SL-013-A3-SB-0.0-0.5	1,2,3,4,7,8,9-HPCDF	JB	4.46	5.22	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JB	3.36	5.22	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JB	1.91	5.22	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	JB	1.01	5.22	PQL	ng/Kg	
	1,2,3,7,8-PECDD	JB	4.18	5.22	PQL	ng/Kg	J (all detects)
	2,3,4,6,7,8-HXCDF	JB	2.71	5.22	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JB	1.52	5.22	PQL	ng/Kg	
	2,3,7,8-TCDD	JB	0.762	1.04	PQL	ng/Kg	
	2,3,7,8-TCDF	JB	0.810	1.04	PQL	ng/Kg	
SL-014-A3-SB-0.0-0.5	1,2,3,7,8,9-HXCDF	JB	2.36	5.27	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JB	2.98	5.27	PQL	ng/Kg	J (all detects)
	2,3,7,8-TCDF	JB	0.457	1.05	PQL	ng/Kg	
SL-015-A3-SB-0.0-0.5	1,2,3,4,7,8-HXCDF	JB	4.18	5.01	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JB	2.33	5.01	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	JB	1.57	5.01	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JB	1.63	5.01	PQL	ng/Kg	J (all detects)
	2,3,4,6,7,8-HXCDF	JB	3.32	5.01	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JBQ	1.11	5.01	PQL	ng/Kg	
	2,3,7,8-TCDD	JB	0.763	1.00	PQL	ng/Kg	
	2,3,7,8-TCDF	JB	0.273	1.00	PQL	ng/Kg	

Reporting Limit Outliers

Lab Reporting Batch ID: PH020 **Laboratory: LL**

EDD Filename: PH020_v1. **eQAPP Name: CDM_SSFL_120718_Lan**

Method: 1613B

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-016-A3-SB-0.0-0.5	1,2,3,4,7,8,9-HPCDF	JB	1.28	5.03	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JB	0.810	5.03	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JB	0.535	5.03	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	JB	1.90	5.03	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JB	0.418	5.03	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDD	JB	1.90	5.03	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	JBQ	0.793	5.03	PQL	ng/Kg	J (all detects)
	1,2,3,7,8-PECDD	JB	0.490	5.03	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JB	0.449	5.03	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JB	0.538	5.03	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JB	0.332	5.03	PQL	ng/Kg	
	2,3,7,8-TCDD	JBQ	0.0771	1.01	PQL	ng/Kg	
	2,3,7,8-TCDF	JB	0.141	1.01	PQL	ng/Kg	
SL-017-A3-SB-0.0-0.5	1,2,3,4,6,7,8-HPCDF	JB	4.15	5.15	PQL	ng/Kg	
	1,2,3,4,7,8,9-HPCDF	JB	0.580	5.15	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JB	0.644	5.15	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	JB	1.21	5.15	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JB	0.524	5.15	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDD	JBQ	1.20	5.15	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	JBQ	0.522	5.15	PQL	ng/Kg	J (all detects)
	1,2,3,7,8-PECDD	JB	0.497	5.15	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JB	1.54	5.15	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JB	0.586	5.15	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JB	1.49	5.15	PQL	ng/Kg	
	2,3,7,8-TCDD	JBQ	0.143	1.03	PQL	ng/Kg	
	2,3,7,8-TCDF	JB	0.769	1.03	PQL	ng/Kg	
SL-316-A3-SB-0.0-0.5	1,2,3,4,7,8,9-HPCDF	JB	1.35	4.90	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JB	1.01	4.90	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JB	0.729	4.90	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	JB	2.14	4.90	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JB	0.520	4.90	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDD	JB	2.08	4.90	PQL	ng/Kg	J (all detects)
	1,2,3,7,8,9-HXCDF	JB	0.907	4.90	PQL	ng/Kg	
	1,2,3,7,8-PECDD	JB	0.667	4.90	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JB	0.478	4.90	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JB	0.612	4.90	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JB	0.306	4.90	PQL	ng/Kg	
	2,3,7,8-TCDF	JB	0.176	0.981	PQL	ng/Kg	

Enclosure II

Level IV Validation Reports

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Santa Susana Field Laboratory
Collection Date:	July 17, 2012
LDC Report Date:	February 26, 2013
Matrix:	Soil
Parameters:	Dioxins/Dibenzofurans
Validation Level:	Level IV
Laboratory:	Eurofins Lancaster Laboratories
Sample Delivery Group (SDG):	PH020

Sample Identification

SL-014-A3-SB-0.0-0.5
SL-011-A3-SB-0.0-0.5

Introduction

This data review covers 2 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
BLK205001	7/23/12	2,3,7,8-TCDF 2,3,7,8-TCDD 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,7,8-PeCDD 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-HxCDD 1,2,3,6,7,8-HxCDD 1,2,3,7,8,9-HxCDD 1,2,3,7,8,9-HxCDF 1,2,3,4,6,7,8-HpCDF 1,2,3,4,6,7,8-HpCDD 1,2,3,4,7,8,9-HpCDF OCDD OCDF	0.116 ng/Kg 0.160 ng/Kg 0.151 ng/Kg 0.246 ng/Kg 0.115 ng/Kg 0.155 ng/Kg 0.163 ng/Kg 0.164 ng/Kg 0.164 ng/Kg 0.169 ng/Kg 0.179 ng/Kg 0.292 ng/Kg 0.196 ng/Kg 0.382 ng/Kg 0.152 ng/Kg 0.589 ng/Kg 0.257 ng/Kg	All samples in SDG PH020

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-014-A3-SB-0.0-0.5	2,3,7,8-TCDF	0.457 ng/Kg	0.457U ng/Kg
SL-011-A3-SB-0.0-0.5	2,3,7,8-TCDF 2,3,7,8-TCDD 2,3,4,7,8-PeCDF 1,2,3,7,8,9-HxCDF	0.170 ng/Kg 0.248 ng/Kg 0.816 ng/Kg 1.02 ng/Kg	0.170U ng/Kg 0.248U ng/Kg 0.816U ng/Kg 1.02U ng/Kg

Sample EB-071812 (from SDG PH024) 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
EB1-071812	7/18/12	1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,7,8-PeCDD 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-HxCDD 1,2,3,6,7,8-HxCDD 1,2,3,7,8,9-HxCDD 1,2,3,7,8,9-HxCDF 1,2,3,4,6,7,8-HpCDF 1,2,3,4,6,7,8-HpCDD 1,2,3,4,7,8,9-HpCDF OCDD OCDF	0.374 pg/L 0.712 pg/L 0.457 pg/L 0.594 pg/L 0.508 pg/L 0.439 pg/L 0.582 pg/L 0.614 pg/L 0.769 pg/L 0.748 pg/L 1.37 pg/L 2.98 pg/L 0.785 pg/L 5.38 pg/L 1.25 pg/L	All samples in SDG PH020

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

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 the QC limits.

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 and RLs

All compound quantitation and RLs were within validation criteria with the following exceptions:

Sample	Compound	Finding	Criteria	Flag	A or P
SL-014-A3-SB-0.0-0.5	1,2,3,4,6,7,8-HpCDD OCDD	Sample result exceeded calibration range.	Reported result should be within calibration range.	J (all detects) J (all detects)	P

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG PH020	All compounds reported below the RL.	J (all detects)	A

Santa Susana Field Laboratory
Dioxins/Dibenzofurans - Data Qualification Summary - SDG PH020

SDG	Sample	Compound	Flag	A or P	Reason (Code)
PH020	SL-014-A3-SB-0.0-0.5	1,2,3,4,6,7,8-HpCDD OCDD	J (all detects) J (all detects)	P	Compound quantitation and RLs (*XI)
PH020	SL-014-A3-SB-0.0-0.5 SL-011-A3-SB-0.0-0.5	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and RLs (Z)

Santa Susana Field Laboratory
Dioxins/Dibenzofurans - Laboratory Blank Data Qualification Summary - SDG PH020

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
PH020	SL-014-A3-SB-0.0-0.5	2,3,7,8-TCDF	0.457U ng/Kg	A	B
PH020	SL-011-A3-SB-0.0-0.5	2,3,7,8-TCDF 2,3,7,8-TCDD 2,3,4,7,8-PeCDF 1,2,3,7,8,9-HxCDF	0.170U ng/Kg 0.248U ng/Kg 0.816U ng/Kg 1.02U ng/Kg	A	B

Santa Susana Field Laboratory
Dioxins/Dibenzofurans - Field Blank Data Qualification Summary - SDG PH020

No Sample Data Qualified in this SDG

LDC #: 29238A21 **VALIDATION COMPLETENESS WORKSHEET** Date: 2/23/13
SDG #: PH020 Level IV Page: 1 of 1
Laboratory: Eurofins Lancaster Laboratories Reviewer: F
2nd Reviewer: A

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: 7/17/12
II.	HRGC/HRMS Instrument performance check	A	
III.	Initial calibration	A	%RSD ≤ 20/35
IV.	Continuing Calibration	A	QC limits
V.	Blanks	SW	
VI.	Matrix spike/Matrix spike duplicates	A	SL-016-A3-SB-0.0-0.5 MS/MD
VII.	Laboratory control samples	A	~~LCS~~ OPR
VIII.	Regional quality assurance and quality control	N	
IX.	Internal standards	A	
X.	Target compound identifications	A	
XI.	Compound quantitation/RL/LOQ/LODs	A	
XII.	System performance	A	
XIII.	Overall assessment of data	A	
XIV.	Field duplicates	N	
XV.	Field blanks	SW	EB = EB-071812 SDG # PH024

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

Validated Samples:

1	SL-014-A3-SB-0.0-0.5	11	MB	21		31	
2	SL-011-A3-SB-0.0-0.5	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 29238A21

VALIDATION FINDINGS CHECKLIST

Reviewer: FT
2nd Reviewer: A

Method: Dioxins/Dibenzofurans (EPA SW 846 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?	✓			

LDC #: 29238A21

VALIDATION FINDINGS CHECKLIST

Reviewer: FT
2nd Reviewer: A

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 ≥ 2.5, at ± 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:

LDC #: 29238A21

VALIDATION FINDINGS WORKSHEET
Blanks

Page: 1 of 1
Reviewer: FT
2nd Reviewer: ✓

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?

* empc (B)

Blank extraction date: 7/23/12 **Blank analysis date:** 7/27/12 **Associated samples:** All

Conc. units: ng/kg

Compound	Blank ID	Sample Identification								
	BLK 205001 SX		1		2				
H	0.116 *	0.58		0.457 U		0.170 U				
A	0.160	0.80				0.248 U				
I	0.151	0.755				.				
J	0.246	1.23				0.816 U				
B	0.115	0.575				.				
K	0.155	0.775				.				
L	0.163	0.815				.				
M	0.164	0.82				.				
C	0.164	0.82				.				
D	0.169 *	0.845								
E	0.179	0.895								
N	0.292	1.46				1.02 U				
⊗	0.196	0.98								
F	0.382	1.91								
P	0.152 *	0.76								
G	0.589	2.945								
Q	0.257	1.285								

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".

LDC #: 29238A21

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: FT
2nd Reviewer: A

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

* empc

(Y) N N/A Were field blanks identified in this SDG?
Blank units: pg/L **Associated sample units:** ng/kg
Sampling date: 7/18/12
Field blank type: (circle one) Field Blank / Rinsate / Other: EB Associated Samples: All 5X

Compound	Blank ID	Sample Identification								
	EB-071812									
H										
A										
I	0.374*									
J	0.712 *									
B	0.457*									
K	0.594									
L	0.508 *									
M	0.439*									
C	0.582 *									
D	0.614 *									
E	0.769									
N	0.748 *									
~~O~~	1.37									
F	2.98 *									
P	0.785 *									
G	5.38									
Q	1.25									
CRQL										

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

LDC #: 29238A21

VALIDATION FINDINGS WORKSHEET
Compound Quantitation and Reported CRQLs

Page: 1 of 1
Reviewer: FT
2nd Reviewer:

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

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

(Y) N N/A Were the correct internal standard (IS), quantitation ions and relative response factors (RRF) used to quantitate the compound?
(Y) N N/A Compound quantitation and CRQLs were adjusted to reflect all sample dilutions and dry weight factors (if necessary).

(* x 1)

#	Date	~~Sample ID~~ compd	Finding	Associated Samples	Qualifications
		F, G	x'd cal Range	1	J/Pdet

Comments: See sample calculation verification worksheet for recalculations

LDC #: 29238A21

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
Reviewer: FT
2nd Reviewer:

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:

$RRF = (A_x)(C_{is})/(A_{is})(C_x)$ — A_x = Area of compound, A_{is} = Area of associated internal standard
average RRF = sum of the RRFs/number of standards — C_x = Concentration of compound, C_{is} = Concentration of internal standard
$\%RSD = 100 * (S/X)$ — S = Standard deviation of the RRFs, X = Mean of the RRFs

#	Standard ID	Calibration Date	Compound (Reference Internal Standard)	Reported Average RRF (initial)	Recalculated Average RRF (initial)	Reported RRF (CS3 std)	Recalculated RRF (CS3 std)	Reported %RSD	Recalculated %RSD
1	ICAL	7/2/18	2,3,7,8-TCDF (^{13}C-2,3,7,8-TCDF)	1.008	1.008	1.011	1.011	4.55	4.55
			2,3,7,8-TCDD (^{13}C-2,3,7,8-TCDD)	1.176	1.176	1.170	1.170	3.95	3.95
			1,2,3,6,7,8-HxCDD (^{13}C-1,2,3,6,7,8-HxCDD)	0.971	0.971	0.997	0.997	5.07	5.07
			1,2,3,4,6,7,8-HpCDD (^{13}C-1,2,4,6,7,8,-HpCDD)	1.068	1.068	1.085	1.085	2.29	2.29
			OCDF (^{13}C-OCDF)	0.943	0.943	0.960	0.960	2.88	2.88
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.

LDC #: 29238A21

VALIDATION FINDINGS WORKSHEET
Routine Calibration Results Verification

Reviewer: FT
2nd Reviewer:

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:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
$RRF = (A_x)(C_{is})/(A_{is})(C_x)$

Where: ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
A_x = Area of compound, A_{is} = Area of associated internal standard
C_x = Concentration of compound, C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference Internal Standard)	Average RRF (initial)	Reported RRF (CC)	Recalculated RRF (CC)	Reported %R	Recalculated %R
1	CCV 1919	7/27/12	2,3,7,8-TCDF (^{13}C-2,3,7,8-TCDF)	10.0	10.590	10.590	106	106
			2,3,7,8-TCDD (^{13}C-2,3,7,8-TCDD)	10.0	10.820	10.820	108	108
			1,2,3,6,7,8-HxCDD (^{13}C-1,2,3,6,7,8-HxCDD)	50.0	55.850	55.850	112	112
			1,2,3,4,6,7,8-HpCDD (^{13}C-1,2,4,6,7,8,-HpCDD)	50.0	53.950	53.950	108	108
			OCDF (^{13}C-OCDF)	100.0	110.440	110.440	110	110
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 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 #: 29238A27

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample Results Verification

Reviewer: FT
2nd Reviewer: [illegible]

METHOD: GC/MS Dioxins/Dibenzofurans (EPA SW 846 Method 1613B)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratoy control sample and laboratory control sample duplicate (if applicable) were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * SSC/SA Where: SSC = Spiked sample concentration
SA = Spike added

RPD = I LCS - LCSD I * 2/(LCS + LCSD) LCS = Laboraotry control sample percent recovery LCSD = Laboratory control sample duplicate percent recovery

LCS ID: OPR

Compound	Spike Added (ng/kg)		Spiked Sample Concentration (ng/kg)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc	Reported	Recalc	Reported	Recalculated
2,3,7,8-TCDD	20	NA	23.9	NA	119	119				
1,2,3,7,8-PeCDD	100		118		118	118				
1,2,3,4,7,8-HxCDD	100		117		117	117				
1,2,3,4,7,8,9-HpCDF	100		113		113	113				
OCDF	200		228		114	114	NA			

Comments: Refer to Laboratory Control Sample findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 29238A2

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: FT
2nd reviewer: C

10.1 g
S = 94 %

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA Method 1613B)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(DF)}{(A_{is})(RRF)(V_o)(\%S)}$

A_x = Area of the characteristic ion (EICP) for the compound to be measured

A_{is} = Area of the characteristic ion (EICP) for the specific internal standard

I_s = Amount of internal standard added in nanograms (ng)

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. #1 , 2, 3, 7, 8 TCDF

Conc. = $\frac{(4896 + 4194)(2000}{(2290531 + 1869870)(1.008)(10.1)(0.94)}$

=

0.457 ng/kg

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

Quality Control Outlier Reports

PT024

(No Outliers)

SAMPLE DELIVERY GROUP

PH024

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
18-Jul-2012	SL-002-A3-SB-0.0-0.5	6726247	N	METHOD	1613B	III
18-Jul-2012	SL-001-A3-SB-0.0-0.5	6726246	N	METHOD	1613B	III
18-Jul-2012	SL-003-A3-SB-0.0-0.5	6726248	N	METHOD	1613B	III
18-Jul-2012	SL-008-A3-SB-0.0-0.5	6726250	N	METHOD	1613B	III
18-Jul-2012	SL-008-A3-SB-0.0-0.5MS	6726251	MS	METHOD	1613B	III
18-Jul-2012	SL-008-A3-SB-0.0-0.5MSD	6726252	MSD	METHOD	1613B	III
18-Jul-2012	SL-009-A3-SB-0.0-0.5	6726254	N	METHOD	1613B	III
18-Jul-2012	SL-010-A3-SB-0.0-0.5	6726253	N	METHOD	1613B	III
18-Jul-2012	EB-071812	6726249	EB	METHOD	1613B	III
24-Jul-2012	SL-007-A3-SB-0.0-0.5	6732509	N	METHOD	1613B	III
24-Jul-2012	SL-006-A3-SB-0.0-0.5	6732508	N	METHOD	1613B	III
24-Jul-2012	SL-004-A3-SB-0.0-0.5	6732506	N	METHOD	1613B	III
24-Jul-2012	SL-005-A3-SB-0.0-0.5	6732507	N	METHOD	1613B	III
24-Jul-2012	EB-072412	6732510	EB	METHOD	1613B	III

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

Attachment II

Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: PH024 **Laboratory: LL**

EDD Filename: PH024_v1. **eQAPP Name: CDM_SSFL_120718_Lan**

Method Category: SVOA

Method: 1613B **Matrix: AQ**

Sample ID: **EB-071812** ***Collected:*** **7/18/2012 3:00:00** ***Analysis Type:*** **RES** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,6,7,8-HPCDD	2.98	JBQ	0.250	MDL	10.5	PQL	pg/L	U	B
1,2,3,4,6,7,8-HPCDF	1.37	JB	0.212	MDL	10.5	PQL	pg/L	U	B
1,2,3,4,7,8,9-HPCDF	0.785	JBQ	0.151	MDL	10.5	PQL	pg/L	U	B
1,2,3,4,7,8-HxCDD	0.582	JBQ	0.283	MDL	10.5	PQL	pg/L	U	B
1,2,3,4,7,8-HXCDF	0.594	J	0.278	MDL	10.5	PQL	pg/L	J	Z
1,2,3,6,7,8-HXCDD	0.614	JBQ	0.300	MDL	10.5	PQL	pg/L	U	B
1,2,3,6,7,8-HXCDF	0.508	JBQ	0.264	MDL	10.5	PQL	pg/L	U	B
1,2,3,7,8,9-HXCDD	0.769	JB	0.231	MDL	10.5	PQL	pg/L	U	B
1,2,3,7,8,9-HXCDF	0.748	JBQ	0.140	MDL	10.5	PQL	pg/L	U	B
1,2,3,7,8-PECDD	0.457	JQ	0.456	MDL	10.5	PQL	pg/L	J	Z
1,2,3,7,8-PECDF	0.374	JBQ	0.195	MDL	10.5	PQL	pg/L	U	B
2,3,4,6,7,8-HXCDF	0.439	JBQ	0.159	MDL	10.5	PQL	pg/L	U	B
2,3,4,7,8-PECDF	0.712	JBQ	0.187	MDL	10.5	PQL	pg/L	U	B
OCDD	5.38	JB	0.337	MDL	21.0	PQL	pg/L	U	B
OCDF	1.25	JB	0.396	MDL	21.0	PQL	pg/L	U	B

Sample ID: **EB-072412** ***Collected:*** **7/24/2012 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	5.92	JB	0.297	MDL	10.2	PQL	pg/L	U	B
1,2,3,4,6,7,8-HPCDF	1.86	JBQ	0.207	MDL	10.2	PQL	pg/L	U	B
1,2,3,4,7,8,9-HPCDF	1.69	JB	0.241	MDL	10.2	PQL	pg/L	U	B
1,2,3,4,7,8-HxCDD	0.683	JBQ	0.339	MDL	10.2	PQL	pg/L	U	B
1,2,3,4,7,8-HXCDF	1.06	JB	0.238	MDL	10.2	PQL	pg/L	U	B
1,2,3,6,7,8-HXCDD	0.771	JBQ	0.340	MDL	10.2	PQL	pg/L	U	B
1,2,3,6,7,8-HXCDF	1.22	JB	0.222	MDL	10.2	PQL	pg/L	U	B
1,2,3,7,8,9-HXCDD	1.26	JBQ	0.333	MDL	10.2	PQL	pg/L	U	B
1,2,3,7,8,9-HXCDF	0.829	JBQ	0.220	MDL	10.2	PQL	pg/L	U	B
1,2,3,7,8-PECDD	1.19	JBQ	0.484	MDL	10.2	PQL	pg/L	U	B
1,2,3,7,8-PECDF	0.560	JBQ	0.249	MDL	10.2	PQL	pg/L	U	B
2,3,4,6,7,8-HXCDF	1.11	JBQ	0.220	MDL	10.2	PQL	pg/L	U	B
2,3,4,7,8-PECDF	1.21	JBQ	0.215	MDL	10.2	PQL	pg/L	U	B
2,3,7,8-TCDD	0.815	JB	0.427	MDL	2.04	PQL	pg/L	U	B
OCDD	12.8	JB	0.578	MDL	20.4	PQL	pg/L	U	B

* denotes a non-reportable result

Project Name and Number: 1203-004-009-AL - SSFL Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH024 **Laboratory: LL**

EDD Filename: PH024_v1. **eQAPP Name: CDM_SSFL_120718_Lan**

Method Category: SVOA

Method: 1613B **Matrix: AQ**

Sample ID: **EB-072412** ***Collected:*** **7/24/2012 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
OCDF	2.74	JBQ	0.340	MDL	20.4	PQL	pg/L	U	B

Method Category: SVOA

Method: 1613B **Matrix: SO**

Sample ID: **SL-001-A3-SB-0.0-0.5** ***Collected:*** **7/18/2012 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
1,2,3,6,7,8-HXCDF	4.75	JB	0.0709	MDL	5.56	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDD	3.10	JB	0.0982	MDL	5.56	PQL	ng/Kg	J	Z
2,3,4,6,7,8-HXCDF	5.05	JB	0.0645	MDL	5.56	PQL	ng/Kg	J	Z
2,3,4,7,8-PECDF	3.17	JB	0.0697	MDL	5.56	PQL	ng/Kg	J	Z
2,3,7,8-TCDD	0.717	JBQ	0.0794	MDL	1.11	PQL	ng/Kg	J	Z

Sample ID: **SL-002-A3-SB-0.0-0.5** ***Collected:*** **7/18/2012 7:30:00** ***Analysis Type:*** **RES** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,7,8,9-HPCDF	2.11	JB	0.0345	MDL	5.06	PQL	ng/Kg	J	Z
1,2,3,4,7,8-HxCDD	1.30	JB	0.0534	MDL	5.06	PQL	ng/Kg	J	Z
1,2,3,4,7,8-HXCDF	2.18	JB	0.0385	MDL	5.06	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDD	4.72	JB	0.0552	MDL	5.06	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDF	1.10	JB	0.0347	MDL	5.06	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDD	2.17	JB	0.0519	MDL	5.06	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDF	0.295	JB	0.0323	MDL	5.06	PQL	ng/Kg	U	B
1,2,3,7,8-PECDD	0.551	JB	0.0566	MDL	5.06	PQL	ng/Kg	U	B
1,2,3,7,8-PECDF	1.08	JB	0.0401	MDL	5.06	PQL	ng/Kg	U	B
2,3,4,6,7,8-HXCDF	1.37	JB	0.0340	MDL	5.06	PQL	ng/Kg	J	Z
2,3,4,7,8-PECDF	0.550	JB	0.0373	MDL	5.06	PQL	ng/Kg	U	B
2,3,7,8-TCDD	0.267	JB	0.0312	MDL	1.01	PQL	ng/Kg	U	B
2,3,7,8-TCDF	0.334	JB	0.0700	MDL	1.01	PQL	ng/Kg	U	B

Sample ID: **SL-003-A3-SB-0.0-0.5** ***Collected:*** **7/18/2012 9:15:00** ***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-HXCDF	3.83	JB	0.0771	MDL	5.33	PQL	ng/Kg	J	Z

* denotes a non-reportable result

Project Name and Number: 1203-004-009-AL - SSFL Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH024 **Laboratory: LL**

EDD Filename: PH024_v1. **eQAPP Name: CDM_SSFL_120718_Lan**

Method Category: **SVOA**

Method: **1613B** ***Matrix:*** **SO**

Sample ID: **SL-003-A3-SB-0.0-0.5** ***Collected:*** **7/18/2012 9:15:00** ***Analysis Type:*** **RES** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,7,8,9-HXCDF	1.08	JB	0.0810	MDL	5.33	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDD	2.88	JB	0.0992	MDL	5.33	PQL	ng/Kg	J	Z
2,3,4,6,7,8-HXCDF	4.78	JB	0.0758	MDL	5.33	PQL	ng/Kg	J	Z
2,3,4,7,8-PECDF	1.77	JB	0.0839	MDL	5.33	PQL	ng/Kg	U	B
2,3,7,8-TCDD	0.679	JB	0.0750	MDL	1.07	PQL	ng/Kg	J	Z

Sample ID: **SL-004-A3-SB-0.0-0.5** ***Collected:*** **7/24/2012 9:45:00** ***Analysis Type:*** **RES** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,7,8-HXCDF	15.2	JB	0.216	MDL	16.2	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDF	4.72	JB	0.214	MDL	16.2	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDD	9.26	JB	0.389	MDL	16.2	PQL	ng/Kg	J	Z
2,3,4,7,8-PECDF	15.1	JB	0.142	MDL	16.2	PQL	ng/Kg	J	Z
2,3,7,8-TCDD	2.17	JB	0.224	MDL	3.24	PQL	ng/Kg	J	Z

Sample ID: **SL-005-A3-SB-0.0-0.5** ***Collected:*** **7/24/2012 10:15:00** ***Analysis Type:*** **RES** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,7,8,9-HXCDF	6.05	JB	0.235	MDL	13.3	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDD	10.0	JB	0.432	MDL	13.3	PQL	ng/Kg	J	Z
OCDD	18100	EB	0.298	MDL	26.6	PQL	ng/Kg	J	*XI

Sample ID: **SL-006-A3-SB-0.0-0.5** ***Collected:*** **7/24/2012 8:35:00** ***Analysis Type:*** **RES** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,7,8,9-HXCDF	5.97	JB	0.293	MDL	11.9	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDD	11.3	JB	0.387	MDL	11.9	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDF	10.6	JB	0.126	MDL	11.9	PQL	ng/Kg	J	Z
OCDD	18400	EB	0.314	MDL	23.9	PQL	ng/Kg	J	* XI

Sample ID: **SL-007-A3-SB-0.0-0.5** ***Collected:*** **7/24/2012 8:00:00** ***Analysis Type:*** **RES** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,7,8-HxCDD	11.7	J	0.223	MDL	12.6	PQL	ng/Kg	J	Z
1,2,3,4,7,8-HXCDF	9.90	JB	0.213	MDL	12.6	PQL	ng/Kg	J	Z

* denotes a non-reportable result

Project Name and Number: 1203-004-009-AL - SSFL Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH024 **Laboratory: LL**

EDD Filename: PH024_v1. **eQAPP Name: CDM_SSFL_120718_Lan**

Method Category: SVOA

Method: 1613B **Matrix: SO**

Sample ID: **SL-007-A3-SB-0.0-0.5** ***Collected:*** **7/24/2012 8:00:00** ***Analysis Type:*** **RES** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,6,7,8-HXCDF	10.3	JB	0.191	MDL	12.6	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDF	2.45	JB	0.180	MDL	12.6	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDD	5.17	JB	0.266	MDL	12.6	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDF	4.21	JB	0.0921	MDL	12.6	PQL	ng/Kg	J	Z
2,3,4,7,8-PECDF	6.95	JB	0.0888	MDL	12.6	PQL	ng/Kg	J	Z
2,3,7,8-TCDD	1.39	JB	0.115	MDL	2.52	PQL	ng/Kg	J	Z

Sample ID: **SL-008-A3-SB-0.0-0.5** ***Collected:*** **7/18/2012 12:10:00** ***Analysis Type:*** **RES** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,4,7,8,9-HPCDF	0.627	JB	0.0323	MDL	4.99	PQL	ng/Kg	J	Z
1,2,3,4,7,8-HxCDD	0.463	JB	0.0374	MDL	4.99	PQL	ng/Kg	U	B
1,2,3,4,7,8-HXCDF	0.628	JB	0.0389	MDL	4.99	PQL	ng/Kg	U	B
1,2,3,6,7,8-HXCDD	1.01	JB	0.0370	MDL	4.99	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDF	0.249	JB	0.0351	MDL	4.99	PQL	ng/Kg	U	B
1,2,3,7,8,9-HXCDD	0.996	JB	0.0347	MDL	4.99	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDF	0.265	JB	0.0340	MDL	4.99	PQL	ng/Kg	U	B
1,2,3,7,8-PECDD	0.268	JB	0.0331	MDL	4.99	PQL	ng/Kg	U	B
1,2,3,7,8-PECDF	0.772	JB	0.0360	MDL	4.99	PQL	ng/Kg	U	B
2,3,4,6,7,8-HXCDF	0.371	JB	0.0357	MDL	4.99	PQL	ng/Kg	U	B
2,3,4,7,8-PECDF	0.278	JB	0.0332	MDL	4.99	PQL	ng/Kg	U	B
2,3,7,8-TCDF	0.149	JBQ	0.0528	MDL	0.998	PQL	ng/Kg	U	B

Sample ID: **SL-009-A3-SB-0.0-0.5** ***Collected:*** **7/18/2012 1:05:00** ***Analysis Type:*** **RES** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3,7,8,9-HXCDF	1.94	JB	0.0693	MDL	5.17	PQL	ng/Kg	J	Z
1,2,3,7,8-PECDF	4.49	JB	0.0682	MDL	5.17	PQL	ng/Kg	J	Z
2,3,4,7,8-PECDF	2.01	JB	0.0638	MDL	5.17	PQL	ng/Kg	J	Z
2,3,7,8-TCDD	0.765	JB	0.0713	MDL	1.03	PQL	ng/Kg	J	Z
OCDD	14200	EB	0.0593	MDL	10.3	PQL	ng/Kg	J	* XI

* denotes a non-reportable result

Project Name and Number: 1203-004-009-AL - SSFL Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH024 **Laboratory: LL**

EDD Filename: PH024_v1. **eQAPP Name: CDM_SSFL_120718_Lan**

Method Category: **SVOA**

Method: **1613B** ***Matrix:*** **SO**

Sample ID: **SL-010-A3-SB-0.0-0.5** ***Collected:*** **7/18/2012 1:40:00** ***Analysis Type:*** **RES** ***Dilution:*** **1**

Analyte	*Lab Result*	*Lab Qual*	*DL*	*DL Type*	*RL*	*RL Type*	*Units*	*Data Review Qual*	*Reason Code*
1,2,3,4,7,8-HXCDF	3.37	JB	0.0534	MDL	5.18	PQL	ng/Kg	J	Z
1,2,3,6,7,8-HXCDF	3.81	JB	0.0525	MDL	5.18	PQL	ng/Kg	J	Z
1,2,3,7,8,9-HXCDF	0.760	JB	0.0546	MDL	5.18	PQL	ng/Kg	U	B
1,2,3,7,8-PECDF	1.44	JB	0.0483	MDL	5.18	PQL	ng/Kg	U	B
2,3,4,7,8-PECDF	0.812	JB	0.0454	MDL	5.18	PQL	ng/Kg	U	B
2,3,7,8-TCDD	0.726	JB	0.0382	MDL	1.04	PQL	ng/Kg	J	Z
2,3,7,8-TCDF	0.312	JB	0.0723	MDL	1.04	PQL	ng/Kg	U	B
OCDD	5480	EB	0.0486	MDL	10.4	PQL	ng/Kg	J	* XI

* denotes a non-reportable result

Project Name and Number: 1203-004-009-AL - SSFL Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH024 **Laboratory: LL**

EDD Filename: PH024_v1. **eQAPP Name: CDM_SSFL_120718_Lan**

Reason Code Legend

Reason Code	*Description*
* XI	Exceeds Calibration Range
A	Professional Judgment
B	Method Blank Contamination
Z	Reporting Limit Trace Value

* denotes a non-reportable result

Project Name and Number: 1203-004-009-AL - SSFL Phase 3

Enclosure I

Level III ADR Outliers
(including Manual Review Outliers)

Quality Control Outlier Reports

PH024

Method Blank Outlier Report

Lab Reporting Batch ID: PH024 **Laboratory: LL**

EDD Filename: PH024_v1. **eQAPP Name: CDM_SSFL_120718_Lan**

Method: **1613B**
Matrix: **AQ**

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples
BLK2020B371204	7/24/2012 12:04:00 PM	1,2,3,4,6,7,8-HPCDD	3.87 pg/L	EB-071812
		1,2,3,4,6,7,8-HPCDF	0.574 pg/L	
		1,2,3,4,7,8,9-HPCDF	0.669 pg/L	
		1,2,3,4,7,8-HxCDD	0.654 pg/L	
		1,2,3,6,7,8-HXCDD	0.747 pg/L	
		1,2,3,6,7,8-HXCDF	0.483 pg/L	
		1,2,3,7,8,9-HXCDD	0.928 pg/L	
		1,2,3,7,8,9-HXCDF	0.731 pg/L	
		1,2,3,7,8-PECDF	0.300 pg/L	
		2,3,4,6,7,8-HXCDF	0.393 pg/L	
		2,3,4,7,8-PECDF	0.481 pg/L	
		2,3,7,8-TCDD	1.06 pg/L	
		2,3,7,8-TCDF	0.441 pg/L	
		OCDD	6.40 pg/L	
		OCDF	1.62 pg/L	
BLK2090B371101	7/30/2012 11:01:00 AM	1,2,3,4,6,7,8-HPCDD	4.10 pg/L	EB-072412
		1,2,3,4,6,7,8-HPCDF	1.95 pg/L	
		1,2,3,4,7,8,9-HPCDF	1.55 pg/L	
		1,2,3,4,7,8-HxCDD	0.812 pg/L	
		1,2,3,4,7,8-HXCDF	1.09 pg/L	
		1,2,3,6,7,8-HXCDD	0.994 pg/L	
		1,2,3,6,7,8-HXCDF	0.651 pg/L	
		1,2,3,7,8,9-HXCDD	1.16 pg/L	
		1,2,3,7,8,9-HXCDF	1.52 pg/L	
		1,2,3,7,8-PECDD	1.09 pg/L	
		1,2,3,7,8-PECDF	0.799 pg/L	
		2,3,4,6,7,8-HXCDF	0.837 pg/L	
		2,3,4,7,8-PECDF	1.29 pg/L	
		2,3,7,8-TCDD	0.790 pg/L	
		2,3,7,8-TCDF	0.395 pg/L	
		OCDD	12.2 pg/L	
		OCDF	2.29 pg/L	

The following samples and their listed target analytes were qualified due to contamination reported in this blank

Sample ID	Analyte	Reported Result	Modified Final Result
EB-071812(RES)	1,2,3,4,6,7,8-HPCDD	2.98 pg/L	2.98U pg/L
EB-071812(RES)	1,2,3,4,6,7,8-HPCDF	1.37 pg/L	1.37U pg/L
EB-071812(RES)	1,2,3,4,7,8,9-HPCDF	0.785 pg/L	0.785U pg/L
EB-071812(RES)	1,2,3,4,7,8-HxCDD	0.582 pg/L	0.582U pg/L
EB-071812(RES)	1,2,3,6,7,8-HXCDD	0.614 pg/L	0.614U pg/L
EB-071812(RES)	1,2,3,6,7,8-HXCDF	0.508 pg/L	0.508U pg/L
EB-071812(RES)	1,2,3,7,8,9-HXCDD	0.769 pg/L	0.769U pg/L
EB-071812(RES)	1,2,3,7,8,9-HXCDF	0.748 pg/L	0.748U pg/L
EB-071812(RES)	1,2,3,7,8-PECDF	0.374 pg/L	0.374U pg/L
EB-071812(RES)	2,3,4,6,7,8-HXCDF	0.439 pg/L	0.439U pg/L
EB-071812(RES)	2,3,4,7,8-PECDF	0.712 pg/L	0.712U pg/L
EB-071812(RES)	OCDD	5.38 pg/L	5.38U pg/L
EB-071812(RES)	OCDF	1.25 pg/L	1.25U pg/L
EB-072412(RES)	1,2,3,4,6,7,8-HPCDD	5.92 pg/L	5.92U pg/L
EB-072412(RES)	1,2,3,4,6,7,8-HPCDF	1.86 pg/L	1.86U pg/L
EB-072412(RES)	1,2,3,4,7,8,9-HPCDF	1.69 pg/L	1.69U pg/L

Project Name and Number: 1203-004-009-AL - SSFL Phase 3

Method Blank Outlier Report

Lab Reporting Batch ID: PH024 **Laboratory: LL**

EDD Filename: PH024_v1. **eQAPP Name: CDM_SSFL_120718_Lan**

Method: 1613B
Matrix: AQ

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples

The following samples and their listed target analytes were qualified due to contamination reported in this blank

Sample ID	Analyte	Reported Result	Modified Final Result
EB-072412(RES)	1,2,3,4,7,8-HxCDD	0.683 pg/L	0.683U pg/L
EB-072412(RES)	1,2,3,4,7,8-HXCDF	1.06 pg/L	1.06U pg/L
EB-072412(RES)	1,2,3,6,7,8-HXCDD	0.771 pg/L	0.771U pg/L
EB-072412(RES)	1,2,3,6,7,8-HXCDF	1.22 pg/L	1.22U pg/L
EB-072412(RES)	1,2,3,7,8,9-HXCDD	1.26 pg/L	1.26U pg/L
EB-072412(RES)	1,2,3,7,8,9-HXCDF	0.829 pg/L	0.829U pg/L
EB-072412(RES)	1,2,3,7,8-PECDD	1.19 pg/L	1.19U pg/L
EB-072412(RES)	1,2,3,7,8-PECDF	0.560 pg/L	0.560U pg/L
EB-072412(RES)	2,3,4,6,7,8-HXCDF	1.11 pg/L	1.11U pg/L
EB-072412(RES)	2,3,4,7,8-PECDF	1.21 pg/L	1.21U pg/L
EB-072412(RES)	2,3,7,8-TCDD	0.815 pg/L	0.815U pg/L
EB-072412(RES)	OCDD	12.8 pg/L	12.8U pg/L
EB-072412(RES)	OCDF	2.74 pg/L	2.74U pg/L

Method: 1613B
Matrix: SO

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples
BLK2070B371414	7/27/2012 2:14:00 PM	1,2,3,4,6,7,8-HPCDD 1,2,3,4,6,7,8-HPCDF 1,2,3,4,7,8,9-HPCDF 1,2,3,4,7,8-HxCDD 1,2,3,4,7,8-HXCDF 1,2,3,6,7,8-HXCDD 1,2,3,6,7,8-HXCDF 1,2,3,7,8,9-HXCDD 1,2,3,7,8,9-HXCDF 1,2,3,7,8-PECDD 1,2,3,7,8-PECDF 2,3,4,6,7,8-HXCDF 2,3,4,7,8-PECDF 2,3,7,8-TCDD 2,3,7,8-TCDF OCDD OCDF	0.289 ng/Kg 0.149 ng/Kg 0.101 ng/Kg 0.179 ng/Kg 0.257 ng/Kg 0.183 ng/Kg 0.200 ng/Kg 0.183 ng/Kg 0.186 ng/Kg 0.370 ng/Kg 0.382 ng/Kg 0.176 ng/Kg 0.369 ng/Kg 0.124 ng/Kg 0.111 ng/Kg 0.448 ng/Kg 0.157 ng/Kg	SL-001-A3-SB-0.0-0.5 SL-002-A3-SB-0.0-0.5 SL-003-A3-SB-0.0-0.5 SL-008-A3-SB-0.0-0.5 SL-009-A3-SB-0.0-0.5 SL-010-A3-SB-0.0-0.5
BLK2070B371455	7/29/2012 2:55:00 PM	2,3,7,8-TCDF	0.0775 ng/Kg	SL-001-A3-SB-0.0-0.5 SL-002-A3-SB-0.0-0.5 SL-003-A3-SB-0.0-0.5 SL-008-A3-SB-0.0-0.5 SL-009-A3-SB-0.0-0.5 SL-010-A3-SB-0.0-0.5
BLK2090B370833	7/31/2012 8:33:00 AM	2,3,7,8-TCDF	0.0383 ng/Kg	SL-004-A3-SB-0.0-0.5 SL-005-A3-SB-0.0-0.5 SL-006-A3-SB-0.0-0.5 SL-007-A3-SB-0.0-0.5

Method Blank Outlier Report

Lab Reporting Batch ID: PH024 **Laboratory: LL**

EDD Filename: PH024_v1. **eQAPP Name: CDM_SSFL_120718_Lan**

Method: **1613B**
Matrix: **SO**

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples
BLK2090B370902	7/30/2012 9:02:00 AM	1,2,3,4,6,7,8-HPCDD	0.285 ng/Kg	SL-004-A3-SB-0.0-0.5
		1,2,3,4,6,7,8-HPCDF	0.0933 ng/Kg	SL-005-A3-SB-0.0-0.5
		1,2,3,4,7,8,9-HPCDF	0.0528 ng/Kg	SL-006-A3-SB-0.0-0.5
		1,2,3,4,7,8-HXCDF	0.0289 ng/Kg	SL-007-A3-SB-0.0-0.5
		1,2,3,6,7,8-HXCDD	0.0487 ng/Kg	
		1,2,3,6,7,8-HXCDF	0.0406 ng/Kg	
		1,2,3,7,8,9-HXCDD	0.0469 ng/Kg	
		1,2,3,7,8,9-HXCDF	0.0500 ng/Kg	
		1,2,3,7,8-PECDD	0.0341 ng/Kg	
		1,2,3,7,8-PECDF	0.0682 ng/Kg	
		2,3,4,6,7,8-HXCDF	0.0404 ng/Kg	
		2,3,4,7,8-PECDF	0.0958 ng/Kg	
		2,3,7,8-TCDD	0.0770 ng/Kg	
		OCDD	0.600 ng/Kg	
		OCDF	0.156 ng/Kg	

The following samples and their listed target analytes were qualified due to contamination reported in this blank

Sample ID	Analyte	Reported Result	Modified Final Result
SL-002-A3-SB-0.0-0.5(RES)	1,2,3,7,8,9-HXCDF	0.295 ng/Kg	0.295U ng/Kg
SL-002-A3-SB-0.0-0.5(RES)	1,2,3,7,8-PECDD	0.551 ng/Kg	0.551U ng/Kg
SL-002-A3-SB-0.0-0.5(RES)	1,2,3,7,8-PECDF	1.08 ng/Kg	1.08U ng/Kg
SL-002-A3-SB-0.0-0.5(RES)	2,3,4,7,8-PECDF	0.550 ng/Kg	0.550U ng/Kg
SL-002-A3-SB-0.0-0.5(RES)	2,3,7,8-TCDD	0.267 ng/Kg	0.267U ng/Kg
SL-002-A3-SB-0.0-0.5(RES)	2,3,7,8-TCDF	0.334 ng/Kg	0.334U ng/Kg
SL-003-A3-SB-0.0-0.5(RES)	2,3,4,7,8-PECDF	1.77 ng/Kg	1.77U ng/Kg
SL-008-A3-SB-0.0-0.5(RES)	1,2,3,4,7,8-HxCDD	0.463 ng/Kg	0.463U ng/Kg
SL-008-A3-SB-0.0-0.5(RES)	1,2,3,4,7,8-HXCDF	0.628 ng/Kg	0.628U ng/Kg
SL-008-A3-SB-0.0-0.5(RES)	1,2,3,6,7,8-HXCDF	0.249 ng/Kg	0.249U ng/Kg
SL-008-A3-SB-0.0-0.5(RES)	1,2,3,7,8,9-HXCDF	0.265 ng/Kg	0.265U ng/Kg
SL-008-A3-SB-0.0-0.5(RES)	1,2,3,7,8-PECDD	0.268 ng/Kg	0.268U ng/Kg
SL-008-A3-SB-0.0-0.5(RES)	1,2,3,7,8-PECDF	0.772 ng/Kg	0.772U ng/Kg
SL-008-A3-SB-0.0-0.5(RES)	2,3,4,6,7,8-HXCDF	0.371 ng/Kg	0.371U ng/Kg
SL-008-A3-SB-0.0-0.5(RES)	2,3,4,7,8-PECDF	0.278 ng/Kg	0.278U ng/Kg
SL-008-A3-SB-0.0-0.5(RES)	2,3,7,8-TCDF	0.149 ng/Kg	0.149U ng/Kg
SL-010-A3-SB-0.0-0.5(RES)	1,2,3,7,8,9-HXCDF	0.760 ng/Kg	0.760U ng/Kg
SL-010-A3-SB-0.0-0.5(RES)	1,2,3,7,8-PECDF	1.44 ng/Kg	1.44U ng/Kg
SL-010-A3-SB-0.0-0.5(RES)	2,3,4,7,8-PECDF	0.812 ng/Kg	0.812U ng/Kg
SL-010-A3-SB-0.0-0.5(RES)	2,3,7,8-TCDF	0.312 ng/Kg	0.312U ng/Kg

Reporting Limit Outliers

Lab Reporting Batch ID: PH024 **Laboratory: LL**

EDD Filename: PH024_v1. **eQAPP Name: CDM_SSFL_120718_Lan**

Method: 1613B

Matrix: AQ

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
EB-071812	1,2,3,4,6,7,8-HPCDD	JBQ	2.98	10.5	PQL	pg/L	
	1,2,3,4,6,7,8-HPCDF	JB	1.37	10.5	PQL	pg/L	
	1,2,3,4,7,8,9-HPCDF	JBQ	0.785	10.5	PQL	pg/L	
	1,2,3,4,7,8-HxCDD	JBQ	0.582	10.5	PQL	pg/L	
	1,2,3,4,7,8-HXCDF	J	0.594	10.5	PQL	pg/L	
	1,2,3,6,7,8-HXCDD	JBQ	0.614	10.5	PQL	pg/L	
	1,2,3,6,7,8-HXCDF	JBQ	0.508	10.5	PQL	pg/L	
	1,2,3,7,8,9-HXCDD	JB	0.769	10.5	PQL	pg/L	J (all detects)
	1,2,3,7,8,9-HXCDF	JBQ	0.748	10.5	PQL	pg/L	
	1,2,3,7,8-PECDD	JQ	0.457	10.5	PQL	pg/L	
	1,2,3,7,8-PECDF	JBQ	0.374	10.5	PQL	pg/L	
	2,3,4,6,7,8-HXCDF	JBQ	0.439	10.5	PQL	pg/L	
	2,3,4,7,8-PECDF	JBQ	0.712	10.5	PQL	pg/L	
	OCDD	JB	5.38	21.0	PQL	pg/L	
	OCDF	JB	1.25	21.0	PQL	pg/L	
EB-072412	1,2,3,4,6,7,8-HPCDD	JB	5.92	10.2	PQL	pg/L	
	1,2,3,4,6,7,8-HPCDF	JBQ	1.86	10.2	PQL	pg/L	
	1,2,3,4,7,8,9-HPCDF	JB	1.69	10.2	PQL	pg/L	
	1,2,3,4,7,8-HxCDD	JBQ	0.683	10.2	PQL	pg/L	
	1,2,3,4,7,8-HXCDF	JB	1.06	10.2	PQL	pg/L	
	1,2,3,6,7,8-HXCDD	JBQ	0.771	10.2	PQL	pg/L	
	1,2,3,6,7,8-HXCDF	JB	1.22	10.2	PQL	pg/L	
	1,2,3,7,8,9-HXCDD	JBQ	1.26	10.2	PQL	pg/L	J (all detects)
	1,2,3,7,8,9-HXCDF	JBQ	0.829	10.2	PQL	pg/L	
	1,2,3,7,8-PECDD	JBQ	1.19	10.2	PQL	pg/L	
	1,2,3,7,8-PECDF	JBQ	0.560	10.2	PQL	pg/L	
	2,3,4,6,7,8-HXCDF	JBQ	1.11	10.2	PQL	pg/L	
	2,3,4,7,8-PECDF	JBQ	1.21	10.2	PQL	pg/L	
	2,3,7,8-TCDD	JB	0.815	2.04	PQL	pg/L	
	OCDD	JB	12.8	20.4	PQL	pg/L	
	OCDF	JBQ	2.74	20.4	PQL	pg/L	

Method: 1613B

Matrix: SO

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-001-A3-SB-0.0-0.5	1,2,3,6,7,8-HXCDF	JB	4.75	5.56	PQL	ng/Kg	
	1,2,3,7,8-PECDD	JB	3.10	5.56	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JB	5.05	5.56	PQL	ng/Kg	J (all detects)
	2,3,4,7,8-PECDF	JB	3.17	5.56	PQL	ng/Kg	
	2,3,7,8-TCDD	JBQ	0.717	1.11	PQL	ng/Kg	

Reporting Limit Outliers

Lab Reporting Batch ID: PH024 **Laboratory: LL**

EDD Filename: PH024_v1. **eQAPP Name: CDM_SSFL_120718_Lan**

Method: **1613B**

Matrix: **SO**

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-002-A3-SB-0.0-0.5	1,2,3,4,7,8,9-HPCDF	JB	2.11	5.06	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JB	1.30	5.06	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JB	2.18	5.06	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	JB	4.72	5.06	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JB	1.10	5.06	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDD	JB	2.17	5.06	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	JB	0.295	5.06	PQL	ng/Kg	J (all detects)
	1,2,3,7,8-PECDD	JB	0.551	5.06	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JB	1.08	5.06	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JB	1.37	5.06	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JB	0.550	5.06	PQL	ng/Kg	
	2,3,7,8-TCDD	JB	0.267	1.01	PQL	ng/Kg	
	2,3,7,8-TCDF	JB	0.334	1.01	PQL	ng/Kg	
SL-003-A3-SB-0.0-0.5	1,2,3,6,7,8-HXCDF	JB	3.83	5.33	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	JB	1.08	5.33	PQL	ng/Kg	
	1,2,3,7,8-PECDD	JB	2.88	5.33	PQL	ng/Kg	J (all detects)
	2,3,4,6,7,8-HXCDF	JB	4.78	5.33	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JB	1.77	5.33	PQL	ng/Kg	
	2,3,7,8-TCDD	JB	0.679	1.07	PQL	ng/Kg	
SL-004-A3-SB-0.0-0.5	1,2,3,4,7,8-HXCDF	JB	15.2	16.2	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	JB	4.72	16.2	PQL	ng/Kg	
	1,2,3,7,8-PECDD	JB	9.26	16.2	PQL	ng/Kg	J (all detects)
	2,3,4,7,8-PECDF	JB	15.1	16.2	PQL	ng/Kg	
	2,3,7,8-TCDD	JB	2.17	3.24	PQL	ng/Kg	
SL-005-A3-SB-0.0-0.5	1,2,3,7,8,9-HXCDF	JB	6.05	13.3	PQL	ng/Kg	J (all detects)
	1,2,3,7,8-PECDD	JB	10.0	13.3	PQL	ng/Kg	
SL-006-A3-SB-0.0-0.5	1,2,3,7,8,9-HXCDF	JB	5.97	11.9	PQL	ng/Kg	
	1,2,3,7,8-PECDD	JB	11.3	11.9	PQL	ng/Kg	J (all detects)
	1,2,3,7,8-PECDF	JB	10.6	11.9	PQL	ng/Kg	
SL-007-A3-SB-0.0-0.5	1,2,3,4,7,8-HxCDD	J	11.7	12.6	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JB	9.90	12.6	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JB	10.3	12.6	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	JB	2.45	12.6	PQL	ng/Kg	J (all detects)
	1,2,3,7,8-PECDD	JB	5.17	12.6	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JB	4.21	12.6	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JB	6.95	12.6	PQL	ng/Kg	
	2,3,7,8-TCDD	JB	1.39	2.52	PQL	ng/Kg	
SL-008-A3-SB-0.0-0.5	1,2,3,4,7,8,9-HPCDF	JB	0.627	4.99	PQL	ng/Kg	
	1,2,3,4,7,8-HxCDD	JB	0.463	4.99	PQL	ng/Kg	
	1,2,3,4,7,8-HXCDF	JB	0.628	4.99	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDD	JB	1.01	4.99	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JB	0.249	4.99	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDD	JB	0.996	4.99	PQL	ng/Kg	J (all detects)
	1,2,3,7,8,9-HXCDF	JB	0.265	4.99	PQL	ng/Kg	
	1,2,3,7,8-PECDD	JB	0.268	4.99	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JB	0.772	4.99	PQL	ng/Kg	
	2,3,4,6,7,8-HXCDF	JB	0.371	4.99	PQL	ng/Kg	
	2,3,4,7,8-PECDF	JB	0.278	4.99	PQL	ng/Kg	
	2,3,7,8-TCDF	JBQ	0.149	0.998	PQL	ng/Kg	
SL-009-A3-SB-0.0-0.5	1,2,3,7,8,9-HXCDF	JB	1.94	5.17	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JB	4.49	5.17	PQL	ng/Kg	J (all detects)
	2,3,4,7,8-PECDF	JB	2.01	5.17	PQL	ng/Kg	
	2,3,7,8-TCDD	JB	0.765	1.03	PQL	ng/Kg	

Project Name and Number: 1203-004-009-AL - SSFL Phase 3

Reporting Limit Outliers

Lab Reporting Batch ID: PH024 **Laboratory: LL**

EDD Filename: PH024_v1. **eQAPP Name: CDM_SSFL_120718_Lan**

Method: **1613B**

Matrix: **SO**

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
SL-010-A3-SB-0.0-0.5	1,2,3,4,7,8-HXCDF	JB	3.37	5.18	PQL	ng/Kg	
	1,2,3,6,7,8-HXCDF	JB	3.81	5.18	PQL	ng/Kg	
	1,2,3,7,8,9-HXCDF	JB	0.760	5.18	PQL	ng/Kg	
	1,2,3,7,8-PECDF	JB	1.44	5.18	PQL	ng/Kg	J (all detects)
	2,3,4,7,8-PECDF	JB	0.812	5.18	PQL	ng/Kg	
	2,3,7,8-TCDD	JB	0.726	1.04	PQL	ng/Kg	
	2,3,7,8-TCDF	JB	0.312	1.04	PQL	ng/Kg	

SAMPLE DELIVERY GROUP

PT022

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
17-Jul-2012	SL-017-A3-SB-0.0-0.5	6724173	N	3550B	8015B	III
17-Jul-2012	SL-016-A3-SB-0.0-0.5	6724170	N	3550B	8015B	III
17-Jul-2012	SL-016-A3-SB-0.0-0.5 MS	6724171	MS	3550B	8015B	III
17-Jul-2012	SL-016-A3-SB-0.0-0.5 MSD	6724172	MSD	3550B	8015B	III
17-Jul-2012	SL-316-A3-SB-0.0-0.5	6724174	FD	3550B	8015B	III
17-Jul-2012	SL-015-A3-SB-0.0-0.5	6724176	N	3550B	8015B	III
17-Jul-2012	SL-014-A3-SB-0.0-0.5	6724175	N	3550B	8015B	IV
17-Jul-2012	SL-011-A3-SB-0.0-0.5	6724177	N	3550B	8015B	IV
17-Jul-2012	SL-012-A3-SB-0.0-0.5	6724178	N	3550B	8015B	III
17-Jul-2012	SL-013-A3-SB-0.0-0.5	6724179	N	3550B	8015B	III

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

Attachment II

Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: PT022 **Laboratory: LL**

EDD Filename: PT022_v1. **eQAPP Name: CDM_SSFL_120718_Lan**

No Data Review Qualifiers Applied.

Enclosure I

Level III ADR Outliers
(including Manual Review Outliers)

Quality Control Outlier Reports

PT022

(No Outliers)

Enclosure II

Level IV Validation Reports

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Santa Susana Field Laboratory
Collection Date:	July 17, 2012
LDC Report Date:	February 26, 2013
Matrix:	Soil
Parameters:	Terphenyls
Validation Level:	Level IV
Laboratory:	Eurofins Lancaster Laboratories
Sample Delivery Group (SDG):	PT022

Sample Identification

SL-014-A3-SB-0.0-0.5
SL-011-A3-SB-0.0-0.5

Introduction

This data review covers 2 soil samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8015B for Terphenyls.

This review follows the Quality Assurance Project Plan for Santa Susana Field Laboratory (SSFL), RCRA Facility Investigation, Surficial Media Operable Unit (March 2009, Revision 4) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

NJ Presumptive evidence of presence of the compound at an estimated quantity.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration of compounds was performed as required by the method.

The percent relative standard deviations (%RSD) of calibration factors for compounds were less than or equal to 20.0%.

Retention time windows were evaluated and considered technically acceptable.

III. Calibration Verification

Calibration verification was performed at required frequencies. The percent differences (%D) of amounts in continuing standard mixtures were within the 20.0% QC limits.

The percent differences (%D) of the second source calibration standard were less than or equal to 20.0% for all compounds.

Retention times (RT) of all compounds in the calibration standards were within QC limits.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No terphenyl contaminants were found in the method blanks.

Sample EB-071812 (from SDG PT024) was identified as an equipment blank. No terphenyl contaminants were found.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

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 and RLs

All compound quantitation and RLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG PT022	All compounds reported below the RL.	J (all detects)	A

X. System Performance

The system performance was acceptable.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

Santa Susana Field Laboratory
Terphenyls - Data Qualification Summary - SDG PT022

SDG	Sample	Compound	Flag	A or P	Reason (Code)
PT022	SL-014-A3-SB-0.0-0.5 SL-011-A3-SB-0.0-0.5	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and RLs (Z)

Santa Susana Field Laboratory
Terphenyls - Laboratory Blank Data Qualification Summary - SDG PT022

No Sample Data Qualified in this SDG

Santa Susana Field Laboratory
Terphenyls - Field Blank Data Qualification Summary - SDG PT022

No Sample Data Qualified in this SDG

LDC #: 29238C41 **VALIDATION COMPLETENESS WORKSHEET** Date: 2/23/13
SDG #: PT022 Level IV Page: 1 of 1
Laboratory: Eurofins Lancaster Laboratories Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC Terphenyls (EPA SW 846 Method 8015B)

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

	Validation Area		Comments
I.	Technical holding times	SW	Sampling dates: 7/17/12
II	Initial calibration	A	%D RSD ≤ 20
III.	Calibration verification/ICV	A	ICV/CCV ≤ 20
IV.	Blanks	A	
V	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	A	SL-016-A3-SB-0.0-0.5 MS/MD
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-071812 SDG = PT024

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-014-A3-SB-0.0-0.5	11		21		31	
2	SL-011-A3-SB-0.0-0.5	12		22		32	
3		13		23		33	
4	PBLK20206	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 #: 29238C41
SDG #: per cover

VALIDATION FINDINGS CHECKLIST

Reviewer: FM
2nd Reviewer: C

Method: ✓ GC ____ HPLC

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) ≤ 20%?	✓			
Was a curve fit used for evaluation?		✓		
Did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?			✓	
Were the RT windows properly established?	✓			
IV. Continuing calibration				
Was a continuing calibration analyzed daily?	✓			
Were all percent differences (%D) ≤ 20%.0 or percent recoveries 80-120%?	✓			
Were all the retention times within the acceptance windows?	✓			
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed for each matrix and concentration?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Surrogate spikes				
Were all surrogate %R within the QC limits?	✓			
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?			✓	
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.	✓			
Was a MS/MSD analyzed every 20 samples of each matrix?	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?	✓			
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?			✓	
Were the performance evaluation (PE) samples within the acceptance limits?			✓	

DC #: 29238c41
SDG #: per cover

VALIDATION FINDINGS CHECKLIST

Reviewer: FJ
2nd Reviewer: A

Validation Area	Yes	No	NA	Findings/Comments
X. Target compound identification				
Were the retention times of reported detects within the RT windows?			✓	
XI. Compound quantitation/CRQLs				
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XII. System performance				
System performance was found to be acceptable.	✓			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XIV. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target compounds were detected in the field duplicates.			✓	
XV. Field blanks				
Field blanks were identified in this SDG.		✓		
Target compounds were detected in the field blanks.			✓	

LDC #: 29238C41
SDG #: [illegible]

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC ✓ HPLC ____

The calibration Factor (CF), average CF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

CF = A/C
average CF = sum of the CF/number of standards
%RSD = 100 * (S/X)

A = Area of compound,
C = Concentration of compound,
S = Standard deviation of the CF
X = Mean of the CFs

#	Standard ID	Calibration Date	Compound	Reported	Recalculated	Reported	Recalculated	Reported	Recalculated
				153.648 CF (std)	153.648 CF (std)	Average CF (initial)	Average CF (initial)	%RSD	%RSD
1	ICAL	7/31/12	O-Terphenyl	2.75×10^4	2.75×10^4	2.59×10^4	2.59×10^4	8.6	8.6
2									
3									
4									

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 27238C41
SDG #: fw Cover

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Page: 1 of 7
Reviewer: EJ
2nd Reviewer: A

METHOD: GC ✓ HPLC_____

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration CF were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. CF - CF)/ave. CF
CF = A/C

Where: ave. CF = initial calibration average CF
CF = continuing calibration CF
A = Area of compound
C = Concentration of compound

#	Standard ID	Calibration Date	Compound	Average CF(ical)/ CCV Conc.	Reported CF/Conc. CCV	Recalculated CF/Conc. CCV	Reported %D	Recalculated %D
1	CCV 21.39	7/31/12	o-Terphenyl	307.30	268.14	268.14	13	13
2								
3								
4								

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 47238C4 /
SDG #: see cover

METHOD: ✓ GC __ HPLC

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Reviewer: FT
2nd reviewer: [illegible]

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: #1

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
n-Tricontane-d62	NS	0.6667	0.486653	73	73	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 #: 27238C4/
SDG #: MU cover

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample/Laboratory Control Sample Duplicate Results Verification

Reviewer: F
2nd Reviewer: R

METHOD: ✓ GC __HPLC

The percent recoveries (%R) and Relative Percent difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100* (SSC-SC)/SA
RPD = I LCS - LCSD I * 2/(LCS + LCSD)

Where: SSC = Spiked sample concentration
SA = Spike added
LCS = Laboratory control sample percent recovery
SC = Concentration
LCSD = Laboratory control sample duplicate percent recovery

LCS/LCSD samples: WS

Compound	Spike Added (mg/kg)		Spiked Sample Concentration (mg/kg)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline (8015)										
Diesel (8015)										
Benzene (8021B)										
Methane (RSK-175)										
2,4-D (8151)										
Dinoseb (8151)										
Naphthalene (8310)										
Anthracene (8310)										
HMX (8330)										
2,4,6-Trinitrotoluene (8330)										
o-Terphenyl	16.72	ND	17.44	ND	104	104	ND			

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 #: 29238C4/
SDG #: all seven

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: ✓ GC __ HPLC

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds within 10% of the reported results?

Concentration= $\frac{(A)(Fv)(Df)}{(RF)(Vs \text{ or } Ws)(\%S/100)}$

A= Area or height of the compound to be measured
Fv= Final Volume of extract
Df= Dilution Factor
RF= Average response factor of the compound in the initial calibration
Vs= Initial volume of the sample
Ws= Initial weight of the sample
%S= Percent Solid

Example:

Sample ID._____ Compound Name KD

Concentration =_____

#	Sample ID	Compound	Reported Concentrations ( )	Recalculated Results Concentrations ( )	Qualifications

Comments: _____

SAMPLE DELIVERY GROUP

PT024

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
18-Jul-2012	SL-002-A3-SB-0.0-0.5	6726225	N	3550B	8015B	III
18-Jul-2012	SL-001-A3-SB-0.0-0.5	6726224	N	3550B	8015B	III
18-Jul-2012	SL-003-A3-SB-0.0-0.5	6726226	N	3550B	8015B	III
18-Jul-2012	SL-008-A3-SB-0.0-0.5	6726228	N	3550B	8015B	III
18-Jul-2012	SL-008-A3-SB-0.0-0.5MS	6726229	MS	3550B	8015B	III
18-Jul-2012	SL-008-A3-SB-0.0-0.5MSD	6726230	MSD	3550B	8015B	III
18-Jul-2012	SL-009-A3-SB-0.0-0.5	6726232	N	3550B	8015B	III
18-Jul-2012	SL-010-A3-SB-0.0-0.5	6726231	N	3550B	8015B	III
18-Jul-2012	EB-071812	6726227	EB	3510C	8015B	III

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

Attachment II

Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: PT024 **Laboratory: LL**

EDD Filename: PT024_v1. **eQAPP Name: CDM_SSFL_120718_Lan**

No Data Review Qualifiers Applied.

Enclosure I

Level III ADR Outliers
(including Manual Review Outliers)

Quality Control Outlier Reports

PT024

(No Outliers)

SAMPLE DELIVERY GROUP

PT029

Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437 **Web** www.lab-data.com **Fax** 760.634.0439

CDM
555 17th Street, Suite 1100
Denver, CO 80202
ATTN: Mrs. Cherie Zakowski

March 12, 2013

SUBJECT: Santa Susana Field Laboratory, Data Validation

Dear Mrs. Zakowski,

Enclosed is an amendment to LDC job 29238, which was originally delivered on March 06, 2013. The fractions listed below have been added.

LDC project# 29238:

SDG #	**Fraction**
PT029	Terphenyls (EPA SW 846 Method 8015B)

The following deliverables are submitted under this report:

- Attachment I Sample ID Cross Reference and Data Review Level
- Attachment II Overall Data Qualification Summary
- Enclosure I Level III ADR Outliers (including manual review outliers)
- Enclosure II Level IV Validation Reports

The data validation was performed in accordance to the 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). Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience. The following items were evaluated during the review::

- Holding Times
- Sample Preservation
- Cooler Temperatures
- Initial Calibration (Level IV only)
- Continuing Calibration (Level IV only)
- Blanks
- Surrogates
- Matrix Spike/Matrix Spike Duplicates
- Laboratory Duplicates
- Laboratory Control Samples
- Internal Standards (Level IV only)
- ICP Serial Dilution (Manual Review)

- Detection and Quantitation Limits
- Field QC Samples

Please feel free to contact us if you have any questions.

Sincerely,

Andrew Kong
Project Manager/Chemist

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
24-Jul-2012	SL-007-A3-SB-0.0-0.5	6732504	N	3550B	8015B	IV
24-Jul-2012	SL-006-A3-SB-0.0-0.5	6732503	N	3550B	8015B	IV
24-Jul-2012	SL-004-A3-SB-0.0-0.5	6732501	N	3550B	8015B	IV
24-Jul-2012	SL-005-A3-SB-0.0-0.5	6732502	N	3550B	8015B	IV
24-Jul-2012	EB-072412	6732505	EB	3510C	8015B	IV

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

Attachment II

Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: PT029 **Laboratory: LL**

EDD Filename: PrepPT029_v1 **eQAPP Name: CDM_SSFL_120718_Lan**

No Data Review Qualifiers Applied.

Enclosure I

Level III ADR Outliers
(including Manual Review Outliers)

Quality Control
Outlier Reports

PT029

Enclosure II

Level IV Validation Reports

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Santa Susana Field Laboratory
Collection Date:	July 24, 2012
LDC Report Date:	March 12, 2013
Matrix:	Soil/Water
Parameters:	Terphenyls
Validation Level:	Level IV
Laboratory:	Eurofins Lancaster Laboratories
Sample Delivery Group (SDG):	PT029

Sample Identification

SL-004-A3-SB-0.0-0.5
SL-005-A3-SB-0.0-0.5
SL-006-A3-SB-0.0-0.5
SL-007-A3-SB-0.0-0.5
EB-072412

Introduction

This data review covers 4 soil samples and one water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8015B for Terphenyls.

This review follows the Quality Assurance Project Plan for Santa Susana Field Laboratory (SSFL), RCRA Facility Investigation, Surficial Media Operable Unit (March 2009, Revision 4) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

NJ Presumptive evidence of presence of the compound at an estimated quantity.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration of compounds was performed as required by the method.

The percent relative standard deviations (%RSD) of calibration factors for compounds were less than or equal to 20.0% .

Retention time windows were evaluated and considered technically acceptable.

III. Calibration Verification

Calibration verification was performed at required frequencies. The percent differences (%D) of amounts in continuing standard mixtures were within the 20.0% QC limits.

Retention times (RT) of all compounds in the calibration standards were within QC limits.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No terphenyl contaminants were found in the method blanks.

Sample EB-072412 was identified as an equipment blank. No terphenyl contaminants were found.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Surrogate	%R (Limits)	Compound	Flag	A or P
PBLK06210	n-Triacontane-d62	170 (46-100)	All TCL compounds	J (all detects)	P

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Flag	A or P
LCS06210/D (All water samples in SDG PT029)	m-Terphenyl	-	110 (61-108)	-	J (all detects)	P

VIII. Target Compound Identification

All target compound identifications were within validation criteria.

IX. Compound Quantitation and RLs

All compound quantitation and RLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG PT029	All compounds reported below the RL.	J (all detects)	A

X. System Performance

The system performance was acceptable.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

Santa Susana Field Laboratory
Terphenyls - Data Qualification Summary - SDG PT029

SDG	Sample	Compound	Flag	A or P	Reason (Code)
PT029	EB-072412	m-Terphenyl	J (all detects)	P	Laboratory control samples (%R) (L)
PT029	SL-004-A3-SB-0.0-0.5 SL-005-A3-SB-0.0-0.5 SL-006-A3-SB-0.0-0.5 SL-007-A3-SB-0.0-0.5 EB-072412	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and RLs (Z)

Santa Susana Field Laboratory
Terphenyls - Laboratory Blank Data Qualification Summary - SDG PT029

No Sample Data Qualified in this SDG

Santa Susana Field Laboratory
Terphenyls - Field Blank Data Qualification Summary - SDG PT029

No Sample Data Qualified in this SDG

LDC #: 28576O41 **VALIDATION COMPLETENESS WORKSHEET** Date: 10/18/12

SDG #: PT029 Level IV Page: 1 of 1

Laboratory: Eurofins Lancaster Laboratories Reviewer: M

2nd Reviewer: A

METHOD: GC Terphenyls (EPA SW 846 Method 8015B)

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

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 7/24/12
II	Initial calibration	A	%D RSD ≤20
III.	Calibration verification/ICV	A	ICV/CCV ≤ 20
IV.	Blanks	A	
V	Surrogate recovery	SW	
VI.	Matrix spike/Matrix spike duplicates	N	client specified
VII.	Laboratory control samples	SW	LCS/D
VIII.	Target compound identification	A	
IX.	Compound quantitation/RL/LOQ/LODs	A	
X.	System Performance	A	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	ND	EB-5

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

Validated Samples: soil + water

1 1	SL-004-A3-SB-0.0-0.5	11 1	PBLK07210	21		31	
2 1	SL-005-A3-SB-0.0-0.5	12 2	PBLK06210	22		32	
3 1	SL-006-A3-SB-0.0-0.5	13		23		33	
4 1	SL-007-A3-SB-0.0-0.5	14		24		34	
5 2	EB-072412 W	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 #: 28576041
SDG #: per cover

VALIDATION FINDINGS CHECKLIST

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

Method: ✓ GC ____ HPLC

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) ≤ 20%?	✓			
Was a curve fit used for evaluation?		✓		
Did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?			✓	
Were the RT windows properly established?	✓			
IV. Continuing calibration				
Was a continuing calibration analyzed daily?	✓			
Were all percent differences (%D) ≤ 20%.0 or percent recoveries 80-120%?	✓			
Were all the retention times within the acceptance windows?	✓			
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed for each matrix and concentration?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Surrogate spikes				
Were all surrogate %R within the QC limits?	✓			
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?			✓	
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.			✓	
Was a MS/MSD analyzed every 20 samples of each matrix?			✓	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?			✓	
Were the performance evaluation (PE) samples within the acceptance limits?			✓	

LDC #: 28576041
SDG #: per cover

VALIDATION FINDINGS CHECKLIST

Reviewer: FJ
2nd Reviewer: A

Validation Area	Yes	No	NA	Findings/Comments
X. Target compound identification				
Were the retention times of reported detects within the RT windows?			✓	
XI. Compound quantitation/CRQLs				
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XII. System performance				
System performance was found to be acceptable.	✓			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XIV. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target compounds were detected in the field duplicates.			✓	
XV. Field blanks				
Field blanks were identified in this SDG.		✓		
Target compounds were detected in the field blanks.			✓	

LDC #: 28576041

VALIDATION FINDINDS WORKSHEET
Surrogate Recovery

Reviewer: FT
2nd Reviewer: [illegible]

METHOD: ✓ **GC** __ **HPLC**

Are surrogates required by the method? Yes____ or No____.

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

(Y) N N/A Were surrogates spiked into all samples and blanks?

(Y) N N/A Did all surrogate recoveries (%R) meet the QC limits?

#	Sample ID	Detector/ Column	Surrogate Compound	%R (Limits)	Qualifications
	PBLK06210	N S	J	170 (46-100)	J/Palet (S)
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	

	Surrogate Compound		Surrogate Compound		Surrogate Compound		Surrogate Compound		
A	Chlorobenzene (CBZ)	G	Octacosane	M	Benzo(e)Pyrene	S	1-Chloro-3-Nitrobenzene	Y	Tetrachloro-m- xylene
B	4-Bromofluorobenzene (BFB)	H	Ortho-Terphenyl	N	Terphenyl-D14	T	3,4-Dinitrotoluene		
C	a,a,a-Trifluorotoluene	I	Fluorobenzene (FBZ)	O	Decachlorobiphenyl (DCB)	U	Tripentyltin		
D	Bromochlorobenene	J	n-Triacontane	P	1-methylnaphthalene	V	Tri-n-propyltin		
E	1,4-Dichlorobutane	K	Hexacosane	Q	Dichlorophenyl Acetic Acid (DCAA)	W	Tributyl Phosphate		
F	1,4-Difluorobenzene (DFB)	L	Bromobenzene	R	4-Nitrophenol	X	Triphenyl Phosphate		

LDC #: 28576041

VALIDATION FINDINGS WORKSHEET
Laboratory Control Samples (LCS)

Reviewer: FT
2nd Reviewer:

METHOD: ✓ GC __ HPLC

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

Y N N/A Were a laboratory control samples (LCS) and laboratory control sample duplicate (LCSD) analyzed for each matrix in this SDG?

Y N N/A Were the LCS percent recoveries (%R) and relative percent differences (RPD) within the QC limits?

Level IV/D Only

Y N N/A Was an LCS analyzed every 20 samples for each matrix or whenever a sample extraction was performed?

#	LCS/LCSD ID	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
	lcs062101	m-Terphenyl	( )	110 (61-108	( )	All waters	J/Pdet (L)
	LCSD		( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
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			( )	( )	( )		
			( )	( )	( )		
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			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		

LDC #: 28576041
SDG #: [illegible]

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: EJ
2nd Reviewer: [illegible]

METHOD: GC ✓ HPLC_____

The calibration Factor (CF), average CF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

CF = A/C
average CF = sum of the CF/number of standards
%RSD = 100 * (S/X)

A = Area of compound,
C = Concentration of compound,
S = Standard deviation of the CF
X = Mean of the CFs

3

#	Standard ID	Calibration Date	Compound	Reported	Recalculated	Reported	Recalculated	Reported	Recalculated
				153.648 CF (std)	153.648 CF (std)	Average CF (initial)	Average CF (initial)	%RSD	%RSD
1	ICAL	7/31/12	o-Terphenyl	2.75×10^4	2.75×10^4	2.59×10^4	2.59×10^4	8.6	8.6
2									
3									
4									

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 28576041
SDG #: pw Cover

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: EJ
2nd Reviewer:

METHOD: GC_____HPLC_____

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration CF were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. CF - CF)/ave. CF
CF = A/C

Where: ave. CF = initial calibration average CF
CF = continuing calibration CF
A = Area of compound
C = Concentration of compound

#	Standard ID	Calibration Date	Compound	Average CF(ical)/ CCV Conc.	Reported CF/Conc. CCV	Recalculated CF/Conc. CCV	Reported %D	Recalculated %D
1	CCV 1:45	8/01/12	o-Terphenyl	307.30	309.27	309.27	1	1
	CCV 5:29	8/01/12	↓	↓	304.56	304.56	1	1
2								
	CCV 9:33	8/01/12	↓	307.30	318.77	318.77	4	4
3								
4								

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 28576041
SDG #: see cover

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Reviewer: FT
2nd reviewer: [illegible]

METHOD: ✓ GC ___ HPLC

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: # 1

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
n-Triacontane-d62	NS	1.324	0.874064	7866	66	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 #: 28576041
SDG #: pu cover

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample/Laboratory Control Sample Duplicate Results Verification

Reviewer: FD
2nd Reviewer: A

METHOD: ✓ GC __HPLC

The percent recoveries (%R) and Relative Percent difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100* (SSC-SC)/SA
RPD = | LCS - LCSD | * 2/(LCS + LCSD)

Where: SSC = Spiked sample concentration
SA = Spike added
LCS = Laboratory control sample percent recovery
SC = Concentration
LCSD = Laboratory control sample duplicate percent recovery

LCS/LCSD samples: LC 507210

Compound	Spike Added (mg/kg)		Spiked Sample Concentration (mg/kg)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline (8015)										
Diesel (8015)										
Benzene (8021B)										
Methane (RSK-175)										
2,4-D (8151)										
Dinoseb (8151)										
Naphthalene (8310)										
Anthracene (8310)										
HMX (8330)										
2,4,6-Trinitrotoluene (8330)										
o-Terphenyl	16.72	NA	17.21	NA	103	103	NA			

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 28576041
SDG #: [illegible]

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: ✓ GC ___ HPLC

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds within 10% of the reported results?

Concentration= $\frac{(A)(Fv)(Df)}{(RF)(Vs \text{ or } Ws)(\%S/100)}$

A= Area or height of the compound to be measured
Fv= Final Volume of extract
Df= Dilution Factor
RF= Average response factor of the compound in the initial calibration
Vs= Initial volume of the sample
Ws= Initial weight of the sample
%S= Percent Solid

Example:

Sample ID._____ Compound Name _____

Concentration = _____

ND

#	Sample ID	Compound	Reported Concentrations ( )	Recalculated Results Concentrations ( )	Qualifications

Comments: _____

Appendix E
The Palladino Company Radionuclide Data Validation Report
(On CD)

THE PALLADINO COMPANY, INC.
DATA VALIDATION REPORT
COVER PAGE

SDG: 308925

Lab ID: GEL Laboratories, LLC
Data Package Title: 308925
Data Package Creation Date: 8/28/2012
EDD Title: 308925.xls

Project ID: SSFL Remedial Investigation, Area IV Radiological Study, Laboratory Analytical Services Support SOW

		Requested Analyses													
Lab ID	Field ID	Gamma Spec	Sr-90/Y-90	Am-241/243/Cm	U	Th	Pu	H-3	C-14	Ni-63	Tc-99	I-129	Pm-147	Ni-59	Matrix
308925001	SL-002-A3-SB-0.0-0.5	X	X	X	X	X	X	X	X	X	X	X	X	X	S
308925002	SL-001-A3-SB-0.0-0.5	X	X	X	X	X	X	X	X	X	X	X	X	X	S
308925003	SL-003-A3-SB-0.0-0.5	X	X	X	X	X	X	X	X	X	X	X	X	X	S
308925004	SL-008-A3-SB-0.0-0.5	X	X	X	X	X	X	X	X	X	X	X	X	X	S
308925005	SL-009-A3-SB-0.0-0.5	X	X	X	X	X	X	X	X	X	X	X	X	X	S
308925006	SL-010-A3-SB-0.0-0.5	X	X	X	X	X	X	X	X	X	X	X	X	X	S
308925007	SL-007-A3-SB-0.0-0.5	X	X	X	X	X	X	X	X	X	X	X	X	X	S
308925008	SL-006-A3-SB-0.0-0.5	X	X	X	X	X	X	X	X	X	X	X	X	X	S
308925009	SL-004-A3-SB-0.0-0.5	X	X	X	X	X	X	X	X	X	X	X	X	X	S
308925010	SL-005-A3-SB-0.0-0.5	X	X	X	X	X	X	X	X	X	X	X	X	X	S
308925011	SL-017-A3-SB-0.0-0.5	X	X	X	X	X	X	X	X	X	X	X	X	X	S
308925012	SL-016-A3-SB-0.0-0.5	X	X	X	X	X	X	X	X	X	X	X	X	X	S
308925013	SL-316-A3-SB-0.0-0.5	X	X	X	X	X	X	X	X	X	X	X	X	X	S
308925014	SL-015-A3-SB-0.0-0.5	X	X	X	X	X	X	X	X	X	X	X	X	X	S
308925015	SL-014-A3-SB-0.0-0.5	X	X	X	X	X	X	X	X	X	X	X	X	X	S
308925016	SL-011-A3-SB-0.0-0.5	X	X	X	X	X	X	X	X	X	X	X	X	X	S
308925017	SL-012-A3-SB-0.0-0.5	X	X	X	X	X	X	X	X	X	X	X	X	X	S
308925018	SL-013-A3-SB-0.0-0.5	X	X	X	X	X	X	X	X	X	X	X	X	X	S

SUMMARY OF QUALIFIED RESULTS

Lab ID	CoC, Receipt	Pretreatment	Other Non-Conformance Reports	Gamma Spec	Sr-90/Y-90	Am-241/243/Cm	U	Th	Pu	H-3	C-14	Ni-63	Tc-99	I-129	Pm-147	Ni-59		
308925001					U	U		U	U	U	U	U	U	U	U	UJ		
308925002						U		U	U		U	U	U		U	UJ		
308925003					U						U		U	U	U	UJ		
308925004					U	U		U	U	U	U	U	U	U	U	UJ		
308925005					U	U	U		U	U	U	U	U	U	U	UJ		
308925006					U	U			U	U	U	U	U	U	U	UJ		
308925007					U	U		U	U		U	U	U	U	U	UJ		
308925008					U	U		U	U		U	U	U	U	U	UJ		
308925009					U				U	U	U	U	U	U	U	UJ		
308925010					U			U	U		U	U	U	U	U	UJ		
308925011					U	U			U	U		U	U	U	U	UJ		
308925012						U				U	U	U	U	U	U	UJ		
308925013					U	U		U	U	U	U	U		U	U	UJ		
308925014					U	U		U	U	U		U	U	U	U	UJ		
308925015						U			U	U	U	U	U	U	U	UJ		
308925016					U	U		U	U	U	U	U	U	U	U	UJ		
308925017					U			U	U	U	U	U	U	U	U	UJ		
308925018					U	U			U	U	U	U	U	U	U	UJ		

THE PALLADINO COMPANY, INC.
DATA VALIDATION REPORT
CHAIN OF CUSTODY AND SAMPLE RECEIPT

SDG: 308925

Lab ID: GEL Laboratories, LLC
Data Package Title: 308925
Data Package Creation Date: 8/28/2012
EDD Title: 308925.xls

Project ID: SSFL Remedial Investigation, Area IV Radiological Study, Laboratory Analytical Services Support SOW

FROM CoC & SAMPLE SUMMARY

Lab ID	Field ID	Gamma Spec	Sr-90/Y-90	Am-241/243/Cm	U	Th	Pu	H-3	C-14	Ni-63	Tc-99	I-129	Pm-147	Ni-59	Matrix
308925001	SL-002-A3-SB-0.0-0.5	X	X	X	X	X	X	X	X	X	X	X	X	X	S
308925002	SL-001-A3-SB-0.0-0.5	X	X	X	X	X	X	X	X	X	X	X	X	X	S
308925003	SL-003-A3-SB-0.0-0.5	X	X	X	X	X	X	X	X	X	X	X	X	X	S
308925004	SL-008-A3-SB-0.0-0.5	X	X	X	X	X	X	X	X	X	X	X	X	X	S
308925005	SL-009-A3-SB-0.0-0.5	X	X	X	X	X	X	X	X	X	X	X	X	X	S
308925006	SL-010-A3-SB-0.0-0.5	X	X	X	X	X	X	X	X	X	X	X	X	X	S
308925007	SL-007-A3-SB-0.0-0.5	X	X	X	X	X	X	X	X	X	X	X	X	X	S
308925008	SL-006-A3-SB-0.0-0.5	X	X	X	X	X	X	X	X	X	X	X	X	X	S
308925009	SL-004-A3-SB-0.0-0.5	X	X	X	X	X	X	X	X	X	X	X	X	X	S
308925010	SL-005-A3-SB-0.0-0.5	X	X	X	X	X	X	X	X	X	X	X	X	X	S
308925011	SL-017-A3-SB-0.0-0.5	X	X	X	X	X	X	X	X	X	X	X	X	X	S
308925012	SL-016-A3-SB-0.0-0.5	X	X	X	X	X	X	X	X	X	X	X	X	X	S
308925013	SL-316-A3-SB-0.0-0.5	X	X	X	X	X	X	X	X	X	X	X	X	X	S
308925014	SL-015-A3-SB-0.0-0.5	X	X	X	X	X	X	X	X	X	X	X	X	X	S
308925015	SL-014-A3-SB-0.0-0.5	X	X	X	X	X	X	X	X	X	X	X	X	X	S
308925016	SL-011-A3-SB-0.0-0.5	X	X	X	X	X	X	X	X	X	X	X	X	X	S
308925017	SL-012-A3-SB-0.0-0.5	X	X	X	X	X	X	X	X	X	X	X	X	X	S
308925018	SL-013-A3-SB-0.0-0.5	X	X	X	X	X	X	X	X	X	X	X	X	X	S

FROM CoC and SAMPLE CONDITION UPON RECEIPT FORM

Lab ID	CoC present and complete.	Field/Lab ID XRef complete, correct.	Sample Condition on Receipt Form Complete.		Samples Preserved Properly.	Hold Times Met.	NCM or Other Anomolous Conditions?	Comments	Qualifier
308925001	Y	Y	Y		N/A	N/A	N		
308925002	Y	Y	Y		N/A	N/A	N		
308925003	Y	Y	Y		N/A	N/A	N		
308925004	Y	Y	Y		N/A	N/A	N		
308925005	Y	Y	Y		N/A	N/A	N		
308925006	Y	Y	Y		N/A	N/A	N		
308925007	Y	Y	Y		N/A	N/A	N		
308925008	Y	Y	Y		N/A	N/A	N		
308925009	Y	Y	Y		N/A	N/A	N		
308925010	Y	Y	Y		N/A	N/A	N		
308925011	Y	Y	Y		N/A	N/A	N		
308925012	Y	Y	Y		N/A	N/A	N		
308925013	Y	Y	Y		N/A	N/A	N		
308925014	Y	Y	Y		N/A	N/A	N		
308925015	Y	Y	Y		N/A	N/A	N		
308925016	Y	Y	Y		N/A	N/A	N		
308925017	Y	Y	Y		N/A	N/A	N		
308925018	Y	Y	Y		N/A	N/A	N		

Answer "Y" or "N". Validator override required for "?" qualifier.

THE PALLADINO COMPANY, INC.
DATA VALIDATION REPORT
SAMPLE PRE-TREATMENT

SDG: 308925

Lab ID: GEL Laboratories, LLC
Data Package Title: 308925
Data Package Creation Date: 8/28/2012
EDD Title: 308925.xls

Project ID: SSFL Remedial Investigation, Area IV Radiological Study, Laboratory Analytical Services Support SOW

SAMPLE QUALIFIERS AND COMMENTS

Lab ID	Validator Qualifiers	W3	W4	S3	S4				Validator Comments	Summary Flags
308925001									Enter sample-specific comments here.	
308925002										
308925003										
308925004										
308925005										
308925006										
308925007										
308925008										
308925009										
308925010										
308925011										
308925012										
308925013										
308925014										
308925015										
308925016										
308925017										
308925018										

ITEM	MEETS VALIDATION SPECS? (Select One)			VALIDATION ITEM	QUALIFIERS	AFFECTED SAMPLES	COMMENTS
WATERS:							
1			N/A	All water samples requiring pre-treatment were filtered and preserved, per the SOW and the lab SOP.			
2			N/A	A completed laboratory worksheet, documenting the pre-treatment process, is included.			
3			N/A	Samples were filtered within 48 hours of collection.			
4			N/A	Samples were properly preserved with HNO_3 to pH<2 after filtration, and the reagent ID is provided.			

ITEM	MEETS VALIDATION SPECS? (Select One)			VALIDATION ITEM	QUALIFIERS	AFFECTED SAMPLES	COMMENTS
5			N/A	A completed HNO_3 density determination is included for the reagent ID provided.			
6			N/A	Passing balance check, pipette check, and temerature logs included for days of use, as applicable.			
7			N/A	Quality Assurance reports and/or Non-Conformance Reports w/corrective action and QA approval present and			
SOLIDS:							
1	Y			All solid samples requiring pre-treatment were ground, homogenized, and sub-sampled , per the SOW and the lab SOP.			
2	Y			A completed laboratory worksheet documenting the pre-treatment process is included.			
3	Y			Samples were dried at 105ºC +/- 5 for at least 16 hours, or as required by the lab SOP, and drying log is included.			
4	Y			Drying Logs completed and included.			
5	Y			Oven Temperature Logs completed and included.			
6	Y			Grinding Logs completed and included.			
7	Y			Where appropriate, equipment ID is specified.			
8	Y			If equipment QC is required (e.g. equipment blanks), QC samples are identified and all results are included in the report.			
9	Y			Balance Check Logs completed and included.			
10			N/A	Cultural artifacts were removed, identified, photographed, and documentation is included.			
11			N/A	Quality Assurance reports and/or Non-Conformance Reports w/corrective action and QA approval present and complete.			

The Palladino Company, Inc.
Data Validation Report
Gamma Spectrometry

CLIENT NAME: HydroGeologic, Inc.

PROJECT ID: Santa Susana Field Laboratory – Area IV Radiological Study

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LABORATORY ID: GEL Laboratories, LLC – Charleston, SC

LAB REPORT DATE: 08/28/12 **LAB SDG#:** 308925

LAB REPORT FILENAME: 308925.PDF

EDD FILENAME: 308925.XLS

The following Data Validation Report, with associated review checklists and calculation verifications, and the corresponding Laboratory Radioanalytical Data Report have been reviewed by the personnel shown below. The Palladino Company, Inc., certifies that the Data Validation Report has been completed in accordance with applicable contractual requirements, and is true, complete, and correct, within the limits of the information provided by the laboratory.



_____ 09/20/2012

Data Validation Analyst Date



_____ 09/20/2012

Report Review Date

OVERVIEW

Data validation of these results and pertinent supporting documentation, provided by the laboratory in a Level IV-equivalent laboratory data package was performed in accordance with:

- *Evaluation of Radiochemical Data Usability* (DOE, 1997), and
- *Multi-Agency Radiological Laboratory Analytical Protocols Manual* (MARLAP, EPA et al., 2004, specifically Chapter 8),

with additional specific guidance from the

- *Santa Susana Field Laboratory - Radiological Background Study Quality Assurance Project Plan (QAPP)*,
- *GEL Laboratories Quality Assurance Plan (QAP)*,
- *GEL Laboratories compendium of laboratory Standard Operating Procedures (SOPs)*

The data were reviewed for compliance with the required QC elements described in Section 5 and Table 3.3 of the QAPP. The pertinent elements of the data package were reviewed for completeness, compliance with the QAPP requirements and the requirements of the stated methodology, and potential impact on the usability of the data for its intended purpose.

One sample result in this data package was selected at random for manual recalculation of results to verify the laboratory's data reporting algorithms.

VALIDATION REPORT ELEMENTS

The Validation Case Narrative describes the results of the validation process and includes the technical opinion of a qualified radiochemist as to the usability of the data for its intended purpose.

For each analytical method, the case narrative is appended with

- Data Validation Checklist,
- Recalculation of Sample Results, and
- Calibration Standard Decay Verification.

Finally, a Summary of Data Qualifiers and Reason Codes used in the project and their associated definitions is found at the back of the validation report.

Due to the comprehensive nature of the laboratory data package and the number of analytical results it contains, the data user is referred to the Electronic Data Deliverable (EDD) for a complete Table of Qualified Results. The EDD presents a cross-reference of Sample IDs, Analyte Names, Reported Results, and Qualifiers.

VALIDATION CASE NARRATIVE – GAMMA SPECTROMETRY

The Level IV-equivalent radioanalytical data package referenced in the header of this report was received from GEL on 08/31/12.

A Level IV validation of the analytical results was performed and the complete validation report is contained herein.

The data validation, including necessary verification of laboratory data and supporting documentation, was completed on 09/20/2012 by John Petrovic, of The Palladino Company, Inc. The final review of the validation report was completed by Rebecca Burns of The Palladino Company, Inc.

The essential findings of the validation report are summarized below:

Overall, the data are usable as reported, with the following exceptions:

Various individual gamma-emitting analytes have been qualified or rejected based on limitations in the lab's analytical methodology, which result in the inconsistent quantification of certain radionuclides that may be subject to spectral interference from naturally occurring radionuclides in the soil samples contained in this report. These problematic radionuclides are described below.

In addition, the lab's analytical methodology appears to underestimate the uncertainty of net quantifications of non-detected radionuclides, which are made in the absence of an actual measurable photopeak in the same spectrum. The underestimate of the associated uncertainty in these cases is not believed to be a significant detriment to the usability of the data, as that issue appears to be confined to results for analytes which are, in fact, not observed to be present in the sample. Consequently, appropriate allowances have been made in the evaluation of QC excursions for these non-detected analytes. Where applicable, these allowances are described below.

Additional comments regarding the assessment and qualification of the data are provided below. Except as described above, none of these issues appears to significantly affect the usability of the reported results.

1. <u>Sample Receipt, Condition, and Preservation</u>
   All samples were received intact, with no apparent damage or other issues that might affect sample integrity.

   No preservation or refrigeration was required.

2. <u>Chain of Custody Documentation</u>
   The samples were received by the laboratory with no discrepancies on the chain of custody.

3. Sample Preparation Documentation
   Gross preparation, homogenization, and sub-sampling of the samples conformed to the project-specific protocols described in the lab's internal procedures.

4. Standard Preparation and Traceability
   All radioactive standards used in the laboratory analysis are NIST-traceable, properly prepared, and the source activities are properly decay-corrected during use.

5. Adherence to the Project-Required MQOs and QC Criteria
   All project required Action Levels (ALs), and the associated required Combined Standard Uncertainties (CSUs) have been met.

   All other MQOs, including QC acceptance criteria, are acceptable, with the following exceptions:

   The duplicate assessment, the Z_{DUP} value for the Na-22 result in sample SL-017-A3-SB-0.0-0.5 (Lab ID 308925-011) is 2.19, above the upper control limit of 1.96. The Z_{dup} excursion is believed to be related to the forced activity calculation performed by the gamma spectrometry software when no actual photopeaks are present for the analyte of interest. The calculation is believed to underreport the associated uncertainty in some instances and both the sample and duplicate results, and similarly affected samples with activity below the critical level (L_c) are J-flagged to indicate additional, unreported uncertainty. As there is no evidence of a measurable photopeak in either the sample or its duplicate analysis, the impact on the data quality is not believed to be significant and the results may be used without further qualification, per the client's form DPDR G005.

   The negative activity assessment criteria, the Z_{neg} values for the following samples are between the 2 and 3 sigma TPU. The Z_{neg} excursion is believed to be related to the forced activity calculation performed by the gamma spectrometry software when no actual photopeaks are present for the analyte of interest. The calculation is believed to underreport the associated uncertainty in some instances and the sample result is J-flagged to indicate additional, unreported uncertainty. As there is no evidence of poor spectral quality in the sample analysis, the impact on the data quality is not believed to be significant and the results may be used without further qualification, per the client's form DPDR G005.

   - Ac-227 in sample SL-002-A3-SB-0.0-0.5 (Lab ID 308925-001)

- Eu-152 in samples SL-316-A3-SB-0.0-0.5 and the duplicate of SL-017-A3-SB-0.0-0.5 (Lab ID's 308925-013 and 011DUP)
- Eu-154 in samples SL-016-A3-SB-0.0-0.5, SL-316-A3-SB-0.0-0.5 and SL-011-A3-SB-0.0-0.5 (Lab ID's 308925-012, -013, and -016)
- Na-22 in sample SL-015-A3-SB-0.0-0.5 (Lab ID 308925-014)
- Np-236 in samples SL-004-A3-SB-0.0-0.5 and SL-005-A3-SB-0.0-0.5 (Lab ID's 308925-009 and 010)
- Sn-126 in sample SL-008-A3-SB-0.0-0.5 (Lab ID 308925-004)
- Tm-171 in samples SL-002-A3-SB-0.0-0.5, SL-003-A3-SB-0.0-0.5 and SL-016-A3-SB-0.0-0.5 (Lab ID's 308925-001, -003, and -012)

More detailed assessment of project QC acceptance criteria is provided in Attachment 1, *Data Validation Checklist*.

6. Field Blank and Equipment Blank Performance
   No field or equipment blanks are believed to have been submitted for this analysis. Consequently, no evaluation has been performed regarding the potential impact of field and equipment blank results on the overall data quality.

7. Field Duplicate Performance
   No field duplicate samples are believed to have been submitted for this analysis. Consequently, no evaluation has been performed regarding the potential impact of field duplicate results on the overall data quality.

8. Instrument Calibrations and Performance Verifications
   All instrument calibrations were properly performed and verified prior to use, and are properly applied to the analytical method.

   Ongoing instrument performance verifications were properly performed, remained in control, and were documented on the required control charts throughout the analyses.

9. Sample Raw Data Review
   All raw data for the analysis of samples in this SDG are included in the report and supports the final analytical results, with the following exceptions that generally indicate a degree of spectral interference expected in gamma spectrometry analyses:

   - For the identification and quantification of Ba-133, Cf-249, Ag-108m, and Ag-108 (which is inferred directly from the Ag-108m result), the

laboratory's instrumentation and analytical protocols may not provide sufficient resolving capability to differentiate the analyte photopeaks (or spectral regions of interest) from the nearby interfering photopeaks of naturally occurring radionuclides inherent in the samples. Based on the background study data, these radionuclides may be subject to negative activity results that frequently exceed the associated uncertainties. All reported results for Ba-133, Cf-249, Ag-108m, and Ag-108 have been flagged "R" and should be rejected.

- For the identification and quantification of Sb-125, the 463.5 keV photopeak appears to be subject to interference from a minor Ac-228 photopeak at 463.0 keV. Sample 70454 (Lab ID 306620-003) exhibit such interference to a degree that the activity exceeds the associated critical value (L_C). These quantifications are unsupported by the presence of the primary 428.0 keV photopeak of Sb-125. The result, therefore, has received a "K" flag, indicating that the reported results may be biased high, and an "S" flag, indicating that the potential high bias is due to spectral interference.
- For the identification and quantification of Cs-134, the 563.3 keV photopeak appears to be subject to interference from a minor Ac-228 photopeak at 562.5 keV. In the presence of measurable quantities of Ac-228, Cs-134 may be expected to be subject to positive interference. If Ac-228 is detected, Cs-134 results that are not classified as "not detected" ("U" flag) have received a "K" flag, indicating that the reported results may be biased high, and an "S" flag, indicating that the potential high bias is due to spectral interference.
- For the identification and quantification of Eu-155, the 105.3 keV photopeak appears to be subject to interference from both a minor Ac-228 photopeak at 105.4 keV and a minor U-235 photopeak at 105.0 keV. In the presence of measurable quantities of either Ac-228 or U-235, Eu-155 may be expected to be subject to positive interference. If Ac-228 or U-235 is detected, Eu-155 results that are not classified as "not detected" ("U" flag) have received a "K" flag, indicating that the reported results may be biased high, and an "S" flag, indicating that the potential high bias is due to spectral interference.
- For the identification and quantification of Nb-94, the 702.5 keV photopeak appears to be subject to interference from a minor Bi-214 photopeak at 703.1 keV. In the presence of measurable quantities of Bi-214, Nb-94may be expected to be subject to positive interference. If Bi-214 is detected, Nb-94 results that are not classified as "not detected" ("U" flag) have

received a “K” flag, indicating that the reported results may be biased high, and an “S” flag, indicating that the potential high bias is due to spectral interference.

Radiological Trigger Level (RTL) Exceedances

- In the following samples, the reported Bi-214, Cs-137, Pb-214, and Th-234 results exceeded the applicable Radiological Trigger Levels (RTLs). The raw spectral data has been reviewed for the samples and the analyte quantification is based on a clearly observed photopeak or photopeaks at the expected gamma emission energy (energies).

  The Bi-214, Cs-137, and Pb-214 exceedances are therefore confirmed and have been qualified with a Y-flag in the associated EDD.

  - SL-007-A3-SB-0.0-0.5 (Lab ID 308925-007)
  - SL-006-A3-SB-0.0-0.5 (Lab ID 308925-008)
  - SL-004-A3-SB-0.0-0.5 (Lab ID 308925-009)
  - SL-005-A3-SB-0.0-0.5 (Lab ID 308925-010)

  The Th-234 exceedance is therefore confirmed and has been qualified with a Y-flag in the associated EDD.

  - SL-006-A3-SB-0.0-0.5 (Lab ID 308925-008)
  - SL-004-A3-SB-0.0-0.5 (Lab ID 308925-009)
  - SL-005-A3-SB-0.0-0.5 (Lab ID 308925-010)

  The Nb-94 exceedance in the following sample is NOT confirmed and has been qualified with a Z-flag in the associated EDD.

  - SL-005-A3-SB-0.0-0.5 (Lab ID 308925-010)

The laboratory also recommends, in their case narrative, the assignment of “J” qualifiers to a variety of analytes in a number of samples, based on their assessment that the spectral data failed to meet minimum identification criteria necessary to positively identify the analyte as being present in the sample, despite having an activity concentration above the critical level (L_C). These results are believed to be characteristic of the issues discussed above, in which the lab’s gamma spectrometry software tends to underreport the uncertainty associated with “non-detected” photopeaks. In some cases, however, the positive bias due to spectral interference, also discussed above, may still be

observed, even in the absence of recorded photopeak, due to the lab's individual software settings.

Where those results are not otherwise discussed above, they are addressed as follows:

- Cesium-134 in samples SL-001-A3-SB-0.0-0.5, SL-010-A3-SB-0.0-0.5, SL-017-A3-SB-0.0-0.5, and SL-011-A3-SB-0.0-0.5 (Lab ID's 308925-002, -006, -011, and -016) did not meet the abundance criteria/ or is unsupported by the presence of any characteristic photopeaks to be positively identified in the above listed samples. The lab's "J" qualifier is confirmed for these samples.
- Cobalt-60 in samples SL-002-A3-SB-0.0-0.5, SL-001-A3-SB-0.0-0.5, SL-009-A3-SB-0.0-0.5, and SL-017-A3-SB-0.0-0.5 (Lab ID's 308925-001, -002, -005, and -011) is unsupported by the presence of any characteristic photopeaks. The lab's "J" qualifier is confirmed for this sample.
- Europium-152 in the method blank (Lab ID 1202711802) is unsupported by the presence of its primary photopeak. The lab's "J" qualifier is confirmed for this sample.
- Europium-155 in samples SL-002-A3-SB-0.0-0.5, SL-001-A3-SB-0.0-0.5, SL-009-A3-SB-0.0-0.5, and SL-014-A3-SB-0.0-0.5 (Lab ID's 308925-001, -002, -005, and -015) is unsupported by the presence of its primary photopeak. The lab's "J" qualifier is confirmed for these samples.
- Neptunium-239 in the duplicate of sample SL-017-A3-SB-0.0-0.5 (Lab ID 1202711803) is unsupported by the presence of any characteristic photopeaks. The lab's "J" qualifier is confirmed for this sample
- Niobium-94 in samples SL-008-A3-SB-0.0-0.5, SL-005-A3-SB-0.0-0.5, SL-017-A3-SB-0.0-0.5, and SL-015-A3-SB-0.0-0.5 (Lab ID's 308925-004, -010, -011, and -014) is unsupported by the presence of any characteristic photopeaks. The lab's "J" qualifier is confirmed for these samples.
- Protactinium-231 in sample SL-009-A3-SB-0.0-0.5 (Lab ID's 308925-005) is unsupported by the presence of any characteristic photopeaks. The lab's "J" qualifier is confirmed for these samples.
- Antimony-125 in sample SL-014-A3-SB-0.0-0.5 (Lab ID 308925-015) did not meet the abundance criteria to be positively identified in these samples. The lab's "J" qualifier is confirmed for these samples.
- Thulium-171 in sample SL-005-A3-SB-0.0-0.5 and the method blank (Lab ID's 308925-010 and 1202711802) is unsupported by the presence of any

characteristic photopeaks to be positively identified in these samples. The lab's "J" qualifier is confirmed for these samples.

10. Evaluation of Hold-Time Compliance
    There are no hold time requirements for this analysis.

11. Evaluation of Comparability of Results
    The pertinent or supporting data available at this time has been evaluated for consistency with available gross screening data, consistency with independent analytical results, and for consistency among reported parent and progeny radionuclides in the same serial decay chains. This assessment does not indicate significant anomalies or discrepancies.

THE PALLADINO COMPANY, INC.
DATA VALIDATION REPORT
Gamma Spectrometry

SDG: 308925

Lab ID: GEL Laboratories, LLC
Data Package Title: 308925.pdf
Data Package Creation Date: 8/28/2012
EDD Title: 308925.xls

Project ID: SSFL Remedial Investigation, Area IV Radiological Study, Laboratory Analytical Services Support SOW

SAMPLE QUALIFIERS AND COMMENTS

Lab ID	Question #	Question #	Question #	Question #	Question #	Question #	Question #	Additional Validator Qualifiers	Validator Comments	Summary Flags
308925001										
308925002										
308925003										
308925004										
308925005										
308925006										
308925007										
308925008										
308925009										
308925010										
308925011										
308925012										
308925013										
308925014										
308925015										
308925016										
308925017										
308925018										

Due to the comprehensive nature of the laboratory data package and the number of analytical results it contains, the data user is referred to the Electronic Data Deliverable (EDD) for a complete Table of Qualified Results. The EDD presents a cross-reference of Sample IDs, Analyte Names, Reported Results, and Qualifiers.

ITEM	MEETS VALIDATION SPECS? (Select One)			Gamma Spectrometry VALIDATION ITEM	QUALIFIERS	AFFECTED SAMPLES	COMMENTS
I. SAMPLE CONDITION AND QC DOCUMENTATION							
1			N/A	Hold time and preservation requirements have been met.			
2			N/A	Preserved samples were held at least 16 hours before aliquanting.			
3	Y			Anomolous conditions noted in case narrative (specify).			See Z-neg, Z-dup comments below.
4		N		Non-Conformance Reports w/corrective action and QA approval present and complete.			
II. STANDARDS TRACEABILITY DOCUMENTATION:							
				List Standard IDs >>	1467 (LCS) and 1596 (Cal)		

ITEM	MEETS VALIDATION SPECS? (Select One)			Gamma Spectrometry VALIDATION ITEM	QUALIFIERS	AFFECTED SAMPLES	COMMENTS
5			N/A	If submitted and approved separately, list reference ID and skip to next section, otherwise answer "N/A" and go to next question.			
6	Y			Standards Dilution Logs present, complete.			
7	Y			NIST (or equivalent) certificates provided for calibration and LCS sources.			
8		N		Standard Verification data provided, including acceptance criteria and reports.			Std. 1467 (LCS) verified. No verificaiton reports presented for Std. 1596 (Cal). Data quality not sig. impacted. Accept results.
III. INSTRUMENT PERFORMANCE CHECKS:							
				List sample count dates and detectors used >>08/21/12--> 2, 6, 8, 11, 12, 14, 16, 17, 24, 27, 28, 30 ; 08/22/12--> 12, 17, 20, 24, 27, 28, 29, 30			
9		N		Instrument performance check raw data included.			No Raw Data. Summary Forms show detectors passing.
10	Y			Detector efficiency monitored and acceptance criteria documented.			
11	Y			Peak resolution monitored and acceptance criteria documented?			
12	Y			Peak location monitored and acceptance criteria documented?			
13	Y			Instrument background count rate monitored and acceptance criteria documented.			
14	Y	N		Control charts for all detectors, all parameters included.			Control Charts provided are only through August 1, 2012, samples counted on August 21 and 22, 2012.
15	Y			Sample counts are bracketed by passing instrument performance checks.			
IV. DETECTOR EFFICIENCY CALIBRATION							
16			N/A	If submitted and approved separately, list reference ID and skip to next section, otherwise answer "N/A" and go to next question.			
17	Y			Is the raw data for the calibration present and complete?			
18	Y			Is the calibration geometry, including matrix and density of the standard, documented?			
19	Y			Calibration source was counted to obtain a min of 10,000 cts in each peak or ROI.			

ITEM	MEETS VALIDATION SPECS? (Select One)			Gamma Spectrometry VALIDATION ITEM	QUALIFIERS	AFFECTED SAMPLES	COMMENTS
20	Y			Calibration source has a least 3 gamma emitting energies and the difference between the energies is at least 500keV with one energy being less than			
21	Y			Calibration photopeaks have a FWHM < 4keV.			
22	Y			Efficiency calibration coefficients, with accpetance criteria included?			Eff acceptance criteria = ICV
23	Y			Energy calibration coefficients, with acceptance criteria included?			
24	Y			Peak resolution calibration coefficients, with acceptance criteria included?			
V. DETECTOR BACKGROUND CALIBRATION							
25			N/A	If submitted and approved separately, list reference ID and skip to next section, otherwise answer "N/A" and go to next question.			
26	Y			Background calibration count rate, with acceptance criteria included?			
27	Y			Background count rate for the representative geometries determined at least monthly?			
VI. SAMPLE PREPARATION DOCUMENTATION (METHOD)							
28	Y			The Bench Sheets are complete and include:			
29	Y			Batch ID			
30	Y			Preparation Date			
31	Y			Analyst ID			
32	Y			Method/Lab SOP w/ rev #			SOP ID in narr and EDD
33	Y			Sample ID(s)			
34	Y			Sample Aliquants			
35	Y			Sample Geometry (must match Calibration Geometry)			
36	Y			Spiking Solution / Source IDs and volumes			
37	Y			Pipette and Balance IDs			Balance=N39169
38	Y			Pipette and Balance Calibration Verification Logs.			
VII. INSTRUMENT RAW DATA							
39	Y			A copy of the instrument run log included and complete.			
				For instrument raw data, the following are present and complete and match the run log, if applicable:			
40	Y			Sample ID			

ITEM	MEETS VALIDATION SPECS? (Select One)			Gamma Spectrometry VALIDATION ITEM	QUALIFIERS	AFFECTED SAMPLES	COMMENTS
41	Y			Analysis Date and Time (count start or count end is specified)			
42	Y			Detector ID			
43			N/A	Filename			VAX
44	Y			Count Duration			
45	Y			Dead Time			
46	Y			Analyte Gross (or Net) Count Rate			
47	Y			Compton background count rate			
48	Y			Peak background count rate			
49	Y			Calibration Reference			
50	Y			Calibration Reference (and coefficients, if shown) match the calibration documentation and are appropriate for the geometry/detector.			Calibration coefficients not on raw data, can be found on calibration raw data.
51	Y			Analysis library meets the project requirements.			
VIII. REPORTED RESULTS							
52	Y			Analysis Report matches raw data, benchsheet, calibration			
				All reported sample and QC results include the following in the calculations summary.			
53	Y			Results included for all samples in the SDG.			
54	Y			Batch ID			
55	Y			Lab Sample ID			
56	Y			Reporting Units (e.g., pCi/g)			
57	Y			Activity			
58	Y			Uncertainty w/confidence interval			
59	Y			MDC			
60	Y			Decision Level (LC)			
61		N		Spiking Standard Information on the Analysis Report matches the benchsheet			No spiking standard information on benchsheet.
62	Y			Decay corrected Spike Activity Added, matches Standards Dilution Log or Source Certificate, as applicable			
63	Y			The results summary page matches the Analysis Report.			
64	Y			The results summary page matches the EDD.			
				Cs-137AL = 0.1 pCi/g.			
65	Y			For all results <= the AL, the 1σ TPU does not exceed 10% of the AL.			AL evaluated in blanks only for gamma spec., per SOW.

ITEM	MEETS VALIDATION SPECS? (Select One)			Gamma Spectrometry VALIDATION ITEM	QUALIFIERS	AFFECTED SAMPLES	COMMENTS
66			N/A	For all results > the AL, the 1σ TPU does not exceed 10% of the reported activity.			
67	Y			For negative activity, the absolute value is between the 2σ and 3σ TPU.	UJ	See EDD	OK, per G005.
68			N/A	For negative activity, the absolute value is greater than the 3σ TPU.			
69	Y			The reported result is <CL.	U	See EDD	
IX. QC SAMPLE QUALITY MEASURES							
70	Y			LCS Z Acceptable (-1.96 to +1.96)			
71	Y			MB Z Acceptable (|Z| < 2.58).			
72			N/A	For MB Z>2.58, sample ZDERs>2.58.			
73			N/A	For MB Z>2.58, sample ZDERs>1.96, <2.58.			
74			N/A	For MB Z>2.58, sample ZDERs<1.96.			
75			N/A	MS Z Acceptable (|Z|<1.96)			
76			N/A	If applicable, equipment blank is included and within acceptable range.			
77		N		Lab Duplicate Z Acceptable (|Z|<1.96)	UJ	See EDD	Na-22 Z-dup score = 2.19
78	Y			If no, not more than 5% exceed 1.96, with none exceeding 3.5.			
79			N/A	Field Duplicate Z Acceptable (|Z|<1.96)			
Additional Comments:							

THE PALLADINO COMPANY, INC.
DATA VALIDATION REPORT
Gamma Spectrometry

SDG: 308925

Lab ID: GEL Laboratories, LLC
Data Package Title: 308925.pdf
Data Package Creation Date: 8/28/2012
EDD Title: 308925.xls

Project ID: SSFL Remedial Investigation, Area IV Radiological Study, Laboratory Analytical Services Support SOW

RECALCULATION OF SAMPLE RESULTS

Sample Lab ID: 308925-004 **Sample Field ID:** SL-008-A3-SB-0.0-0.5

FROM THE CHAIN OF CUSTODY:
Sample Collection Date: 7/18/2012

FROM THE PREPARATION LOGBOOK:
Sample Size: 1787.8 g

FROM THE ANALYTICAL LIBRARY:
Nuclide ID: Pb-214
1/2-Life (yr): 1.60E+03
KEY Line: 352

keV	%
241.9	7.47
295.2	19.20
352	37.10

FROM THE EFFICIENCY CALIBRATION:
Efficiency Coefficients

a1 941.3 **a5** -0.065289
a2 -4.325 **a6** 0.079277
a3 0.7864 **a7** -0.02827
a4 -0.0591

FROM THE INSTRUMENT RAW DATA:

Spectrum File Name: N/A for VAX system **Count Start Date:** 8/21/2012
Detector ID: GAM24 **Live Time (h:m:s):** 2:00:00

From the Identified Peak Summary, Corrected*:			Uncorrected:		Nuc. Line Act. Rpt.:	Bkg. Rpt.:
Centroid Energy	Net Area	Bkg (CC)	Net Area	Peak BKG	2 σ %ERR	MDA Cts.
241.9	2134	1386	2134	0	11.19	1204.87
295.2	2828	1498	2828	0	10.54	
352	4608	1187	4620	12	9.13	721.79

RECALCULATED VALUES: Decay Factor: 1.000
Peaks Used in Activity Average:

keV	% Abund.	Bkg Cts	Net Area Cts	Eff.	Denom.	Act. Conc. (pCi/g)	1σ Unc.	Lc	MDC (pCi/g)
241.9	7.47	1386	2134	0.03371	1.20E+03	1.78E+00	9.96E-02	0.06734	0.13716
295.2	19.20	1498	2828	0.02989	2.73E+03	1.03E+00	5.45E-02	N/A	N/A
352.0	37.10	1199	4608	0.02671	4.72E+03	9.76E-01	4.46E-02	0.01324	0.02710

Parameter (pCi/g)	Manual Calc	Lab Value	Calc vs Lab	FLAG
Activity	1.08E+00	1.08	**0.31%**	**PASS**
1σ Ct. Unc.	3.18E-02	0.0326	**-2.40%**	**PASS**
1σ TPU	4.79E-02	0.0484	**-1.12%**	**PASS**
Lc	1.32E-02	0.0132	**0.32%**	**PASS**
MDC	2.71E-02	0.0271	**0.00%**	**PASS**

Additional Comments:

THE PALLADINO COMPANY, INC.
DATA VALIDATION REPORT
Gamma Spectrometry

SDG: 308925

Lab ID: GEL Laboratories, LLC
Data Package Title: 308925.pdf
Data Package Creation Date: 8/28/2012
EDD Title: 308925.xls

Project ID: SSFL Remedial Investigation, Area IV Radiological Study, Laboratory Analytical Services Support SOW

VERIFICATION OF CALIBRATION SOURCE DECAY FACTOR

Detector ID: Ge 24

Source Preparation Information:

Cal. Std. ID:	90290	**Geometry:**	1LSoil
Radionuclide:	Cs-137	**Half-life (years):**	30.0624
Gamma Emission Energy (keV):	661.66	**Gamma Abundance:**	0.8510
Ref. Activity (gps):	7.62E+02	**Ref. Date:**	1/1/2012
Std. Vol (L,g):	1.00	**Geometry Vol (L,g):**	1.00
Cs-137 Calibration Date:	3/22/2012		
Decay Corr. Cs-137 Activity:	758.4 **gps** @ 3/22/2012		

Calibration Count Data:

Source Peak Area (Cts):	23998		
Source Live Time (Sec):	1800		
Cs-137 Calibrated Efficiency:	0.0176		
Cal. Report Cs-137 Efficiency:	0.0174	**1.03%**	**PASS**

Additional Comments:

The Palladino Company, Inc.
Data Validation Report
Strontium-90

CLIENT NAME: HydroGeologic, Inc.

PROJECT ID: Santa Susana Field Laboratory – Area IV Radiological Study

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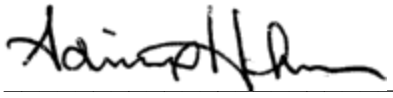
LABORATORY ID: GEL Laboratories, LLC – Charleston, SC

LAB REPORT DATE: 8/28/12 **LAB SDG#:** 308925

LAB REPORT FILENAME: 308925.PDF

EDD FILENAME: 308925.XLS

The following Data Validation Report, with associated review checklists and calculation verifications, and the corresponding Laboratory Radioanalytical Data Report have been reviewed by the personnel shown below. The Palladino Company, Inc., certifies that the Data Validation Report has been completed in accordance with applicable contractual requirements, and is true, complete, and correct, within the limits of the information provided by the laboratory.



Data Validation Analyst — 9/20/12 (Date)



Report Review — 9/22/2012 (Date)

OVERVIEW

Data validation of these results and pertinent supporting documentation, provided by the laboratory in a Level IV-equivalent laboratory data package was performed in accordance with:

- *Evaluation of Radiochemical Data Usability* (DOE, 1997), and
- *Multi-Agency Radiological Laboratory Analytical Protocols Manual* (MARLAP, EPA et al., 2004, specifically Chapter 8),

with additional specific guidance from the

- *Santa Susana Field Laboratory - Radiological Background Study Quality Assurance Project Plan (QAPP)*,
- *GEL Laboratories Quality Assurance Plan (QAP)*,
- *GEL Laboratories compendium of laboratory Standard Operating Procedures (SOPs)*

The data were reviewed for compliance with the required QC elements described in Section 5 and Table 3.3 of the QAPP. The pertinent elements of the data package were reviewed for completeness, compliance with the QAPP requirements and the requirements of the stated methodology, and potential impact on the usability of the data for its intended purpose.

One sample result in this data package was selected at random for manual recalculation of results to verify the laboratory's data reporting algorithms.

VALIDATION REPORT ELEMENTS

The Validation Case Narrative describes the results of the validation process and includes the technical opinion of a qualified radiochemist as to the usability of the data for its intended purpose.

For each analytical method, the case narrative is appended with

- Data Validation Checklist,
- Recalculation of Sample Results, and
- Calibration Standard Decay Verification.

Finally, a Summary of Data Qualifiers and Reason Codes used in the project and their associated definitions is found at the back of the validation report.

Due to the comprehensive nature of the laboratory data package and the number of analytical results it contains, the data user is referred to the Electronic Data Deliverable (EDD) for a complete Table of Qualified Results. The EDD presents a cross-reference of Sample IDs, Analyte Names, Reported Results, and Qualifiers.

VALIDATION CASE NARRATIVE – STRONTIUM-90

The Level IV-equivalent radioanalytical data package referenced in the header of this report was received from GEL on 8/3112.

A Level IV validation of the analytical results was performed and the complete validation report is contained herein.

The data validation, including necessary verification of laboratory data and supporting documentation, was completed on 9/20/12 by Adrienne Hawks, of The Palladino Company, Inc. The final review of the validation report was completed by Rebecca Burns of The Palladino Company, Inc.

The essential findings of the validation report are summarized below:

Overall, the data are usable as reported.

Additional comments regarding the assessment and qualification of the data are provided below. None of these issues appears to significantly affect the usability of the reported results.

1. Sample Receipt, Condition, and Preservation
   All samples were received intact, with no apparent damage or other issues that might affect sample integrity. No preservation or refrigeration was required.
2. Chain of Custody Documentation
   The samples were received by the laboratory with no discrepancies on the chain of custody.
3. Sample Preparation Documentation
   Gross preparation, homogenization, and sub-sampling of the samples conformed to the project-specific protocols described in the lab's internal procedures.
4. Standard Preparation and Traceability
   All radioactive standards used in the laboratory analysis are NIST-traceable, properly prepared, and the source activities are properly decay-corrected during use.
5. Adherence to the Project-Required MQOs and QC Criteria
   All project required Action Levels (ALs), and the associated required Combined Standard Uncertainties (CSUs) have been met.

   All other MQOs, including QC acceptance criteria, are acceptable.

   More detailed assessment of project QC acceptance criteria is provided in Attachment 1, *Data Validation Checklist*.

6. Field Blank and Equipment Blank Performance
   No field or equipment blanks are believed to have been submitted for this analysis. Consequently, no evaluation has been performed regarding the potential impact of field and equipment blank results on the overall data quality.

7. Field Duplicate Performance
   No field duplicate samples are believed to have been submitted for this analysis. Consequently, no evaluation has been performed regarding the potential impact of field duplicate results on the overall data quality.

8. Instrument Calibrations and Performance Verifications
   All instrument calibrations were properly performed and verified prior to use, and are properly applied to the analytical method.

   Ongoing instrument performance verifications were properly performed, remained in control, and were documented on the required control charts throughout the analyses.

9. Sample Raw Data Review
   All raw data for the analysis of samples in this SDG are included in the report and supports the final analytical results.

10. Evaluation of Hold-Time Compliance
    There are no hold time requirements for this analysis.

11. Evaluation of Comparability of Results
    The pertinent or supporting data available at this time has been evaluated for consistency with available gross screening data, consistency with independent analytical results, and for consistency among reported parent and progeny radionuclides in the same serial decay chains. This assessment does not indicate significant anomalies or discrepancies.

THE PALLADINO COMPANY, INC.
DATA VALIDATION REPORT
Strontium-90

SDG: 308925

Lab ID: GEL Laboratories, LLC
Data Package Title: 308925.PDF
Data Package Creation Date: 8/28/2012
EDD Title: 308925.XLS

Project ID: SSFL Remedial Investigation, Area IV Radiological Study, Laboratory Analytical Services Support SOW

SAMPLE QUALIFIERS AND COMMENTS

Lab ID	Question #65	Question #	Question #	Question #	Question #	Question #	Question #	Additional Validator Qualifiers	Validator Comments	Summary Flags
308925001	U								Enter sample-specific comments here.	U
308925002										
308925003	U									U
308925004	U									U
308925005	U									U
308925006	U									U
308925007	U									U
308925008	U									U
308925009	U									U
308925010	U									U
308925011	U									U
308925012										
308925013	U									U
308925014	U									U
308925015										
308925016	U									U
308925017	U									U
308925018	U									U

ITEM	MEETS VALIDATION SPECS? (Select One)			Strontium-90 VALIDATION ITEM	QUALIFIERS	AFFECTED SAMPLES	COMMENTS
I. SAMPLE CONDITION AND QC DOCUMENTATION							
1			N/A	Hold time and preservation requirements have been met.			
2			N/A	Preserved samples were held at least 16 hours before aliquanting.			
3	Y			Anomolous conditions noted in case narrative (specify).			RECOUNT -003, -004, MB
4			N/A	Non-Conformance Reports w/corrective action and QA approval present and complete.			
II. STANDARDS TRACEABILITY DOCUMENTATION:							

ITEM	MEETS VALIDATION SPECS? (Select One)			Strontium-90 VALIDATION ITEM	QUALIFIERS	AFFECTED SAMPLES	COMMENTS
				List Standard IDs >>	1243-I, 1793168, CAL: 1567-A, 0133-A		
5			N/A	If submitted and approved separately, list reference ID and skip to next section, otherwise answer "N/A" and go to next question.			
6	Y			Standards Dilution Logs present, complete.			
7	Y			NIST (or equivalent) certificates provided for calibration and LCS sources.			
8	Y			Standard Verification data provided, including acceptance criteria and reports.			
III. INSTRUMENT PERFORMANCE CHECKS:							
				List sample count dates and detectors used >> 8/15/12: 1A, 1B, 2A, 2D, 3C, 3D, 4A, 5B, 5C, 5D, 6D, 7C, 8A, 8D, 9C, 10A, 11C, 12D			
9	Y			Instrument performance check raw data included.			
10	Y			Detector efficiency monitored and acceptance criteria documented.			
11	Y			Instrument background count rate monitored and acceptance criteria documented.			
12	Y			Control charts for all detectors, all parameters included.			
13	Y			Sample counts are bracketed by passing instrument performance checks.			
IV. DETECTOR EFFICIENCY CALIBRATION							
14			N/A	If submitted and approved separately, list reference ID and skip to next section, otherwise answer "N/A" and go to next question.			
15	Y			Plateau and discriminator settings provided and set the last year.			
16	Y			Efficiency calibration performed within the last year and included.			
17	Y			NIST-traceable source used for the calibration.			
18	Y			Calculated verification results included.			
19	Y			Acceptance criteria documented and met.			
V. DETECTOR BACKGROUND CALIBRATION							

ITEM	MEETS VALIDATION SPECS? (Select One)			Strontium-90 VALIDATION ITEM	QUALIFIERS	AFFECTED SAMPLES	COMMENTS
20			N/A	If submitted and approved separately, list reference ID and skip to next section, otherwise answer "N/A" and go to next question.			
21	Y			Background calibration count rate, with acceptance criteria included.			
22	Y			Background count rate for detectors used determined at least monthly.			
VI. SAMPLE PREPARATION DOCUMENTATION (METHOD)							
23	Y			The Bench Sheets are complete and include:			
24	Y			Batch ID			
25	Y			Preparation Start Date and Time			
26	Y			Analyst ID			
27	Y			Method/Lab SOP w/ revision #			
28	Y			Sample ID(s)			
29	Y			Sample Aliquants			
30	Y			Separation date/time for Y-90 ingrowth			
31	Y			Residual mass for yield determination			
32	Y			Sr carrier ID / volume added			
33	Y			Gravimetric yield provided for each sample			
34	Y			Spiking Solution / Source IDs and volumes			
35	Y			Pipette and Balance IDs			
36	Y			Pipette and Balance Calibration Verification Logs.			
VII. INSTRUMENT RAW DATA							
37	Y			A copy of the instrument run log included and complete.			
				For instrument raw data, the following are present and complete and match the run log, if applicable:			
38	Y			Sample ID			
39	Y			Analysis Date and Time (count start or count end is specified)			
40	Y			Detector ID			
41	Y			Batch ID			
42	Y			Count Duration			
43	Y			Analyte Gross (or Net) Alpha and Beta Count Rate Included			

ITEM	MEETS VALIDATION SPECS? (Select One)			Strontium-90 VALIDATION ITEM	QUALIFIERS	AFFECTED SAMPLES	COMMENTS
44	Y			Cross talk does not sig. affect analyte measurement : alpha CPM <10X alpha BKG CPM			
VIII. REPORTED RESULTS							
45	Y			Calibration coefficients used match the calibration documentation.			
46	Y			Analysis Report matches raw data, benchsheet, calibration summary.			
				All reported sample and QC results include the following:			
47	Y			Results included for all samples in the SDG.			
48	Y			Batch ID			
49	Y			Lab Sample ID			
50	Y			Passing yield results with acceptance criteria (but not less than 40%)			
51	Y			Reporting Units (e.g., pCi/g)			
52	Y			Activity			
53	Y			Uncertainty w/confidence interval			
54	Y			MDC			
55	Y			Decision Level (LC)			
56	Y			Spiking Standard Solution ID on the Analysis Report match the benchsheet			
57	Y			Spike Activity on the Analysis Report matches the benchsheet			
58	Y			Decay corrected Spike Activity Added, matches Standards Dilution Log			
59	Y			The results summary page matches the Analysis Report.			
60	Y			The results summary page matches the EDD.			
				Sr-90 AL = 5.0 pCi/g.			
61	Y			For all results <= the AL, the 1σ TPU does not exceed 10% of the AL.			
62	Y			For all results > the AL, the 1σ TPU does not exceed 10% of the reported activity.			
63			N/A	For negative activity, the absolute value is between the 2σ and 3σ TPU.			

ITEM	MEETS VALIDATION SPECS? (Select One)			Strontium-90 VALIDATION ITEM	QUALIFIERS	AFFECTED SAMPLES	COMMENTS
64			N/A	For negative activity, the absolute value is greater than the 3σ TPU.			
65	Y			The reported result is <CL.	U	See Table Above	Explain, if necessary.
IX. QC SAMPLE QUALITY MEASURES							
66	Y			LCS Z Acceptable (-1.96 to +1.96)			
67	Y			MB Z Acceptable (|Z| < 2.58).			
68			N/A	For MB Z>2.58, sample ZDERs>2.58.			
69			N/A	For MB Z>2.58, sample ZDERs>1.96, <2.58.			
70			N/A	For MB Z>2.58, sample ZDERs<1.96.			
71			N/A	MS Z Acceptable (|Z|<1.96)			
72			N/A	If applicable, equipment blank is included and within acceptable range.			
73	Y			Lab Duplicate Z Acceptable (|Z|<1.96)			
74			N/A	Field Duplicate Z Acceptable (|Z|<1.96)			
Additional Comments:							

THE PALLADINO COMPANY, INC.
DATA VALIDATION REPORT
Strontium-90

SDG: 308925

Lab ID: GEL Laboratories, LLC
Data Package Title: 308925.PDF
Data Package Creation Date: 8/28/2012
EDD Title: 308925.XLS

Project ID: SSFL Remedial Investigation, Area IV Radiological Study, Laboratory Analytical Services Support SOW

RECALCULATION OF SAMPLE RESULTS

Sample Lab ID: 308925013 **Sample Field ID:** SL-316-A3-SB-0.0-0.5

Reference Date*: 7/17/2012 *Reference Date = Sampling Date or Analysis Date, depending on lab protocol.

From Prep Report

Batch ID: 1236435
Sample Aliquant: 2.2330 L,g
Sr Residual Mass: 0.0059 g
Sr Target Mass: 0.0081 g

For Yields by ICP: (leave blank for gravimetric yields)
Sr mass added (mg): per SOP
Post-Sep volume (mL):
ICP aliquant (mL):
ICP dilution volume (mL):
Sr Sample Conc. (ppm,ug/mL):
Sr mass post-sep (mg):

Sr Yield: 72.48%
Sr-90 Analysis Aliquant (g/L): 2.2330

From Analysis Report

Ingrowth Start Date &Time: 08/14/2012 11:45 AM

From Inst. Raw Data:

Detector ID: 9C
Count Start Date & Time: 08/15/2012 10:46 AM
Sample Count Duration: 60
Sample Gross cpm: 0.875

From Det. 9C Calibration Data:

	Sr-90	Y-90
Beta Efficiency (m):	-2.7621E-03	0.0000E+00
Beta Efficiency (b):	4.6656E-01	5.2830E-01
Counting Efficiency:	4.5027E-01	5.2830E-01

Backround Count Duration: 500
Backround cpm: 0.98

Method TPU Factor: 0.090

Calculated Results:

Parameter	Manual Calc.	Lab Value	Calc vs. Lab	FLAG
Y Ingrowth =	0.2203			
Std. Denom. =	2.0321			
Activity (pCi/L,g) =	-0.0517	-0.0514	**0.53%**	**PASS**
1s Cnt. Unc. =	0.0633	0.063	**0.47%**	**PASS**
1s TPU =	0.0635	0.0630	**0.74%**	**PASS**
MDC =	0.2412	0.24	**0.50%**	**PASS**
L_C =	0.1463	0.146	**0.21%**	**PASS**

Additional Comments:

THE PALLADINO COMPANY, INC.
DATA VALIDATION REPORT
Strontium-90

SDG: 308925

Lab ID: GEL Laboratories, LLC
Data Package Title: 308925.PDF
Data Package Creation Date: 8/28/2012
EDD Title: 308925.XLS

Project ID: SSFL Remedial Investigation, Area IV Radiological Study, Laboratory Analytical Services Support SOW

VERIFICATION OF CALIBRATION SOURCE DECAY FACTOR

Detector ID: 9C

Source Preparation Information:

Cal. Std. ID: 0133-A
Cal. Source ID: 6

Radionuclide: Sr-90
Half-life (years): 2.88E+01
Progeny: Y-90
Half-life (years): 7.31E-03
Progeny Eff: 0.5283

Ref. Activity Conc. (dpm/mL): 1384260.709
Ref. Date: 4/1/1996
Sep. Date & Time: 3/20/2012 8:40

Std. Vol (mL): 0.10
Sr-90 Cal. Date & Time: 3/20/2012 18:00

Decay Corrected Source (Sr-90) Activity: 94240.7 @ 3/20/2012

Calibration Count Data:

Source Gross cpm: 42846

Cal. Report 1st Ct. Bkg. cpm: 0

Sr-90 Calibrated Efficiency: 0.4039

Cal. Report Sr-90 Efficiency: 0.4028 **0.28%** **PASS**

Additional Comments:
Bkg cpm not provided. Data not sig. affected due to high source activity.

The Palladino Company, Inc.
Data Validation Report
Americium/Curium

CLIENT NAME: HydroGeologic, Inc.

PROJECT ID: Santa Susana Field Laboratory – Area IV Radiological Study

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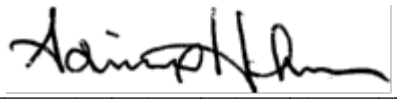
LABORATORY ID: GEL Laboratories, LLC – Charleston, SC

LAB REPORT DATE: 8/28/12 **LAB SDG#:** 308925

LAB REPORT FILENAME: 308925.PDF

EDD FILENAME: 308925.XLS

The following Data Validation Report, with associated review checklists and calculation verifications, and the corresponding Laboratory Radioanalytical Data Report have been reviewed by the personnel shown below. The Palladino Company, Inc., certifies that the Data Validation Report has been completed in accordance with applicable contractual requirements, and is true, complete, and correct, within the limits of the information provided by the laboratory.



Data Validation Analyst — 9/18/12 Date



Report Review — 9/20/2012 Date

OVERVIEW

Data validation of these results and pertinent supporting documentation, provided by the laboratory in a Level IV-equivalent laboratory data package was performed in accordance with:

- *Evaluation of Radiochemical Data Usability* (DOE, 1997), and
- *Multi-Agency Radiological Laboratory Analytical Protocols Manual* (MARLAP, EPA et al., 2004, specifically Chapter 8),

with additional specific guidance from the

- *Santa Susana Field Laboratory - Radiological Background Study Quality Assurance Project Plan (QAPP)*,
- *GEL Laboratories Quality Assurance Plan (QAP)*,
- *GEL Laboratories compendium of laboratory Standard Operating Procedures (SOPs)*

The data were reviewed for compliance with the required QC elements described in Section 5 and Table 3.3 of the QAPP. The pertinent elements of the data package were reviewed for completeness, compliance with the QAPP requirements and the requirements of the stated methodology, and potential impact on the usability of the data for its intended purpose.

One sample result in this data package was selected at random for manual recalculation of results to verify the laboratory's data reporting algorithms.

VALIDATION REPORT ELEMENTS

The Validation Case Narrative describes the results of the validation process and includes the technical opinion of a qualified radiochemist as to the usability of the data for its intended purpose.

For each analytical method, the case narrative is appended with

- Data Validation Checklist,
- Recalculation of Sample Results, and
- Calibration Standard Decay Verification.

Finally, a Summary of Data Qualifiers and Reason Codes used in the project and their associated definitions is found at the back of the validation report.

Due to the comprehensive nature of the laboratory data package and the number of analytical results it contains, the data user is referred to the Electronic Data Deliverable (EDD) for a complete Table of Qualified Results. The EDD presents a cross-reference of Sample IDs, Analyte Names, Reported Results, and Qualifiers.

VALIDATION CASE NARRATIVE – AMERICIUM/CURIUM

The Level IV-equivalent radioanalytical data package referenced in the header of this report was received from GEL on 8/31/12.

A Level IV validation of the analytical results was performed and the complete validation report is contained herein.

The data validation, including necessary verification of laboratory data and supporting documentation, was completed on 9/18/12 by Adrienne Hawks, of The Palladino Company, Inc. The final review of the validation report was completed by Rebecca Burns of The Palladino Company, Inc.

The essential findings of the validation report are summarized below:

Overall, the data are usable as reported.

Additional comments regarding the assessment and qualification of the data are provided below. None of these issues appears to significantly affect the usability of the reported results.

1. Sample Receipt, Condition, and Preservation
   All samples were received intact, with no apparent damage or other issues that might affect sample integrity. No preservation or refrigeration was required.
2. Chain of Custody Documentation
   The samples were received by the laboratory with no discrepancies on the chain of custody.
3. Sample Preparation Documentation
   Gross preparation, homogenization, and sub-sampling of the samples conformed to the project-specific protocols described in the lab's internal procedures.
4. Standard Preparation and Traceability
   All radioactive standards used in the laboratory analysis are NIST-traceable, properly prepared, and the source activities are properly decay-corrected during use.
5. Adherence to the Project-Required MQOs and QC Criteria
   All project required Action Levels (ALs), and the associated required Combined Standard Uncertainties (CSUs) have been met.

   All other MQOs, including QC acceptance criteria, are acceptable, with the following exceptions:

   - The CU and TPU for sample SL-006-A3-SB-0.0-0.5 (Lab ID 308925008) could not be verified with the standard calculation verifications. The

manual calculations (0.0042 for both calculations) versus the laboratory calculations (0.0056 and 0.00564, respectively) resulted in a 25.2% and 25.73% difference, respectively. Given the magnitude of the discrepancy, the lab's apparent overestimate of the uncertainty, and the fact that sample activity is well below the RTL, the data are not believed to be significantly impacted and the results are accepted without further qualification.

More detailed assessment of project QC acceptance criteria is provided in Attachment 1, *Data Validation Checklist*.

6. Field Blank and Equipment Blank Performance
   No field or equipment blanks are believed to have been submitted for this analysis. Consequently, no evaluation has been performed regarding the potential impact of field and equipment blank results on the overall data quality.

7. Field Duplicate Performance
   No field duplicate samples are believed to have been submitted for this analysis. Consequently, no evaluation has been performed regarding the potential impact of field duplicate results on the overall data quality.

8. Instrument Calibrations and Performance Verifications
   All instrument calibrations were properly performed and verified prior to use, and are properly applied to the analytical method, with the following exceptions:

   - Detector 224 failed the FWHM daily check on 8/29/12, the day after counting. It is noted on the sample count page that sample results that counted on the previous day "have been verified" but there is no documentation to support this statement. A review of the sample spectra does not indicate a wider than expected peak and the results are accepted without further qualification.

   Ongoing instrument performance verifications were properly performed, remained in control, and were documented on the required control charts throughout the analyses.

9. Sample Raw Data Review
   All raw data for the analysis of samples in this SDG are included in the report and supports the final analytical results.

10. Evaluation of Hold-Time Compliance
    There are no hold time requirements for this analysis.

11. Evaluation of Comparability of Results
    The pertinent or supporting data available at this time has been evaluated for consistency with available gross screening data, consistency with independent analytical results, and for consistency among reported parent and progeny

radionuclides in the same serial decay chains. This assessment does not indicate significant anomalies or discrepancies.

THE PALLADINO COMPANY, INC.
DATA VALIDATION REPORT
Americium/Curium

SDG: 308925

Lab ID: GEL Laboratories, LLC
Data Package Title: 308925.PDF
Data Package Creation Date: 8/28/2012
EDD Title: 308925.XLS

Project ID: SSFL Remedial Investigation, Area IV Radiological Study, Laboratory Analytical Services Support SOW

SAMPLE QUALIFIERS AND COMMENTS

Lab ID	Question #63	Question #	Question #	Question #	Question #	Question #	Question #	Additional Validator Qualifiers	Validator Comments	Summary Flags
308925001	U								Enter sample-specific comments here.	U
308925002	U									U
308925003										
308925004	U									U
308925005	U									U
308925006	U									U
308925007	U									U
308925008	U									U
308925009										
308925010										
308925011	U									U
308925012	U									U
308925013	U									U
308925014	U									U
308925015	U									U
308925016	U									U
308925017										
308925018	U									U

ITEM	MEETS VALIDATION SPECS? (Select One)			Americium/Curium VALIDATION ITEM	QUALIFIERS	AFFECTED SAMPLES	COMMENTS
I. SAMPLE CONDITION AND QC DOCUMENTATION							
1			N/A	Hold time and preservation requirements have been met.			
2			N/A	Preserved samples were held at least 16 hours before aliquanting.			
3		N		Anomalous conditions noted in case narrative (specify).			REPREP, RECOUNT -008 AM
4		N		Non-Conformance Reports w/corrective action and QA approval present and complete.			
II. STANDARDS TRACEABILITY DOCUMENTATION:							
				List Standard IDs >>	1571A, 0533-S, 1216-G, CAL: 1216-C, 1284-A, 0518-L		
5			N/A	If submitted and approved separately, list reference ID and skip to next section, otherwise answer "N/A" and go to next question.			
6	Y			Standards Dilution Logs present, complete.			

ITEM	MEETS VALIDATION SPECS? (Select One)			Americium/Curium VALIDATION ITEM	QUALIFIERS	AFFECTED SAMPLES	COMMENTS
7	Y			NIST (or equivalent) certificates provided for calibration and LCS sources.			
8	Y			Standard Verification data provided, including acceptance criteria and reports.			
III. INSTRUMENT PERFORMANCE CHECKS:							
				List sample count dates and detectors used >> 8/28/12: 065-068, 071, 074, 078-086, 088, 101, 102, 104, 106, 108, 209-213, 215, 216, 220-232, 8/29/12: 110			
9	Y			Instrument performance check raw data included.			
10	Y			Detector efficiency monitored and acceptance criteria documented.			
11	Y			Detector peak location monitored and acceptance criteria documented.			
12	Y			Detector peak resolution monitored and acceptance criteria documented.			
13	Y			Control charts for all detectors, all parameters included.			
14		N		Sample counts are bracketed by passing instrument performance checks.			DET 224 FAILED THE FWHM DAILY CHECK ON 8/29/12. IT IS NOTED ON THE DAILY CHECK PAGE THAT SAMPLE RESULTS THAT COUNTED ON THE PREVIOUS DAY "HAVE BEEN VERIFIED" BUT THERE IS NO DOCUMENTATION TO SUPPORT THIS STATEMENT. A REVIEW OF THE SAMPLE SPECTRA DOES NOT INDICATE A WIDER THAN EXPECTED PEAK AND THE RESULTS ARE ACCEPTED WITHOUT FURTHER QUALIFICATION.
IV. DETECTOR EFFICIENCY CALIBRATION							
15			N/A	If submitted and approved separately, list reference ID and skip to next section, otherwise answer "N/A" and go to next question.			
16	Y			Efficiency calibration performed within the last month and included.			
17	Y			Peak energy calibration performed within the last month and included.			
18	Y			NIST-traceable source used for the calibration.			
19	Y			Calculated verification results included.			
20	Y			Acceptance criteria documented and met.			
V. DETECTOR BACKGROUND CALIBRATION							
21			N/A	If submitted and approved separately, list reference ID and skip to next section, otherwise answer "N/A" and go to next question.			
22	Y			Background calibration count rate, with acceptance criteria included.			
23	Y			Background count rate for detectors used determined at least monthly.			
VI. SAMPLE PREPARATION DOCUMENTATION (METHOD)							

ITEM	MEETS VALIDATION SPECS? (Select One)			Americium/Curium VALIDATION ITEM	QUALIFIERS	AFFECTED SAMPLES	COMMENTS
24	Y			The Bench Sheets (Que Sheets) are complete and include:			
25	Y			Batch ID			
26	Y			Preparation Start Date and Time			
27	Y			Analyst ID			
28	Y			Method/Lab SOP w/ revision #			
29	Y			Sample ID(s)			
30	Y			Sample Aliquants			
31	Y			Tracer ID and volume added			
32	Y			Spiking Solution IDs and volumes			
33	Y			Pipette and Balance IDs			
34	Y			Pipette and Balance Calibration Verification Logs.			
VII. INSTRUMENT RAW DATA							
35	Y			A copy of the instrument run log included and complete.			
				For instrument raw data, the following are present and complete and match the run log, if applicable:			
36	Y			Sample ID			
37	Y			Analysis Date and Time (count start or count end is specified)			
38	Y			Detector ID			NOTE: IT IS A LIMITATION OF THE REPORTING SOFTWARE THAT THE DETECTORS LISTED FOR Cm ARE THE SAME AS THOSE LISTED FOR Am IN THE EDD. THE CORRECT DETECTOR IDs CAN BE FOUND IN THE RAW DATA.
39	Y			Batch ID			
40	Y			Count Duration			
41	Y			Analyte Gross (or Net) Count Rate Included			
42	Y			Efficiency and energy coefficients match the calibration documentation.			
43	Y			Background date, time, and detector ID matches the calibration report.			
44			N/A	At least 400 tracer count acquired.			
45	Y			Tracer FWHM <=100keV			
46	Y			Visual inspection of spectral quality is acceptable, including analyte peak resolution, peak tailing and unidentified peaks.			
VIII. REPORTED RESULTS							
47	Y			Analysis Report (Certificate of Analysis) matches raw data, Z-score report.			
				All reported sample and QC results include the following:			
48	Y			Results included for all samples in the SDG.			
49	Y			Batch ID			

ITEM	MEETS VALIDATION SPECS? (Select One)			Americium/Curium VALIDATION ITEM	QUALIFIERS	AFFECTED SAMPLES	COMMENTS
50	Y			Lab Sample ID			
51	Y			Passing yield results with acceptance criteria (but not less than 20%)			
52	Y			Reporting Units (e.g., pCi/g)			
53	Y			Activity			
54	Y			Uncertainty w/confidence interval			
55	Y			MDC			
56	Y			Decision Level (LC)			
57	Y			Decay corrected Spike Activity Added, matches Standards Dilution Log and benchsheet			
58	Y			The contents of the EDD match the hard copy report.			
				Required ALs:	**Am241, Am243, Cm243/244 AL = 0.8 pCi/g.**		
59	Y			For all results <= the AL, the 1σ TPU does not exceed 10% of the AL.			
60	Y			For all results > the AL, the 1σ TPU does not exceed 10% of the reported activity.			
61			N/A	For negative activity, the absolute value is between the 2σ and 3σ TPU.			
62			N/A	For negative activity, the absolute value is greater than the 3σ TPU.			
63	Y			The reported result is <CL.	U	See Table Above	Explain, if necessary.
IX. QC SAMPLE QUALITY MEASURES							
64	Y			LCS Z Acceptable (-1.96 to +1.96)			
65	Y			MB Z Acceptable (|Z| < 2.58).			
66			N/A	For MB Z>2.58, sample ZDERs>2.58.			
67			N/A	For MB Z>2.58, sample ZDERs>1.96, <2.58.			
68			N/A	For MB Z>2.58, sample ZDERs<1.96.			
69			N/A	MS Z Acceptable (|Z|<1.96)			
70			N/A	If applicable, equipment blank is included and within acceptable range.			
71	Y			Lab Duplicate Z Acceptable (|Z|<1.96)			
72			N/A	Field Duplicate Z Acceptable (|Z|<1.96)			
Additional Comments:							

THE PALLADINO COMPANY, INC.
DATA VALIDATION REPORT
Americium/Curium

SDG: 308925

Lab ID: GEL Laboratories, LLC
Data Package Title: 308925.PDF
Data Package Creation Date: 8/28/2012
EDD Title: 308925.XLS

Project ID: SSFL Remedial Investigation, Area IV Radiological Study, Laboratory Analytical Services Support SOW

RECALCULATION OF SAMPLE RESULTS

Sample Lab ID: 308925008 **Sample Field ID:** SL-006-A3-SB-0.0-0.5

Verification Nuclide: Am-241 **Tracer Nuclide:** Am-243
Nuclide Half-Life (yrs): 4.32E+02 **Tracer Half-Life (yrs):** 7.37E+03
Verification Nuclide Tracer Impurity?: N

From Chain of Custody
Sampling Date: 7/24/2012 **Matrix:** Soil

From Prep Report
Batch ID: 1241336 **Tracer ID:** 1571-A
Sample Aliquant: 1.00200 g **Tracer Volume:** 0.1000 mL

From Tracer Dilution Log
Activity Conc.: 47.4536 dpm/mL
Ref. Date: 10/1/2008

From Inst. Raw Data:
Detector ID: 110
Count Start Date & Time: 8/29/12 23:43
Sample Count Duration: 35,000 sec
Detector Efficiency: 34.1403%

Tracer Gross Cts.: 662 **Analyte Gross Cts.:** 1
Tracer Bkg. Cts.: 1.748 **Analyte Bkg. Cts.:** 1.17
Tracer Net Cts.: 660.252
Tracer "%ABUN": 100 **Analyte Net Cts.:** -0.17
Analyte "%ABUN": 99.94
Bkg Ct. Duration: 60,000 sec

Method TPU Factors: 0.6557 **Detector Efficiency (from inst. raw data)**
0.100% **Sample Aliquant % (from inst. raw data)**
4.456% **Yield % (from inst. raw data)**
Combined Unc. Factors: 4.9%

Calculated Results:

Parameter	Manual Calc.	Lab Value	Calc vs. Lab	FLAG	
Yield =	0.6989	0.701	**-0.30%**	**PASS**	
Am-241 Decay =	0.9998				
Std. Denom. =	0.5304				
Activity (pCi/g) =	-0.0005	-5.36E-04	**-0.50%**	**PASS**	
1s Cnt. Unc. =	0.0042	5.60E-03	**-25.20%**	**FAIL**	**
1s TPU =	0.0042	5.64E-03	**-25.73%**	**FAIL**	**
MDC =	0.0232	2.33E-02	**-0.42%**	**PASS**	
L_C=	0.0081	8.15E-03	**-0.41%**	**PASS**	

Additional Comments: See narrative comment regarding failing calculations.

THE PALLADINO COMPANY, INC.
DATA VALIDATION REPORT
Alpha Spectrometry

SDG: 308925

Lab ID: GEL Laboratories, LLC
Data Package Title: 308925.PDF
Data Package Creation Date: 8/28/2012
EDD Title: 308925.XLS

Project ID: SSFL Remedial Investigation, Area IV Radiological Study, Laboratory Analytical Services Support SOW

VERIFICATION OF CALIBRATION SOURCE DECAY FACTOR

Detector ID: 110 **Detector Calibration Date:** 8/9/2012

Cal. Source ID: ASCS2012-34

Radionuclide:	Gd-148	Np-237	Cm-244
Half-life (years):	7.46E+01	2.14E+06	1.81E+01
Ref. Date:	1/1/09	11/27/95	6/19/08
Ref. Activity (Bq/source):	7.389	10.437	18.506
Decay Corrected dpm:	428.8	626.2	947.7

Calibration Count Data:	Gd-148	Np-237	Cm-244
Source Gross Cts:	17375	25888	38889
Source Bkg Cts:	0	0	0
Calibration Count Duration (m):	120	120	120
Calibrated Detector Efficiency:	0.3414		
Cal. Report Efficiency:	0.3414	**0.00%**	**PASS**

Additional Comments:

The Palladino Company, Inc.
Data Validation Report
Isotopic Uranium

CLIENT NAME: HydroGeologic, Inc.

PROJECT ID: Santa Susana Field Laboratory – Area IV Radiological Study

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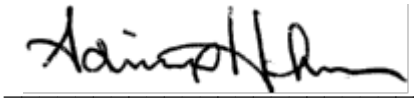
LABORATORY ID: GEL Laboratories, LLC – Charleston, SC

LAB REPORT DATE: 8/28/12 **LAB SDG#:** 308925

LAB REPORT FILENAME: 308925.PDF

EDD FILENAME: 308925.XLS

The following Data Validation Report, with associated review checklists and calculation verifications, and the corresponding Laboratory Radioanalytical Data Report have been reviewed by the personnel shown below. The Palladino Company, Inc., certifies that the Data Validation Report has been completed in accordance with applicable contractual requirements, and is true, complete, and correct, within the limits of the information provided by the laboratory.



Data Validation Analyst — 9/18/12 Date



Report Review — 9/22/2012 Date

OVERVIEW

Data validation of these results and pertinent supporting documentation, provided by the laboratory in a Level IV-equivalent laboratory data package was performed in accordance with:

- *Evaluation of Radiochemical Data Usability* (DOE, 1997), and
- *Multi-Agency Radiological Laboratory Analytical Protocols Manual* (MARLAP, EPA et al., 2004, specifically Chapter 8),

with additional specific guidance from the

- *Santa Susana Field Laboratory - Radiological Background Study Quality Assurance Project Plan (QAPP)*,
- *GEL Laboratories Quality Assurance Plan (QAP)*,
- *GEL Laboratories compendium of laboratory Standard Operating Procedures (SOPs)*

The data were reviewed for compliance with the required QC elements described in Section 5 and Table 3.3 of the QAPP. The pertinent elements of the data package were reviewed for completeness, compliance with the QAPP requirements and the requirements of the stated methodology, and potential impact on the usability of the data for its intended purpose.

One sample result in this data package was selected at random for manual recalculation of results to verify the laboratory's data reporting algorithms.

VALIDATION REPORT ELEMENTS

The Validation Case Narrative describes the results of the validation process and includes the technical opinion of a qualified radiochemist as to the usability of the data for its intended purpose.

For each analytical method, the case narrative is appended with

- Data Validation Checklist,
- Recalculation of Sample Results, and
- Calibration Standard Decay Verification.

Finally, a Summary of Data Qualifiers and Reason Codes used in the project and their associated definitions is found at the back of the validation report.

Due to the comprehensive nature of the laboratory data package and the number of analytical results it contains, the data user is referred to the Electronic Data Deliverable (EDD) for a complete Table of Qualified Results. The EDD presents a cross-reference of Sample IDs, Analyte Names, Reported Results, and Qualifiers.

VALIDATION CASE NARRATIVE – ISOTOPIC URANIUM

The Level IV-equivalent radioanalytical data package referenced in the header of this report was received from GEL on 8/31/12.

A Level IV validation of the analytical results was performed and the complete validation report is contained herein.

The data validation, including necessary verification of laboratory data and supporting documentation, was completed on 9/18/12 by Adrienne Hawks, of The Palladino Company, Inc. The final review of the validation report was completed by Rebecca Burns of The Palladino Company, Inc.

The essential findings of the validation report are summarized below:

Overall, the data are usable as reported.

Additional comments regarding the assessment and qualification of the data are provided below. None of these issues appears to significantly affect the usability of the reported results.

1. Sample Receipt, Condition, and Preservation
   All samples were received intact, with no apparent damage or other issues that might affect sample integrity. No preservation or refrigeration was required.
2. Chain of Custody Documentation
   The samples were received by the laboratory with no discrepancies on the chain of custody.
3. Sample Preparation Documentation
   Gross preparation, homogenization, and sub-sampling of the samples conformed to the project-specific protocols described in the lab's internal procedures.
4. Standard Preparation and Traceability
   All radioactive standards used in the laboratory analysis are NIST-traceable, properly prepared, and the source activities are properly decay-corrected during use.
5. Adherence to the Project-Required MQOs and QC Criteria
   All project required Action Levels (ALs), and the associated required Combined Standard Uncertainties (CSUs) have been met.

   All other MQOs, including QC acceptance criteria, are acceptable.

   More detailed assessment of project QC acceptance criteria is provided in Attachment 1, *Data Validation Checklist*.

6. Field Blank and Equipment Blank Performance
   No field or equipment blanks are believed to have been submitted for this analysis. Consequently, no evaluation has been performed regarding the potential impact of field and equipment blank results on the overall data quality.

7. Field Duplicate Performance
   No field duplicate samples are believed to have been submitted for this analysis. Consequently, no evaluation has been performed regarding the potential impact of field duplicate results on the overall data quality.

8. Instrument Calibrations and Performance Verifications
   All instrument calibrations were properly performed and verified prior to use, and are properly applied to the analytical method.

   Ongoing instrument performance verifications were properly performed, remained in control, and were documented on the required control charts throughout the analyses.

9. Sample Raw Data Review
   All raw data for the analysis of samples in this SDG are included in the report and supports the final analytical results.

10. Evaluation of Hold-Time Compliance
    There are no hold time requirements for this analysis.

11. Evaluation of Comparability of Results
    The pertinent or supporting data available at this time has been evaluated for consistency with available gross screening data, consistency with independent analytical results, and for consistency among reported parent and progeny radionuclides in the same serial decay chains. This assessment does not indicate significant anomalies or discrepancies.

THE PALLADINO COMPANY, INC.
DATA VALIDATION REPORT
Isotopic Uranium

SDG: 308925

Lab ID: GEL Laboratories, LLC
Data Package Title: 308925.PDF
Data Package Creation Date: 8/28/2012
EDD Title: 308925.XLS

Project ID: SSFL Remedial Investigation, Area IV Radiological Study, Laboratory Analytical Services Support SOW

SAMPLE QUALIFIERS AND COMMENTS

Lab ID	Question #63	Question #	Question #	Question #	Question #	Question #	Question #	Additional Validator Qualifiers	Validator Comments	Summary Flags
308925001									Enter sample-specific comments here.	
308925002										
308925003										
308925004										
308925005	U									U
308925006										
308925007										
308925008										
308925009										
308925010										
308925011										
308925012										
308925013										
308925014										
308925015										
308925016										
308925017										
308925018										

ITEM	MEETS VALIDATION SPECS? (Select One)			Isotopic Uranium VALIDATION ITEM	QUALIFIERS	AFFECTED SAMPLES	COMMENTS
I. SAMPLE CONDITION AND QC DOCUMENTATION							
1			N/A	Hold time and preservation requirements have been met.			
2			N/A	Preserved samples were held at least 16 hours before aliquanting.			
3	Y			Anomalous conditions noted in case narrative (specify).			RECOUNT MB
4		N		Non-Conformance Reports w/corrective action and QA approval present and complete.			
II. STANDARDS TRACEABILITY DOCUMENTATION:							
				List Standard IDs >>	1444-L, 1476-F, CAL: 1216-C, 1284-A, 0518-L		
5			N/A	If submitted and approved separately, list reference ID and skip to next section, otherwise answer "N/A" and go to next question.			
6	Y			Standards Dilution Logs present, complete.			

ITEM	MEETS VALIDATION SPECS? (Select One)			Isotopic Uranium VALIDATION ITEM	QUALIFIERS	AFFECTED SAMPLES	COMMENTS
7	Y			NIST (or equivalent) certificates provided for calibration and LCS sources.			
8	Y			Standard Verification data provided, including acceptance criteria and reports.			
III. INSTRUMENT PERFORMANCE CHECKS:							
				List sample count dates and detectors used >> 8/20/12: 007-010, 012, 021, 022, 024, 117-119, 121, 122, 8/21/12: 007-010, 012			
9	Y			Instrument performance check raw data included.			
10	Y			Detector efficiency monitored and acceptance criteria documented.			
11	Y			Detector peak location monitored and acceptance criteria documented.			
12	Y			Detector peak resolution monitored and acceptance criteria documented.			
13	Y			Control charts for all detectors, all parameters included.			
14	Y			Sample counts are bracketed by passing instrument performance checks.			
IV. DETECTOR EFFICIENCY CALIBRATION							
15			N/A	If submitted and approved separately, list reference ID and skip to next section, otherwise answer "N/A" and go to next question.			
16	Y			Efficiency calibration performed within the last month and included.			
17	Y			Peak energy calibration performed within the last month and included.			
18	Y			NIST-traceable source used for the calibration.			
19	Y			Calculated verification results included.			
20	Y			Acceptance criteria documented and met.			
V. DETECTOR BACKGROUND CALIBRATION							
21			N/A	If submitted and approved separately, list reference ID and skip to next section, otherwise answer "N/A" and go to next question.			
22	Y			Background calibration count rate, with acceptance criteria included.			
23	Y			Background count rate for detectors used determined at least monthly.			
VI. SAMPLE PREPARATION DOCUMENTATION (METHOD)							
24	Y			The Bench Sheets (Que Sheets) are complete and include:			
25	Y			Batch ID			

ITEM	MEETS VALIDATION SPECS? (Select One)			Isotopic Uranium VALIDATION ITEM	QUALIFIERS	AFFECTED SAMPLES	COMMENTS
26	Y			Preparation Start Date and Time			
27	Y			Analyst ID			
28	Y			Method/Lab SOP w/ revision #			
29	Y			Sample ID(s)			
30	Y			Sample Aliquants			
31	Y			Tracer ID and volume added			
32	Y			Spiking Solution IDs and volumes			
33	Y			Pipette and Balance IDs			
34	Y			Pipette and Balance Calibration Verification Logs.			
VII. INSTRUMENT RAW DATA							
35	Y			A copy of the instrument run log included and complete.			
				For instrument raw data, the following are present and complete and match the run log, if applicable:			
36	Y			Sample ID			
37	Y			Analysis Date and Time (count start or count end is specified)			
38	Y			Detector ID			
39	Y			Batch ID			
40	Y			Count Duration			
41	Y			Analyte Gross (or Net) Count Rate Included			
42	Y			Efficiency and energy coefficients match the calibration documentation.			
43	Y			Background date, time, and detector ID matches the calibration report.			
44			N/A	At least 400 tracer count acquired.			
45	Y			Tracer FWHM <=100keV			
46	Y			Visual inspection of spectral quality is acceptable, including analyte peak resolution, peak tailing and unidentified peaks.			
VIII. REPORTED RESULTS							
47	Y			Analysis Report (Certificate of Analysis) matches raw data, Z-score report.			
				All reported sample and QC results include the following:			
48	Y			Results included for all samples in the SDG.			
49	Y			Batch ID			
50	Y			Lab Sample ID			
51	Y			Passing yield results with acceptance criteria (but not less than 20%)			
52	Y			Reporting Units (e.g., pCi/g)			

ITEM	MEETS VALIDATION SPECS? (Select One)			Isotopic Uranium VALIDATION ITEM	QUALIFIERS	AFFECTED SAMPLES	COMMENTS
53	Y			Activity			
54	Y			Uncertainty w/confidence interval			
55	Y			MDC			
56	Y			Decision Level (LC)			
57	Y			Decay corrected Spike Activity Added, matches Standards Dilution Log and benchsheet			
58	Y			The contents of the EDD match the hard copy report.			
				Required ALs:	**U-233/234, 235/236, 238 ALs = 2 pCi/g.**		
59	Y			For all results <= the AL, the 1σ TPU does not exceed 10% of the AL.			
60	Y			For all results > the AL, the 1σ TPU does not exceed 10% of the reported activity.			
61			N/A	For negative activity, the absolute value is between the 2σ and 3σ TPU.			
62			N/A	For negative activity, the absolute value is greater than the 3σ TPU.			
63	Y			The reported result is <CL.	U	See Table Above	Explain, if necessary.
IX. QC SAMPLE QUALITY MEASURES							
64	Y			LCS Z Acceptable (-1.96 to +1.96)			
65	Y			MB Z Acceptable (|Z| < 2.58).			
66			N/A	For MB Z>2.58, sample ZDERs>2.58.			
67			N/A	For MB Z>2.58, sample ZDERs>1.96, <2.58.			
68			N/A	For MB Z>2.58, sample ZDERs<1.96.			
69			N/A	MS Z Acceptable (|Z|<1.96)			
70			N/A	If applicable, equipment blank is included and within acceptable range.			
71	Y			Lab Duplicate Z Acceptable (|Z|<1.96)			
72			N/A	Field Duplicate Z Acceptable (|Z|<1.96)			
Additional Comments:							

THE PALLADINO COMPANY, INC.
DATA VALIDATION REPORT
Isotopic Uranium

SDG: 308925

Lab ID: GEL Laboratories, LLC
Data Package Title: 308925.PDF
Data Package Creation Date: 8/28/2012
EDD Title: 308925.XLS

Project ID: SSFL Remedial Investigation, Area IV Radiological Study, Laboratory Analytical Services Support SOW

RECALCULATION OF SAMPLE RESULTS

Sample Lab ID: 308925004 **Sample Field ID:** SL-008-A3-SB-0.0-0.5

Verification Nuclide: U-238 **Tracer Nuclide:** U-232
Nuclide Half-Life (yrs): 4.47E+09 **Tracer Half-Life (yrs):** 6.89E+01
Verification Nuclide Tracer Impurity?: N

From Chain of Custody
Sampling Date: 7/18/2012 **Matrix:** Soil

From Prep Report
Batch ID: 1235189 **Tracer ID:** 1444-L
Sample Aliquant: 0.50000 g **Tracer Volume:** 0.1000 mL

From Tracer Dilution Log
Activity Conc.: 49.9621 dpm/mL
Ref. Date: 12/18/2009

From Inst. Raw Data:
Detector ID: 121
Count Start Date & Time: 8/20/12 13:40
Sample Count Duration: 43,200 sec
Detector Efficiency: 25.6346%

Tracer Gross Cts.: 764 **Analyte Gross Cts.:** 140
Tracer Bkg. Cts.: 1.44 **Analyte Bkg. Cts.:** 2.16
Tracer Net Cts.: 762.56
Tracer "%ABUN": 100 **Analyte Net Cts.:** 137.84
Analyte "%ABUN": 100
Bkg Ct. Duration: 60,000 sec

Method TPU Factors: 0.4953 **Detector Efficiency (from inst. raw data)**
0.199% **Sample Aliquant % (from inst. raw data)**
6.404% **Yield % (from inst. raw data)**
Combined Unc. Factors: 6.7%

Calculated Results:

Parameter	Manual Calc.	Lab Value	Calc vs. Lab	FLAG
Yield =	0.8495	0.849	**0.06%**	**PASS**
U-238 Decay =	1.0000			
Std. Denom. =	0.2417			
Activity (pCi/g) =	0.7920	7.89E-01	**0.38%**	**PASS**
1s Cnt. Unc. =	0.0684	6.85E-02	**-0.20%**	**PASS**
1s TPU =	0.0865	8.64E-02	**0.12%**	**PASS**
MDC =	0.0520	5.18E-02	**0.40%**	**PASS**
L_C=	0.0196	1.96E-02	**0.23%**	**PASS**

Additional Comments:

THE PALLADINO COMPANY, INC.
DATA VALIDATION REPORT
Alpha Spectrometry

SDG: 308925

Lab ID: GEL Laboratories, LLC
Data Package Title: 308925.PDF
Data Package Creation Date: 8/28/2012
EDD Title: 308925.XLS

Project ID: SSFL Remedial Investigation, Area IV Radiological Study, Laboratory Analytical Services Support SOW

VERIFICATION OF CALIBRATION SOURCE DECAY FACTOR

Detector ID: 121 **Detector Calibration Date:** 6/18/2012

Cal. Source ID: ASCS2012-23

Radionuclide:	Gd-148	Np-237	Cm-244
Half-life (years):	7.46E+01	2.14E+06	1.81E+01
Ref. Date:	1/1/09	11/27/95	6/19/08
Ref. Activity (Bq/source):	7.389	10.437	18.506
Decay Corrected dpm:	429.3	626.2	952.8

Calibration Count Data:	Gd-148	Np-237	Cm-244
Source Gross Cts:	13057	19532	29008
Source Bkg Cts:	0	0	0
Calibration Count Duration (m):	120	120	120
Calibrated Detector Efficiency:	0.2557		
Cal. Report Efficiency:	0.2563	**-0.26%**	**PASS**

Additional Comments:

The Palladino Company, Inc.
Data Validation Report
Isotopic Plutonium

CLIENT NAME: HydroGeologic, Inc.

PROJECT ID: Santa Susana Field Laboratory – Area IV Radiological Study

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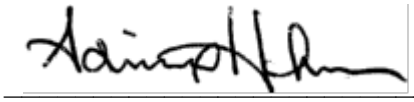
LABORATORY ID: GEL Laboratories, LLC – Charleston, SC

LAB REPORT DATE: 8/28/12 **LAB SDG#:** 308925

LAB REPORT FILENAME: 308925.PDF

EDD FILENAME: 308925.XLS

The following Data Validation Report, with associated review checklists and calculation verifications, and the corresponding Laboratory Radioanalytical Data Report have been reviewed by the personnel shown below. The Palladino Company, Inc., certifies that the Data Validation Report has been completed in accordance with applicable contractual requirements, and is true, complete, and correct, within the limits of the information provided by the laboratory.



9/19/12

Data Validation Analyst Date



9/22/2012

Report Review Date

OVERVIEW

Data validation of these results and pertinent supporting documentation, provided by the laboratory in a Level IV-equivalent laboratory data package was performed in accordance with:

- *Evaluation of Radiochemical Data Usability* (DOE, 1997), and
- *Multi-Agency Radiological Laboratory Analytical Protocols Manual* (MARLAP, EPA et al., 2004, specifically Chapter 8),

with additional specific guidance from the

- *Santa Susana Field Laboratory - Radiological Background Study Quality Assurance Project Plan (QAPP)*,
- *GEL Laboratories Quality Assurance Plan (QAP)*,
- *GEL Laboratories compendium of laboratory Standard Operating Procedures (SOPs)*

The data were reviewed for compliance with the required QC elements described in Section 5 and Table 3.3 of the QAPP. The pertinent elements of the data package were reviewed for completeness, compliance with the QAPP requirements and the requirements of the stated methodology, and potential impact on the usability of the data for its intended purpose.

One sample result in this data package was selected at random for manual recalculation of results to verify the laboratory's data reporting algorithms.

VALIDATION REPORT ELEMENTS

The Validation Case Narrative describes the results of the validation process and includes the technical opinion of a qualified radiochemist as to the usability of the data for its intended purpose.

For each analytical method, the case narrative is appended with

- Data Validation Checklist,
- Recalculation of Sample Results, and
- Calibration Standard Decay Verification.

Finally, a Summary of Data Qualifiers and Reason Codes used in the project and their associated definitions is found at the back of the validation report.

Due to the comprehensive nature of the laboratory data package and the number of analytical results it contains, the data user is referred to the Electronic Data Deliverable (EDD) for a complete Table of Qualified Results. The EDD presents a cross-reference of Sample IDs, Analyte Names, Reported Results, and Qualifiers.

VALIDATION CASE NARRATIVE – ISOTOPIC PLUTONIUM

The Level IV-equivalent radioanalytical data package referenced in the header of this report was received from GEL on 8/31/12.

A Level IV validation of the analytical results was performed and the complete validation report is contained herein.

The data validation, including necessary verification of laboratory data and supporting documentation, was completed on 9/19/12 by Adrienne Hawks, of The Palladino Company, Inc. The final review of the validation report was completed by Rebecca Burns of The Palladino Company, Inc.

The essential findings of the validation report are summarized below:

Overall, the data are usable as reported.

Additional comments regarding the assessment and qualification of the data are provided below. None of these issues appears to significantly affect the usability of the reported results.

1. Sample Receipt, Condition, and Preservation
   All samples were received intact, with no apparent damage or other issues that might affect sample integrity. No preservation or refrigeration was required.
2. Chain of Custody Documentation
   The samples were received by the laboratory with no discrepancies on the chain of custody.
3. Sample Preparation Documentation
   Gross preparation, homogenization, and sub-sampling of the samples conformed to the project-specific protocols described in the lab's internal procedures.
4. Standard Preparation and Traceability
   All radioactive standards used in the laboratory analysis are NIST-traceable, properly prepared, and the source activities are properly decay-corrected during use.
5. Adherence to the Project-Required MQOs and QC Criteria
   All project required Action Levels (ALs), and the associated required Combined Standard Uncertainties (CSUs) have been met.

   All other MQOs, including QC acceptance criteria, are acceptable.

   More detailed assessment of project QC acceptance criteria is provided in Attachment 1, *Data Validation Checklist*.

6. Field Blank and Equipment Blank Performance
   No field or equipment blanks are believed to have been submitted for this analysis. Consequently, no evaluation has been performed regarding the potential impact of field and equipment blank results on the overall data quality.

7. Field Duplicate Performance
   No field duplicate samples are believed to have been submitted for this analysis. Consequently, no evaluation has been performed regarding the potential impact of field duplicate results on the overall data quality.

8. Instrument Calibrations and Performance Verifications
   All instrument calibrations were properly performed and verified prior to use, and are properly applied to the analytical method.

   Ongoing instrument performance verifications were properly performed, remained in control, and were documented on the required control charts throughout the analyses.

9. Sample Raw Data Review
   All raw data for the analysis of samples in this SDG are included in the report and supports the final analytical results.

10. Evaluation of Hold-Time Compliance
    There are no hold time requirements for this analysis.

11. Evaluation of Comparability of Results
    The pertinent or supporting data available at this time has been evaluated for consistency with available gross screening data, consistency with independent analytical results, and for consistency among reported parent and progeny radionuclides in the same serial decay chains. This assessment does not indicate significant anomalies or discrepancies.

THE PALLADINO COMPANY, INC.
DATA VALIDATION REPORT
Isotopic Plutonium

SDG: 308925

Lab ID: GEL Laboratories, LLC
Data Package Title: 308925.PDF
Data Package Creation Date: 8/28/2012
EDD Title: 308925.XLS

Project ID: SSFL Remedial Investigation, Area IV Radiological Study, Laboratory Analytical Services Support SOW

SAMPLE QUALIFIERS AND COMMENTS

Lab ID	Question #63	Question #	Question #	Question #	Question #	Question #	Question #	Additional Validator Qualifiers	Validator Comments	Summary Flags
308925001	U								Enter sample-specific comments here.	U
308925002	U									U
308925003										
308925004	U									U
308925005	U									U
308925006	U									U
308925007	U									U
308925008	U									U
308925009	U									U
308925010	U									U
308925011	U									U
308925012										
308925013	U									U
308925014	U									U
308925015	U									U
308925016	U									U
308925017	U									U
308925018	U									U

ITEM	MEETS VALIDATION SPECS? (Select One)			Isotopic Plutonium VALIDATION ITEM	QUALIFIERS	AFFECTED SAMPLES	COMMENTS
I. SAMPLE CONDITION AND QC DOCUMENTATION							
1			N/A	Hold time and preservation requirements have been met.			
2			N/A	Preserved samples were held at least 16 hours before aliquanting.			
3	Y			Anomalous conditions noted in case narrative (specify).			RECOUNT -001, REPREP -007
4		N		Non-Conformance Reports w/corrective action and QA approval present and complete.			
II. STANDARDS TRACEABILITY DOCUMENTATION:							
				List Standard IDs >>	1576A, 0338-EE, CAL: 1216-C, 1284-A, 0518-L		
5			N/A	If submitted and approved separately, list reference ID and skip to next section, otherwise answer "N/A" and go to next question.			
6	Y			Standards Dilution Logs present, complete.			

ITEM	MEETS VALIDATION SPECS? (Select One)			Isotopic Plutonium VALIDATION ITEM	QUALIFIERS	AFFECTED SAMPLES	COMMENTS
7	Y			NIST (or equivalent) certificates provided for calibration and LCS sources.			
8	Y			Standard Verification data provided, including acceptance criteria and reports.			
III. INSTRUMENT PERFORMANCE CHECKS:							
				List sample count dates and detectors used >> 8/20/12: 081, 082, 084-086, 209-222, 8/23/12: 101, 8/27/12: 216-219			
9	Y			Instrument performance check raw data included.			
10	Y			Detector efficiency monitored and acceptance criteria documented.			
11	Y			Detector peak location monitored and acceptance criteria documented.			
12	Y			Detector peak resolution monitored and acceptance criteria documented.			
13	Y			Control charts for all detectors, all parameters included.			
14	Y			Sample counts are bracketed by passing instrument performance checks.			
IV. DETECTOR EFFICIENCY CALIBRATION							
15			N/A	If submitted and approved separately, list reference ID and skip to next section, otherwise answer "N/A" and go to next question.			
16	Y			Efficiency calibration performed within the last month and included.			
17	Y			Peak energy calibration performed within the last month and included.			
18	Y			NIST-traceable source used for the calibration.			
19	Y			Calculated verification results included.			
20	Y			Acceptance criteria documented and met.			
V. DETECTOR BACKGROUND CALIBRATION							
21			N/A	If submitted and approved separately, list reference ID and skip to next section, otherwise answer "N/A" and go to next question.			
22	Y			Background calibration count rate, with acceptance criteria included.			
23	Y			Background count rate for detectors used determined at least monthly.			
VI. SAMPLE PREPARATION DOCUMENTATION (METHOD)							
24	Y			The Bench Sheets (Que Sheets) are complete and include:			
25	Y			Batch ID			

ITEM	MEETS VALIDATION SPECS? (Select One)			Isotopic Plutonium VALIDATION ITEM	QUALIFIERS	AFFECTED SAMPLES	COMMENTS
26	Y			Preparation Start Date and Time			
27	Y			Analyst ID			
28	Y			Method/Lab SOP w/ revision #			
29	Y			Sample ID(s)			
30	Y			Sample Aliquants			
31	Y			Tracer ID and volume added			
32	Y			Spiking Solution IDs and volumes			
33	Y			Pipette and Balance IDs			
34	Y			Pipette and Balance Calibration Verification Logs.			
VII. INSTRUMENT RAW DATA							
35	Y			A copy of the instrument run log included and complete.			
				For instrument raw data, the following are present and complete and match the run log, if applicable:			
36	Y			Sample ID			
37	Y			Analysis Date and Time (count start or count end is specified)			
38	Y			Detector ID			
39	Y			Batch ID			
40	Y			Count Duration			
41	Y			Analyte Gross (or Net) Count Rate Included			
42	Y			Efficiency and energy coefficients match the calibration documentation.			
43	Y			Background date, time, and detector ID matches the calibration report.			
44			N/A	At least 400 tracer count acquired.			
45	Y			Tracer FWHM <=100keV			
46	Y			Visual inspection of spectral quality is acceptable, including analyte peak resolution, peak tailing and unidentified peaks.			
VIII. REPORTED RESULTS							
47	Y			Analysis Report (Certificate of Analysis) matches raw data, Z-score report.			
				All reported sample and QC results include the following:			
48	Y			Results included for all samples in the SDG.			
49	Y			Batch ID			
50	Y			Lab Sample ID			
51	Y			Passing yield results with acceptance criteria (but not less than 20%)			

ITEM	MEETS VALIDATION SPECS? (Select One)			Isotopic Plutonium VALIDATION ITEM	QUALIFIERS	AFFECTED SAMPLES	COMMENTS
52	Y			Reporting Units (e.g., pCi/g)			
53	Y			Activity			
54	Y			Uncertainty w/confidence interval			
55	Y			MDC			
56	Y			Decision Level (LC)			
57	Y			Decay corrected Spike Activity Added, matches Standards Dilution Log and benchsheet			
58	Y			The contents of the EDD match the hard copy report.			
				Required ALs:	**Pu-238, 239/240 ALs = 0.5 pCi/g.**		
59	Y			For all results <= the AL, the 1σ TPU does not exceed 10% of the AL.			
60	Y			For all results > the AL, the 1σ TPU does not exceed 10% of the reported activity.			
61			N/A	For negative activity, the absolute value is between the 2σ and 3σ TPU.			
62			N/A	For negative activity, the absolute value is greater than the 3σ TPU.			
63	Y			The reported result is <CL.	U	See Table Above	Explain, if necessary.
IX. QC SAMPLE QUALITY MEASURES							
64	Y			LCS Z Acceptable (-1.96 to +1.96)			
65	Y			MB Z Acceptable (|Z| < 2.58).			
66			N/A	For MB Z>2.58, sample ZDERs>2.58.			
67			N/A	For MB Z>2.58, sample ZDERs>1.96, <2.58.			
68			N/A	For MB Z>2.58, sample ZDERs<1.96.			
69			N/A	MS Z Acceptable (|Z|<1.96)			
70			N/A	If applicable, equipment blank is included and within acceptable range.			
71	Y			Lab Duplicate Z Acceptable (|Z|<1.96)			
72			N/A	Field Duplicate Z Acceptable (|Z|<1.96)			
Additional Comments:							

THE PALLADINO COMPANY, INC.
DATA VALIDATION REPORT
Isotopic Plutonium

SDG: 308925

Lab ID: GEL Laboratories, LLC
Data Package Title: 308925.PDF
Data Package Creation Date: 8/28/2012
EDD Title: 308925.XLS

Project ID: SSFL Remedial Investigation, Area IV Radiological Study, Laboratory Analytical Services Support SOW

RECALCULATION OF SAMPLE RESULTS

Sample Lab ID: 308925018 **Sample Field ID:** SL-013-A3-SB-0.0-0.5

Verification Nuclide: Pu-238 **Tracer Nuclide:** Pu-242
Nuclide Half-Life (yrs): 8.77E+01 **Tracer Half-Life (yrs):** 3.73E+05
Verification Nuclide Tracer Impurity?: N

From Chain of Custody
Sampling Date: 7/17/2012 **Matrix:** Soil

From Prep Report
Batch ID: 1235176 **Tracer ID:** 1576-A
Sample Aliquant: 1.01300 g **Tracer Volume:** 0.1000 mL

From Tracer Dilution Log
Activity Conc.: 42.8815 dpm/mL
Ref. Date: 1/1/2010

From Inst. Raw Data:
Detector ID: 219
Count Start Date & Time: 8/20/12 18:04
Sample Count Duration: 60,000 sec
Detector Efficiency: 26.5318%

Tracer Gross Cts.: 975 **Analyte Gross Cts.:** 2
Tracer Bkg. Cts.: 0 **Analyte Bkg. Cts.:** 1.00
Tracer Net Cts.: 975
Tracer "%ABUN": 100 **Analyte Net Cts.:** 1.00
Analyte "%ABUN": 99.9
Bkg Ct. Duration: 60,000 sec

Method TPU Factors: 0.5122 **Detector Efficiency (from inst. raw data)**
0.099% **Sample Aliquant % (from inst. raw data)**
3.818% **Yield % (from inst. raw data)**
Combined Unc. Factors: 4.3%

Calculated Results:

Parameter	Manual Calc.	Lab Value	Calc vs. Lab	FLAG
Yield =	0.8570	0.857	**0.00%**	**PASS**
Pu-238 Decay =	0.9992			
Std. Denom. =	0.5104			
Activity (pCi/g) =	0.0020	1.96E-03	**-0.04%**	**PASS**
1s Cnt. Unc. =	0.0044	4.38E-03	**0.02%**	**PASS**
1s TPU =	0.0044	4.38E-03	**0.04%**	**PASS**
MDC =	0.0144	1.44E-02	**0.17%**	**PASS**
L_C=	0.0046	4.56E-03	**-0.05%**	**PASS**

Additional Comments:

THE PALLADINO COMPANY, INC.
DATA VALIDATION REPORT
Alpha Spectrometry

SDG: 308925

Lab ID: GEL Laboratories, LLC
Data Package Title: 308925.PDF
Data Package Creation Date: 8/28/2012
EDD Title: 308925.XLS

Project ID: SSFL Remedial Investigation, Area IV Radiological Study, Laboratory Analytical Services Support SOW

VERIFICATION OF CALIBRATION SOURCE DECAY FACTOR

Detector ID: 219 **Detector Calibration Date:** 7/30/2012

Cal. Source ID: ASCS2012-25

Radionuclide:	Gd-148	Np-237	Cm-244
Half-life (years):	7.46E+01	2.14E+06	1.81E+01
Ref. Date:	1/1/09	11/27/95	6/19/08
Ref. Activity (Bq/source):	7.389	10.437	18.506
Decay Corrected dpm:	428.9	626.2	948.7

Calibration Count Data:	Gd-148	Np-237	Cm-244
Source Gross Cts:	13578	20306	29834
Source Bkg Cts:	0	0	0
Calibration Count Duration (m):	120	120	120
Calibrated Detector Efficiency:	0.2654		
Cal. Report Efficiency:	0.2653	**0.02%**	**PASS**

Additional Comments:

The Palladino Company, Inc.
Data Validation Report
Isotopic Thorium

CLIENT NAME: HydroGeologic, Inc.

PROJECT ID: Santa Susana Field Laboratory – Area IV Radiological Study

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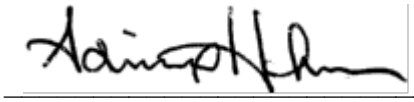
LABORATORY ID: GEL Laboratories, LLC – Charleston, SC

LAB REPORT DATE: 8/28/12 **LAB SDG#:** 308925

LAB REPORT FILENAME: 308925.PDF

EDD FILENAME: 308925.XLS

The following Data Validation Report, with associated review checklists and calculation verifications, and the corresponding Laboratory Radioanalytical Data Report have been reviewed by the personnel shown below. The Palladino Company, Inc., certifies that the Data Validation Report has been completed in accordance with applicable contractual requirements, and is true, complete, and correct, within the limits of the information provided by the laboratory.



Data Validation Analyst — 9/19/12 (Date)



Report Review — 9/21/2012 (Date)

OVERVIEW

Data validation of these results and pertinent supporting documentation, provided by the laboratory in a Level IV-equivalent laboratory data package was performed in accordance with:

- *Evaluation of Radiochemical Data Usability* (DOE, 1997), and
- *Multi-Agency Radiological Laboratory Analytical Protocols Manual* (MARLAP, EPA et al., 2004, specifically Chapter 8),

with additional specific guidance from the

- *Santa Susana Field Laboratory - Radiological Background Study Quality Assurance Project Plan (QAPP)*,
- *GEL Laboratories Quality Assurance Plan (QAP)*,
- *GEL Laboratories compendium of laboratory Standard Operating Procedures (SOPs)*

The data were reviewed for compliance with the required QC elements described in Section 5 and Table 3.3 of the QAPP. The pertinent elements of the data package were reviewed for completeness, compliance with the QAPP requirements and the requirements of the stated methodology, and potential impact on the usability of the data for its intended purpose.

One sample result in this data package was selected at random for manual recalculation of results to verify the laboratory's data reporting algorithms.

VALIDATION REPORT ELEMENTS

The Validation Case Narrative describes the results of the validation process and includes the technical opinion of a qualified radiochemist as to the usability of the data for its intended purpose.

For each analytical method, the case narrative is appended with

- Data Validation Checklist,
- Recalculation of Sample Results, and
- Calibration Standard Decay Verification.

Finally, a Summary of Data Qualifiers and Reason Codes used in the project and their associated definitions is found at the back of the validation report.

Due to the comprehensive nature of the laboratory data package and the number of analytical results it contains, the data user is referred to the Electronic Data Deliverable (EDD) for a complete Table of Qualified Results. The EDD presents a cross-reference of Sample IDs, Analyte Names, Reported Results, and Qualifiers.

VALIDATION CASE NARRATIVE – ISOTOPIC THORIUM

The Level IV-equivalent radioanalytical data package referenced in the header of this report was received from GEL on 8/31/12.

A Level IV validation of the analytical results was performed and the complete validation report is contained herein.

The data validation, including necessary verification of laboratory data and supporting documentation, was completed on 9/19/12 by Adrienne Hawks, of The Palladino Company, Inc. The final review of the validation report was completed by Rebecca Burns of The Palladino Company, Inc.

The essential findings of the validation report are summarized below:

Overall, the data are usable as reported.

Additional comments regarding the assessment and qualification of the data are provided below. None of these issues appears to significantly affect the usability of the reported results.

1. Sample Receipt, Condition, and Preservation
   All samples were received intact, with no apparent damage or other issues that might affect sample integrity. No preservation or refrigeration was required.
2. Chain of Custody Documentation
   The samples were received by the laboratory with no discrepancies on the chain of custody.
3. Sample Preparation Documentation
   Gross preparation, homogenization, and sub-sampling of the samples conformed to the project-specific protocols described in the lab's internal procedures.
4. Standard Preparation and Traceability
   All radioactive standards used in the laboratory analysis are NIST-traceable, properly prepared, and the source activities are properly decay-corrected during use.
5. Adherence to the Project-Required MQOs and QC Criteria
   All project required Action Levels (ALs), and the associated required Combined Standard Uncertainties (CSUs) have been met.

   All other MQOs, including QC acceptance criteria, are acceptable.

   More detailed assessment of project QC acceptance criteria is provided in Attachment 1, *Data Validation Checklist*.

6. Field Blank and Equipment Blank Performance
   No field or equipment blanks are believed to have been submitted for this analysis. Consequently, no evaluation has been performed regarding the potential impact of field and equipment blank results on the overall data quality.

7. Field Duplicate Performance
   No field duplicate samples are believed to have been submitted for this analysis. Consequently, no evaluation has been performed regarding the potential impact of field duplicate results on the overall data quality.

8. Instrument Calibrations and Performance Verifications
   All instrument calibrations were properly performed and verified prior to use, and are properly applied to the analytical method.

   Ongoing instrument performance verifications were properly performed, remained in control, and were documented on the required control charts throughout the analyses.

9. Sample Raw Data Review
   All raw data for the analysis of samples in this SDG are included in the report and supports the final analytical results.

10. Evaluation of Hold-Time Compliance
    There are no hold time requirements for this analysis.

11. Evaluation of Comparability of Results
    The pertinent or supporting data available at this time has been evaluated for consistency with available gross screening data, consistency with independent analytical results, and for consistency among reported parent and progeny radionuclides in the same serial decay chains. This assessment does not indicate significant anomalies or discrepancies.

THE PALLADINO COMPANY, INC.
DATA VALIDATION REPORT
Isotopic Thorium

SDG: 308925

Lab ID: GEL Laboratories, LLC
Data Package Title: 308925.PDF
Data Package Creation Date: 8/28/2012
EDD Title: 308925.XLS

Project ID: SSFL Remedial Investigation, Area IV Radiological Study, Laboratory Analytical Services Support SOW

SAMPLE QUALIFIERS AND COMMENTS

Lab ID	Question #63	Question #	Question #	Question #	Question #	Question #	Question #	Additional Validator Qualifiers	Validator Comments	Summary Flags
308925001	U								Enter sample-specific comments here.	U
308925002	U									U
308925003										
308925004	U									U
308925005										
308925006										
308925007	U									U
308925008	U									U
308925009										
308925010	U									U
308925011										
308925012										
308925013	U									U
308925014	U									U
308925015										
308925016	U									U
308925017	U									U
308925018										

ITEM	MEETS VALIDATION SPECS? (Select One)			Isotopic Thorium VALIDATION ITEM	QUALIFIERS	AFFECTED SAMPLES	COMMENTS
I. SAMPLE CONDITION AND QC DOCUMENTATION							
1			N/A	Hold time and preservation requirements have been met.			
2			N/A	Preserved samples were held at least 16 hours before aliquanting.			
3		N		Anomalous conditions noted in case narrative (specify).			
4		N		Non-Conformance Reports w/corrective action and QA approval present and complete.			
II. STANDARDS TRACEABILITY DOCUMENTATION:							
				List Standard IDs >>	0387-B-402, A2796-J, CAL: 1216-C, 1284-A, 0518-L		

ITEM	MEETS VALIDATION SPECS? (Select One)			Isotopic Thorium VALIDATION ITEM	QUALIFIERS	AFFECTED SAMPLES	COMMENTS
5			N/A	If submitted and approved separately, list reference ID and skip to next section, otherwise answer "N/A" and go to next question.			
6	Y			Standards Dilution Logs present, complete.			
7	Y			NIST (or equivalent) certificates provided for calibration and LCS sources.			
8	Y			Standard Verification data provided, including acceptance criteria and reports.			
III. INSTRUMENT PERFORMANCE CHECKS:							
				List sample count dates and detectors used >> 8/20/12: 025-028, 030, 033, 036, 038-041, 044-048, 168-172			
9	Y			Instrument performance check raw data included.			
10	Y			Detector efficiency monitored and acceptance criteria documented.			
11	Y			Detector peak location monitored and acceptance criteria documented.			
12	Y			Detector peak resolution monitored and acceptance criteria documented.			
13	Y			Control charts for all detectors, all parameters included.			
14	Y			Sample counts are bracketed by passing instrument performance checks.			
IV. DETECTOR EFFICIENCY CALIBRATION							
15			N/A	If submitted and approved separately, list reference ID and skip to next section, otherwise answer "N/A" and go to next question.			
16	Y			Efficiency calibration performed within the last month and included.			
17	Y			Peak energy calibration performed within the last month and included.			
18	Y			NIST-traceable source used for the calibration.			
19	Y			Calculated verification results included.			
20	Y			Acceptance criteria documented and met.			
V. DETECTOR BACKGROUND CALIBRATION							
21			N/A	If submitted and approved separately, list reference ID and skip to next section, otherwise answer "N/A" and go to next question.			

ITEM	MEETS VALIDATION SPECS? (Select One)			Isotopic Thorium VALIDATION ITEM	QUALIFIERS	AFFECTED SAMPLES	COMMENTS
22	Y			Background calibration count rate, with acceptance criteria included.			
23	Y			Background count rate for detectors used determined at least monthly.			
VI. SAMPLE PREPARATION DOCUMENTATION (METHOD)							
24	Y			The Bench Sheets (Que Sheets) are complete and include:			
25	Y			Batch ID			
26	Y			Preparation Start Date and Time			
27	Y			Analyst ID			
28	Y			Method/Lab SOP w/ revision #			
29	Y			Sample ID(s)			
30	Y			Sample Aliquants			
31	Y			Tracer ID and volume added			
32	Y			Spiking Solution IDs and volumes			
33	Y			Pipette and Balance IDs			
34	Y			Pipette and Balance Calibration Verification Logs.			
VII. INSTRUMENT RAW DATA							
35	Y			A copy of the instrument run log included and complete.			
				For instrument raw data, the following are present and complete and match the run log, if applicable:			
36	Y			Sample ID			
37	Y			Analysis Date and Time (count start or count end is specified)			
38	Y			Detector ID			
39	Y			Batch ID			
40	Y			Count Duration			
41	Y			Analyte Gross (or Net) Count Rate Included			
42	Y			Efficiency and energy coefficients match the calibration documentation.			
43	Y			Background date, time, and detector ID matches the calibration report.			
44			N/A	At least 400 tracer count acquired.			
45			N/A	Tracer FWHM <=100keV			

ITEM	MEETS VALIDATION SPECS? (Select One)			Isotopic Thorium VALIDATION ITEM	QUALIFIERS	AFFECTED SAMPLES	COMMENTS
46	Y			Visual inspection of spectral quality is acceptable, including analyte peak resolution, peak tailing and unidentified peaks.			
VIII. REPORTED RESULTS							
47	Y			Analysis Report (Certificate of Analysis) matches raw data, Z-score report.			
				All reported sample and QC results include the following:			
48	Y			Results included for all samples in the SDG.			
49	Y			Batch ID			
50	Y			Lab Sample ID			
51	Y			Passing yield results with acceptance criteria (but not less than 20%)			
52	Y			Reporting Units (e.g., pCi/g)			
53	Y			Activity			
54	Y			Uncertainty w/confidence interval			
55	Y			MDC			
56	Y			Decision Level (LC)			
57	Y			Decay corrected Spike Activity Added, matches Standards Dilution Log and benchsheet			
58	Y			The contents of the EDD match the hard copy report.			
				Required ALs:	**Th-228, 229, 230, 232 ALs = 1.5 pCi/g.**		
59		N		For all results <= the AL, the 1σ TPU does not exceed 10% of the AL.			TH228 011, 014
60		N		For all results > the AL, the 1σ TPU does not exceed 10% of the reported activity.			TH228 013
61			N/A	For negative activity, the absolute value is between the 2σ and 3σ TPU.			
62			N/A	For negative activity, the absolute value is greater than the 3σ TPU.			
63	Y			The reported result is <CL.	U	See Table Above	
IX. QC SAMPLE QUALITY MEASURES							
64	Y			LCS Z Acceptable (-1.96 to +1.96)			
65	Y			MB Z Acceptable (|Z| < 2.58).			
66			N/A	For MB Z>2.58, sample ZDERs>2.58.			
67			N/A	For MB Z>2.58, sample ZDERs>1.96, <2.58.			

ITEM	MEETS VALIDATION SPECS? (Select One)			Isotopic Thorium VALIDATION ITEM	QUALIFIERS	AFFECTED SAMPLES	COMMENTS
68			N/A	For MB Z>2.58, sample ZDERs<1.96.			
69			N/A	MS Z Acceptable (|Z|<1.96)			
70			N/A	If applicable, equipment blank is included and within acceptable range.			
71	Y			Lab Duplicate Z Acceptable (|Z|<1.96)			
72			N/A	Field Duplicate Z Acceptable (|Z|<1.96)			
Additional Comments:							

THE PALLADINO COMPANY, INC.
DATA VALIDATION REPORT
Isotopic Thorium

SDG: 308925

Lab ID: GEL Laboratories, LLC
Data Package Title: 308925.PDF
Data Package Creation Date: 8/28/2012
EDD Title: 308925.XLS

Project ID: SSFL Remedial Investigation, Area IV Radiological Study, Laboratory Analytical Services Support SOW

RECALCULATION OF SAMPLE RESULTS

Sample Lab ID: 308925016
Sample Field ID: SL-011-A3-SB-0.0-0.5

Verification Nuclide: Th-229
Nuclide Half-Life (yrs): 7.34E+03
Tracer Nuclide: Ac-227
Tracer Half-Life (yrs): 2.18E+01
Verification Nuclide Tracer Impurity?: N
Daughter Nuclide: Th-227
Daughter Half-Life (days): 1.87E+01

From Chain of Custody
Sampling Date: 7/17/2012
Matrix: Soil

From Prep Report
Batch ID: 1235193
Sample Aliquant: 0.25400 g
Separation Date & Time: 08/17/2012 08:00 AM
Tracer ID: 0387-B-402
Tracer Volume: 0.1000 mL

From Tracer Dilution Log
Activity Conc.: 49.9477 dpm/mL
Ref. Date: 6/8/2001

From Inst. Raw Data:
Detector ID: 041
Count Start Date & Time: 8/20/12 13:55
Sample Count Duration: 60,000 sec
Detector Efficiency: 34.4932%

Tracer Gross Cts.: 1136
Tracer Bkg. Cts.: 55
Tracer Net Cts.: 1081
Tracer "%ABUN": 100
Analyte Gross Cts.: 9
Analyte Bkg. Cts.: 8.00
Analyte Net Cts.: 1.00
Analyte "%ABUN": 99.469
Bkg Ct. Duration: 60,000 sec

Method TPU Factors: 0.6623 **Detector Efficiency (from calibration report)**
0.394% **Sample Aliquant % (± 0.00334 g, empirical)**
4.224% **Yield % (calculated from tracer peak info)**
Combined Unc. Factors: 4.4%

Calculated Results:

Parameter	Manual Calc.	Lab Value	Calc vs. Lab	FLAG
Yield =	0.8324	0.853	**-2.42%**	**PASS**
Th-229 Decay =	1.0000			
Std. Denom. =	0.1610			
Activity (pCi/g) =	0.0062	6.06E-03	**2.47%**	**PASS**
1s Cnt. Unc. =	0.0271	2.64E-02	**2.53%**	**PASS**
1s TPU =	0.0271	2.64E-02	**2.53%**	**PASS**
MDC =	0.0985	9.62E-02	**2.44%**	**PASS**
L_C=	0.0409	3.99E-02	**2.41%**	**PASS**

Additional Comments:

THE PALLADINO COMPANY, INC.
DATA VALIDATION REPORT
Alpha Spectrometry

SDG: 308925

Lab ID: GEL Laboratories, LLC
Data Package Title: 308925.PDF
Data Package Creation Date: 8/28/2012
EDD Title: 308925.XLS

Project ID: SSFL Remedial Investigation, Area IV Radiological Study, Laboratory Analytical Services Support SOW

VERIFICATION OF CALIBRATION SOURCE DECAY FACTOR

Detector ID: 041 **Detector Calibration Date:** 8/2/2012

Cal. Source ID: AESS-039

Radionuclide:	Gd-148	Np-237	Cm-244
Half-life (years):	7.46E+01	2.14E+06	1.81E+01
Ref. Date:	1/1/09	11/27/95	6/19/08
Ref. Activity (Bq/source):	7.389	10.437	18.506
Decay Corrected dpm:	428.8	626.2	948.4

Calibration Count Data:	Gd-148	Np-237	Cm-244
Source Gross Cts:	17600	26246	39093
Source Bkg Cts:	0	0	0
Calibration Count Duration (m):	120	120	120
Calibrated Detector Efficiency:	0.3449		
Cal. Report Efficiency:	0.3449	**0.00%**	**PASS**

Additional Comments:

The Palladino Company, Inc.
Data Validation Report
H-3

CLIENT NAME: HydroGeologic, Inc.

PROJECT ID: Santa Susana Field Laboratory – Area IV Radiological Study

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LABORATORY ID: GEL Laboratories, LLC – Charleston, SC

LAB REPORT DATE: 8/28/2012 **LAB SDG#: 308925**

LAB REPORT FILENAME: 308925.pdf

EDD FILENAME: 308925.xls

The following Data Validation Report, with associated review checklists and calculation verifications, and the corresponding Laboratory Radioanalytical Data Report have been reviewed by the personnel shown below. The Palladino Company, Inc., certifies that the Data Validation Report has been completed in accordance with applicable contractual requirements, and is true, complete, and correct, within the limits of the information provided by the laboratory.



_____ 9/17/2012

Data Validation Analyst Date



_____ 9/20/2012

Report Review Date

OVERVIEW

Data validation of these results and pertinent supporting documentation, provided by the laboratory in a Level IV-equivalent laboratory data package was performed in accordance with:

- *Evaluation of Radiochemical Data Usability* (DOE, 1997), and
- *Multi-Agency Radiological Laboratory Analytical Protocols Manual* (MARLAP, EPA et al., 2004, specifically Chapter 8),

with additional specific guidance from the

- *Santa Susana Field Laboratory - Radiological Background Study Quality Assurance Project Plan (QAPP)*,
- *GEL Laboratories Quality Assurance Plan (QAP)*
- *GEL Laboratories compendium of laboratory Standard Operating Procedures (SOPs)*

The data were reviewed for compliance with the required QC elements described in Section 5 and Table 3.3 of the QAPP. The pertinent elements of the data package were reviewed for completeness, compliance with the QAPP requirements and the requirements of the stated methodology, and potential impact on the usability of the data for its intended purpose.

One sample result in this data package was selected at random for manual recalculation of results to verify the laboratory's data reporting algorithms.

VALIDATION REPORT ELEMENTS

The Validation Case Narrative describes the results of the validation process and includes the technical opinion of a qualified radiochemist as to the usability of the data for its intended purpose.

For each analytical method, the case narrative is appended with

- Data Validation Checklist,
- Recalculation of Sample Results, and
- Calibration Standard Decay Verification.

Finally, a Summary of Data Qualifiers and Reason Codes used in the project and their associated definitions is found at the back of the validation report.

Due to the comprehensive nature of the laboratory data package and the number of analytical results it contains, the data user is referred to the Electronic Data Deliverable (EDD) for a complete Table of Qualified Results. The EDD presents a cross-reference of Sample IDs, Analyte Names, Reported Results, and Qualifiers.

VALIDATION CASE NARRATIVE – Tritium

The Level IV-equivalent radioanalytical data package referenced in the header of this report was received from GEL on 8/31/2012.

A Level IV validation of the analytical results was performed and the complete validation report is contained herein.

The data validation, including necessary verification of laboratory data and supporting documentation, was completed on 9/17/2012 by James LeVangie, of The Palladino Company, Inc. The final review of the validation report was completed by Rebecca Burns of The Palladino Company, Inc.

The essential findings of the validation report are summarized below:

Overall, the data are usable as reported.

GEL noted in their case narrative that sample 308925003 (SL-003-A3-SB-0.0-0.5) was recounted due to a suspected false positive and then recounted twice due to a result more negative than the two sigma TPU. The results from the fourth count were reported.

Additional comments regarding the assessment and qualification of the data are provided below. Except as described above, none of these issues appears to significantly affect the usability of the reported results.

1. Sample Receipt, Condition, and Preservation
   All samples were received intact, with no apparent damage or other issues that might affect sample integrity. No preservation or refrigeration was required.
2. Chain of Custody Documentation
   The samples were received by the laboratory with no discrepancies on the chain of custody.
3. Sample Preparation Documentation
   Samples were analyzed on an “as received” basis and conformed to the project-specific protocols described in the SOW and the lab’s SOPs.
4. Standard Preparation and Traceability
   All radioactive standards used in the laboratory analysis are NIST-traceable, properly prepared, and the source activities are properly decay-corrected during use.
5. Adherence to the Project-Required MQOs and QC Criteria
   All project required Action Levels (ALs), and the associated required Combined Standard Uncertainties (CSUs) have been met.

All other MQOs, including QC acceptance criteria, are acceptable..

More detailed assessment of project QC acceptance criteria is provided in Attachment 1, *Data Validation Checklist*.

6. Field Blank and Equipment Blank Performance
   No field or equipment blanks are believed to have been submitted for this analysis. Consequently, no evaluation has been performed regarding the potential impact of field and equipment blank results on the overall data quality.

7. Field Duplicate Performance
   No field duplicate samples are believed to have been submitted for this analysis. Consequently, no evaluation has been performed regarding the potential impact of field duplicate results on the overall data quality.

8. Instrument Calibrations and Performance Verifications
   All instrument calibrations were properly performed and verified prior to use, and are properly applied to the analytical method.

   Ongoing instrument performance verifications were properly performed, remained in control, and were documented on the required control charts throughout the analyses.

9. Sample Raw Data Review
   All raw data for the analysis of samples in this SDG are included in the report and supports the final analytical results.

10. Evaluation of Hold-Time Compliance
    There are no hold time requirements for this analysis.

11. Evaluation of Comparability of Results
    The pertinent or supporting data available at this time has been evaluated for consistency with available gross screening data, consistency with independent analytical results, and for consistency among reported parent and progeny radionuclides in the same serial decay chains. This assessment does not indicate significant anomalies or discrepancies.

THE PALLADINO COMPANY, INC.
DATA VALIDATION REPORT
H-3

SDG: 308925

Lab ID: GEL Laboratories, LLC
Data Package Title: 308925.pdf
Data Package Creation Date: 8/28/2012
EDD Title: 308925.xls

Project ID: SSFL Remedial Investigation, Area IV Radiological Study, Laboratory Analytical Services Support SOW

SAMPLE QUALIFIERS AND COMMENTS

Lab ID	Question #68	Question #	Question #	Question #	Question #	Question #	Question #	Additional Validator Qualifiers	Validator Comments	Summary Flags
308925001	U									U
308925002										
308925003										
308925004	U									U
308925005	U									U
308925006	U									U
308925007										
308925008										
308925009	U									U
308925010										
308925011	U									U
308925012	U									U
308925013	U									U
308925014	U									U
308925015	U									U
308925016	U									U
308925017	U									U
308925018	U									U

ITEM	MEETS VALIDATION SPECS? (Select One)			VALIDATION ITEM	QUALIFIERS	AFFECTED SAMPLES	COMMENTS
I. SAMPLE CONDITION AND QC DOCUMENTATION							
1			N/A	Hold time and preservation requirements have been met.			
2			N/A	Preserved samples were held at least 16 hours before aliquanting.			
3	Y			Anomolous conditions noted in case narrative (specify).		308925003	Sample 308925003 (SL-003-A3-SB-0.0-0.5) was recounted due to a suspected false positive and then recounted twice due to a result more negative than the two sigma TPU. The fourth count is being reported.
4		N		Non-Conformance Reports w/corrective action and QA approval present and complete.			

ITEM	MEETS VALIDATION SPECS? (Select One)			VALIDATION ITEM	QUALIFIERS	AFFECTED SAMPLES	COMMENTS
II. STANDARDS TRACEABILITY DOCUMENTATION							
				List Standard IDs >>	1562-A (spike soln.) & 1583-A (cal. soln.)		
5			N/A	If submitted and approved separately, list reference ID and skip to next section, otherwise answer "N/A" and go to next question.			
6	Y			Standards Dilution Logs present, complete.			
7	Y			NIST (or equivalent) certificates provided for calibration and LCS sources.			
8	Y			Standard Verification data provided, including acceptance criteria and reports.			
III. INSTRUMENT PERFORMANCE CHECKS							
				List sample count dates and detectors used >>LSCOrange, 8/1/2012			
9	Y			Instrument performance check raw data included.			
10	Y			H-3 and C-14 efficiency and background count rates monitored and acceptance criteria documented.			
11	Y			Control charts for all detectors, all parameters included.			
12	Y			Sample counts are bracketed by passing instrument performance checks.			
IV. DETECTOR EFFICIENCY CALIBRATION							
13			N/A	If submitted and approved separately, list reference ID and skip to next section, otherwise answer "N/A" and go to next question.			
14	Y			Efficiency calibration performed within the last year and included.			
15	Y			For Quench Curves, the fit of the data to the curve is acceptable, with acceptance criteria documented.			No acceptance criteria, but R2 >0.99 and all ICVs pass. OK. DCB 12/23/11.
16	Y			NIST-traceable sources used for the efficiency calibration.			
17	Y			Calculated verification results included.			
18	Y			Acceptance criteria documented and met.			
V. DETECTOR BACKGROUND CALIBRATION							

ITEM	MEETS VALIDATION SPECS? (Select One)			VALIDATION ITEM	QUALIFIERS	AFFECTED SAMPLES	COMMENTS
19			N/A	If submitted and approved separately, list reference ID and skip to next section, otherwise answer "N/A" and go to next question.			
20	Y			Background calibration count rate, with acceptance criteria included.			No acceptance criteria. Data quality not affected. DCB 12/23/11.
21	Y			Background count rate for detectors used determined at least monthly.			
22			N/A	When efficiency calibration quench curves are employed, the background count rate is adjusted for the sample quench factor, if required by lab SOP.			The range of quench factors observed in the distilled samples is not believed to be significantly different from the calibration background quench factor. The data is not believed to be significantly affected and may be reported without further qualificaiton. DCB 12/23/11.
VI. SAMPLE PREPARATION DOCUMENTATION (METHOD)							
23	Y			The Bench Sheets are complete and include:			
24	Y			Batch ID			
25	Y			Preparation Start Date and Time			
26	Y			Analyst ID			
27	Y			Method/Lab SOP w/ rev #			
28	Y			Sample ID(s)			
29	Y			Sample Aliquants			
30	Y			Spiking Solution / Source IDs and volumes			
31	Y			Pipette and Balance IDs			Pipette IDs not included. OK per agreement. DCB 12/23/11.
32	Y			Pipette and Balance Calibration Verification Logs.			
33			N/A	Scintillation Cocktail Lot ID			
34	Y			The cocktail/sample ratio, total volume, filter type (if applicable), and vial type are consistent between the calibration and the sample analyses.			The calibration is 9.1/10 and the sample analysis is 10/10. Due to the quench curve application and other method considerations, the discrepancy is not believed to be significant and the data may be used without further qualification. DCB 12/23/11.
VII. INSTRUMENT RAW DATA							
35	Y			A copy of the instrument run log included and complete.			
				For instrument raw data, the following are present and complete and match the run log, if applicable:			
36	Y			Sample ID			
37	Y			Analysis Date and Time (count start or count end is specified)			
38	Y			Detector ID			

ITEM	MEETS VALIDATION SPECS? (Select One)			VALIDATION ITEM	QUALIFIERS	AFFECTED SAMPLES	COMMENTS
39	Y			Batch ID			
40	Y			Count Duration			
41	Y			Analyte Gross (or Net) Count Rate Included			
				Additional Raw Data Quality Evaluation			
42	Y			Sample ROIs match calibration ROIs.			
43	Y			Sample quench factor included and is within the calibration range.			
44	Y			Sample luminescence is auto-corrected.			
45			N/A	If no, sample luminescence included and within acceptance range or <10% if no acceptance criteria provided.			
46	Y			Sample beta spectra are monitored for higher-energy beta interference, and acceptance criteria included.			Upper window count rates are provided, and are available for review as necessary. No accpetance criteria are given, but this is not an SOW requirement and the data is acceptable as-is.
47	Y			Visual inspection of spectral quality is acceptable, including analyte peak resolution, peak tailing, unidentified peaks, and other spectral anomalies .			
VIII. REPORTED RESULTS							
48	Y			Calibration coefficients used match the calibration documentation.			
49	Y			Analysis Report matches raw data, benchsheet, calibration summary.			
				All reported sample and QC results include the following in the calculations summary.			
50	Y			Results included for all samples in the SDG.			
51	Y			Batch ID			
52	Y			Lab Sample ID			
53	Y			Reporting Units (e.g., pCi/g)			
54	Y			Activity			
55	Y			Uncertainty w/confidence interval			
56	Y			MDC			
57	Y			Decision Level (LC)			
58			N/A	Chemical Yield, if applicable, is provided and is within the lab's acceptance criteria, but not less than 40%			

ITEM	MEETS VALIDATION SPECS? (Select One)			VALIDATION ITEM	QUALIFIERS	AFFECTED SAMPLES	COMMENTS
59	Y			Spiking Standard Solution ID on the Analysis Report matches the benchsheet			
60	Y			Spike Activity on the Analysis Report matches the benchsheet			
61	Y			Decay corrected Spike Activity Added, matches Standards Dilution Log			
62	Y			The results summary page matches the Analysis Report.			
63	Y			The results summary page matches the EDD.			
				H-3 AL = 100 pCi/g.			
64	Y			For all results <= the AL, the 1σ TPU does not exceed 10% of the AL.			
65	Y			For all results > the AL, the 1σ TPU does not exceed 10% of the reported activity.			
66		N		For negative activity, the absolute value is between the 2σ and 3σ TPU.			
67			N/A	For negative activity, the absolute value is greater than the 3σ TPU.			
68	Y			The reported result is <CL.	U	See Above	Explain, if necessary.
IX. QC SAMPLE QUALITY MEASURES							
69	Y			LCS Z Acceptable (-1.96 to +1.96)			
70	Y			MB Z Acceptable (|Z| < 2.58).			
71			N/A	For MB Z>2.58, sample ZDERs>2.58.			
72			N/A	For MB Z>2.58, sample ZDERs>1.96, <2.58.			
73			N/A	For MB Z>2.58, sample ZDERs<1.96.			
72	Y			MS Z Acceptable (|Z|<1.96)			
73			N/A	If applicable, equipment blank is included and within acceptable range.			
74	Y			Lab Duplicate Z Acceptable (|Z|<1.96)			
75			N/A	Field Duplicate Z Acceptable (|Z|<1.96)			
Additional Comments:							

THE PALLADINO COMPANY, INC.
DATA VALIDATION REPORT
H-3

SDG: **308925**

Lab ID:	GEL Laboratories, LLC
Data Package Title:	308925.pdf
Data Package Creation Date:	8/28/2012
EDD Title:	308925.xls
Project ID:	SSFL Remedial Investigation, Area IV Radiological Study, Laboratory Analytical Services Support SOW

RECALCULATION OF SAMPLE RESULTS

Sample Lab ID: 308925002 **Sample Field ID:** SL-001-A3-SB-0.0-0.5

Nuclide: H-3 **Yield Method:** None
Half-Life (yrs): 1.24E+01

Sampling Date: 7/18/2012
Matrix: Soil
Reporting Basis: As Received

From Prep Report

Batch ID: 1235228
Sample Aliquant: 1.00700 g
Moisture Content: 1.76 % For solids only, if applicable, otherwise leave blank.
Total Dist. Vol.: 0.0450 L For solids only, if applicable, otherwise leave blank.

Analysis Volume: 0.010 L From Analysis Report
Sample Aliquant for Analysis: 0.22369 g (As Received)

From Inst. Raw Data:

Detector ID: LSCOrange
Count Start Date & Time: 08/21/2012 06:08 PM
Sample Gross cpm: 1.630
Sample Count Duration: 45.0
Sample Quench Factor: 746.7
Bkg Gross cpm: 1.060
Bkg Count Duration: 45
Bkg Quench Factor: 747.9

From Det. LSCOrange Calibration Data:

Efficiency Factor A(x^3): -1.8593E-08
Efficiency Factor B(x^2): 4.0218E-05
Efficiency Factor C(x): -2.7225E-02
Efficiency Factor D: 5.9080E+00
Sample Counting Efficiency: 0.2623

Method TPU Factor: 0.0983 *Display error value equals 0.0983 per lab SOP see 305986.pdf p.1511 for example

Calculated Results:

Parameter	Manual Calc.	Lab Value	Calc vs. Lab	FLAG
Decay =	0.9947			
Std. Denom. =	0.1296			
Activity (pCi/g,L) =	4.3996	4.4300	**-0.69%**	**PASS**
1s Cnt. Unc. =	1.8872	1.8800	**0.38%**	**PASS**
1s TPU =	1.9361	1.8800	**2.98%**	**PASS**
MDC =	5.9767	5.96	**0.28%**	**PASS**
L_C=	2.7559	2.75	**0.22%**	**PASS**

Additional Comments:

THE PALLADINO COMPANY, INC.
DATA VALIDATION REPORT
H-3

SDG: 308925

Lab ID: GEL Laboratories, LLC
Data Package Title: 308925.pdf
Data Package Creation Date: 8/28/2012
EDD Title: 308925.xls

Project ID: SSFL Remedial Investigation, Area IV Radiological Study, Laboratory Analytical Services Support SOW

VERIFICATION OF CALIBRATION SOURCE DECAY FACTOR

Detector ID: LSCOrange

Source Preparation Inforamtion:

Cal. Std. ID: 1583-A
Cal. Source ID: 1
Radionuclide: H-3
Half-life (years): 12.33
Ref. Activity Conc. (dpm/mL): 23356.11
Ref. Date: 11/30/2011
Std. Vol (mL): 0.10
H-3 Calibration Date: 7/23/2012

Decay Corrected Source (H-3) Activity: 2252.3 @ 7/23/2012

Calibration Count Data:

Source Gross cpm: 185.91
Cal. Bkg. cpm: 0.9
H-3 Calibrated Efficiency: 0.0822
Cal. Report H-3 Efficiency: 0.0822 **-0.02%** **PASS**

Additional Comments:

The Palladino Company, Inc.
Data Validation Report
Carbon-14

CLIENT NAME: HydroGeologic, Inc.

PROJECT ID: Santa Susana Field Laboratory – Area IV Radiological Study

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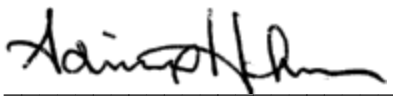
LABORATORY ID: GEL Laboratories, LLC – Charleston, SC

LAB REPORT DATE: 8/28/12 **LAB SDG#:** 308925

LAB REPORT FILENAME: 308925.PDF

EDD FILENAME: 308925.XLS

The following Data Validation Report, with associated review checklists and calculation verifications, and the corresponding Laboratory Radioanalytical Data Report have been reviewed by the personnel shown below. The Palladino Company, Inc., certifies that the Data Validation Report has been completed in accordance with applicable contractual requirements, and is true, complete, and correct, within the limits of the information provided by the laboratory.



9/21/12

Data Validation Analyst Date



9/22/2012

Report Review Date

OVERVIEW

Data validation of these results and pertinent supporting documentation, provided by the laboratory in a Level IV-equivalent laboratory data package was performed in accordance with:

- *Evaluation of Radiochemical Data Usability* (DOE, 1997), and
- *Multi-Agency Radiological Laboratory Analytical Protocols Manual* (MARLAP, EPA et al., 2004, specifically Chapter 8),

with additional specific guidance from the

- *Santa Susana Field Laboratory - Radiological Background Study Quality Assurance Project Plan (QAPP)*,
- *GEL Laboratories Quality Assurance Plan (QAP)*,
- *GEL Laboratories compendium of laboratory Standard Operating Procedures (SOPs)*

The data were reviewed for compliance with the required QC elements described in Section 5 and Table 3.3 of the QAPP. The pertinent elements of the data package were reviewed for completeness, compliance with the QAPP requirements and the requirements of the stated methodology, and potential impact on the usability of the data for its intended purpose.

One sample result in this data package was selected at random for manual recalculation of results to verify the laboratory's data reporting algorithms.

VALIDATION REPORT ELEMENTS

The Validation Case Narrative describes the results of the validation process and includes the technical opinion of a qualified radiochemist as to the usability of the data for its intended purpose.

For each analytical method, the case narrative is appended with

- Data Validation Checklist,
- Recalculation of Sample Results, and
- Calibration Standard Decay Verification.

Finally, a Summary of Data Qualifiers and Reason Codes used in the project and their associated definitions is found at the back of the validation report.

Due to the comprehensive nature of the laboratory data package and the number of analytical results it contains, the data user is referred to the Electronic Data Deliverable (EDD) for a complete Table of Qualified Results. The EDD presents a cross-reference of Sample IDs, Analyte Names, Reported Results, and Qualifiers.

VALIDATION CASE NARRATIVE – CARBON-14

The Level IV-equivalent radioanalytical data package referenced in the header of this report was received from GEL on 8/31/12.

A Level IV validation of the analytical results was performed and the complete validation report is contained herein.

The data validation, including necessary verification of laboratory data and supporting documentation, was completed on 9/21/12 by Adrienne Hawks, of The Palladino Company, Inc. The final review of the validation report was completed by Rebecca Burns of The Palladino Company, Inc.

The essential findings of the validation report are summarized below:

Overall, the data are usable as reported.

Additional comments regarding the assessment and qualification of the data are provided below. None of these issues appears to significantly affect the usability of the reported results.

1. Sample Receipt, Condition, and Preservation
   All samples were received intact, with no apparent damage or other issues that might affect sample integrity. No preservation or refrigeration was required.
2. Chain of Custody Documentation
   The samples were received by the laboratory with no discrepancies on the chain of custody.
3. Sample Preparation Documentation
   Samples were analyzed on an “as received” basis and conformed to the project-specific protocols described in the SOW and the lab’s SOPs.
4. Standard Preparation and Traceability
   All radioactive standards used in the laboratory analysis are NIST-traceable, properly prepared, and the source activities are properly decay-corrected during use.
5. Adherence to the Project-Required MQOs and QC Criteria
   All project required Action Levels (ALs), and the associated required Combined Standard Uncertainties (CSUs) have been met.

   All other MQOs, including QC acceptance criteria, are acceptable.

   More detailed assessment of project QC acceptance criteria is provided in Attachment 1, *Data Validation Checklist*.

6. Field Blank and Equipment Blank Performance
   No field or equipment blanks are believed to have been submitted for this analysis. Consequently, no evaluation has been performed regarding the potential impact of field and equipment blank results on the overall data quality.

7. Field Duplicate Performance
   No field duplicate samples are believed to have been submitted for this analysis. Consequently, no evaluation has been performed regarding the potential impact of field duplicate results on the overall data quality.

8. Instrument Calibrations and Performance Verifications
   All instrument calibrations were properly performed and verified prior to use, and are properly applied to the analytical method.

   Ongoing instrument performance verifications were properly performed, remained in control, and were documented on the required control charts throughout the analyses.

9. Sample Raw Data Review
   All raw data for the analysis of samples in this SDG are included in the report and supports the final analytical results.

10. Evaluation of Hold-Time Compliance
    There are no hold time requirements for this analysis.

11. Evaluation of Comparability of Results
    The pertinent or supporting data available at this time has been evaluated for consistency with available gross screening data, consistency with independent analytical results, and for consistency among reported parent and progeny radionuclides in the same serial decay chains. This assessment does not indicate significant anomalies or discrepancies.

THE PALLADINO COMPANY, INC.
DATA VALIDATION REPORT
Carbon-14

SDG: 308925

Lab ID: GEL Laboratories, LLC
Data Package Title: 308925.PDF
Data Package Creation Date: 8/28/2012
EDD Title: 308925.XLS

Project ID: SSFL Remedial Investigation, Area IV Radiological Study, Laboratory Analytical Services Support SOW

SAMPLE QUALIFIERS AND COMMENTS

Lab ID	Question #68	Question #	Question #	Question #	Question #	Question #	Question #	Additional Validator Qualifiers	Validator Comments	Summary Flags
308925001	U								Enter sample-specific comments here.	U
308925002	U									U
308925003	U									U
308925004	U									U
308925005	U									U
308925006	U									U
308925007	U									U
308925008	U									U
308925009	U									U
308925010	U									U
308925011										
308925012	U									U
308925013	U									U
308925014										
308925015	U									U
308925016	U									U
308925017	U									U
308925018	U									U

ITEM	MEETS VALIDATION SPECS? (Select One)			VALIDATION ITEM	QUALIFIERS	AFFECTED SAMPLES	COMMENTS
I. SAMPLE CONDITION AND QC DOCUMENTATION							
1			N/A	Hold time and preservation requirements have been met.			
2			N/A	Preserved samples were held at least 16 hours before aliquanting.			
3	Y			Anomolous conditions noted in case narrative (specify).			BATCH REPREP, RECOUNTS
4			N/A	Non-Conformance Reports w/corrective action and QA approval present and complete.			
II. STANDARDS TRACEABILITY DOCUMENTATION							
				List Standard IDs >>	1314-D, CAL: A2926-A, 1314-A		

ITEM	MEETS VALIDATION SPECS? (Select One)			VALIDATION ITEM	QUALIFIERS	AFFECTED SAMPLES	COMMENTS
5			N/A	If submitted and approved separately, list reference ID and skip to next section, otherwise answer "N/A" and go to next question.			
6	Y			Standards Dilution Logs present, complete.			
7	Y			NIST (or equivalent) certificates provided for calibration and LCS sources.			
8	Y			Standard Verification data provided, including acceptance criteria and reports.			
III. INSTRUMENT PERFORMANCE CHECKS							
				List sample count dates and detectors used >>LSCYELLOW: 8/21/12, 8/22/12			
9	Y			Instrument performance check raw data included.			
10	Y			H-3 and C-14 efficiency and background count rates monitored and acceptance criteria documented.			
11	Y			Control charts for all detectors, all parameters included.			
12	Y			Sample counts are bracketed by passing instrument performance checks.			
IV. DETECTOR EFFICIENCY CALIBRATION							
13			N/A	If submitted and approved separately, list reference ID and skip to next section, otherwise answer "N/A" and go to next question.			
14	Y			Efficiency calibration performed within the last year and included.			
15		N		For Quench Curves, the fit of the data to the curve is acceptable, with acceptance criteria documented.			No acceptance criteria, but R2 >0.99 and all ICVs pass. OK. DCB 12/23/11.
16	Y			NIST-traceable sources used for the efficiency calibration.			
17	Y			Calculated verification results included.			
18	Y			Acceptance criteria documented and met.			
V. DETECTOR BACKGROUND CALIBRATION							

ITEM	MEETS VALIDATION SPECS? (Select One)			VALIDATION ITEM	QUALIFIERS	AFFECTED SAMPLES	COMMENTS
19			N/A	If submitted and approved separately, list reference ID and skip to next section, otherwise answer "N/A" and go to next question.			
20		N		Background calibration count rate, with acceptance criteria included.			No acceptance criteria. Data quality not affected.
21	Y			Background count rate for detectors used determined at least monthly.			
22	Y			When efficiency calibration quench curves are employed, the background count rate is adjusted for the sample quench factor, if required by lab SOP.			
VI. SAMPLE PREPARATION DOCUMENTATION (METHOD)							
23	Y			The Bench Sheets are complete and include:			
24	Y			Batch ID			
25	Y			Preparation Start Date and Time			
26	Y			Analyst ID			
27	Y			Method/Lab SOP w/ rev #			
28	Y			Sample ID(s)			
29	Y			Sample Aliquants			
30	Y			Spiking Solution / Source IDs and volumes			
31	Y			Pipette and Balance IDs			Pipette IDs not included. OK per agreement.
32	Y			Pipette and Balance Calibration Verification Logs.			
33		N		Scintillation Cocktail Lot ID			LOT ID NOT INCLUDED
34	Y			The cocktail/sample ratio, total volume, filter type (if applicable), and vial type are consistent between the calibration and the sample analyses.			
VII. INSTRUMENT RAW DATA							
35	Y			A copy of the instrument run log included and complete.			
				For instrument raw data, the following are present and complete and match the run log, if applicable:			
36	Y			Sample ID			
37	Y			Analysis Date and Time (count start or count end is specified)			
38	Y			Detector ID			

ITEM	MEETS VALIDATION SPECS? (Select One)			VALIDATION ITEM	QUALIFIERS	AFFECTED SAMPLES	COMMENTS
39	Y			Batch ID			
40	Y			Count Duration			
41	Y			Analyte Gross (or Net) Count Rate Included			
				Additional Raw Data Quality Evaluation			
42	Y			Sample ROIs match calibration ROIs.			
43		N		Sample quench factor included and is within the calibration range.			MOST SAMPLES ARE UNDER-QUENCHED. HOWEVER SINCE THE H#s ARE WITHIN 15 OF THE MAX H#, THE DATA QUALITY OS NOT SIGNIFICANTLY AFFECTED AND THE DATA ARE ACCEPTED WITHOUT FURTHER QUALIFICATION.
44	Y			Sample luminescence is auto-corrected.			
45			N/A	If no, sample luminescence included and within acceptance range or <10% if no acceptance criteria provided.			
46	Y			Sample beta spectra are monitored for higher-energy beta interference, and acceptance criteria included.			Upper window count rates are provided, and are available for review as necessary. No accpetance criteria are given, but this is not an SOW requirement and the data is acceptable as-is.
47	Y			Visual inspection of spectral quality is acceptable, including analyte peak resolution, peak tailing, unidentified peaks, and other spectral anomalies .			
VIII. REPORTED RESULTS							
48	Y			Calibration coefficients used match the calibration documentation.			
49	Y			Analysis Report matches raw data, benchsheet, calibration summary.			
				All reported sample and QC results include the following in the calculations summary.			
50	Y			Results included for all samples in the SDG.			
51	Y			Batch ID			
52	Y			Lab Sample ID			
53	Y			Reporting Units (e.g., pCi/g)			
54	Y			Activity			
55	Y			Uncertainty w/confidence interval			
56	Y			MDC			

ITEM	MEETS VALIDATION SPECS? (Select One)			VALIDATION ITEM	QUALIFIERS	AFFECTED SAMPLES	COMMENTS
57	Y			Decision Level (LC)			
58			N/A	Chemical Yield, if applicable, is provided and is within the lab's acceptance criteria, but not less than 40%			
59	Y			Spiking Standard Solution ID on the Analysis Report matches the benchsheet			
60	Y			Spike Activity on the Analysis Report matches the benchsheet			
61	Y			Decay corrected Spike Activity Added, matches Standards Dilution Log			
62	Y			The results summary page matches the Analysis Report.			
63	Y			The results summary page matches the EDD.			
				C-14 AL = 10 pCi/g.			
64	Y			For all results <= the AL, the 1σ TPU does not exceed 10% of the AL.			
65	Y			For all results > the AL, the 1σ TPU does not exceed 10% of the reported activity.			
66			N/A	For negative activity, the absolute value is between the 2σ and 3σ TPU.			
67			N/A	For negative activity, the absolute value is greater than the 3σ TPU.			
68	Y			The reported result is <CL.	U	See Table Above	Explain, if necessary.
IX. QC SAMPLE QUALITY MEASURES							
69	Y			LCS Z Acceptable (-1.96 to +1.96)			
70	Y			MB Z Acceptable (|Z| < 2.58).			
71			N/A	For MB Z>2.58, sample ZDERs>2.58.			
72			N/A	For MB Z>2.58, sample ZDERs>1.96, <2.58.			
73			N/A	For MB Z>2.58, sample ZDERs<1.96.			
74	Y			MS Z Acceptable (|Z|<1.96)			
75			N/A	If applicable, equipment blank is included and within acceptable range.			
76	Y			Lab Duplicate Z Acceptable (|Z|<1.96)			
77			N/A	Field Duplicate Z Acceptable (|Z|<1.96)			

ITEM	MEETS VALIDATION SPECS? (Select One)	VALIDATION ITEM	QUALIFIERS	AFFECTED SAMPLES	COMMENTS
Additional Comments:					

THE PALLADINO COMPANY, INC.
DATA VALIDATION REPORT
Carbon-14

SDG: **308925**

Lab ID:	GEL Laboratories, LLC
Data Package Title:	308925.PDF
Data Package Creation Date:	8/28/2012
EDD Title:	308925.XLS
Project ID:	SSFL Remedial Investigation, Area IV Radiological Study, Laboratory Analytical Services Support SOW

RECALCULATION OF SAMPLE RESULTS

Sample Lab ID: 308925016 **Sample Field ID:** SL-011-A3-SB-0.0-0.5

Nuclide: C-14 **Yield Method:** None
Half-Life (yrs): 5.70E+03

Sampling Date: 7/17/2012
Matrix: Soil
Reporting Basis: As Received

From Prep Report

Batch ID: 1239525
Sample Aliquant: 2.05700 g
Moisture Content: % For solids only, if applicable, otherwise leave blank.
Concentration Volume: 0.0050 L For solids only, if applicable, otherwise leave blank.

Analysis Volume: 0.005 L From Analysis Report
Sample Aliquant for Analysis: 2.05700 g (As Received)

From Inst. Raw Data:

Detector ID: YELLOW
Count Start Date & Time: 08/22/2012 11:13 AM
Sample Gross cpm: 11.240
Sample Count Duration: 60.0
Sample Quench Factor: 635.2
Bkg Gross cpm: 11.730
Bkg Count Duration: 60
Bkg Quench Factor: 629.8

From Det. YELLOW Calibration Data:

Efficiency Factor A(x^3): -8.5138E-08
Efficiency Factor B(x^2): 1.3880E-04
Efficiency Factor C(x): -7.2374E-02
Efficiency Factor D: 1.2480E+01
Sample Counting Efficiency: 0.6901

Method TPU Factor: 0.0363

Calculated Results:

Parameter	Manual Calc.	Lab Value	Calc vs. Lab	FLAG
Decay =	1.0000			
Std. Denom. =	3.1515			
Activity (pCi/g,L) =	-0.1555	-0.1570	**-0.97%**	**PASS**
1s Cnt. Unc. =	0.1963	0.1964	**-0.04%**	**PASS**
1s TPU =	0.1964	0.1960	**0.21%**	**PASS**
MDC =	0.6671	0.67	**0.02%**	**PASS**
L_C=	0.3264	0.326	**0.12%**	**PASS**

Additional Comments:

THE PALLADINO COMPANY, INC.
DATA VALIDATION REPORT
Carbon-14

SDG: 308925

Lab ID: GEL Laboratories, LLC
Data Package Title: 308925.PDF
Data Package Creation Date: 8/28/2012
EDD Title: 308925.XLS

Project ID: SSFL Remedial Investigation, Area IV Radiological Study, Laboratory Analytical Services Support SOW

VERIFICATION OF CALIBRATION SOURCE DECAY FACTOR

Detector ID: YELLOW

Source Preparation Inforamtion:

Cal. Std. ID:	A2926-A	**Cal. Source ID:**	1
Radionuclide:	C-14	**Half-life (years):**	5700.00
Ref. Activity Conc. (dpm/mL):	2176776.756	**Ref. Date:**	1/1/1995
Std. Vol (mL):	0.10	**C-14 Calibration Date:**	6/13/2012

Decay Corrected Source (C-14) Activity: 217216.3 @ 6/13/2012

Calibration Count Data:

Source Gross cpm:	141439.3		
Cal. Bkg. cpm:	17		
C-14 Calibrated Efficiency:	0.6511		
Cal. Report C-14 Efficiency:	0.6511	**0.00%**	**PASS**

Additional Comments:

The Palladino Company, Inc.
Data Validation Report
Technicium-99

CLIENT NAME: HydroGeologic, Inc.

PROJECT ID: Santa Susana Field Laboratory – Area IV Radiological Study

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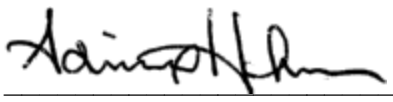
LABORATORY ID: GEL Laboratories, LLC – Charleston, SC

LAB REPORT DATE: 8/28/12 **LAB SDG#:** 308925

LAB REPORT FILENAME: 308925.PDF

EDD FILENAME: 308925.XLS

The following Data Validation Report, with associated review checklists and calculation verifications, and the corresponding Laboratory Radioanalytical Data Report have been reviewed by the personnel shown below. The Palladino Company, Inc. certifies that the Data Validation Report has been completed in accordance with applicable contractual requirements, and is true, complete, and correct, within the limits of the information provided by the laboratory.



Data Validation Analyst — 9/21/12 Date



Report Review — 9/22/2012 Date

OVERVIEW

Data validation of these results and pertinent supporting documentation, provided by the laboratory in a Level IV-equivalent laboratory data package was performed in accordance with:

- *Evaluation of Radiochemical Data Usability* (DOE, 1997), and
- *Multi-Agency Radiological Laboratory Analytical Protocols Manual* (MARLAP, EPA et al., 2004, specifically Chapter 8),

with additional specific guidance from the

- *Santa Susana Field Laboratory - Radiological Background Study Quality Assurance Project Plan (QAPP)*,
- *GEL Laboratories Quality Assurance Plan (QAP)*,
- *GEL Laboratories compendium of laboratory Standard Operating Procedures (SOPs)*

The data were reviewed for compliance with the required QC elements described in Section 5 and Table 3.3 of the QAPP. The pertinent elements of the data package were reviewed for completeness, compliance with the QAPP requirements and the requirements of the stated methodology, and potential impact on the usability of the data for its intended purpose.

One sample result in this data package was selected at random for manual recalculation of results to verify the laboratory's data reporting algorithms.

VALIDATION REPORT ELEMENTS

The Validation Case Narrative describes the results of the validation process and includes the technical opinion of a qualified radiochemist as to the usability of the data for its intended purpose.

For each analytical method, the case narrative is appended with

- Data Validation Checklist,
- Recalculation of Sample Results, and
- Calibration Standard Decay Verification.

Finally, a Summary of Data Qualifiers and Reason Codes used in the project and their associated definitions is found at the back of the validation report.

Due to the comprehensive nature of the laboratory data package and the number of analytical results it contains, the data user is referred to the Electronic Data Deliverable (EDD) for a complete Table of Qualified Results. The EDD presents a cross-reference of Sample IDs, Analyte Names, Reported Results, and Qualifiers.

VALIDATION CASE NARRATIVE – TECHNICIUM-99

The Level IV-equivalent radioanalytical data package referenced in the header of this report was received from GEL on 8/31/12.

A Level IV validation of the analytical results was performed and the complete validation report is contained herein.

The data validation, including necessary verification of laboratory data and supporting documentation, was completed on 9/21/12 by Adrienne Hawks, of The Palladino Company, Inc. The final review of the validation report was completed by Rebecca Burns of The Palladino Company, Inc.

The essential findings of the validation report are summarized below:

Overall, the data are usable as reported.

Additional comments regarding the assessment and qualification of the data are provided below. None of these issues appears to significantly affect the usability of the reported results.

1. Sample Receipt, Condition, and Preservation
   All samples were received intact, with no apparent damage or other issues that might affect sample integrity. No preservation or refrigeration was required.
2. Chain of Custody Documentation
   The samples were received by the laboratory with no discrepancies on the chain of custody.
3. Sample Preparation Documentation
   Samples were analyzed on an "as received" basis and conformed to the project-specific protocols described in the SOW and the lab's SOPs.
4. Standard Preparation and Traceability
   All radioactive standards used in the laboratory analysis are NIST-traceable, properly prepared, and the source activities are properly decay-corrected during use.
5. Adherence to the Project-Required MQOs and QC Criteria
   All project required Action Levels (ALs), and the associated required Combined Standard Uncertainties (CSUs) have been met.

   All other MQOs, including QC acceptance criteria, are acceptable.

   More detailed assessment of project QC acceptance criteria is provided in Attachment 1, *Data Validation Checklist*.

6. Field Blank and Equipment Blank Performance
   No field or equipment blanks are believed to have been submitted for this analysis. Consequently, no evaluation has been performed regarding the potential impact of field and equipment blank results on the overall data quality.

7. Field Duplicate Performance
   No field duplicate samples are believed to have been submitted for this analysis. Consequently, no evaluation has been performed regarding the potential impact of field duplicate results on the overall data quality.

8. Instrument Calibrations and Performance Verifications
   All instrument calibrations were properly performed and verified prior to use, and are properly applied to the analytical method.

   Ongoing instrument performance verifications were properly performed, remained in control, and were documented on the required control charts throughout the analyses.

9. Sample Raw Data Review
   All raw data for the analysis of samples in this SDG are included in the report and supports the final analytical results.

10. Evaluation of Hold-Time Compliance
    There are no hold time requirements for this analysis.

11. Evaluation of Comparability of Results
    The pertinent or supporting data available at this time has been evaluated for consistency with available gross screening data, consistency with independent analytical results, and for consistency among reported parent and progeny radionuclides in the same serial decay chains. This assessment does not indicate significant anomalies or discrepancies.

THE PALLADINO COMPANY, INC.
DATA VALIDATION REPORT
Technicium-99

SDG: 308925

Lab ID: GEL Laboratories, LLC
Data Package Title: 308925.PDF
Data Package Creation Date: 8/28/2012
EDD Title: 308925.XLS

Project ID: SSFL Remedial Investigation, Area IV Radiological Study, Laboratory Analytical Services Support SOW

SAMPLE QUALIFIERS AND COMMENTS

Lab ID	Question #68	Question #	Question #	Question #	Question #	Question #	Question #	Additional Validator Qualifiers	Validator Comments	Summary Flags
308925001	U								Enter sample-specific comments here.	U
308925002	U									U
308925003	U									U
308925004	U									U
308925005	U									U
308925006	U									U
308925007	U									U
308925008	U									U
308925009	U									U
308925010	U									U
308925011	U									U
308925012	U									U
308925013										
308925014	U									U
308925015	U									U
308925016	U									U
308925017	U									U
308925018	U									U

ITEM	MEETS VALIDATION SPECS? (Select One)			VALIDATION ITEM	QUALIFIERS	AFFECTED SAMPLES	COMMENTS
I. SAMPLE CONDITION AND QC DOCUMENTATION							
1			N/A	Hold time and preservation requirements have been met.			
2			N/A	Preserved samples were held at least 16 hours before aliquanting.			
3	Y			Anomolous conditions noted in case narrative (specify).			RECOUNTS
4			N/A	Non-Conformance Reports w/corrective action and QA approval present and complete.			
II. STANDARDS TRACEABILITY DOCUMENTATION							
				List Standard IDs >>	1297-D, TC1632-A, CAL: 1234-A, 1297-A		

ITEM	MEETS VALIDATION SPECS? (Select One)			VALIDATION ITEM	QUALIFIERS	AFFECTED SAMPLES	COMMENTS
5			N/A	If submitted and approved separately, list reference ID and skip to next section, otherwise answer "N/A" and go to next question.			
6	Y			Standards Dilution Logs present, complete.			
7	Y			NIST (or equivalent) certificates provided for calibration and LCS sources.			
8	Y			Standard Verification data provided, including acceptance criteria and reports.			
III. INSTRUMENT PERFORMANCE CHECKS							
				List sample count dates and detectors used >>LSCGREEN: 8/27/12-8/29/12			
9	Y			Instrument performance check raw data included.			
10	Y			H-3 and C-14 efficiency and background count rates monitored and acceptance criteria documented.			
11	Y			Control charts for all detectors, all parameters included.			
12	Y			Sample counts are bracketed by passing instrument performance checks.			
IV. DETECTOR EFFICIENCY CALIBRATION							
13			N/A	If submitted and approved separately, list reference ID and skip to next section, otherwise answer "N/A" and go to next question.			
14	Y			Efficiency calibration performed within the last year and included.			
15		N		For Quench Curves, the fit of the data to the curve is acceptable, with acceptance criteria documented.			No acceptance criteria, but R2 >0.99 and all ICVs pass. OK. DCB 12/23/11.
16	Y			NIST-traceable sources used for the efficiency calibration.			
17	Y			Calculated verification results included.			
18	Y			Acceptance criteria documented and met.			
V. DETECTOR BACKGROUND CALIBRATION							

ITEM	MEETS VALIDATION SPECS? (Select One)			VALIDATION ITEM	QUALIFIERS	AFFECTED SAMPLES	COMMENTS
19			N/A	If submitted and approved separately, list reference ID and skip to next section, otherwise answer "N/A" and go to next question.			
20		N		Background calibration count rate, with acceptance criteria included.			No acceptance criteria. Data quality not affected.
21	Y			Background count rate for detectors used determined at least monthly.			
22	Y			When efficiency calibration quench curves are employed, the background count rate is adjusted for the sample quench factor, if required by lab SOP.			
VI. SAMPLE PREPARATION DOCUMENTATION (METHOD)							
23	Y			The Bench Sheets are complete and include:			
24	Y			Batch ID			
25	Y			Preparation Start Date and Time			
26	Y			Analyst ID			
27	Y			Method/Lab SOP w/ rev #			
28	Y			Sample ID(s)			
29	Y			Sample Aliquants			
30	Y			Spiking Solution / Source IDs and volumes			
31	Y			Pipette and Balance IDs			
32	Y			Pipette and Balance Calibration Verification Logs.			
33		N		Scintillation Cocktail Lot ID			LOT ID NOT INCLUDED
34	Y			The cocktail/sample ratio, total volume, filter type (if applicable), and vial type are consistent between the calibration and the sample analyses.			
VII. INSTRUMENT RAW DATA							
35	Y			A copy of the instrument run log included and complete.			
				For instrument raw data, the following are present and complete and match the run log, if applicable:			
36	Y			Sample ID			
37	Y			Analysis Date and Time (count start or count end is specified)			
38	Y			Detector ID			

ITEM	MEETS VALIDATION SPECS? (Select One)			VALIDATION ITEM	QUALIFIERS	AFFECTED SAMPLES	COMMENTS
39	Y			Batch ID			
40	Y			Count Duration			
41	Y			Analyte Gross (or Net) Count Rate Included			
				Additional Raw Data Quality Evaluation			
42	Y			Sample ROIs match calibration ROIs.			
43	Y			Sample quench factor included and is within the calibration range.			
44	Y			Sample luminescence is auto-corrected.			
45			N/A	If no, sample luminescence included and within acceptance range or <10% if no acceptance criteria provided.			
46	Y			Sample beta spectra are monitored for higher-energy beta interference, and acceptance criteria included.			Upper window count rates are provided, and are available for review as necessary. No accpetance criteria are given, but this is not an SOW requirement and the data is acceptable as-is.
47	Y			Visual inspection of spectral quality is acceptable, including analyte peak resolution, peak tailing, unidentified peaks, and other spectral anomalies .			
VIII. REPORTED RESULTS							
48	Y			Calibration coefficients used match the calibration documentation.			
49	Y			Analysis Report matches raw data, benchsheet, calibration summary.			
				All reported sample and QC results include the following in the calculations summary.			
50	Y			Results included for all samples in the SDG.			
51	Y			Batch ID			
52	Y			Lab Sample ID			
53	Y			Reporting Units (e.g., pCi/g)			
54	Y			Activity			
55	Y			Uncertainty w/confidence interval			
56	Y			MDC			
57	Y			Decision Level (LC)			

ITEM	MEETS VALIDATION SPECS? (Select One)			VALIDATION ITEM	QUALIFIERS	AFFECTED SAMPLES	COMMENTS
58			N/A	Chemical Yield, if applicable, is provided and is within the lab's acceptance criteria, but not less than 40%			
59	Y			Spiking Standard Solution ID on the Analysis Report matches the benchsheet			
60	Y			Spike Activity on the Analysis Report matches the benchsheet			
61	Y			Decay corrected Spike Activity Added, matches Standards Dilution Log			
62	Y			The results summary page matches the Analysis Report.			
63	Y			The results summary page matches the EDD.			
				Tc-99 AL = 20 pCi/g.			
64	Y			For all results <= the AL, the 1σ TPU does not exceed 10% of the AL.			
65	Y			For all results > the AL, the 1σ TPU does not exceed 10% of the reported activity.			
66			N/A	For negative activity, the absolute value is between the 2σ and 3σ TPU.			
67			N/A	For negative activity, the absolute value is greater than the 3σ TPU.			
68	Y			The reported result is <CL.	U	See Table Above	Explain, if necessary.
IX. QC SAMPLE QUALITY MEASURES							
69	Y			LCS Z Acceptable (-1.96 to +1.96)			
70	Y			MB Z Acceptable (|Z| < 2.58).			
71			N/A	For MB Z>2.58, sample ZDERs>2.58.			
72			N/A	For MB Z>2.58, sample ZDERs>1.96, <2.58.			
73			N/A	For MB Z>2.58, sample ZDERs<1.96.			
74	Y			MS Z Acceptable (|Z|<1.96)			
75			N/A	If applicable, equipment blank is included and within acceptable range.			
76	Y			Lab Duplicate Z Acceptable (|Z|<1.96)			
77	Y			Field Duplicate Z Acceptable (|Z|<1.96)			
Additional Comments:							

ITEM	MEETS VALIDATION SPECS? (Select One)	VALIDATION ITEM	QUALIFIERS	AFFECTED SAMPLES	COMMENTS

THE PALLADINO COMPANY, INC.
DATA VALIDATION REPORT
Technicium-99

SDG: **308925**

Lab ID:	GEL Laboratories, LLC
Data Package Title:	308925.PDF
Data Package Creation Date:	8/28/2012
EDD Title:	308925.XLS
Project ID:	SSFL Remedial Investigation, Area IV Radiological Study, Laboratory Analytical Services Support SOW

RECALCULATION OF SAMPLE RESULTS

Sample Lab ID: 308925005 **Sample Field ID:** SL-009-A3-SB-0.0-0.5

Nuclide: Tc-99 **Yield Method:** External Count
Half-Life (yrs): 2.12E+05

Sampling Date: 7/18/2012
Matrix: Soil
Reporting Basis: As Received

From Prep Report

Batch ID: 1235233
Sample Aliquant: 2.16100 g
Moisture Content: % For solids only, if applicable, otherwise leave blank.
Concentration Volume: 0.2500 L For solids only, if applicable, otherwise leave blank.

Analysis Volume: 0.250 L From Analysis Report
Sample Aliquant for Analysis: 2.16100 g (As Received)

From Inst. Raw Data:

Detector ID: GREEN
Count Start Date & Time: 08/27/2012 08:46 PM
Sample Gross cpm: 17.120
Sample Count Duration: 25.0
Sample Quench Factor: 160.7
Bkg Gross cpm: 16.520
Bkg Count Duration: 25
Bkg Quench Factor: 137.8

Yield Data:

Yield Ct. Date & Time: 8/22/2012 9:41
Yield Ct. Dur (m): 1.50E+01
Yield Ct. Result: 46380.5
Yield Det. Cal. Result 1: 48203.9
Yield Det. Cal. Result 2
Yield Det. Cal. Result 3

From Det. GREEN Calibration Data:

Efficiency Factor A(x^3): 1.1053E-08
Efficiency Factor B(x^2): -1.2913E-05
Efficiency Factor C(x): 1.7416E-03
Efficiency Factor D: 6.2765E-01
Sample Counting Efficiency: 0.6199

Lab Reported Yield: 0.962

Yield: 0.9622
Yield Notes: *YIELD CALC PASS*

Background Factor A(x3): -1.3208E-06
Background Factor B(x2): 8.1921E-04
Background Factor C(x): -1.6018E-01
Background Factor D: 2.1439E+01
Quench Corrected Background Value: 16.426

Method TPU Factor: 0.0576

Calculated Results:

Parameter	Manual Calc.	Lab Value	Calc vs. Lab	FLAG
Decay =	1.0000			
Std. Denom. =	2.8615			
Activity (pCi/g,L) =	0.2424	0.2420	**0.16%**	**PASS**
1s Cnt. Unc. =	0.4054	0.4048	**0.14%**	**PASS**
1s TPU =	0.4056	0.4050	**0.15%**	**PASS**
MDC =	1.3596	1.36	**-0.03%**	**PASS**
L_C=	0.6609	0.659	**0.28%**	**PASS**

Additional Comments:

THE PALLADINO COMPANY, INC.
DATA VALIDATION REPORT
Technicium-99

SDG: 308925

Lab ID: GEL Laboratories, LLC
Data Package Title: 308925.PDF
Data Package Creation Date: 8/28/2012
EDD Title: 308925.XLS

Project ID: SSFL Remedial Investigation, Area IV Radiological Study, Laboratory Analytical Services Support SOW

VERIFICATION OF CALIBRATION SOURCE DECAY FACTOR

Detector ID: GREEN

Source Preparation Inforamtion:

Cal. Std. ID: 1234-A
Cal. Source ID: 1
Radionuclide: Tc-99
Half-life (years): 212000.00
Ref. Activity Conc. (dpm/mL): 21213.34
Ref. Date: 6/27/2008
Std. Vol (mL): 0.10
Tc-99 Calibration Date: 7/4/2012

Decay Corrected Source (Tc-99) Activity: 2121.3 @ 7/4/2012

Calibration Count Data:

Source Gross cpm: 1446.47
Cal. Bkg. cpm: 12
Tc-99 Calibrated Efficiency: 0.6763
Cal. Report Tc-99 Efficiency: 0.6763 **0.00%** **PASS**

Additional Comments:

The Palladino Company, Inc.
Data Validation Report
Promethium-147

CLIENT NAME: HydroGeologic, Inc.

PROJECT ID: Santa Susana Field Laboratory – Area IV Radiological Study

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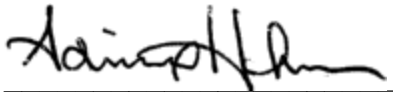
LABORATORY ID: GEL Laboratories, LLC – Charleston, SC

LAB REPORT DATE: 8/28/12 **LAB SDG#:** 308925

LAB REPORT FILENAME: 308925.PDF

EDD FILENAME: 308925.XLS

The following Data Validation Report, with associated review checklists and calculation verifications, and the corresponding Laboratory Radioanalytical Data Report have been reviewed by the personnel shown below. The Palladino Company, Inc. certifies that the Data Validation Report has been completed in accordance with applicable contractual requirements, and is true, complete, and correct, within the limits of the information provided by the laboratory.



Data Validation Analyst — 9/21/12 Date



Report Review — 9/22/2012 Date

OVERVIEW

Data validation of these results and pertinent supporting documentation, provided by the laboratory in a Level IV-equivalent laboratory data package was performed in accordance with:

- *Evaluation of Radiochemical Data Usability* (DOE, 1997), and
- *Multi-Agency Radiological Laboratory Analytical Protocols Manual* (MARLAP, EPA et al., 2004, specifically Chapter 8),

with additional specific guidance from the

- *Santa Susana Field Laboratory - Radiological Background Study Quality Assurance Project Plan (QAPP)*,
- *GEL Laboratories Quality Assurance Plan (QAP)*,
- *GEL Laboratories compendium of laboratory Standard Operating Procedures (SOPs)*

The data were reviewed for compliance with the required QC elements described in Section 5 and Table 3.3 of the QAPP. The pertinent elements of the data package were reviewed for completeness, compliance with the QAPP requirements and the requirements of the stated methodology, and potential impact on the usability of the data for its intended purpose.

One sample result in this data package was selected at random for manual recalculation of results to verify the laboratory's data reporting algorithms.

VALIDATION REPORT ELEMENTS

The Validation Case Narrative describes the results of the validation process and includes the technical opinion of a qualified radiochemist as to the usability of the data for its intended purpose.

For each analytical method, the case narrative is appended with

- Data Validation Checklist,
- Recalculation of Sample Results, and
- Calibration Standard Decay Verification.

Finally, a Summary of Data Qualifiers and Reason Codes used in the project and their associated definitions is found at the back of the validation report.

Due to the comprehensive nature of the laboratory data package and the number of analytical results it contains, the data user is referred to the Electronic Data Deliverable (EDD) for a complete Table of Qualified Results. The EDD presents a cross-reference of Sample IDs, Analyte Names, Reported Results, and Qualifiers.

VALIDATION CASE NARRATIVE – Promethium-147

The Level IV-equivalent radioanalytical data package referenced in the header of this report was received from GEL on 8/31/12.

A Level IV validation of the analytical results was performed and the complete validation report is contained herein.

The data validation, including necessary verification of laboratory data and supporting documentation, was completed on 9/21/12 by Adrienne Hawks, of The Palladino Company, Inc. The final review of the validation report was completed by Rebecca Burns of The Palladino Company, Inc.

The essential findings of the validation report are summarized below:

Overall, the data are usable as reported.

Additional comments regarding the assessment and qualification of the data are provided below. None of these issues appears to significantly affect the usability of the reported results.

1. Sample Receipt, Condition, and Preservation
   All samples were received intact, with no apparent damage or other issues that might affect sample integrity. No preservation or refrigeration was required.
2. Chain of Custody Documentation
   The samples were received by the laboratory with no discrepancies on the chain of custody.
3. Sample Preparation Documentation
   Gross preparation, homogenization, and sub-sampling of the samples conformed to the project-specific protocols described in the lab's internal procedures.
4. Standard Preparation and Traceability
   All radioactive standards used in the laboratory analysis are NIST-traceable, properly prepared, and the source activities are properly decay-corrected during use.
5. Adherence to the Project-Required MQOs and QC Criteria
   All project required Action Levels (ALs), and the associated required Combined Standard Uncertainties (CSUs) have been met.

   All other MQOs, including QC acceptance criteria, are acceptable.

   More detailed assessment of project QC acceptance criteria is provided in Attachment 1, *Data Validation Checklist*.

6. Field Blank and Equipment Blank Performance
   No field or equipment blanks are believed to have been submitted for this analysis. Consequently, no evaluation has been performed regarding the potential impact of field and equipment blank results on the overall data quality.

7. Field Duplicate Performance
   No field duplicate samples are believed to have been submitted for this analysis. Consequently, no evaluation has been performed regarding the potential impact of field duplicate results on the overall data quality.

8. Instrument Calibrations and Performance Verifications
   All instrument calibrations were properly performed and verified prior to use, and are properly applied to the analytical method.

   Ongoing instrument performance verifications were properly performed, remained in control, and were documented on the required control charts throughout the analyses.

9. Sample Raw Data Review
   All raw data for the analysis of samples in this SDG are included in the report and supports the final analytical results.

10. Evaluation of Hold-Time Compliance
    There are no hold time requirements for this analysis.

11. Evaluation of Comparability of Results
    The pertinent or supporting data available at this time has been evaluated for consistency with available gross screening data, consistency with independent analytical results, and for consistency among reported parent and progeny radionuclides in the same serial decay chains. This assessment does not indicate significant anomalies or discrepancies.

THE PALLADINO COMPANY, INC.
DATA VALIDATION REPORT
Promethium-147

SDG: 308925

Lab ID: GEL Laboratories, LLC
Data Package Title: 308925.PDF
Data Package Creation Date: 8/28/2012
EDD Title: 308925.XLS

Project ID: SSFL Remedial Investigation, Area IV Radiological Study, Laboratory Analytical Services Support SOW

SAMPLE QUALIFIERS AND COMMENTS

Lab ID	Question #68	Question #	Question #	Question #	Question #	Question #	Question #	Additional Validator Qualifiers	Validator Comments	Summary Flags
308925001	U								Enter sample-specific comments here.	U
308925002	U									U
308925003	U									U
308925004	U									U
308925005	U									U
308925006	U									U
308925007	U									U
308925008	U									U
308925009	U									U
308925010	U									U
308925011	U									U
308925012	U									U
308925013	U									U
308925014	U									U
308925015	U									U
308925016	U									U
308925017	U									U
308925018	U									U

ITEM	MEETS VALIDATION SPECS? (Select One)			VALIDATION ITEM	QUALIFIERS	AFFECTED SAMPLES	COMMENTS
I. SAMPLE CONDITION AND QC DOCUMENTATION							
1			N/A	Hold time and preservation requirements have been met.			
2			N/A	Preserved samples were held at least 16 hours before aliquanting.			
3	Y			Anomolous conditions noted in case narrative (specify).			MULTIPLE RECOUNTS
4			N/A	Non-Conformance Reports w/corrective action and QA approval present and complete.			
II. STANDARDS TRACEABILITY DOCUMENTATION							
				List Standard IDs >>	0368-C, 1759542, CAL: 1453-A, 0368-A		

ITEM	MEETS VALIDATION SPECS? (Select One)			VALIDATION ITEM	QUALIFIERS	AFFECTED SAMPLES	COMMENTS
5			N/A	If submitted and approved separately, list reference ID and skip to next section, otherwise answer "N/A" and go to next question.			
6	Y			Standards Dilution Logs present, complete.			
7	Y			NIST (or equivalent) certificates provided for calibration and LCS sources.			
8	Y			Standard Verification data provided, including acceptance criteria and reports.			
III. INSTRUMENT PERFORMANCE CHECKS							
				List sample count dates and detectors used >>LSCGOLD: 8/20/12-8/22/12			
9	Y			Instrument performance check raw data included.			
10	Y			H-3 and C-14 efficiency and background count rates monitored and acceptance criteria documented.			
11	Y			Control charts for all detectors, all parameters included.			
12	Y			Sample counts are bracketed by passing instrument performance checks.			
IV. DETECTOR EFFICIENCY CALIBRATION							
13			N/A	If submitted and approved separately, list reference ID and skip to next section, otherwise answer "N/A" and go to next question.			
14	Y			Efficiency calibration performed within the last year and included.			
15		N		For Quench Curves, the fit of the data to the curve is acceptable, with acceptance criteria documented.			No acceptance criteria, but R2 >0.99 and all ICVs pass. OK. DCB 12/23/11.
16	Y			NIST-traceable sources used for the efficiency calibration.			
17	Y			Calculated verification results included.			
18	Y			Acceptance criteria documented and met.			
V. DETECTOR BACKGROUND CALIBRATION							

ITEM	MEETS VALIDATION SPECS? (Select One)			VALIDATION ITEM	QUALIFIERS	AFFECTED SAMPLES	COMMENTS
19			N/A	If submitted and approved separately, list reference ID and skip to next section, otherwise answer "N/A" and go to next question.			
20		N		Background calibration count rate, with acceptance criteria included.			No acceptance criteria. Data quality not affected. DCB 12/23/11.
21	Y			Background count rate for detectors used determined at least monthly.			
22	Y			When efficiency calibration quench curves are employed, the background count rate is adjusted for the sample quench factor, if required by lab SOP.			
VI. SAMPLE PREPARATION DOCUMENTATION (METHOD)							
23	Y			The Bench Sheets are complete and include:			
24	Y			Batch ID			
25	Y			Preparation Start Date and Time			
26	Y			Analyst ID			
27	Y			Method/Lab SOP w/ rev #			
28	Y			Sample ID(s)			
29	Y			Sample Aliquants			
30	Y			Spiking Solution / Source IDs and volumes			
31	Y			Pipette and Balance IDs			
32	Y			Pipette and Balance Calibration Verification Logs.			
33		N		Scintillation Cocktail Lot ID			LOT ID NOT INCLUDED
34	Y			The cocktail/sample ratio, total volume, filter type (if applicable), and vial type are consistent between the calibration and the sample analyses.			
VII. INSTRUMENT RAW DATA							
35	Y			A copy of the instrument run log included and complete.			
				For instrument raw data, the following are present and complete and match the run log, if applicable:			
36	Y			Sample ID			
37	Y			Analysis Date and Time (count start or count end is specified)			
38	Y			Detector ID			

ITEM	MEETS VALIDATION SPECS? (Select One)			VALIDATION ITEM	QUALIFIERS	AFFECTED SAMPLES	COMMENTS
39	Y			Batch ID			
40	Y			Count Duration			
41	Y			Analyte Gross (or Net) Count Rate Included			
				Additional Raw Data Quality Evaluation			
42	Y			Sample ROIs match calibration ROIs.			
43	Y			Sample quench factor included and is within the calibration range.			
44	Y			Sample luminescence is auto-corrected.			
45			N/A	If no, sample luminescence included and within acceptance range or <10% if no acceptance criteria provided.			
46	Y			Sample beta spectra are monitored for higher-energy beta interference, and acceptance criteria included.			Upper window count rates are provided, and are available for review as necessary. No accpetance criteria are given, but this is not an SOW requirement and the data is acceptable as-is.
47	Y			Visual inspection of spectral quality is acceptable, including analyte peak resolution, peak tailing, unidentified peaks, and other spectral anomalies .			
VIII. REPORTED RESULTS							
48	Y			Calibration coefficients used match the calibration documentation.			
49	Y			Analysis Report matches raw data, benchsheet, calibration summary.			
				All reported sample and QC results include the following in the calculations summary.			
50	Y			Results included for all samples in the SDG.			
51	Y			Batch ID			
52	Y			Lab Sample ID			
53	Y			Reporting Units (e.g., pCi/g)			
54	Y			Activity			
55	Y			Uncertainty w/confidence interval			
56	Y			MDC			
57	Y			Decision Level (LC)			

ITEM	MEETS VALIDATION SPECS? (Select One)			VALIDATION ITEM	QUALIFIERS	AFFECTED SAMPLES	COMMENTS
58	Y			Chemical Yield, if applicable, is provided and is within the lab's acceptance criteria, but not less than 40%			
59	t			Spiking Standard Solution ID on the Analysis Report matches the benchsheet			
60	Y			Spike Activity on the Analysis Report matches the benchsheet			
61	Y			Decay corrected Spike Activity Added, matches Standards Dilution Log			
62	Y			The results summary page matches the Analysis Report.			
63	Y			The results summary page matches the EDD.			
				Pm-147 AL = 100 pCi/g.			
64	Y			For all results <= the AL, the 1σ TPU does not exceed 10% of the AL.			
65	Y			For all results > the AL, the 1σ TPU does not exceed 10% of the reported activity.			
66			N/A	For negative activity, the absolute value is between the 2σ and 3σ TPU.			
67			N/A	For negative activity, the absolute value is greater than the 3σ TPU.			
68	Y			The reported result is <CL.	U	See Table Above	Explain, if necessary.
IX. QC SAMPLE QUALITY MEASURES							
69	Y			LCS Z Acceptable (-1.96 to +1.96)			
70	Y			MB Z Acceptable (|Z| < 2.58).			
71			N/A	For MB Z>2.58, sample ZDERs>2.58.			
72			N/A	For MB Z>2.58, sample ZDERs>1.96, <2.58.			
73			N/A	For MB Z>2.58, sample ZDERs<1.96.			
74			N/A	MS Z Acceptable (|Z|<1.96)			
75			N/A	If applicable, equipment blank is included and within acceptable range.			
76	Y			Lab Duplicate Z Acceptable (|Z|<1.96)			
77			N/A	Field Duplicate Z Acceptable (|Z|<1.96)			
Additional Comments:							

ITEM	MEETS VALIDATION SPECS? (Select One)	VALIDATION ITEM	QUALIFIERS	AFFECTED SAMPLES	COMMENTS

THE PALLADINO COMPANY, INC.
DATA VALIDATION REPORT
Promethium-147

SDG: **308925**

Lab ID:	GEL Laboratories, LLC
Data Package Title:	308925.PDF
Data Package Creation Date:	8/28/2012
EDD Title:	308925.XLS
Project ID:	SSFL Remedial Investigation, Area IV Radiological Study, Laboratory Analytical Services Support SOW

RECALCULATION OF SAMPLE RESULTS

Sample Lab ID: 308925001 **Sample Field ID:** SL-002-A3-SB-0.0-0.5

Nuclide: Pm-147 **Yield Method:** Gravimetric
Half-Life (yrs): 2.62E+00

Sampling Date: 7/18/2012
Matrix: Soil
Reporting Basis: Dry Wt.

From Prep Report

Batch ID: 1235253
Sample Aliquant: 0.50100 g
Moisture Content: % For solids only, if applicable, otherwise leave blank.
Concentration Volume: 0.0100 L For solids only, if applicable, otherwise leave blank.

Analysis Volume: 0.010 L From Analysis Report
Sample Aliquant for Analysis: 0.50100 g (Dry Wt.)

From Inst. Raw Data:

Detector ID: GOLD
Count Start Date & Time: 08/20/2012 11:04 PM
Sample Gross cpm: 12.930
Sample Count Duration: 15.0
Sample Quench Factor: 124.0
Bkg Gross cpm: 13.970
Bkg Count Duration: 15
Bkg Quench Factor: 118.6

Yield Data:

Balance ID: 50410272
Carrier Conc.(g/mL): 2.68E-02
Carrier Vol.(mL): 0.5
Sample Gross Wt.(g): 0.0358
Sample Tare Wt.(g): 0.024

From Det. GOLD Calibration Data:

Efficiency Factor A(x^3): 2.4032E-08
Efficiency Factor B(x^2): -2.1638E-05
Efficiency Factor C(x): 3.7166E-03
Efficiency Factor D: 5.1677E-01
Sample Counting Efficiency: 0.6907

Lab Reported Yield: 0.882

Yield: 0.8819
Yield Notes: *YIELD CALC PASS*

Method TPU Factor: 0.0840

Calculated Results:

Parameter	Manual Calc.	Lab Value	Calc vs. Lab	FLAG
Decay =	0.9757			
Std. Denom. =	0.6611			
Activity (pCi/g,L) =	-1.5732	-1.5700	**0.20%**	**PASS**
1s Cnt. Unc. =	2.0257	2.0263	**-0.03%**	**PASS**
1s TPU =	2.0300	2.0300	**0.00%**	**PASS**
MDC =	7.0653	7.07	**-0.07%**	**PASS**
L_C=	3.3960	3.4	**-0.12%**	**PASS**

Additional Comments:

THE PALLADINO COMPANY, INC.
DATA VALIDATION REPORT
Promethium-147

SDG: 308925

Lab ID: GEL Laboratories, LLC
Data Package Title: 308925.PDF
Data Package Creation Date: 8/28/2012
EDD Title: 308925.XLS

Project ID: SSFL Remedial Investigation, Area IV Radiological Study, Laboratory Analytical Services Support SOW

VERIFICATION OF CALIBRATION SOURCE DECAY FACTOR

Detector ID: GOLD

Source Preparation Inforamtion:

Cal. Std. ID:	1453-A	**Cal. Source ID:**	1
Radionuclide:	Pm-147	**Half-life (years):**	2.62
Ref. Activity Conc. (dpm/mL):	21890.12	**Ref. Date:**	6/30/2009
Std. Vol (mL):	0.10	**Pm-147 Calibration Date:**	7/24/2012

Decay Corrected Source (Pm-147) Activity: 972.6 @ 7/24/2012

Calibration Count Data:

Source Gross cpm:	694.51		
Cal. Bkg. cpm:	14		
Pm-147 Calibrated Efficiency:	0.6998		
Cal. Report Pm-147 Efficiency:	0.6993	**0.07%**	**PASS**

Additional Comments:

The Palladino Company, Inc.
Data Validation Report
I-129

CLIENT NAME: HydroGeologic, Inc.

PROJECT ID: Santa Susana Field Laboratory – Area IV Radiological Study

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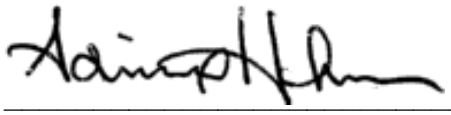
LABORATORY ID: GEL Laboratories, LLC – Charleston, SC

LAB REPORT DATE: 8/28/12 **LAB SDG#:** 308925

LAB REPORT FILENAME: 308925.PDF

EDD FILENAME: 308925.XLS

The following Data Validation Report, with associated review checklists and calculation verifications, and the corresponding Laboratory Radioanalytical Data Report have been reviewed by the personnel shown below. The Palladino Company, Inc., certifies that the Data Validation Report has been completed in accordance with applicable contractual requirements, and is true, complete, and correct, within the limits of the information provided by the laboratory.



Data Validation Analyst — 9/19/2012 (Date)



Report Review — 9/22/2012 (Date)

OVERVIEW

Data validation of these results and pertinent supporting documentation, provided by the laboratory in a Level IV-equivalent laboratory data package was performed in accordance with:

- *Evaluation of Radiochemical Data Usability* (DOE, 1997), and
- *Multi-Agency Radiological Laboratory Analytical Protocols Manual* (MARLAP, EPA et al., 2004, specifically Chapter 8),

with additional specific guidance from the

- *Santa Susana Field Laboratory - Radiological Background Study Quality Assurance Project Plan (QAPP)*,
- *GEL Laboratories Quality Assurance Plan (QAP)*,
- *GEL Laboratories compendium of laboratory Standard Operating Procedures (SOPs)*

The data were reviewed for compliance with the required QC elements described in Section 5 and Table 3.3 of the QAPP. The pertinent elements of the data package were reviewed for completeness, compliance with the QAPP requirements and the requirements of the stated methodology, and potential impact on the usability of the data for its intended purpose.

One sample result in this data package was selected at random for manual recalculation of results to verify the laboratory's data reporting algorithms.

VALIDATION REPORT ELEMENTS

The Validation Case Narrative describes the results of the validation process and includes the technical opinion of a qualified radiochemist as to the usability of the data for its intended purpose.

For each analytical method, the case narrative is appended with

- Data Validation Checklist,
- Recalculation of Sample Results, and
- Calibration Standard Decay Verification.

Finally, a Summary of Data Qualifiers and Reason Codes used in the project and their associated definitions is found at the back of the validation report.

Due to the comprehensive nature of the laboratory data package and the number of analytical results it contains, the data user is referred to the Electronic Data Deliverable (EDD) for a complete Table of Qualified Results. The EDD presents a cross-reference of Sample IDs, Analyte Names, Reported Results, and Qualifiers.

VALIDATION CASE NARRATIVE – I-129

The Level IV-equivalent radioanalytical data package referenced in the header of this report was received from GEL on 8/31/12.

A Level IV validation of the analytical results was performed and the complete validation report is contained herein.

The data validation, including necessary verification of laboratory data and supporting documentation, was completed on 9/19/12 by Adrienne Hawks, of The Palladino Company, Inc. The final review of the validation report was completed by Rebecca Burns of The Palladino Company, Inc.

The essential findings of the validation report are summarized below:

Overall, the data are usable as reported.

Additional comments regarding the assessment and qualification of the data are provided below. None of these issues appears to significantly affect the usability of the reported results.

1. Sample Receipt, Condition, and Preservation
   All samples were received intact, with no apparent damage or other issues that might affect sample integrity. No preservation or refrigeration was required.
2. Chain of Custody Documentation
   The samples were received by the laboratory with no discrepancies on the chain of custody.
3. Sample Preparation Documentation
   The sample aliquants used for this analysis were “as received” from the field (e.g. not dried, ground, or homogenized), compliant with the requirements of the SOW.
4. Standard Preparation and Traceability
   All radioactive standards used in the laboratory analysis are NIST-traceable, properly prepared, and the source activities are properly decay-corrected during use.

   It is noted that the calibration source documentation is incomplete, in that it lacks evidence that the sources were properly verified prior to use. The efficiency calibration verifications and batch LCSs pass the established acceptance criteria and employ independent sources. Consequently, the lack of calibration source verification data is not believed to significantly impact the quality or usability of the reported field sample results, which are accepted without further qualification.

5. Adherence to the Project-Required MQOs and QC Criteria
   All project required Action Levels (ALs), and the associated required Combined Standard Uncertainties (CSUs) have been met with the following exception:

   - The calculation verification failed for I-129 CU at 19.45%. Due to the proprietary nature of the lab's gamma spec software and the fact that the associated sample results are well below the calculated limits of detection, the magnitude of the discrepancy is not believed to significantly affect the usability of the data and the results are accepted without further qualification.

   All other MQOs, including QC acceptance criteria, are acceptable.

   More detailed assessment of project QC acceptance criteria is provided in Attachment 1, *Data Validation Checklist*.

6. Field Blank and Equipment Blank Performance
   No field or equipment blanks are believed to have been submitted for this analysis. Consequently, no evaluation has been performed regarding the potential impact of field and equipment blank results on the overall data quality.

7. Field Duplicate Performance
   No field duplicate samples are believed to have been submitted for this analysis. Consequently, no evaluation has been performed regarding the potential impact of field duplicate results on the overall data quality.

8. Instrument Calibrations and Performance Verifications
   All instrument calibrations were properly performed and verified prior to use, and are properly applied to the analytical method.

   Ongoing instrument performance verifications were properly performed, remained in control, and were documented on the required control charts throughout the analyses.

9. Sample Raw Data Review
   All raw data for the analysis of samples in this SDG are included in the report and supports the final analytical results.

10. Evaluation of Hold-Time Compliance
    There are no hold time requirements for this analysis.

11. Evaluation of Comparability of Results
    The pertinent or supporting data available at this time has been evaluated for consistency with available gross screening data, consistency with independent analytical results, and for consistency among reported parent and progeny

radionuclides in the same serial decay chains. This assessment does not indicate significant anomalies or discrepancies, with the following exception:

- The previous comment notwithstanding, it is noted that there are no applicable parent or progeny results, or appropriate screening values available with which to verify the reported I-129 results.

THE PALLADINO COMPANY, INC.
DATA VALIDATION REPORT
I-129

SDG: 308925

Lab ID: GEL Laboratories, LLC
Data Package Title: 308925.PDF
Data Package Creation Date: 8/28/2012
EDD Title: 308925.XLS

Project ID: SSFL Remedial Investigation, Area IV Radiological Study, Laboratory Analytical Services Support SOW

SAMPLE QUALIFIERS AND COMMENTS

Lab ID	Question # 69	Question #	Question #	Question #	Question #	Question #	Question #	Additional Validator Qualifiers	Validator Comments	Summary Flags
308925001	U									U
308925002										
308925003	U									U
308925004	U									U
308925005	U									U
308925006	U									U
308925007	U									U
308925008	U									U
308925009	U									U
308925010	U									U
308925011	U									U
308925012	U									U
308925013	U									U
308925014	U									U
308925015	U									U
308925016	U									U
308925017	U									U
308925018	U									U

ITEM	MEETS VALIDATION SPECS? (Select One)			I-129 VALIDATION ITEM	QUALIFIERS	AFFECTED SAMPLES	COMMENTS
I. SAMPLE CONDITION AND QC DOCUMENTATION							
1			N/A	Hold time and preservation requirements have been met.			
2			N/A	Preserved samples were held at least 16 hours before aliquanting.			
3	Y			Anomolous conditions noted in case narrative (specify).			MS RECOUNT- FAILED ZSCORE
4			N/A	Non-Conformance Reports w/corrective action and QA approval present and complete.			
II. STANDARDS TRACEABILITY DOCUMENTATION:							
				List Standard IDs >>	1470-E, CAL: 0657-A, 1317-A		

ITEM	MEETS VALIDATION SPECS? (Select One)			I-129 VALIDATION ITEM	QUALIFIERS	AFFECTED SAMPLES	COMMENTS
5			N/A	If submitted and approved separately, list reference ID and skip to next section, otherwise answer "N/A" and go to next question.			
6			N/A	Standards Dilution Logs present, complete.			
7	Y			NIST (or equivalent) certificates provided for calibration and LCS sources.			
8		N		Standard Verification data provided, including acceptance criteria and reports.			Std. 1470 (LCS) verified. No verificaiton reports presented for calibration sources. Data quality not sig. impacted. Accept results.
III. INSTRUMENT PERFORMANCE CHECKS:							
				List sample count dates and detectors used >> 8/9/12: XRAY 2, 3, 5, 6, 8/10/12: XRAY 5, 8/11/12: GAM 21, XRAY 5, 8/12/12: GAM 21, XRAY 6, 8/17/12: XRAY6		
9		N		Instrument performance check raw data included.			Summary forms are included. No raw data. OK.
10	Y			Detector efficiency monitored and acceptance criteria documented.			
11	Y			Peak resolution monitored and acceptance criteria documented?			
12	Y			Peak location monitored and acceptance criteria documented?			
13	Y			Instrument background count rate monitored and acceptance criteria documented.			
14	Y			Control charts for all detectors, all parameters included.			
15	Y			Sample counts are bracketed by passing instrument performance checks.			XRAY2 DID NOT PASS DAILY CHECKS ON 8/9/12, MARKED "OK" ON SUMMARY SHEET, NO ACCEPTANCE CRITERIA/EXPLANATION GIVEN. DATA QUALITY NOT SIGNIIFICANTLY AFFECTED.
IV. DETECTOR EFFICIENCY CALIBRATION							
16			N/A	If submitted and approved separately, list reference ID and skip to next section, otherwise answer "N/A" and go to next question.			
17	Y			Is the raw data for the calibration present and complete?			
18	Y			Is the calibration geometry, including matrix and density of the standard, documented?			

ITEM	MEETS VALIDATION SPECS? (Select One)			I-129 VALIDATION ITEM	QUALIFIERS	AFFECTED SAMPLES	COMMENTS
19	Y			Calibration source was counted to obtain a min of 10,000 cts in each peak or ROI.			
20			N/A	Calibration source has a least 3 gamma emitting energies and the difference between the energies is at least 500keV with one energy being less than			Not applicable for single-nuclide calibration.
21	Y			Calibration photopeaks have a FWHM < 4keV.			
22	Y			Efficiency calibration coefficients, with accpetance criteria included?			Eff acceptance criteria = ICV
23	Y			Energy calibration coefficients, with acceptance criteria included?			
24	Y			Peak resolution calibration coefficients, with acceptance criteria included?			
V. DETECTOR BACKGROUND CALIBRATION							
25			N/A	If submitted and approved separately, list reference ID and skip to next section, otherwise answer "N/A" and go to next question.			
26	Y			Background calibration count rate, with acceptance criteria included?			
27	Y			Background count rate for the representative geometries determined at least monthly?			
VI. SAMPLE PREPARATION DOCUMENTATION (METHOD)							
28	Y			The Bench Sheets are complete and include:			
29	Y			Batch ID			
30	Y			Preparation Date			
31	Y			Analyst ID			
32	Y			Method/Lab SOP w/ rev #			SOP ID in narr.
33	Y			Sample ID(s)			
34	Y			Sample Aliquants			
35	Y			Sample Geometry (must match Calibration Geometry)			Per SOP
36	Y			Spiking Solution / Source IDs and volumes			
37	Y			Pipette and Balance IDs			
38	Y			Pipette and Balance Calibration Verification Logs.			
VII. INSTRUMENT RAW DATA							

ITEM	MEETS VALIDATION SPECS? (Select One)			I-129 VALIDATION ITEM	QUALIFIERS	AFFECTED SAMPLES	COMMENTS
39	Y			A copy of the instrument run log included and complete.			
				For instrument raw data, the following are present and complete and match the run log, if applicable:			
40	Y			Sample ID			
41	Y			Analysis Date and Time (count start or count end is specified)			
42	Y			Detector ID			
43			N/A	Filename			VAX
44	Y			Count Duration			
45	Y			Dead Time			
46	Y			Analyte Gross (or Net) Count Rate			
47	Y			Compton background count rate			
48	Y			Peak background count rate			
49	Y			Calibration Reference			
50	Y			Calibration Reference (and coefficients, if shown) match the calibration documentation and are appropriate for the geometry/detector.			
51	Y			Analysis library meets the project requirements.			
VIII. REPORTED RESULTS							
52	Y			Analysis Report matches raw data, benchsheet, calibration			
				All reported sample and QC results include the following in the calculations summary.			
53	Y			Results included for all samples in the SDG.			
54	Y			Batch ID			
55	Y			Lab Sample ID			
56	Y			Reporting Units (e.g., pCi/g)			
57	Y			Activity			
58	Y			Uncertainty w/confidence interval			
59	Y			MDC			
60	Y			Decision Level (LC)			
61	Y			Spiking Standard Information on the Analysis Report matches the benchsheet			
62	Y			Decay corrected Spike Activity Added, matches Standards Dilution Log or Source Certificate, as applicable			

ITEM	MEETS VALIDATION SPECS? (Select One)			I-129 VALIDATION ITEM	QUALIFIERS	AFFECTED SAMPLES	COMMENTS
63	Y			The results summary page matches the Analysis Report.			
64	Y			The results summary page matches the EDD.			
				I-129 AL = 5 pCi/g.			
65	Y			For all results <= the AL, the 1σ TPU does not exceed 10% of the AL.			AL evaluated in blanks only for gamma spec., per SOW.
66	Y			For all results > the AL, the 1σ TPU does not exceed 10% of the reported activity.			
67			N/A	For negative activity, the absolute value is between the 2σ and 3σ TPU.			
68			N/A	For negative activity, the absolute value is greater than the 3σ TPU.			
69	Y			The reported result is <CL.	U	See Table Above	
IX. QC SAMPLE QUALITY MEASURES							
70	Y			LCS Z Acceptable (-1.96 to +1.96)			
71	Y			MB Z Acceptable (|Z| < 2.58).			
72			N/A	For MB Z>2.58, sample ZDERs>2.58.			
73			N/A	For MB Z>2.58, sample ZDERs>1.96, <2.58.			
74			N/A	For MB Z>2.58, sample ZDERs<1.96.			
75	Y			MS Z Acceptable (|Z|<1.96)			
76			N/A	If applicable, equipment blank is included and within acceptable range.			
77	Y			Lab Duplicate Z Acceptable (|Z|<1.96)			
78			N/A	If no, not more than 5% exceed 1.96, with none exceeding 3.5.			
79			N/A	Field Duplicate Z Acceptable (|Z|<1.96)			
Additional Comments:							

THE PALLADINO COMPANY, INC.
DATA VALIDATION REPORT
I-129

SDG: 308925

Lab ID: GEL Laboratories, LLC
Data Package Title: 308925.PDF
Data Package Creation Date: 8/28/2012
EDD Title: 308925.XLS

Project ID: SSFL Remedial Investigation, Area IV Radiological Study, Laboratory Analytical Services Support SOW

RECALCULATION OF SAMPLE RESULTS

Sample Lab ID: 1202711563 **Sample Field ID:** LCS

FROM THE CHAIN OF CUSTODY:
Sample Collection Date: 8/7/2012

FROM THE PREPARATION LOGBOOK:
Sample Size: 6.762 g

FROM THE ANALYTICAL LIBRARY:
Nuclide ID: I-129
1/2-Life (yr): 1.57E+07
KEY Line: 29.78

keV	%
29.62	56.60
33.59	10.40
39.58	7.51

FROM THE EFFICIENCY CALIBRATION:
Efficiency Coefficients

a1	34.6	**a5**	0
a2	-2.288	**a6**	0
a3	-0.2849	**a7**	0
a4	-3.086		

FROM THE INSTRUMENT RAW DATA:

Spectrum File Name: N/A for VAX system **Count Start Date:** 8/12/2012
Detector ID: XRAY6 **Live Time (h:m:s):** 2:00:00

From the Identified Peak Summary, Corrected*:			Uncorrected:		Nuc. Line Act. Rpt.:	Bkg. Rpt.:
Centroid Energy	Net Area	Bkg (CC)	Net Area	Peak BKG	2 σ %ERR	MDA Cts.
29.62	568	99	568	0	11.34	33.63
33.59	111	6	111	0	20.69	11.72
39.58	97	3	97	0	21.22	4.44

RECALCULATED VALUES: Decay Factor: 1.000
Peaks Used in Activity Average:

keV	% Abund.	Bkg Cts	Net Area Cts	Eff.	Denom.	Act. Conc. (pCi/g)	1σ Unc.	Lc	MDC (pCi/g)
29.6	56.60	99	568	0.09010	9.19E+01	6.18E+00	3.51E-01	0.14685	0.32366
33.6	10.40	6	111	0.10034	1.88E+01	5.90E+00	6.11E-01	0.42371	0.99289
39.6	7.51	3	97	0.09971	1.35E+01	7.19E+00	7.63E-01	0.36354	0.92911

Parameter (pCi/g)	Manual Calc	Lab Value	Calc vs Lab	FLAG
Activity	6.26E+00	6.1670	**1.53%**	**PASS**
1σ Ct. Unc.	2.82E-01	0.3500	**-19.45%**	**FAIL**
1σ TPU	3.50E-01	0.3500	**-0.14%**	**PASS**
Lc	1.47E-01	0.1470	**-0.10%**	**PASS**
MDC	3.24E-01	0.3230	**0.21%**	**PASS**

Additional Comments:
See narrative comments regarding calc. ver. failure.

LCS was preferentially chosen for calc. ver. because net peak areas are not available for non-detected peaks and all samples are U-flagged.

THE PALLADINO COMPANY, INC.
DATA VALIDATION REPORT
I-129

SDG: 308925

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Project ID: SSFL Remedial Investigation, Area IV Radiological Study, Laboratory Analytical Services Support SOW

VERIFICATION OF CALIBRATION SOURCE DECAY FACTOR

Detector ID: XRAY6

Source Preparation Information:

Cal. Std. ID:	0657-A	**Geometry:**	2" Filter
Radionuclide:	I-129	**Half-life (years):**	1.57E+07
Gamma Emission Energy (keV):	39.58	**Gamma Abundance:**	0.7990
Ref. Activity (gps):	1.45E+01	**Ref. Date:**	2/13/2004
Std. Vol (L,g):	1.00	**Geometry Vol (L,g):**	1.00
I-129 Calibration Date:	6/4/2012		
Decay Corr. I-129 Activity:	14.5 **gps** @ 6/4/2012		

Calibration Count Data:

Source Peak Area (Cts):	5089		
Source Live Time (Sec):	3600		
I-129 Calibrated Efficiency:	0.0977		
Cal. Report I-129 Efficiency:	0.0997	**-2.00%**	**PASS**

Additional Comments:

The Palladino Company, Inc.
Data Validation Report
Nickel-59

CLIENT NAME: HydroGeologic, Inc.

PROJECT ID: Santa Susana Field Laboratory – Area IV Radiological Study

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LABORATORY ID: GEL Laboratories, LLC – Charleston, SC

LAB REPORT DATE: 08/28/12 **LAB SDG#:** 308925

LAB REPORT FILENAME: 308925.PDF

EDD FILENAME: 308925.XLS

The following Data Validation Report, with associated review checklists and calculation verifications, and the corresponding Laboratory Radioanalytical Data Report have been reviewed by the personnel shown below. The Palladino Company, Inc., certifies that the Data Validation Report has been completed in accordance with applicable contractual requirements, and is true, complete, and correct, within the limits of the information provided by the laboratory.



_____ 09/24/2012

Data Validation Analyst Date



_____ 09/25/2012

Report Review Date

OVERVIEW

Data validation of these results and pertinent supporting documentation, provided by the laboratory in a Level IV-equivalent laboratory data package was performed in accordance with:

- *Evaluation of Radiochemical Data Usability* (DOE, 1997), and
- *Multi-Agency Radiological Laboratory Analytical Protocols Manual* (MARLAP, EPA et al., 2004, specifically Chapter 8),

with additional specific guidance from the

- *Santa Susana Field Laboratory - Radiological Background Study Quality Assurance Project Plan (QAPP)*,
- *GEL Laboratories Quality Assurance Plan (QAP)*,
- *GEL Laboratories compendium of laboratory Standard Operating Procedures (SOPs)*

The data were reviewed for compliance with the required QC elements described in Section 5 and Table 3.3 of the QAPP. The pertinent elements of the data package were reviewed for completeness, compliance with the QAPP requirements and the requirements of the stated methodology, and potential impact on the usability of the data for its intended purpose.

One sample result in this data package was selected at random for manual recalculation of results to verify the laboratory's data reporting algorithms.

VALIDATION REPORT ELEMENTS

The Validation Case Narrative describes the results of the validation process and includes the technical opinion of a qualified radiochemist as to the usability of the data for its intended purpose.

For each analytical method, the case narrative is appended with

- Data Validation Checklist,
- Recalculation of Sample Results, and
- Calibration Standard Decay Verification.

Finally, a Summary of Data Qualifiers and Reason Codes used in the project and their associated definitions is found at the back of the validation report.

Due to the comprehensive nature of the laboratory data package and the number of analytical results it contains, the data user is referred to the Electronic Data Deliverable (EDD) for a complete Table of Qualified Results. The EDD presents a cross-reference of Sample IDs, Analyte Names, Reported Results, and Qualifiers.

VALIDATION CASE NARRATIVE – Nickel-59

The Level IV-equivalent radioanalytical data package referenced in the header of this report was received from GEL on 08/31/12.

A Level IV validation of the analytical results was performed and the complete validation report is contained herein.

The data validation, including necessary verification of laboratory data and supporting documentation, was completed on 09/24/2012 by John Petrovic, of The Palladino Company, Inc. The final review of the validation report was completed by Rebecca Burns of The Palladino Company, Inc.

The essential findings of the validation report are summarized below:

Overall, the data are usable as reported, with the following exceptions:

The verification of the TPU does not pass due to the lab's reporting convention of reporting the CU for both the CU and TPU. This is an underestimation of the TPU and had been previously identified as a deficiency during a recent audit. The results have been given a J flag in the EDD, indicating additional uncertainty. However, the usability of the data is not believed to be significantly affected and the data are accepted without further qualification.

The lab's analytical methodology appears to underestimate the uncertainty of net quantifications of non-detected radionuclides, which are made in the absence of an actual measurable photopeak in the same spectrum. The underestimate of the associated uncertainty in these cases is not believed to be a significant detriment to the usability of the data, as that issue appears to be confined to results for analytes which are, in fact, not observed to be present in the sample. Consequently, appropriate allowances have been made in the evaluation of QC excursions for these non-detected analytes. Where applicable, these allowances are described below.

Additional comments regarding the assessment and qualification of the data are provided below. Except as described above, none of these issues appears to significantly affect the usability of the reported results.

1. <u>Sample Receipt, Condition, and Preservation</u>
   All samples were received intact, with no apparent damage or other issues that might affect sample integrity.

   No preservation or refrigeration was required.

2. Chain of Custody Documentation
   The samples were received by the laboratory with no discrepancies on the chain of custody.

3. Sample Preparation Documentation
   Gross preparation, homogenization, and sub-sampling of the samples conformed to the project-specific protocols described in the lab's internal procedures.

4. Standard Preparation and Traceability
   All radioactive standards used in the laboratory analysis are NIST-traceable, properly prepared, and the source activities are properly decay-corrected during use.

5. Adherence to the Project-Required MQOs and QC Criteria
   All project required Action Levels (ALs), and the associated required Combined Standard Uncertainties (CSUs) have been met.

   All other MQOs, including QC acceptance criteria, are acceptable.

   More detailed assessment of project QC acceptance criteria is provided in Attachment 1, *Data Validation Checklist*.

6. Field Blank and Equipment Blank Performance
   No field or equipment blanks are believed to have been submitted for this analysis. Consequently, no evaluation has been performed regarding the potential impact of field and equipment blank results on the overall data quality.

7. Field Duplicate Performance
   No field duplicate samples are believed to have been submitted for this analysis. Consequently, no evaluation has been performed regarding the potential impact of field duplicate results on the overall data quality.

8. Instrument Calibrations and Performance Verifications
   All instrument calibrations were properly performed and verified prior to use, and are properly applied to the analytical method.

   Ongoing instrument performance verifications were properly performed, remained in control, and were documented on the required control charts throughout the analyses.

9. Sample Raw Data Review
   All raw data for the analysis of samples in this SDG are included in the report and supports the final analytical results.

10. Evaluation of Hold-Time Compliance
    There are no hold time requirements for this analysis.

11. Evaluation of Comparability of Results

    The pertinent or supporting data available at this time has been evaluated for consistency with available gross screening data, consistency with independent analytical results, and for consistency among reported parent and progeny radionuclides in the same serial decay chains. This assessment does not indicate significant anomalies or discrepancies.

THE PALLADINO COMPANY, INC.
DATA VALIDATION REPORT
Ni-59

SDG: 308925

Lab ID: GEL Laboratories, LLC
Data Package Title: 308925.pdf
Data Package Creation Date: 8/28/2012
EDD Title: 308925.xls

Project ID: SSFL Remedial Investigation, Area IV Radiological Study, Laboratory Analytical Services Support SOW

SAMPLE QUALIFIERS AND COMMENTS

Lab ID	Question # 69	Question #	Question #	Question #	Question #	Question #	Question #	Additional Validator Qualifiers	Validator Comments	Summary Flags
308925001	U							J	Lab using Counting Uncertatinty (CU) as TPU	UJ
308925002	U							J	Lab using Counting Uncertatinty (CU) as TPU	UJ
308925003	U							J	Lab using Counting Uncertatinty (CU) as TPU	UJ
308925004	U							J	Lab using Counting Uncertatinty (CU) as TPU	UJ
308925005	U							J	Lab using Counting Uncertatinty (CU) as TPU	UJ
308925006	U							J	Lab using Counting Uncertatinty (CU) as TPU	UJ
308925007	U							J	Lab using Counting Uncertatinty (CU) as TPU	UJ
308925008	U							J	Lab using Counting Uncertatinty (CU) as TPU	UJ
308925009	U							J	Lab using Counting Uncertatinty (CU) as TPU	UJ
308925010	U							J	Lab using Counting Uncertatinty (CU) as TPU	UJ
308925011	U							J	Lab using Counting Uncertatinty (CU) as TPU	UJ
308925012	U							J	Lab using Counting Uncertatinty (CU) as TPU	UJ
308925013	U							J	Lab using Counting Uncertatinty (CU) as TPU	UJ
308925014	U							J	Lab using Counting Uncertatinty (CU) as TPU	UJ
308925015	U							J	Lab using Counting Uncertatinty (CU) as TPU	UJ
308925016	U							J	Lab using Counting Uncertatinty (CU) as TPU	UJ
308925017	U							J	Lab using Counting Uncertatinty (CU) as TPU	UJ
308925018	U							J	Lab using Counting Uncertatinty (CU) as TPU	UJ

ITEM	MEETS VALIDATION SPECS? (Select One)			Ni-59 VALIDATION ITEM	QUALIFIERS	AFFECTED SAMPLES	COMMENTS
I. SAMPLE CONDITION AND QC DOCUMENTATION							
1			N/A	Hold time and preservation requirements have been met.			
2			N/A	Preserved samples were held at least 16 hours before aliquanting.			
3	Y			Anomolous conditions noted in case narrative (specify).			Several Samples recounted due to negative activity
4		N		Non-Conformance Reports w/corrective action and QA approval present and complete.			
II. STANDARDS TRACEABILITY DOCUMENTATION:							
				List Standard IDs >>	1587-A (LCS) and 0567-A (Cal)		

ITEM	MEETS VALIDATION SPECS? (Select One)			Ni-59 VALIDATION ITEM	QUALIFIERS	AFFECTED SAMPLES	COMMENTS
5			N/A	If submitted and approved separately, list reference ID and skip to next section, otherwise answer "N/A" and go to next question.			
6	Y			Standards Dilution Logs present, complete.			
7	Y			NIST (or equivalent) certificates provided for calibration and LCS sources.			
8		N		Standard Verification data provided, including acceptance criteria and reports.			Std. 1587-A (LCS) verified. No verificaiton reports presented for Std. 0567-A (Cal). Data quality not sig. impacted. Accept results.
III. INSTRUMENT PERFORMANCE CHECKS:							
				List sample count dates and detectors used >>08/21/12--> X-Ray3, X-Ray6 ; 08/22/12--> X-Ray3, X-Ray6 ; 08/23/12--> X-Ray3, X-Ray6 ; 08/24/12--> X-Ray3, X-Ray6			
9		N		Instrument performance check raw data included.			No Raw Data. Summary Forms show detectors passing.
10	Y			Detector efficiency monitored and acceptance criteria documented.			
11	Y			Peak resolution monitored and acceptance criteria documented?			
12	Y			Peak location monitored and acceptance criteria documented?			
13	Y			Instrument background count rate monitored and acceptance criteria documented.			
14	Y	N		Control charts for all detectors, all parameters included.			Control Charts provided are only through August 1, 2012, samples counted on August 21, 22, 23, and 24, 2012.
15	Y			Sample counts are bracketed by passing instrument performance checks.			
IV. DETECTOR EFFICIENCY CALIBRATION							
16			N/A	If submitted and approved separately, list reference ID and skip to next section, otherwise answer "N/A" and go to next question.			
17	Y			Is the raw data for the calibration present and complete?			
18	Y			Is the calibration geometry, including matrix and density of the standard, documented?			
19	Y			Calibration source was counted to obtain a min of 10,000 cts in each peak or ROI.			

ITEM	MEETS VALIDATION SPECS? (Select One)			Ni-59 VALIDATION ITEM	QUALIFIERS	AFFECTED SAMPLES	COMMENTS
20	Y			Calibration source has a least 3 gamma emitting energies and the difference between the energies is at least 500keV with one energy being less than			
21	Y			Calibration photopeaks have a FWHM < 4keV.			
22	Y			Efficiency calibration coefficients, with accpetance criteria included?			Eff acceptance criteria = ICV
23	Y			Energy calibration coefficients, with acceptance criteria included?			
24	Y			Peak resolution calibration coefficients, with acceptance criteria included?			
V. DETECTOR BACKGROUND CALIBRATION							
25			N/A	If submitted and approved separately, list reference ID and skip to next section, otherwise answer "N/A" and go to next question.			
26	Y			Background calibration count rate, with acceptance criteria included?			
27	Y			Background count rate for the representative geometries determined at least monthly?			
VI. SAMPLE PREPARATION DOCUMENTATION (METHOD)							
28	Y			The Bench Sheets are complete and include:			
29	Y			Batch ID			
30	Y			Preparation Date			
31	Y			Analyst ID			
32	Y			Method/Lab SOP w/ rev #			SOP ID in narr and EDD
33	Y			Sample ID(s)			
34	Y			Sample Aliquants			
35	Y			Sample Geometry (must match Calibration Geometry)			
36	Y			Spiking Solution / Source IDs and volumes			
37	Y			Pipette and Balance IDs			Balance=50410272 ; Pipette=3158763, 4076567
38	Y			Pipette and Balance Calibration Verification Logs.			
VII. INSTRUMENT RAW DATA							
39	Y			A copy of the instrument run log included and complete.			
				For instrument raw data, the following are present and complete and match the run log, if applicable:			
40	Y			Sample ID			

ITEM	MEETS VALIDATION SPECS? (Select One)			Ni-59 VALIDATION ITEM	QUALIFIERS	AFFECTED SAMPLES	COMMENTS
41	Y			Analysis Date and Time (count start or count end is specified)			
42	Y			Detector ID			
43			N/A	Filename			VAX
44	Y			Count Duration			
45	Y			Dead Time			
46	Y			Analyte Gross (or Net) Count Rate			
47	Y			Compton background count rate			
48	Y			Peak background count rate			
49	Y			Calibration Reference			
50	Y			Calibration Reference (and coefficients, if shown) match the calibration documentation and are appropriate for the geometry/detector.			Calibration coefficients not on raw data, can be found on calibration raw data.
51	Y			Analysis library meets the project requirements.			
VIII. REPORTED RESULTS							
52	Y			Analysis Report matches raw data, benchsheet, calibration			
				All reported sample and QC results include the following in the calculations summary.			
53	Y			Results included for all samples in the SDG.			
54	Y			Batch ID			
55	Y			Lab Sample ID			
56	Y			Reporting Units (e.g., pCi/g)			
57	Y			Activity			
58	Y			Uncertainty w/confidence interval			
59	Y			MDC			
60	Y			Decision Level (LC)			
61		N		Spiking Standard Information on the Analysis Report matches the benchsheet			No spiking standard information on benchsheet.
62	Y			Decay corrected Spike Activity Added, matches Standards Dilution Log or Source Certificate, as applicable			
63	Y			The results summary page matches the Analysis Report.			
64	Y			The results summary page matches the EDD.			
				Cs-137AL = 0.1 pCi/g.			
65	Y			For all results <= the AL, the 1σ TPU does not exceed 10% of the AL.			AL evaluated in blanks only for gamma spec., per SOW.

ITEM	MEETS VALIDATION SPECS? (Select One)			Ni-59 VALIDATION ITEM	QUALIFIERS	AFFECTED SAMPLES	COMMENTS
66			N/A	For all results > the AL, the 1σ TPU does not exceed 10% of the reported activity.			
67			N/A	For negative activity, the absolute value is between the 2σ and 3σ TPU.			
68			N/A	For negative activity, the absolute value is greater than the 3σ TPU.			
69	Y			The reported result is <CL.	U	See EDD	
IX. QC SAMPLE QUALITY MEASURES							
70	Y			LCS Z Acceptable (-1.96 to +1.96)			
71	Y			MB Z Acceptable (|Z| < 2.58).			
72			N/A	For MB Z>2.58, sample ZDERs>2.58.			
73			N/A	For MB Z>2.58, sample ZDERs>1.96, <2.58.			
74			N/A	For MB Z>2.58, sample ZDERs<1.96.			
75			N/A	MS Z Acceptable (|Z|<1.96)			
76			N/A	If applicable, equipment blank is included and within acceptable range.			
77	Y			Lab Duplicate Z Acceptable (|Z|<1.96)			
78			N/A	If no, not more than 5% exceed 1.96, with none exceeding 3.5.			
79			N/A	Field Duplicate Z Acceptable (|Z|<1.96)			
Additional Comments:							

THE PALLADINO COMPANY, INC.
DATA VALIDATION REPORT
Gamma Spectrometry

SDG: 308925

Lab ID: GEL Laboratories, LLC
Data Package Title: 308925.pdf
Data Package Creation Date: 8/28/2012
EDD Title: 308925.xls

Project ID: SSFL Remedial Investigation, Area IV Radiological Study, Laboratory Analytical Services Support SOW

RECALCULATION OF SAMPLE RESULTS

Sample Lab ID: 1202711956 (LCS) **Sample Field ID:** LCS

FROM THE CHAIN OF CUSTODY:
Sample Collection Date: 8/17/2012

FROM THE PREPARATION LOGBOOK:
Sample Size: 4.612 g

FROM THE ANALYTICAL LIBRARY:
Nuclide ID: Ni-59
1/2-Life (yr): 7.60E+04
KEY Line: 6.92

keV	%
6.92	29.80

FROM THE EFFICIENCY CALIBRATION:
Efficiency Coefficients

a1	6.9	**a5**	0
a2	-2.269	**a6**	0
a3	-6.61E-07	**a7**	0
a4	-5.01E-05		

FROM THE INSTRUMENT RAW DATA:

Spectrum File Name: N/A for VAX system **Count Start Date:** 8/23/2012
Detector ID: XRay3 **Live Time (h:m:s):** 2:00:00

From the Identified Peak Summary, Corrected*:			Uncorrected:		Nuc. Line Act. Rpt.:	Bkg. Rpt.:
Centroid Energy	Net Area	Bkg (CC)	Net Area	Peak BKG	2 σ %ERR	MDA Cts.
6.92	1674	125	1674	0	7.14	116.98

RECALCULATED VALUES: Decay Factor: 1.000
Peaks Used in Activity Average:

keV	% Abund.	Bkg Cts	Net Area Cts	Eff.	Denom.	Act. Conc. (pCi/g)	1σ Unc.	Lc	MDC (pCi/g)
6.9	29.80	125	1674	0.10342	3.79E+01	4.42E+01	1.58E+00	0.66452	1.40267

Parameter (pCi/g)	Manual Calc	Lab Value	Calc vs Lab	FLAG	
Activity	4.42E+01	44.20	**0.02%**	**PASS**	
1σ Ct. Unc.	1.58E+00	1.5780	**0.02%**	**PASS**	
1σ TPU	2.15E+00	1.5800	**36.03%**	**FAIL**	**
Lc	6.65E-01	0.6650	**-0.07%**	**PASS**	
MDC	1.40E+00	1.4000	**0.19%**	**PASS**	

Additional Comments: **See narrative regarding calculation failure.

THE PALLADINO COMPANY, INC.
DATA VALIDATION REPORT
Gamma Spectrometry

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VERIFICATION OF CALIBRATION SOURCE DECAY FACTOR

Detector ID: XRay3

Source Preparation Information:

Cal. Std. ID:	66349-378	**Geometry:**	2" Filter
Radionuclide:	Ni-59	**Half-life (years):**	7.60E+04
Gamma Emission Energy (keV):	6.92	**Gamma Abundance:**	0.2980
Ref. Activity (gps):	1.04E+01	**Ref. Date:**	6/19/2003
Std. Vol (L,g):	1.00	**Geometry Vol (L,g):**	1.00
Ni-59 Calibration Date:	1/6/2012		
Decay Corr. Ni-59 Activity:	10.4 **gps** @ 1/6/2012		

Calibration Count Data:

Source Peak Area (Cts):	11616		
Source Live Time (Sec):	10800		
Ni-59 Calibrated Efficiency:	0.1034		
Cal. Report Ni-59 Efficiency:	0.1030	**0.40%**	**PASS**

Additional Comments:

The Palladino Company, Inc.
Data Validation Report
Ni-63

CLIENT NAME: HydroGeologic, Inc.

PROJECT ID: Santa Susana Field Laboratory – Area IV Radiological Study

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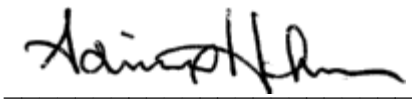
LABORATORY ID: GEL Laboratories, LLC – Charleston, SC

LAB REPORT DATE: 8/28/12 **LAB SDG#:** 308925

LAB REPORT FILENAME: 308925.PDF

EDD FILENAME: 308925.XLS

The following Data Validation Report, with associated review checklists and calculation verifications, and the corresponding Laboratory Radioanalytical Data Report have been reviewed by the personnel shown below. The Palladino Company, Inc., certifies that the Data Validation Report has been completed in accordance with applicable contractual requirements, and is true, complete, and correct, within the limits of the information provided by the laboratory.



9/21/2012

Data Validation Analyst Date



9/22/2012

Report Review Date

OVERVIEW

Data validation of these results and pertinent supporting documentation, provided by the laboratory in a Level IV-equivalent laboratory data package was performed in accordance with:

- *Evaluation of Radiochemical Data Usability* (DOE, 1997), and
- *Multi-Agency Radiological Laboratory Analytical Protocols Manual* (MARLAP, EPA et al., 2004, specifically Chapter 8),

with additional specific guidance from the

- *Santa Susana Field Laboratory - Radiological Background Study Quality Assurance Project Plan (QAPP)*,
- *GEL Laboratories Quality Assurance Plan (QAP)*,
- *GEL Laboratories compendium of laboratory Standard Operating Procedures (SOPs)*

The data were reviewed for compliance with the required QC elements described in Section 5 and Table 3.3 of the QAPP. The pertinent elements of the data package were reviewed for completeness, compliance with the QAPP requirements and the requirements of the stated methodology, and potential impact on the usability of the data for its intended purpose.

One sample result in this data package was selected at random for manual recalculation of results to verify the laboratory's data reporting algorithms.

VALIDATION REPORT ELEMENTS

The Validation Case Narrative describes the results of the validation process and includes the technical opinion of a qualified radiochemist as to the usability of the data for its intended purpose.

For each analytical method, the case narrative is appended with

- Data Validation Checklist,
- Recalculation of Sample Results, and
- Calibration Standard Decay Verification.

Finally, a Summary of Data Qualifiers and Reason Codes used in the project and their associated definitions is found at the back of the validation report.

Due to the comprehensive nature of the laboratory data package and the number of analytical results it contains, the data user is referred to the Electronic Data Deliverable (EDD) for a complete Table of Qualified Results. The EDD presents a cross-reference of Sample IDs, Analyte Names, Reported Results, and Qualifiers.

VALIDATION CASE NARRATIVE – Ni-63

The Level IV-equivalent radioanalytical data package referenced in the header of this report was received from GEL on 8/31/12.

A Level IV validation of the analytical results was performed and the complete validation report is contained herein.

The data validation, including necessary verification of laboratory data and supporting documentation, was completed on 9/21/12 by Adrienne Hawks, of The Palladino Company, Inc. The final review of the validation report was completed by Rebecca Burns of The Palladino Company, Inc.

The essential findings of the validation report are summarized below:

Overall, the data are usable as reported, with the following exception:

Additional comments regarding the assessment and qualification of the data are provided below. None of these issues appears to significantly affect the usability of the reported results.

1. Sample Receipt, Condition, and Preservation
   All samples were received intact, with no apparent damage or other issues that might affect sample integrity. No preservation or refrigeration was required.
2. Chain of Custody Documentation
   The samples were received by the laboratory with no discrepancies on the chain of custody.
3. Sample Preparation Documentation
   Gross preparation, homogenization, and sub-sampling of the samples conformed to the project-specific protocols described in the lab's internal procedures.
4. Standard Preparation and Traceability
   All radioactive standards used in the laboratory analysis are NIST-traceable, properly prepared, and the source activities are properly decay-corrected during use.
5. Adherence to the Project-Required MQOs and QC Criteria
   All project required Action Levels (ALs), and the associated required Combined Standard Uncertainties (CSUs) have been met.

   All other MQOs, including QC acceptance criteria, are acceptable.

   More detailed assessment of project QC acceptance criteria is provided in Attachment 1, *Data Validation Checklist*.

6. Field Blank and Equipment Blank Performance
   No field or equipment blanks are believed to have been submitted for this analysis. Consequently, no evaluation has been performed regarding the potential impact of field and equipment blank results on the overall data quality.

7. Field Duplicate Performance
   No field duplicate samples are believed to have been submitted for this analysis. Consequently, no evaluation has been performed regarding the potential impact of field duplicate results on the overall data quality.

8. Instrument Calibrations and Performance Verifications
   All instrument calibrations were properly performed and verified prior to use, and are properly applied to the analytical method.

   Ongoing instrument performance verifications were properly performed, remained in control, and were documented on the required control charts throughout the analyses.

9. Sample Raw Data Review

   All raw data for the analysis of samples in this SDG are included in the report and supports the final analytical results.

10. Evaluation of Hold-Time Compliance
    There are no hold time requirements for this analysis.

11. Evaluation of Comparability of Results

    The pertinent or supporting data available at this time has been evaluated for consistency with available gross screening data, consistency with independent analytical results, and for consistency among reported parent and progeny radionuclides in the same serial decay chains. This assessment does not indicate significant anomalies or discrepancies.

    The preceding statement notwithstanding, Ni-63 does not have other radioactive parents or progeny against which a reliable comparison may be made.

THE PALLADINO COMPANY, INC.
DATA VALIDATION REPORT
Nickel-63

SDG: 308925

Lab ID: GEL Laboratories, LLC
Data Package Title: 308925.PDF
Data Package Creation Date: 8/28/2012
EDD Title: 308925.XLS

Project ID: SSFL Remedial Investigation, Area IV Radiological Study, Laboratory Analytical Services Support SOW

SAMPLE QUALIFIERS AND COMMENTS

Lab ID	Question #68	Question #	Question #	Question #	Question #	Question #	Question #	Additional Validator Qualifiers	Validator Comments	Summary Flags
308925001	U								Enter sample-specific comments here.	U
308925002	U									U
308925003										
308925004	U									U
308925005	U									U
308925006	U									U
308925007	U									U
308925008	U									U
308925009	U									U
308925010	U									U
308925011	U									U
308925012	U									U
308925013	U									U
308925014	U									U
308925015	U									U
308925016	U									U
308925017	U									U
308925018	U									U

ITEM	MEETS VALIDATION SPECS? (Select One)			VALIDATION ITEM	QUALIFIERS	AFFECTED SAMPLES	COMMENTS
I. SAMPLE CONDITION AND QC DOCUMENTATION							
1			N/A	Hold time and preservation requirements have been met.			
2			N/A	Preserved samples were held at least 16 hours before aliquanting.			
3	Y			Anomolous conditions noted in case narrative (specify).			RECOUNTS
4			N/A	Non-Conformance Reports w/corrective action and QA approval present and complete.			
II. STANDARDS TRACEABILITY DOCUMENTATION							
				List Standard IDs >>	0398-F, 1801958, 0753-A, 0398-A		
5			N/A	If submitted and approved separately, list reference ID and skip to next section, otherwise answer "N/A" and go to next question.			

ITEM	MEETS VALIDATION SPECS? (Select One)			VALIDATION ITEM	QUALIFIERS	AFFECTED SAMPLES	COMMENTS
6	Y			Standards Dilution Logs present, complete.			
7	Y			NIST (or equivalent) certificates provided for calibration and LCS sources.			
8	Y			Standard Verification data provided, including acceptance criteria and reports.			
III. INSTRUMENT PERFORMANCE CHECKS							
				List sample count dates and detectors used >> LSCYELLOW: 8/22/12-8/24/12, 8/27/12, 8/28/12			
9	Y			Instrument performance check raw data included.			
10	Y			H-3 and C-14 efficiency and background count rates monitored and acceptance criteria documented.			
11	Y			Control charts for all detectors, all parameters included.			
12	Y			Sample counts are bracketed by passing instrument performance checks.			
IV. DETECTOR EFFICIENCY CALIBRATION							
13			N/A	If submitted and approved separately, list reference ID and skip to next section, otherwise answer "N/A" and go to next question.			
14	Y			Efficiency calibration performed within the last year and included.			
15	Y			For Quench Curves, the fit of the data to the curve is acceptable, with acceptance criteria documented.			
16	Y			NIST-traceable sources used for the efficiency calibration.			
17	Y			Calculated verification results included.			
18	Y			Acceptance criteria documented and met.			
V. DETECTOR BACKGROUND CALIBRATION							
19			N/A	If submitted and approved separately, list reference ID and skip to next section, otherwise answer "N/A" and go to next question.			
20	Y			Background calibration count rate, with acceptance criteria included.			
21	Y			Background count rate for detectors used determined at least monthly.			

ITEM	MEETS VALIDATION SPECS? (Select One)			VALIDATION ITEM	QUALIFIERS	AFFECTED SAMPLES	COMMENTS
22	Y			When efficiency calibration quench curves are employed, the background count rate is adjusted for the sample quench factor, if required by lab SOP.			
VI. SAMPLE PREPARATION DOCUMENTATION (METHOD)							
23	Y			The Bench Sheets are complete and include:			
24	Y			Batch ID			
25	Y			Preparation Start Date and Time			
26	Y			Analyst ID			
27	Y			Method/Lab SOP w/ rev #			
28	Y			Sample ID(s)			
29	Y			Sample Aliquants			
30	Y			Spiking Solution / Source IDs and volumes			
31	Y			Pipette and Balance IDs			
32	Y			Pipette and Balance Calibration Verification Logs.			
33		N		Scintillation Cocktail Lot ID			Not req'd by lab SOP. Data quality not sig. affected. DCB 1/23/2012
34	Y			The cocktail/sample ratio, total volume, filter type (if applicable), and vial type are consistent between the calibration and the sample analyses.			
VII. INSTRUMENT RAW DATA							
35	Y			A copy of the instrument run log included and complete.			
				For instrument raw data, the following are present and complete and match the run log, if applicable:			
36	Y			Sample ID			
37	Y			Analysis Date and Time (count start or count end is specified)			
38	Y			Detector ID			
39	Y			Batch ID			
40	Y			Count Duration			
41	Y			Analyte Gross (or Net) Count Rate Included			
				Additional Raw Data Quality Evaluation			
42	Y			Sample ROIs match calibration ROIs.			
43		N		Sample quench factor included and is within the calibration range.			ALL SAMPLES ARE UNDER-QUENCHED. HOWEVER SINCE THE H#s ARE WITHIN 15 OF THE MAX H#, THE DATA QUALITY OS NOT SIGNIFICANTLY AFFECTED AND THE DATA ARE ACCEPTED WITHOUT FURTHER QUALIFICATION.

ITEM	MEETS VALIDATION SPECS? (Select One)			VALIDATION ITEM	QUALIFIERS	AFFECTED SAMPLES	COMMENTS
44	Y			Sample luminescence is auto-corrected.			
45			N/A	If no, sample luminescence included and within acceptance range or <10% if no acceptance criteria provided.			
46	Y			Sample beta spectra are monitored for higher-energy beta interference, and acceptance criteria included.			
47	Y			Visual inspection of spectral quality is acceptable, including analyte peak resolution, peak tailing, unidentified peaks, and other spectral anomalies .			
VIII. REPORTED RESULTS							
48	Y			Calibration coefficients used match the calibration documentation.			
49	Y			Analysis Report matches raw data, benchsheet, calibration summary.			
				All reported sample and QC results include the following in the calculations summary.			
50	Y			Results included for all samples in the SDG.			
51	Y			Batch ID			
52	Y			Lab Sample ID			
53	Y			Reporting Units (e.g., pCi/g)			
54	Y			Activity			
55	Y			Uncertainty w/confidence interval			
56	Y			MDC			
57	Y			Decision Level (LC)			
58	Y			Chemical Yield, if applicable, is provided and is within the lab's acceptance criteria, but not less than 40%			
59	Y			Spiking Standard Solution ID on the Analysis Report matches the benchsheet			
60	Y			Spike Activity on the Analysis Report matches the benchsheet			
61	Y			Decay corrected Spike Activity Added, matches Standards Dilution Log			
62	Y			The results summary page matches the Analysis Report.			

ITEM	MEETS VALIDATION SPECS? (Select One)			VALIDATION ITEM	QUALIFIERS	AFFECTED SAMPLES	COMMENTS
63	Y			The results summary page matches the EDD.			
				Ni-63 AL = 20 pCi/g.			
64	Y			For all results <= the AL, the 1σ TPU does not exceed 10% of the AL.			
65	Y			For all results > the AL, the 1σ TPU does not exceed 10% of the reported activity.			
66			N/A	For negative activity, the absolute value is between the 2σ and 3σ TPU.			
67			N/A	For negative activity, the absolute value is greater than the 3σ TPU.			
68	Y			The reported result is <CL.	U	See Table Above	Explain, if necessary.
IX. QC SAMPLE QUALITY MEASURES							
69	Y			LCS Z Acceptable (-1.96 to +1.96)			
70	Y			MB Z Acceptable (|Z| < 2.58).			
71			N/A	For MB Z>2.58, sample ZDERs>2.58.			
72			N/A	For MB Z>2.58, sample ZDERs>1.96, <2.58.			
73			N/A	For MB Z>2.58, sample ZDERs<1.96.			
74			N/A	MS Z Acceptable (|Z|<1.96)			
75			N/A	If applicable, equipment blank is included and within acceptable range.			
76	Y			Lab Duplicate Z Acceptable (|Z|<1.96)			
77			N/A	Field Duplicate Z Acceptable (|Z|<1.96)			
Additional Comments:							

THE PALLADINO COMPANY, INC.
DATA VALIDATION REPORT
Nickel-63

SDG: **308925**

Lab ID:	GEL Laboratories, LLC
Data Package Title:	308925.PDF
Data Package Creation Date:	8/28/2012
EDD Title:	308925.XLS
Project ID:	SSFL Remedial Investigation, Area IV Radiological Study, Laboratory Analytical Services Support SOW

RECALCULATION OF SAMPLE RESULTS

Sample Lab ID: 308925001 **Sample Field ID:** SL-002-A3-SB-0.0-0.5

Nuclide: Ni-63 **Yield Method:** Gravimetric
Half-Life (yrs): 1.01E+02

Sampling Date: 7/18/2012
Matrix: Soil
Reporting Basis: Dry Wt.

From Prep Report

Batch ID: 1235240
Sample Aliquant: 2.02200 g
Moisture Content: % For solids only, if applicable, otherwise leave blank.
Concentration Volume: 0.0050 L For solids only, if applicable, otherwise leave blank.

Analysis Volume: 0.005 L From Analysis Report
Sample Aliquant for Analysis: 2.02200 g (Dry Wt.)

From Inst. Raw Data:

Detector ID: LSCYELLOW
Count Start Date & Time: 08/27/2012 07:08 PM
Sample Gross cpm: 11.630
Sample Count Duration: 60.0
Sample Quench Factor: 727.9
Bkg Gross cpm: 12.230
Bkg Count Duration: 60
Bkg Quench Factor: 720.1

Yield Data:

Balance ID: 50410272
Carrier Conc.(g/mL): 1.33E-02
Carrier Vol.(mL): 2
Sample Gross Wt.(g): 13.2884
Sample Tare Wt.(g): 13.2705

From Det. LSCYELLOW Calibration Data:

Efficiency Factor A(x^3): -6.2492E-08
Efficiency Factor B(x^2): 1.1902E-04
Efficiency Factor C(x): -7.2572E-02
Efficiency Factor D: 1.4451E+01
Sample Counting Efficiency: 0.5855

Lab Reported Yield: 0.672

Yield: 0.6717
Yield Notes: *YIELD CALC PASS*

Method TPU Factor: 0.0930

Calculated Results:

Parameter	Manual Calc.	Lab Value	Calc vs. Lab	FLAG
Decay =	0.9992			
Std. Denom. =	1.7640			
Activity (pCi/g,L) =	-0.3401	-0.3400	**0.04%**	**PASS**
1s Cnt. Unc. =	0.3575	0.3575	**0.00%**	**PASS**
1s TPU =	0.3589	0.3575	**0.39%**	**PASS**
MDC =	1.2165	1.22	**-0.29%**	**PASS**
L_C=	0.5954	0.595	**0.07%**	**PASS**

Additional Comments:

THE PALLADINO COMPANY, INC.
DATA VALIDATION REPORT
Nickel-63

SDG: 308925

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Project ID: SSFL Remedial Investigation, Area IV Radiological Study, Laboratory Analytical Services Support SOW

VERIFICATION OF CALIBRATION SOURCE DECAY FACTOR

Detector ID: LSCYELLOW

Source Preparation Inforamtion:

Cal. Std. ID:	0753-A	**Cal. Source ID:**	5
Radionuclide:	Ni-63	**Half-life (years):**	1.01E+02
Ref. Activity Conc. (dpm/mL):	140872.59	**Ref. Date:**	8/15/1995
Std. Vol (mL):	0.10	**Ni-63 Calibration Date:**	5/24/2012

Decay Corrected Source (Ni-63) Activity: 12556.8 @ 5/24/2012

Calibration Count Data:

Source Gross cpm:	4156.64		
Cal. Bkg. cpm:	12		
Ni-63 Calibrated Efficiency:	0.3301		
Cal. Report Ni-63 Efficiency:	0.3305	**-0.12%**	**PASS**

Additional Comments:
Bkg cpm not provided. Data not sig. affected due to high source activity.

Data Qualifiers:

B - Analyte present, but not detected substantially above the level reported in laboratory or field blanks.

J - The analyte was detected at the reported concentration: the quantitation is an estimate.

K - Analyte present. Reported value may be biased high. Actual value is expected to be lower.

L - Analyte present. Reported value may be biased low. Actual value is expected to be higher.

S - Analyte result is subject to spectral interference. Unless otherwise qualified the data may be used for its intended purpose (see note below), provided that on-site analyses use the same gamma spectrometry library and follow the same analytical protocols.

R - The result is rejected due to serious deficiences in the ability to analyze the sample and meet the Quality Control criteria.

U - Not considered detected. The reported activity concentration is less than the associated 2-sigma uncertainty.The associated number is the reported concentration.

UJ - Not considered detected. The associated number is the reported concentration which may be inaccurate.

UL - Not considered detected. The associated number is the reported concentration which may be inaccurate due to a low bias.

X - Excluded. The data point is associated with reanalyses or diluted analyses and is excluded because another result has been selecetd as the definitive result for the analyte.

Appendix F
Master Chemical Database Table
(On CD)

REVISED

Master Chemical Database Table for Phase 3 - Area III Sediment Drainage Sampling

Sample Name	Sample Date	Sample Type Code	Start Depth	End Depth	Depth Unit	Matrix Code	Task Code	Parent Sample Code	Lab Sample ID	Lab Name	Analytical Method	Analysis Date	Prep Method	Lab SDG	Percent Moisture	Dilution Factor	Cas RN	Chemical Name	Report Result Value	Final Qualifiers	Method Detection Limit	Reporting Detection Limit	Report Result Unit	Lab Qualifiers	DQM Qualifiers	DQM Remarks	X Coordinate	Y Coordinate	Longitude	Latitude
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-01	EMAX	8270C SIM	8/3/2012	3550B	12G198	65.6	3	103-33-3	AZOBENZENE	44	U	22	44	ug/kg	U			1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-01	EMAX	8270C SIM	8/3/2012	3550B	12G198	65.6	3	120-12-7	ANTHRACENE	87	U	22	87	ug/kg	U			1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-01	EMAX	8270C SIM	8/3/2012	3550B	12G198	65.6	3	129-00-0	PYRENE	42	J	22	87	ug/kg	J	J	Z	1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-01	EMAX	8270C SIM	8/3/2012	3550B	12G198	65.6	3	191-24-2	BENZO(G,H,I)PERYLENE	32	J	22	87	ug/kg	J	J	Z	1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-01	EMAX	8270C SIM	8/3/2012	3550B	12G198	65.6	3	192-97-2	Benzo(e)pyrene	44	U	22	44	ug/kg	U			1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-01	EMAX	8270C SIM	8/3/2012	3550B	12G198	65.6	3	193-39-5	INDENO(1,2,3-CD)PYRENE	87	U	22	87	ug/kg	U			1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-01	EMAX	8270C SIM	8/3/2012	3550B	12G198	65.6	3	205-99-2	BENZO(B)FLUORANTHENE	32	J	22	87	ug/kg	J	J	Z	1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-01	EMAX	8270C SIM	8/3/2012	3550B	12G198	65.6	3	206-44-0	FLUORANTHENE	37	J	22	87	ug/kg	J	J	Z	1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-01	EMAX	8270C SIM	8/3/2012	3550B	12G198	65.6	3	207-08-9	BENZO(K)FLUORANTHENE	87	U	22	87	ug/kg	U			1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-01	EMAX	8270C SIM	8/3/2012	3550B	12G198	65.6	3	208-96-8	ACENAPHTHYLENE	87	U	22	87	ug/kg	U			1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-01	EMAX	8270C SIM	8/3/2012	3550B	12G198	65.6	3	218-01-9	1,2-BENZPHENANTHRACENE	87	U	22	87	ug/kg	U			1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-01	EMAX	8270C SIM	8/3/2012	3550B	12G198	65.6	3	50-32-8	BENZO(A)PYRENE	23	J	22	87	ug/kg	J	J	Z	1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-01	EMAX	8270C SIM	8/3/2012	3550B	12G198	65.6	3	53-70-3	DIBENZO(A,H)ANTHRACENE	87	U	22	87	ug/kg	U			1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-01	EMAX	8270C SIM	8/3/2012	3550B	12G198	65.6	3	56-55-3	BENZO(A)ANTHRACENE	87	U	22	87	ug/kg	U			1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-01	EMAX	8270C SIM	8/3/2012	3550B	12G198	65.6	3	62-75-9	METHANAMINE, N-METHYL-N-NITROSO	87	U	22	87	ug/kg	U			1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-01	EMAX	8270C SIM	8/3/2012	3550B	12G198	65.6	3	83-32-9	ACENAPHTHENE	87	U	22	87	ug/kg	U			1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-01	EMAX	8270C SIM	8/3/2012	3550B	12G198	65.6	3	85-01-8	PHENANTHRENE	87	U	22	87	ug/kg	U			1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-01	EMAX	8270C SIM	8/3/2012	3550B	12G198	65.6	3	86-73-7	FLUORENE	87	U	22	87	ug/kg	U			1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-01	EMAX	8270C SIM	8/3/2012	3550B	12G198	65.6	3	90-12-0	1-METHYLNAPHTHALENE	87	U	22	87	ug/kg	U			1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-01	EMAX	8270C SIM	8/3/2012	3550B	12G198	65.6	3	91-20-3	NAPHTHALENE	87	U	22	87	ug/kg	U			1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-01	EMAX	8270C SIM	8/3/2012	3550B	12G198	65.6	3	91-57-6	2-METHYLNAPHTHALENE	87	U	22	87	ug/kg	U			1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-01	EMAX	8270C SIM	8/3/2012	3550B	12G198	65.6	3	92-52-4	1,1'-Biphenyl	44	U	22	44	ug/kg	U			1787495.551	266694.9674	-118.70303	34.23081
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-02	EMAX	6020	8/8/2012	TOTAL	12G198	65.0	0.966	7429-90-5	ALUMINUM (FUME OR DUST)	20800		33.1	276	mg/kg				1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-02	EMAX	6020	8/8/2012	TOTAL	12G198	65.0	0.966	7439-89-6	IRON	32100		27.6	276	mg/kg				1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-02	EMAX	6020	8/8/2012	TOTAL	12G198	65.0	0.966	7439-92-1	LEAD	28.9		0.276	1.38	mg/kg				1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-02	EMAX	6020	8/8/2012	TOTAL	12G198	65.0	0.966	7439-93-2	LITHIUM	46.8		2.76	5.52	mg/kg				1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-02	EMAX	6020	8/8/2012	TOTAL	12G198	65.0	0.966	7439-95-4	MAGNESIUM	7270		13.8	27.6	mg/kg				1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-02	EMAX	6020	8/8/2012	TOTAL	12G198	65.0	0.966	7439-96-5	MANGANESE	564		0.690	1.38	mg/kg				1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-02	EMAX	6020	8/8/2012	TOTAL	12G198	65.0	0.966	7439-98-7	MOLYBDENUM	1.88		0.138	1.38	mg/kg				1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-02	EMAX	6020	8/8/2012	TOTAL	12G198	65.0	0.966	7440-02-0	NICKEL	28.9		0.552	1.38	mg/kg				1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-02	EMAX	6020	8/8/2012	TOTAL	12G198	65.0	0.966	7440-09-7	POTASSIUM	4210		82.8	276	mg/kg				1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-02	EMAX	6020	8/8/2012	TOTAL	12G198	65.0	0.966	7440-22-4	SILVER	39.6		0.138	1.38	mg/kg				1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-02	EMAX	6020	8/8/2012	TOTAL	12G198	65.0	0.966	7440-23-5	SODIUM	387		138	276	mg/kg				1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-02	EMAX	6020	8/8/2012	TOTAL	12G198	65.0	0.966	7440-24-6	STRONTIUM	122		0.690	1.38	mg/kg				1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-02	EMAX	6020	8/8/2012	TOTAL	12G198	65.0	0.966	7440-28-0	THALLIUM	0.372	J	0.138	1.10	mg/kg	J	J	Z	1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-02	EMAX	6020	8/8/2012	TOTAL	12G198	65.0	0.966	7440-31-5	TIN	27.6	U	13.8	27.6	mg/kg	U			1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-02	EMAX	6020	8/8/2012	TOTAL	12G198	65.0	0.966	7440-32-6	TITANIUM METAL POWDER	1130		1.38	2.76	mg/kg				1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-02	EMAX	6020	8/8/2012	TOTAL	12G198	65.0	0.966	7440-36-0	ANTIMONY	0.93	J	0.276	1.38	mg/kg	J	J	Z	1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-02	EMAX	6020	8/8/2012	TOTAL	12G198	65.0	0.966	7440-38-2	ARSENIC	8.69		0.552	1.38	mg/kg				1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-02	EMAX	6020	8/8/2012	TOTAL	12G198	65.0	0.966	7440-39-3	BARIUM	139		0.552	1.38	mg/kg				1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-02	EMAX	6020	8/8/2012	TOTAL	12G198	65.0	0.966	7440-41-7	BERYLLIUM	0.958	J	0.138	1.38	mg/kg	J	J	Z	1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-02	EMAX	6020	8/8/2012	TOTAL	12G198	65.0	0.966	7440-42-8	BORON	10.4	J	6.90	13.8	mg/kg	J	J	Z	1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-02	EMAX	6020	8/8/2012	TOTAL	12G198	65.0	0.966	7440-43-9	CADMIUM	2.26		0.138	1.38	mg/kg				1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-02	EMAX	6020	8/8/2012	TOTAL	12G198	65.0	0.966	7440-47-3	CHROMIUM	40		0.552	1.38	mg/kg				1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-02	EMAX	6020	8/8/2012	TOTAL	12G198	65.0	0.966	7440-48-4	COBALT	11.9		0.138	1.38	mg/kg				1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-02	EMAX	6020	8/8/2012	TOTAL	12G198	65.0	0.966	7440-50-8	COPPER	43.7		0.552	1.38	mg/kg				1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-02	EMAX	6020	8/8/2012	TOTAL	12G198	65.0	0.966	7440-62-2	VANADIUM (FUME OR DUST)	50.8		0.138	1.38	mg/kg				1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-02	EMAX	6020	8/8/2012	TOTAL	12G198	65.0	0.966	7440-66-6	ZINC	202		4.14	13.8	mg/kg				1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-02	EMAX	6020	8/8/2012	TOTAL	12G198	65.0	0.966	7440-67-7	ZIRCONIUM	13.8	U	6.90	13.8	mg/kg	U			1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-02	EMAX	6020	8/8/2012	TOTAL	12G198	65.0	0.966	7440-70-2	CALCIUM METAL	32900		27.6	55.2	mg/kg				1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-02	EMAX	6020	8/8/2012	TOTAL	12G198	65.0	0.966	7723-14-0	PHOSPHORUS	784		16.6	33.1	mg/kg				1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-02	EMAX	6020	8/8/2012	TOTAL	12G198	65.0	0.966	7782-49-2	SELENIUM	0.576	J	0.552	1.38	mg/kg	J	J	Z	1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-02	EMAX	7471A	8/3/2012	7471A	12G198	65.0	0.995	7439-97-6	MERCURY	0.161	J	0.142	0.284	mg/kg	J	J	Z	1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-02	EMAX	8015B EFH	8/4/2012	3550B	12G198	65.0	1	PHCC12C14	EFH (C12-C14)	200		7.1	14	mg/kg				1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-02	EMAX	8015B EFH	8/4/2012	3550B	12G198	65.0	1	PHCC15C20	EFH (C15-C20)	560		7.1	14	mg/kg				1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-02	EMAX	8015B EFH	8/4/2012	3550B	12G198	65.0	1	PHCC21C30	EFH (C21-C30)	510		7.1	14	mg/kg				1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-02	EMAX	8015B EFH	8/4/2012	3550B	12G198	65.0	1	PHCC30C40	EFH (C30-C40)	510		14	29	mg/kg				1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-02	EMAX	8015B EFH	8/4/2012	3550B	12G198	65.0	1	PHCC8C11	EFH (C8-C11)	14	U	7.1	14	mg/kg	U			1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-02	EMAX	8082	8/9/2012	3550B	12G198	65.0	1	11096-82-5	Aroclor 1260	170		29	57	ug/kg				1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-02	EMAX	8082	8/9/2012	3550B	12G198	65.0	1	11097-69-1	Aroclor 1254	300		29	57	ug/kg				1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-02	EMAX	8082	8/9/2012	3550B	12G198	65.0	1	11100-14-4	Aroclor 1268	57	U	29	57	ug/kg	U			1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-02	EMAX	8082	8/9/2012	3550B	12G198	65.0	1	11104-28-2	Aroclor 1221	57	U	29	57	ug/kg	U			1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-02	EMAX	8082	8/9/2012	3550B	12G198	65.0	1	11126-42-4	Aroclor 5460	110		57	110	ug/kg	J			1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-02	EMAX	8082	8/9/2012	3550B	12G198	65.0	1	11141-16-5	Aroclor 1232	57	U	29	57	ug/kg	U			1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-02	EMAX	8082	8/9/2012	3550B	12G198	65.0	1	12642-23-8	Aroclor 5442	110	U	57	110	ug/kg	U			1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-02	EMAX	8082	8/9/2012	3550B	12G198	65.0	1	12672-29-6	Aroclor 1248	57	U	29	57	ug/kg	U			1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-02	EMAX	8082	8/9/2012	3550B	12G198	65.0	1	12674-11-2	Aroclor 1016	57	U	29	57	ug/kg	U			1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-02	EMAX	8082	8/9/2012	3550B	12G198	65.0	1	37324-23-5	Aroclor 1262	57	U	29	57	ug/kg	U			1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-02	EMAX	8082	8/9/2012	3550B	12G198	65.0	1	53469-21-9	Aroclor 1242	57	U	29	57	ug/kg	U			1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-02	EMAX	8082	8/9/2012	3550B	12G198	65.0	1	63496-31-1	Aroclor 5432	110	U	57	110	ug/kg	U			1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-02	EMAX	8270C SIM	8/3/2012	3550B	12G198	65.0	3	103-33-3	AZOBENZENE	43	U	21	43	ug/kg	U			1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-02	EMAX	8270C SIM	8/3/2012	3550B	12G198	65.0	3	120-12-7	ANTHRACENE	86	UJ	21	86	ug/kg	U	UJ	S	1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-02	EMAX	8270C SIM	8/3/2012	3550B	12G198	65.0	3	129-00-0	PYRENE	44	J	21	86	ug/kg	J	J	S, Z	1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-02	EMAX	8270C SIM	8/3/2012	3550B	12G198	65.0	3	191-24-2	BENZO(G,H,I)PERYLENE	24	J	21	86	ug/kg	J	J	S, Z	1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-02	EMAX	8270C SIM	8/3/2012	3550B	12G198	65.0	3	192-97-2	Benzo(e)pyrene	43	UJ	21	43	ug/kg	U	UJ	S	1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-02	EMAX	8270C SIM	8/3/2012	3550B	12G198	65.0	3	193-39-5	INDENO(1,2,3-CD)PYRENE	86	UJ	21	86	ug/kg	U	UJ	S	1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-02	EMAX	8270C SIM	8/3/2012	3550B	12G198	65.0	3	205-99-2	BENZO(B)FLUORANTHENE	25	J	21	86	ug/kg	J	J	S, Z	1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-02	EMAX	8270C SIM	8/3/2012	3550B	12G198	65.0	3	206-44-0	FLUORANTHENE	35	J	21	86	ug/kg	J	J	S, Z	1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-02	EMAX	8270C SIM	8/3/2012	3550B	12G198	65.0	3	207-08-9	BENZO(K)FLUORANTHENE	86	UJ	21	86	ug/kg	U	UJ	S	1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-02	EMAX	8270C SIM	8/3/2012	3550B	12G198	65.0	3	208-96-8	ACENAPHTHYLENE	86	UJ	21	86	ug/kg	U	UJ	S	1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-02	EMAX	8270C SIM	8/3/2012	3550B	12G198	65.0	3	218-01-9	1,2-BENZPHENANTHRACENE	86	UJ	21	86	ug/kg	U	UJ	S	1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-02	EMAX	8270C SIM	8/3/2012	3550B	12G198	65.0	3	50-32-8	BENZO(A)PYRENE	86	UJ	21	86	ug/kg	U	UJ	S	1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-02	EMAX	8270C SIM	8/3/2012	3550B	12G198	65.0	3	53-70-3	DIBENZO(A,H)ANTHRACENE	86	UJ	21	86	ug/kg	U	UJ	S	1787433.256	266654.5701	-118.70323	34.23069

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Master Chemical Database Table for Phase 3 - Area III Sediment Drainage Sampling

Sample Name	Sample Date	Sample Type Code	Start Depth	End Depth	Depth Unit	Matrix Code	Task Code	Parent Sample Code	Lab Sample ID	Lab Name	Analytical Method	Analysis Date	Prep Method	Lab SDG	Percent Moisture	Dilution Factor	Cas RN	Chemical Name	Report Result Value	Final Qualifiers	Method Detection Limit	Reporting Detection Limit	Report Result Unit	Lab Qualifiers	DQM Qualifiers	DQM Remarks	X Coordinate	Y Coordinate	Longitude	Latitude
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-02	EMAX	8270C SIM	8/3/2012	3550B	12G198	65.0	3	56-55-3	BENZO(A)ANTHRACENE	86	UJ	21	86	ug/kg	U	UJ	S	1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-02	EMAX	8270C SIM	8/3/2012	3550B	12G198	65.0	3	62-75-9	METHANAMINE, N-METHYL-N-NITROSO	86	UJ	21	86	ug/kg	U	UJ	S	1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-02	EMAX	8270C SIM	8/3/2012	3550B	12G198	65.0	3	83-32-9	ACENAPHTHENE	86	UJ	21	86	ug/kg	U	UJ	S	1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-02	EMAX	8270C SIM	8/3/2012	3550B	12G198	65.0	3	85-01-8	PHENANTHRENE	86	UJ	21	86	ug/kg	U	UJ	S	1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-02	EMAX	8270C SIM	8/3/2012	3550B	12G198	65.0	3	86-73-7	FLUORENE	86	UJ	21	86	ug/kg	U	UJ	S	1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-02	EMAX	8270C SIM	8/3/2012	3550B	12G198	65.0	3	90-12-0	1-METHYLNAPHTHALENE	86	UJ	21	86	ug/kg	U	UJ	S	1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-02	EMAX	8270C SIM	8/3/2012	3550B	12G198	65.0	3	91-20-3	NAPHTHALENE	86	UJ	21	86	ug/kg	U	UJ	S	1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-02	EMAX	8270C SIM	8/3/2012	3550B	12G198	65.0	3	91-57-6	2-METHYLNAPHTHALENE	86	UJ	21	86	ug/kg	U	UJ	S	1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-02	EMAX	8270C SIM	8/3/2012	3550B	12G198	65.0	3	92-52-4	1,1'-Biphenyl	43	U	21	43	ug/kg	U			1787433.256	266654.5701	-118.70323	34.23069
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-03	EMAX	6020	8/8/2012	TOTAL	12G198	52.6	0.98	7429-90-5	ALUMINUM (FUME OR DUST)	23100		24.8	207	mg/kg				1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-03	EMAX	6020	8/8/2012	TOTAL	12G198	52.6	0.98	7439-89-6	IRON	32400		20.7	207	mg/kg				1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-03	EMAX	6020	8/8/2012	TOTAL	12G198	52.6	0.98	7439-92-1	LEAD	24.8		0.207	1.03	mg/kg				1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-03	EMAX	6020	8/8/2012	TOTAL	12G198	52.6	0.98	7439-93-2	LITHIUM	46.9		2.07	4.14	mg/kg				1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-03	EMAX	6020	8/8/2012	TOTAL	12G198	52.6	0.98	7439-95-4	MAGNESIUM	7570		10.3	20.7	mg/kg				1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-03	EMAX	6020	8/8/2012	TOTAL	12G198	52.6	0.98	7439-96-5	MANGANESE	671		0.517	1.03	mg/kg				1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-03	EMAX	6020	8/8/2012	TOTAL	12G198	52.6	0.98	7439-98-7	MOLYBDENUM	2.1		0.103	1.03	mg/kg				1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-03	EMAX	6020	8/8/2012	TOTAL	12G198	52.6	0.98	7440-02-0	NICKEL	28.3		0.414	1.03	mg/kg				1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-03	EMAX	6020	8/8/2012	TOTAL	12G198	52.6	0.98	7440-09-7	POTASSIUM	4070		62.0	207	mg/kg				1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-03	EMAX	6020	8/8/2012	TOTAL	12G198	52.6	0.98	7440-22-4	SILVER	39.8		0.103	1.03	mg/kg				1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-03	EMAX	6020	8/8/2012	TOTAL	12G198	52.6	0.98	7440-23-5	SODIUM	321		103	207	mg/kg				1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-03	EMAX	6020	8/8/2012	TOTAL	12G198	52.6	0.98	7440-24-6	STRONTIUM	105		0.517	1.03	mg/kg				1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-03	EMAX	6020	8/8/2012	TOTAL	12G198	52.6	0.98	7440-28-0	THALLIUM	0.338	J	0.103	0.827	mg/kg	J	J	Z	1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-03	EMAX	6020	8/8/2012	TOTAL	12G198	52.6	0.98	7440-31-5	TIN	20.7	U	10.3	20.7	mg/kg	U			1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-03	EMAX	6020	8/8/2012	TOTAL	12G198	52.6	0.98	7440-32-6	TITANIUM METAL POWDER	1320		1.03	2.07	mg/kg				1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-03	EMAX	6020	8/8/2012	TOTAL	12G198	52.6	0.98	7440-36-0	ANTIMONY	0.698	J	0.207	1.03	mg/kg	J	J	Z	1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-03	EMAX	6020	8/8/2012	TOTAL	12G198	52.6	0.98	7440-38-2	ARSENIC	9.19		0.414	1.03	mg/kg				1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-03	EMAX	6020	8/8/2012	TOTAL	12G198	52.6	0.98	7440-39-3	BARIUM	141		0.414	1.03	mg/kg				1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-03	EMAX	6020	8/8/2012	TOTAL	12G198	52.6	0.98	7440-41-7	BERYLLIUM	0.924	J	0.103	1.03	mg/kg	J	J	Z	1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-03	EMAX	6020	8/8/2012	TOTAL	12G198	52.6	0.98	7440-42-8	BORON	8.18	J	5.17	10.3	mg/kg	J	J	Z	1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-03	EMAX	6020	8/8/2012	TOTAL	12G198	52.6	0.98	7440-43-9	CADMIUM	1.98		0.103	1.03	mg/kg				1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-03	EMAX	6020	8/8/2012	TOTAL	12G198	52.6	0.98	7440-47-3	CHROMIUM	45.2		0.414	1.03	mg/kg				1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-03	EMAX	6020	8/8/2012	TOTAL	12G198	52.6	0.98	7440-48-4	COBALT	11.4		0.103	1.03	mg/kg				1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-03	EMAX	6020	8/8/2012	TOTAL	12G198	52.6	0.98	7440-50-8	COPPER	43		0.414	1.03	mg/kg				1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-03	EMAX	6020	8/8/2012	TOTAL	12G198	52.6	0.98	7440-62-2	VANADIUM (FUME OR DUST)	51.1		0.103	1.03	mg/kg				1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-03	EMAX	6020	8/8/2012	TOTAL	12G198	52.6	0.98	7440-66-6	ZINC	173		3.10	10.3	mg/kg				1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-03	EMAX	6020	8/8/2012	TOTAL	12G198	52.6	0.98	7440-67-7	ZIRCONIUM	10.3	U	5.17	10.3	mg/kg	U			1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-03	EMAX	6020	8/8/2012	TOTAL	12G198	52.6	0.98	7440-70-2	CALCIUM METAL	26500		20.7	41.4	mg/kg				1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-03	EMAX	6020	8/8/2012	TOTAL	12G198	52.6	0.98	7723-14-0	PHOSPHORUS	749		12.4	24.8	mg/kg				1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-03	EMAX	6020	8/8/2012	TOTAL	12G198	52.6	0.98	7782-49-2	SELENIUM	0.477	J	0.414	1.03	mg/kg	J	J	Z	1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-03	EMAX	7471A	8/3/2012	7471A	12G198	52.6	0.997	7439-97-6	MERCURY	0.17	J	0.105	0.210	mg/kg	J	J	Z	1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-03	EMAX	8015B EFH	8/4/2012	3550B	12G198	52.6	1	PHCC12C14	EFH (C12-C14)	1400		5.3	11	mg/kg				1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-03	EMAX	8015B EFH	8/4/2012	3550B	12G198	52.6	1	PHCC15C20	EFH (C15-C20)	1300		5.3	11	mg/kg				1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-03	EMAX	8015B EFH	8/4/2012	3550B	12G198	52.6	1	PHCC21C30	EFH (C21-C30)	610		5.3	11	mg/kg				1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-03	EMAX	8015B EFH	8/4/2012	3550B	12G198	52.6	1	PHCC30C40	EFH (C30-C40)	440		11	21	mg/kg				1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-03	EMAX	8015B EFH	8/4/2012	3550B	12G198	52.6	1	PHCC8C11	EFH (C8-C11)	71		5.3	11	mg/kg				1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-03	EMAX	8082	8/9/2012	3550B	12G198	52.6	1	11096-82-5	Aroclor 1260	190		21	42	ug/kg				1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-03	EMAX	8082	8/9/2012	3550B	12G198	52.6	1	11097-69-1	Aroclor 1254	330		21	42	ug/kg				1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-03	EMAX	8082	8/9/2012	3550B	12G198	52.6	1	11100-14-4	Aroclor 1268	42	U	21	42	ug/kg	U			1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-03	EMAX	8082	8/9/2012	3550B	12G198	52.6	1	11104-28-2	Aroclor 1221	42	U	21	42	ug/kg	U			1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-03	EMAX	8082	8/9/2012	3550B	12G198	52.6	1	11126-42-4	Aroclor 5460	90		42	84	ug/kg				1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-03	EMAX	8082	8/9/2012	3550B	12G198	52.6	1	11141-16-5	Aroclor 1232	42	U	21	42	ug/kg	U			1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-03	EMAX	8082	8/9/2012	3550B	12G198	52.6	1	12642-23-8	Aroclor 5442	84	U	42	84	ug/kg	U			1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-03	EMAX	8082	8/9/2012	3550B	12G198	52.6	1	12672-29-6	Aroclor 1248	42	U	21	42	ug/kg	U			1787328.764	266592.5402	-118.70358	34.23052
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-01	EMAX	6020	8/2/2012	TOTAL	12G140	1.9	0.971	7440-47-3	CHROMIUM	10.6		0.198	0.495	mg/kg				1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-01	EMAX	6020	8/2/2012	TOTAL	12G140	1.9	0.971	7440-48-4	COBALT	4.97		0.0495	0.495	mg/kg				1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-01	EMAX	6020	8/2/2012	TOTAL	12G140	1.9	0.971	7440-50-8	COPPER	6.76		0.198	0.495	mg/kg				1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-01	EMAX	6020	8/2/2012	TOTAL	12G140	1.9	0.971	7440-62-2	VANADIUM (FUME OR DUST)	19.2		0.0495	0.495	mg/kg				1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-01	EMAX	6020	8/2/2012	TOTAL	12G140	1.9	0.971	7440-66-6	ZINC	68		1.48	4.95	mg/kg				1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-01	EMAX	6020	8/2/2012	TOTAL	12G140	1.9	0.971	7440-67-7	ZIRCONIUM	4.95	UJ	2.47	4.95	mg/kg	U	UJ	Q	1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-01	EMAX	6020	8/2/2012	TOTAL	12G140	1.9	0.971	7440-70-2	CALCIUM METAL	1600		9.90	19.8	mg/kg				1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-01	EMAX	6020	8/2/2012	TOTAL	12G140	1.9	0.971	7723-14-0	PHOSPHORUS	352		5.94	11.9	mg/kg				1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-01	EMAX	6020	8/2/2012	TOTAL	12G140	1.9	0.971	7782-49-2	SELENIUM	0.495	U	0.198	0.495	mg/kg	U			1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-01	EMAX	7471A	7/26/2012	7471A	12G140	1.9	0.995	7439-97-6	MERCURY	0.101	U	0.0507	0.101	mg/kg	U			1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-01	EMAX	8015B EFH	7/25/2012	3550B	12G140	1.9	1	PHCC12C14	EFH (C12-C14)	5.1	U	2.5	5.1	mg/kg	U			1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-01	EMAX	8015B EFH	7/25/2012	3550B	12G140	1.9	1	PHCC15C20	EFH (C15-C20)	5.1	U	2.5	5.1	mg/kg	U			1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-01	EMAX	8015B EFH	7/25/2012	3550B	12G140	1.9	1	PHCC21C30	EFH (C21-C30)	6		2.5	5.1	mg/kg				1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-01	EMAX	8015B EFH	7/25/2012	3550B	12G140	1.9	1	PHCC30C40	EFH (C30-C40)	5.4	J	5.1	10	mg/kg	J	J	Z	1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-01	EMAX	8015B EFH	7/25/2012	3550B	12G140	1.9	1	PHCC8C11	EFH (C8-C11)	5.1	U	2.5	5.1	mg/kg	U			1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-01	EMAX	8082	8/4/2012	3550B	12G140	1.9	1	11096-82-5	Aroclor 1260	20	U	10	20	ug/kg	U			1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-01	EMAX	8082	8/4/2012	3550B	12G140	1.9	1	11097-69-1	Aroclor 1254	20	U	10	20	ug/kg	U			1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-01	EMAX	8082	8/4/2012	3550B	12G140	1.9	1	11100-14-4	Aroclor 1268	20	U	10	20	ug/kg	U			1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-01	EMAX	8082	8/4/2012	3550B	12G140	1.9	1	11104-28-2	Aroclor 1221	20	U	10	20	ug/kg	U			1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-01	EMAX	8082	8/4/2012	3550B	12G140	1.9	1	11126-42-4	Aroclor 5460	41	U	20	41	ug/kg	U			1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-01	EMAX	8082	8/4/2012	3550B	12G140	1.9	1	11141-16-5	Aroclor 1232	20	U	10	20	ug/kg	U			1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-01	EMAX	8082	8/4/2012	3550B	12G140	1.9	1	12642-23-8	Aroclor 5442	41	U	20	41	ug/kg	U			1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-01	EMAX	8082	8/4/2012	3550B	12G140	1.9	1	12672-29-6	Aroclor 1248	20	U	10	20	ug/kg	U			1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-01	EMAX	8082	8/4/2012	3550B	12G140	1.9	1	12674-11-2	Aroclor 1016	20	U	10	20	ug/kg	U			1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-01	EMAX	8082	8/4/2012	3550B	12G140	1.9	1	37324-23-5	Aroclor 1262	20	U	10	20	ug/kg	U			1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-01	EMAX	8082	8/4/2012	3550B	12G140	1.9	1	53469-21-9	Aroclor 1242	20	U	10	20	ug/kg	U			1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-01	EMAX	8082	8/4/2012	3550B	12G140	1.9	1	63496-31-1	Aroclor 5432	41	U	20	41	ug/kg	U			1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-01	EMAX	8270C SIM	7/31/2012	3550B	12G140	1.9	1	103-33-3	AZOBENZENE	5.1	U	2.5	5.1	ug/kg	U			1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-01	EMAX	8270C SIM	7/31/2012	3550B	12G140	1.9	1	120-12-7	ANTHRACENE	10	U	2.5	10	ug/kg	U			1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-01	EMAX	8270C SIM	7/31/2012	3550B	12G140	1.9	1	129-00-0	PYRENE	5.1	J	2.5	10	ug/kg	J	J	Z	1787722.465	267260.1336	-118.70229	34.23236

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Master Chemical Database Table for Phase 3 - Area III Sediment Drainage Sampling

Sample Name	Sample Date	Sample Type Code	Start Depth	End Depth	Depth Unit	Matrix Code	Task Code	Parent Sample Code	Lab Sample ID	Lab Name	Analytical Method	Analysis Date	Prep Method	Lab SDG	Percent Moisture	Dilution Factor	Cas RN	Chemical Name	Report Result Value	Final Qualifiers	Method Detection Limit	Reporting Detection Limit	Report Result Unit	Lab Qualifiers	DQM Qualifiers	DQM Remarks	X Coordinate	Y Coordinate	Longitude	Latitude
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-01	EMAX	8270C SIM	7/31/2012	3550B	12G140	1.9	1	191-24-2	BENZO(G,H,I)PERYLENE	5.6	J	2.5	10	ug/kg	J	J	Z	1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-01	EMAX	8270C SIM	7/31/2012	3550B	12G140	1.9	1	192-97-2	Benzo(e)pyrene	4.8	J	2.5	5.1	ug/kg	J	J	Z	1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-01	EMAX	8270C SIM	7/31/2012	3550B	12G140	1.9	1	193-39-5	INDENO(1,2,3-CD)PYRENE	10	U	2.5	10	ug/kg	U			1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-01	EMAX	8270C SIM	7/31/2012	3550B	12G140	1.9	1	205-99-2	BENZO(B)FLUORANTHENE	6.1	J	2.5	10	ug/kg	J	J	Z	1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-01	EMAX	8270C SIM	7/31/2012	3550B	12G140	1.9	1	206-44-0	FLUORANTHENE	4.1	J	2.5	10	ug/kg	J	J	Z	1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-01	EMAX	8270C SIM	7/31/2012	3550B	12G140	1.9	1	207-08-9	BENZO(K)FLUORANTHENE	10	U	2.5	10	ug/kg	U			1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-01	EMAX	8270C SIM	7/31/2012	3550B	12G140	1.9	1	208-96-8	ACENAPHTHYLENE	10	U	2.5	10	ug/kg	U			1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-01	EMAX	8270C SIM	7/31/2012	3550B	12G140	1.9	1	218-01-9	1,2-BENZPHENANTHRACENE	10	U	2.5	10	ug/kg	U			1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-01	EMAX	8270C SIM	7/31/2012	3550B	12G140	1.9	1	50-32-8	BENZO(A)PYRENE	3.1	J	2.5	10	ug/kg	J	J	Z	1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-01	EMAX	8270C SIM	7/31/2012	3550B	12G140	1.9	1	53-70-3	DIBENZO(A,H)ANTHRACENE	10	U	2.5	10	ug/kg	U			1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-01	EMAX	8270C SIM	7/31/2012	3550B	12G140	1.9	1	56-55-3	BENZO(A)ANTHRACENE	10	U	2.5	10	ug/kg	U			1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-01	EMAX	8270C SIM	7/31/2012	3550B	12G140	1.9	1	62-75-9	METHANAMINE, N-METHYL-N-NITROSO	10	U	2.5	10	ug/kg	U			1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-01	EMAX	8270C SIM	7/31/2012	3550B	12G140	1.9	1	83-32-9	ACENAPHTHENE	10	U	2.5	10	ug/kg	U			1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-01	EMAX	8270C SIM	7/31/2012	3550B	12G140	1.9	1	85-01-8	PHENANTHRENE	10	U	2.5	10	ug/kg	U			1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-01	EMAX	8270C SIM	7/31/2012	3550B	12G140	1.9	1	86-73-7	FLUORENE	10	U	2.5	10	ug/kg	U			1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-01	EMAX	8270C SIM	7/31/2012	3550B	12G140	1.9	1	90-12-0	1-METHYLNAPHTHALENE	10	U	2.5	10	ug/kg	U			1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-01	EMAX	8270C SIM	7/31/2012	3550B	12G140	1.9	1	91-20-3	NAPHTHALENE	10	U	2.5	10	ug/kg	U			1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-01	EMAX	8270C SIM	7/31/2012	3550B	12G140	1.9	1	91-57-6	2-METHYLNAPHTHALENE	10	U	2.5	10	ug/kg	U			1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-01	EMAX	8270C SIM	7/31/2012	3550B	12G140	1.9	1	92-52-4	1,1'-Biphenyl	5.1	U	2.5	5.1	ug/kg	U			1787722.465	267260.1336	-118.70229	34.23236
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-02	EMAX	6020	8/2/2012	TOTAL	12G140	2.4	0.976	7429-90-5	ALUMINUM (FUME OR DUST)	8530		12.0	100	mg/kg				1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-02	EMAX	6020	8/2/2012	TOTAL	12G140	2.4	0.976	7439-89-6	IRON	13500		10.0	100	mg/kg				1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-02	EMAX	6020	8/2/2012	TOTAL	12G140	2.4	0.976	7439-92-1	LEAD	17		0.100	0.500	mg/kg				1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-02	EMAX	6020	8/2/2012	TOTAL	12G140	2.4	0.976	7439-93-2	LITHIUM	18.4		1.00	2.00	mg/kg				1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-02	EMAX	6020	8/2/2012	TOTAL	12G140	2.4	0.976	7439-95-4	MAGNESIUM	3310		5.00	10.0	mg/kg				1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-02	EMAX	6020	8/2/2012	TOTAL	12G140	2.4	0.976	7439-96-5	MANGANESE	115		0.250	0.500	mg/kg				1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-02	EMAX	6020	8/2/2012	TOTAL	12G140	2.4	0.976	7439-98-7	MOLYBDENUM	0.703		0.0500	0.500	mg/kg				1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-02	EMAX	6020	8/2/2012	TOTAL	12G140	2.4	0.976	7440-02-0	NICKEL	8.34		0.200	0.500	mg/kg				1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-02	EMAX	6020	8/2/2012	TOTAL	12G140	2.4	0.976	7440-09-7	POTASSIUM	2180		30.0	100	mg/kg				1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-02	EMAX	6020	8/2/2012	TOTAL	12G140	2.4	0.976	7440-22-4	SILVER	1.62		0.0500	0.500	mg/kg				1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-02	EMAX	6020	8/2/2012	TOTAL	12G140	2.4	0.976	7440-23-5	SODIUM	75.2	J	50.0	100	mg/kg	J	J	Z	1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-02	EMAX	6020	8/2/2012	TOTAL	12G140	2.4	0.976	7440-24-6	STRONTIUM	14.8		0.250	0.500	mg/kg				1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-02	EMAX	6020	8/2/2012	TOTAL	12G140	2.4	0.976	7440-28-0	THALLIUM	0.164	J	0.0500	0.400	mg/kg	J	J	Z	1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-02	EMAX	6020	8/2/2012	TOTAL	12G140	2.4	0.976	7440-31-5	TIN	10	U	5.00	10.0	mg/kg	U			1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-02	EMAX	6020	8/2/2012	TOTAL	12G140	2.4	0.976	7440-32-6	TITANIUM METAL POWDER	634		0.500	1.00	mg/kg				1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-02	EMAX	6020	8/2/2012	TOTAL	12G140	2.4	0.976	7440-36-0	ANTIMONY	0.243	J	0.100	0.500	mg/kg	J	J	Z	1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-02	EMAX	6020	8/2/2012	TOTAL	12G140	2.4	0.976	7440-38-2	ARSENIC	3.14		0.200	0.500	mg/kg				1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-02	EMAX	6020	8/2/2012	TOTAL	12G140	2.4	0.976	7440-39-3	BARIUM	58.6		0.200	0.500	mg/kg				1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-02	EMAX	6020	8/2/2012	TOTAL	12G140	2.4	0.976	7440-41-7	BERYLLIUM	0.369	J	0.0500	0.500	mg/kg	J	J	Z	1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-02	EMAX	6020	8/2/2012	TOTAL	12G140	2.4	0.976	7440-42-8	BORON	5	U	2.50	5.00	mg/kg	U			1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-02	EMAX	6020	8/2/2012	TOTAL	12G140	2.4	0.976	7440-43-9	CADMIUM	0.672		0.0500	0.500	mg/kg				1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-02	EMAX	6020	8/2/2012	TOTAL	12G140	2.4	0.976	7440-47-3	CHROMIUM	12		0.200	0.500	mg/kg				1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-02	EMAX	6020	8/2/2012	TOTAL	12G140	2.4	0.976	7440-48-4	COBALT	3.25		0.0500	0.500	mg/kg				1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-02	EMAX	6020	8/2/2012	TOTAL	12G140	2.4	0.976	7440-50-8	COPPER	10.6		0.200	0.500	mg/kg				1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-02	EMAX	6020	8/2/2012	TOTAL	12G140	2.4	0.976	7440-62-2	VANADIUM (FUME OR DUST)	20.5		0.0500	0.500	mg/kg				1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-02	EMAX	6020	8/2/2012	TOTAL	12G140	2.4	0.976	7440-66-6	ZINC	56.1		1.50	5.00	mg/kg				1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-02	EMAX	6020	8/2/2012	TOTAL	12G140	2.4	0.976	7440-67-7	ZIRCONIUM	5	UJ	2.50	5.00	mg/kg	U	UJ	Q	1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-02	EMAX	6020	8/2/2012	TOTAL	12G140	2.4	0.976	7440-70-2	CALCIUM METAL	1740		10.0	20.0	mg/kg				1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-02	EMAX	6020	8/2/2012	TOTAL	12G140	2.4	0.976	7723-14-0	PHOSPHORUS	264		6.00	12.0	mg/kg				1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-02	EMAX	6020	8/2/2012	TOTAL	12G140	2.4	0.976	7782-49-2	SELENIUM	0.5	U	0.200	0.500	mg/kg	U			1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-02	EMAX	7471A	7/26/2012	7471A	12G140	2.4	0.985	7439-97-6	MERCURY	0.101	U	0.0505	0.101	mg/kg	U			1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-02	EMAX	8015B EFH	7/25/2012	3550B	12G140	2.4	1	PHCC12C14	EFH (C12-C14)	5.1	U	2.6	5.1	mg/kg	U			1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-02	EMAX	8015B EFH	7/25/2012	3550B	12G140	2.4	1	PHCC15C20	EFH (C15-C20)	5.1	U	2.6	5.1	mg/kg	U			1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-02	EMAX	8015B EFH	7/25/2012	3550B	12G140	2.4	1	PHCC21C30	EFH (C21-C30)	27		2.6	5.1	mg/kg				1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-02	EMAX	8015B EFH	7/25/2012	3550B	12G140	2.4	1	PHCC30C40	EFH (C30-C40)	22		5.1	10	mg/kg				1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-02	EMAX	8015B EFH	7/25/2012	3550B	12G140	2.4	1	PHCC8C11	EFH (C8-C11)	5.1	U	2.6	5.1	mg/kg	U			1787614.125	267116.684	-118.70265	34.23197
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-03	EMAX	7471A	7/26/2012	7471A	12G140	7.3	0.987	7439-97-6	MERCURY	0.0657	J	0.0532	0.106	mg/kg	J	J	Z	1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-03	EMAX	8015B EFH	7/25/2012	3550B	12G140	7.3	1	PHCC12C14	EFH (C12-C14)	5.4	U	2.7	5.4	mg/kg	U			1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-03	EMAX	8015B EFH	7/25/2012	3550B	12G140	7.3	1	PHCC15C20	EFH (C15-C20)	5.4	U	2.7	5.4	mg/kg	U			1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-03	EMAX	8015B EFH	7/25/2012	3550B	12G140	7.3	1	PHCC21C30	EFH (C21-C30)	16		2.7	5.4	mg/kg				1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-03	EMAX	8015B EFH	7/25/2012	3550B	12G140	7.3	1	PHCC30C40	EFH (C30-C40)	18		5.4	11	mg/kg				1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-03	EMAX	8015B EFH	7/25/2012	3550B	12G140	7.3	1	PHCC8C11	EFH (C8-C11)	5.4	U	2.7	5.4	mg/kg	U			1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-03	EMAX	8082	8/4/2012	3550B	12G140	7.3	1	11096-82-5	Aroclor 1260	33		11	22	ug/kg				1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-03	EMAX	8082	8/4/2012	3550B	12G140	7.3	1	11097-69-1	Aroclor 1254	65		11	22	ug/kg				1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-03	EMAX	8082	8/4/2012	3550B	12G140	7.3	1	11100-14-4	Aroclor 1268	22	U	11	22	ug/kg	U			1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-03	EMAX	8082	8/4/2012	3550B	12G140	7.3	1	11104-28-2	Aroclor 1221	22	U	11	22	ug/kg	U			1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-03	EMAX	8082	8/4/2012	3550B	12G140	7.3	1	11126-42-4	Aroclor 5460	65		22	43	ug/kg				1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-03	EMAX	8082	8/4/2012	3550B	12G140	7.3	1	11141-16-5	Aroclor 1232	22	U	11	22	ug/kg	U			1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-03	EMAX	8082	8/4/2012	3550B	12G140	7.3	1	12642-23-8	Aroclor 5442	43	U	22	43	ug/kg	U			1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-03	EMAX	8082	8/4/2012	3550B	12G140	7.3	1	12672-29-6	Aroclor 1248	22	U	11	22	ug/kg	U			1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-03	EMAX	8082	8/4/2012	3550B	12G140	7.3	1	12674-11-2	Aroclor 1016	22	U	11	22	ug/kg	U			1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-03	EMAX	8082	8/4/2012	3550B	12G140	7.3	1	37324-23-5	Aroclor 1262	22	U	11	22	ug/kg	U			1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-03	EMAX	8082	8/4/2012	3550B	12G140	7.3	1	53469-21-9	Aroclor 1242	22	U	11	22	ug/kg	U			1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-03	EMAX	8082	8/4/2012	3550B	12G140	7.3	1	63496-31-1	Aroclor 5432	43	U	22	43	ug/kg	U			1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-03	EMAX	8270C SIM	7/31/2012	3550B	12G140	7.3	1	103-33-3	AZOBENZENE	5.4	U	2.7	5.4	ug/kg	U			1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-03	EMAX	8270C SIM	7/31/2012	3550B	12G140	7.3	1	120-12-7	ANTHRACENE	11	UJ	2.7	11	ug/kg	U	UJ	S	1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-03	EMAX	8270C SIM	7/31/2012	3550B	12G140	7.3	1	129-00-0	PYRENE	14	J	2.7	11	ug/kg		J	S	1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-03	EMAX	8270C SIM	7/31/2012	3550B	12G140	7.3	1	191-24-2	BENZO(G,H,I)PERYLENE	7.4	J	2.7	11	ug/kg	J	J	S, Z	1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-03	EMAX	8270C SIM	7/31/2012	3550B	12G140	7.3	1	192-97-2	Benzo(e)pyrene	7.7	J	2.7	5.4	ug/kg		J	S	1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-03	EMAX	8270C SIM	7/31/2012	3550B	12G140	7.3	1	193-39-5	INDENO(1,2,3-CD)PYRENE	5	J	2.7	11	ug/kg	J	J	S, Z	1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-03	EMAX	8270C SIM	7/31/2012	3550B	12G140	7.3	1	205-99-2	BENZO(B)FLUORANTHENE	13	J	2.7	11	ug/kg		J	S	1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-03	EMAX	8270C SIM	7/31/2012	3550B	12G140	7.3	1	206-44-0	FLUORANTHENE	15	J	2.7	11	ug/kg		J	S	1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-03	EMAX	8270C SIM	7/31/2012	3550B	12G140	7.3	1	207-08-9	BENZO(K)FLUORANTHENE	3.5	J	2.7	11	ug/kg	J	J	S, Z	1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-03	EMAX	8270C SIM	7/31/2012	3550B	12G140	7.3	1	208-96-8	ACENAPHTHYLENE	11	UJ	2.7	11	ug/kg	U	UJ	S	1787572.294	266908.5497	-118.70278	34.23139

REVISED

Master Chemical Database Table for Phase 3 - Area III Sediment Drainage Sampling

Sample Name	Sample Date	Sample Type Code	Start Depth	End Depth	Depth Unit	Matrix Code	Task Code	Parent Sample Code	Lab Sample ID	Lab Name	Analytical Method	Analysis Date	Prep Method	Lab SDG	Percent Moisture	Dilution Factor	Cas RN	Chemical Name	Report Result Value	Final Qualifiers	Method Detection Limit	Reporting Detection Limit	Report Result Unit	Lab Qualifiers	DQM Qualifiers	DQM Remarks	X Coordinate	Y Coordinate	Longitude	Latitude
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-03	EMAX	8270C SIM	7/31/2012	3550B	12G140	7.3	1	218-01-9	1,2-BENZPHENANTHRACENE	7.5	J	2.7	11	ug/kg	J	J	S, Z	1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-03	EMAX	8270C SIM	7/31/2012	3550B	12G140	7.3	1	50-32-8	BENZO(A)PYRENE	8.3	J	2.7	11	ug/kg	J	J	S, Z	1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-03	EMAX	8270C SIM	7/31/2012	3550B	12G140	7.3	1	53-70-3	DIBENZO(A,H)ANTHRACENE	11	UJ	2.7	11	ug/kg	U	UJ	S	1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-03	EMAX	8270C SIM	7/31/2012	3550B	12G140	7.3	1	56-55-3	BENZO(A)ANTHRACENE	5	J	2.7	11	ug/kg	J	J	S, Z	1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-03	EMAX	8270C SIM	7/31/2012	3550B	12G140	7.3	1	62-75-9	METHANAMINE, N-METHYL-N-NITROSO	11	UJ	2.7	11	ug/kg	U	UJ	S	1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-03	EMAX	8270C SIM	7/31/2012	3550B	12G140	7.3	1	83-32-9	ACENAPHTHENE	11	UJ	2.7	11	ug/kg	U	UJ	S	1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-03	EMAX	8270C SIM	7/31/2012	3550B	12G140	7.3	1	85-01-8	PHENANTHRENE	7.5	J	2.7	11	ug/kg	J	J	S, Z	1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-03	EMAX	8270C SIM	7/31/2012	3550B	12G140	7.3	1	86-73-7	FLUORENE	11	UJ	2.7	11	ug/kg	U	UJ	S	1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-03	EMAX	8270C SIM	7/31/2012	3550B	12G140	7.3	1	90-12-0	1-METHYLNAPHTHALENE	11	UJ	2.7	11	ug/kg	U	UJ	S	1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-03	EMAX	8270C SIM	7/31/2012	3550B	12G140	7.3	1	91-20-3	NAPHTHALENE	11	UJ	2.7	11	ug/kg	U	UJ	S	1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-03	EMAX	8270C SIM	7/31/2012	3550B	12G140	7.3	1	91-57-6	2-METHYLNAPHTHALENE	11	UJ	2.7	11	ug/kg	U	UJ	S	1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-03	EMAX	8270C SIM	7/31/2012	3550B	12G140	7.3	1	92-52-4	1,1'-Biphenyl	5.4	U	2.7	5.4	ug/kg	U			1787572.294	266908.5497	-118.70278	34.23139
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-05	EMAX	6020	8/2/2012	TOTAL	12G140	1.0	0.98	7429-90-5	ALUMINUM (FUME OR DUST)	10200		11.9	99.0	mg/kg				1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-05	EMAX	6020	8/2/2012	TOTAL	12G140	1.0	0.98	7439-89-6	IRON	14000		9.90	99.0	mg/kg				1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-05	EMAX	6020	8/2/2012	TOTAL	12G140	1.0	0.98	7439-92-1	LEAD	5.96		0.0990	0.495	mg/kg				1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-05	EMAX	6020	8/2/2012	TOTAL	12G140	1.0	0.98	7439-93-2	LITHIUM	12.4		0.990	1.98	mg/kg				1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-05	EMAX	6020	8/2/2012	TOTAL	12G140	1.0	0.98	7439-95-4	MAGNESIUM	3150		4.95	9.90	mg/kg				1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-05	EMAX	6020	8/2/2012	TOTAL	12G140	1.0	0.98	7439-96-5	MANGANESE	200		0.247	0.495	mg/kg				1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-05	EMAX	6020	8/2/2012	TOTAL	12G140	1.0	0.98	7439-98-7	MOLYBDENUM	0.441	J	0.0495	0.495	mg/kg	J	J	Z	1786794.589	266819.7922	-118.70535	34.23113
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	8270C SIM	7/24/2012	3550B	12G123	6.1	1	85-01-8	PHENANTHRENE	8.5	J	2.7	11	ug/kg	J	J	Z	1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	8270C SIM	7/24/2012	3550B	12G123	6.1	1	86-73-7	FLUORENE	11	U	2.7	11	ug/kg	U			1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	8270C SIM	7/24/2012	3550B	12G123	6.1	1	90-12-0	1-METHYLNAPHTHALENE	11	U	2.7	11	ug/kg	U			1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	8270C SIM	7/24/2012	3550B	12G123	6.1	1	91-20-3	NAPHTHALENE	11	U	2.7	11	ug/kg	U			1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	8270C SIM	7/24/2012	3550B	12G123	6.1	1	91-57-6	2-METHYLNAPHTHALENE	11	U	2.7	11	ug/kg	U			1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	8270C SIM	7/24/2012	3550B	12G123	6.1	1	92-52-4	1,1'-Biphenyl	5.3	U	2.7	5.3	ug/kg	U			1785496.181	266147.2627	-118.70963	34.22926
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	6020	8/1/2012	TOTAL	12G123	4.2	0.98	7429-90-5	ALUMINUM (FUME OR DUST)	16100		12.3	102	mg/kg				1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	6020	8/1/2012	TOTAL	12G123	4.2	0.98	7439-89-6	IRON	18500		10.2	102	mg/kg				1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	6020	8/1/2012	TOTAL	12G123	4.2	0.98	7439-92-1	LEAD	18.9		0.102	0.511	mg/kg				1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	6020	8/1/2012	TOTAL	12G123	4.2	0.98	7439-93-2	LITHIUM	19.9		1.02	2.05	mg/kg				1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	6020	8/1/2012	TOTAL	12G123	4.2	0.98	7439-95-4	MAGNESIUM	3920		5.11	10.2	mg/kg				1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	6020	8/1/2012	TOTAL	12G123	4.2	0.98	7439-96-5	MANGANESE	151		0.256	0.511	mg/kg				1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	6020	8/1/2012	TOTAL	12G123	4.2	0.98	7439-98-7	MOLYBDENUM	0.46	J	0.0511	0.511	mg/kg	J	J	Z	1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	6020	8/1/2012	TOTAL	12G123	4.2	0.98	7440-02-0	NICKEL	17.7		0.205	0.511	mg/kg				1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	6020	8/1/2012	TOTAL	12G123	4.2	0.98	7440-09-7	POTASSIUM	2270		30.7	102	mg/kg				1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	6020	8/1/2012	TOTAL	12G123	4.2	0.98	7440-22-4	SILVER	0.248	J	0.0511	0.511	mg/kg	J	J	Z	1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	6020	8/1/2012	TOTAL	12G123	4.2	0.98	7440-23-5	SODIUM	91.6	J	51.1	102	mg/kg	J	J	Z	1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	6020	8/1/2012	TOTAL	12G123	4.2	0.98	7440-24-6	STRONTIUM	37.2		0.256	0.511	mg/kg				1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	6020	8/1/2012	TOTAL	12G123	4.2	0.98	7440-28-0	THALLIUM	0.199	J	0.0511	0.409	mg/kg	J	J	Z	1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	6020	8/1/2012	TOTAL	12G123	4.2	0.98	7440-31-5	TIN	10.2	U	5.11	10.2	mg/kg	U			1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	6020	8/1/2012	TOTAL	12G123	4.2	0.98	7440-32-6	TITANIUM METAL POWDER	751		0.511	1.02	mg/kg				1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	6020	8/1/2012	TOTAL	12G123	4.2	0.98	7440-36-0	ANTIMONY	0.296	J	0.102	0.511	mg/kg	J	J	Q, Z	1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	6020	8/1/2012	TOTAL	12G123	4.2	0.98	7440-38-2	ARSENIC	4.71		0.205	0.511	mg/kg				1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	6020	8/1/2012	TOTAL	12G123	4.2	0.98	7440-39-3	BARIUM	99		0.205	0.511	mg/kg				1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	6020	8/1/2012	TOTAL	12G123	4.2	0.98	7440-41-7	BERYLLIUM	0.569		0.0511	0.511	mg/kg				1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	6020	8/1/2012	TOTAL	12G123	4.2	0.98	7440-42-8	BORON	3.12	J	2.56	5.11	mg/kg	J	J	Z	1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	6020	8/1/2012	TOTAL	12G123	4.2	0.98	7440-43-9	CADMIUM	0.794		0.0511	0.511	mg/kg				1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	6020	8/1/2012	TOTAL	12G123	4.2	0.98	7440-47-3	CHROMIUM	22.2		0.205	0.511	mg/kg				1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	6020	8/1/2012	TOTAL	12G123	4.2	0.98	7440-48-4	COBALT	5.69		0.0511	0.511	mg/kg				1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	6020	8/1/2012	TOTAL	12G123	4.2	0.98	7440-50-8	COPPER	23.9		0.205	0.511	mg/kg				1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	6020	8/1/2012	TOTAL	12G123	4.2	0.98	7440-62-2	VANADIUM (FUME OR DUST)	31.2	J	0.0511	0.511	mg/kg		J	Q	1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	6020	8/1/2012	TOTAL	12G123	4.2	0.98	7440-66-6	ZINC	314		1.53	5.11	mg/kg				1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	6020	8/1/2012	TOTAL	12G123	4.2	0.98	7440-67-7	ZIRCONIUM	5.11	UJ	2.56	5.11	mg/kg	U	UJ	Q	1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	6020	8/1/2012	TOTAL	12G123	4.2	0.98	7440-70-2	CALCIUM METAL	15600		10.2	20.5	mg/kg				1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	6020	8/1/2012	TOTAL	12G123	4.2	0.98	7723-14-0	PHOSPHORUS	195		6.14	12.3	mg/kg				1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	6020	8/1/2012	TOTAL	12G123	4.2	0.98	7782-49-2	SELENIUM	0.511	U	0.205	0.511	mg/kg	U			1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	6850	7/24/2012	Gen Prep	12G123	4.2	1	14797-73-0	PERCHLORATE	5.22	U	2.61	5.22	ug/kg	U			1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	7471A	7/26/2012	7471A	12G123	4.2	0.998	7439-97-6	MERCURY	0.0875	J	0.0521	0.104	mg/kg	J	J	Z	1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	8015B EFH	7/25/2012	3550B	12G123	4.2	1	PHCC12C14	EFH (C12-C14)	5.2	U	2.6	5.2	mg/kg	U			1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	8015B EFH	7/25/2012	3550B	12G123	4.2	1	PHCC15C20	EFH (C15-C20)	5.2	U	2.6	5.2	mg/kg	U			1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	8015B EFH	7/25/2012	3550B	12G123	4.2	1	PHCC21C30	EFH (C21-C30)	91		2.6	5.2	mg/kg				1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	8015B EFH	7/25/2012	3550B	12G123	4.2	1	PHCC30C40	EFH (C30-C40)	120		5.2	10	mg/kg				1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	8015B EFH	7/25/2012	3550B	12G123	4.2	1	PHCC8C11	EFH (C8-C11)	5.2	U	2.6	5.2	mg/kg	U			1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	8082	7/30/2012	3550B	12G123	4.2	1	11096-82-5	Aroclor 1260	70		10	21	ug/kg				1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	8082	7/30/2012	3550B	12G123	4.2	1	11097-69-1	Aroclor 1254	21	U	10	21	ug/kg	U			1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	8082	7/30/2012	3550B	12G123	4.2	1	11100-14-4	Aroclor 1268	21	U	10	21	ug/kg	U			1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	8082	7/30/2012	3550B	12G123	4.2	1	11104-28-2	Aroclor 1221	21	U	10	21	ug/kg	U			1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	8082	7/30/2012	3550B	12G123	4.2	1	11126-42-4	Aroclor 5460	56		21	42	ug/kg				1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	8082	7/30/2012	3550B	12G123	4.2	1	11141-16-5	Aroclor 1232	21	U	10	21	ug/kg	U			1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	8082	7/30/2012	3550B	12G123	4.2	1	12642-23-8	Aroclor 5442	42	U	21	42	ug/kg	U			1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	8082	7/30/2012	3550B	12G123	4.2	1	12672-29-6	Aroclor 1248	21	U	10	21	ug/kg	U			1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	8082	7/30/2012	3550B	12G123	4.2	1	12674-11-2	Aroclor 1016	21	U	10	21	ug/kg	U			1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	8082	7/30/2012	3550B	12G123	4.2	1	37324-23-5	Aroclor 1262	21	U	10	21	ug/kg	U			1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	8082	7/30/2012	3550B	12G123	4.2	1	53469-21-9	Aroclor 1242	21	U	10	21	ug/kg	U			1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	8082	7/30/2012	3550B	12G123	4.2	1	63496-31-1	Aroclor 5432	42	U	21	42	ug/kg	U			1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	8270C SIM	7/24/2012	3550B	12G123	4.2	2	103-33-3	AZOBENZENE	10	U	5.2	10	ug/kg	U			1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	8270C SIM	7/24/2012	3550B	12G123	4.2	2	120-12-7	ANTHRACENE	21	U	5.2	21	ug/kg	U			1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	8270C SIM	7/24/2012	3550B	12G123	4.2	2	129-00-0	PYRENE	13	J	5.2	21	ug/kg	J	J	Z	1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	8270C SIM	7/24/2012	3550B	12G123	4.2	2	191-24-2	BENZO(G,H,I)PERYLENE	11	J	5.2	21	ug/kg	J	J	Z	1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	8270C SIM	7/24/2012	3550B	12G123	4.2	2	192-97-2	Benzo(e)pyrene	13		5.2	10	ug/kg				1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	8270C SIM	7/24/2012	3550B	12G123	4.2	2	193-39-5	INDENO(1,2,3-CD)PYRENE	21	U	5.2	21	ug/kg	U			1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	8270C SIM	7/24/2012	3550B	12G123	4.2	2	205-99-2	BENZO(B)FLUORANTHENE	13	J	5.2	21	ug/kg	J	J	Z	1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	8270C SIM	7/24/2012	3550B	12G123	4.2	2	206-44-0	FLUORANTHENE	13	J	5.2	21	ug/kg	J	J	Z	1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	8270C SIM	7/24/2012	3550B	12G123	4.2	2	207-08-9	BENZO(K)FLUORANTHENE	21	U	5.2	21	ug/kg	U			1785420.588	266137.9151	-118.70988	34.22923

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Master Chemical Database Table for Phase 3 - Area III Sediment Drainage Sampling

Sample Name	Sample Date	Sample Type Code	Start Depth	End Depth	Depth Unit	Matrix Code	Task Code	Parent Sample Code	Lab Sample ID	Lab Name	Analytical Method	Analysis Date	Prep Method	Lab SDG	Percent Moisture	Dilution Factor	Cas RN	Chemical Name	Report Result Value	Final Qualifiers	Method Detection Limit	Reporting Detection Limit	Report Result Unit	Lab Qualifiers	DQM Qualifiers	DQM Remarks	X Coordinate	Y Coordinate	Longitude	Latitude
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	8270C SIM	7/24/2012	3550B	12G123	4.2	2	208-96-8	ACENAPHTHYLENE	21	U	5.2	21	ug/kg	U			1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	8270C SIM	7/24/2012	3550B	12G123	4.2	2	218-01-9	1,2-BENZPHENANTHRACENE	8	J	5.2	21	ug/kg	J	J	Z	1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	8270C SIM	7/24/2012	3550B	12G123	4.2	2	50-32-8	BENZO(A)PYRENE	8.2	J	5.2	21	ug/kg	J	J	Z	1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	8270C SIM	7/24/2012	3550B	12G123	4.2	2	53-70-3	DIBENZO(A,H)ANTHRACENE	21	U	5.2	21	ug/kg	U			1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	8270C SIM	7/24/2012	3550B	12G123	4.2	2	56-55-3	BENZO(A)ANTHRACENE	6.2	J	5.2	21	ug/kg	J	J	Z	1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	8270C SIM	7/24/2012	3550B	12G123	4.2	2	62-75-9	METHANAMINE, N-METHYL-N-NITROSO	21	U	5.2	21	ug/kg	U			1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	8270C SIM	7/24/2012	3550B	12G123	4.2	2	83-32-9	ACENAPHTHENE	21	U	5.2	21	ug/kg	U			1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	8270C SIM	7/24/2012	3550B	12G123	4.2	2	85-01-8	PHENANTHRENE	21	U	5.2	21	ug/kg	U			1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	8270C SIM	7/24/2012	3550B	12G123	4.2	2	86-73-7	FLUORENE	21	U	5.2	21	ug/kg	U			1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	8270C SIM	7/24/2012	3550B	12G123	4.2	2	90-12-0	1-METHYLNAPHTHALENE	21	U	5.2	21	ug/kg	U			1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	8270C SIM	7/24/2012	3550B	12G123	4.2	2	91-20-3	NAPHTHALENE	21	U	5.2	21	ug/kg	U			1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	8270C SIM	7/24/2012	3550B	12G123	4.2	2	91-57-6	2-METHYLNAPHTHALENE	21	U	5.2	21	ug/kg	U			1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-07	EMAX	8270C SIM	7/24/2012	3550B	12G123	4.2	2	92-52-4	1,1'-Biphenyl	10	U	5.2	10	ug/kg	U			1785420.588	266137.9151	-118.70988	34.22923
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	6020	8/1/2012	TOTAL	12G123	5.2	0.985	7429-90-5	ALUMINUM (FUME OR DUST)	17300		12.5	104	mg/kg				1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	6020	8/1/2012	TOTAL	12G123	5.2	0.985	7439-89-6	IRON	22200		10.4	104	mg/kg				1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	6020	8/1/2012	TOTAL	12G123	5.2	0.985	7439-92-1	LEAD	11.7		0.104	0.520	mg/kg				1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	6020	8/1/2012	TOTAL	12G123	5.2	0.985	7439-93-2	LITHIUM	18.8		1.04	2.08	mg/kg				1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	6020	8/1/2012	TOTAL	12G123	5.2	0.985	7439-95-4	MAGNESIUM	5000		5.20	10.4	mg/kg				1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	6020	8/1/2012	TOTAL	12G123	5.2	0.985	7439-96-5	MANGANESE	342		0.260	0.520	mg/kg				1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	6020	8/1/2012	TOTAL	12G123	5.2	0.985	7439-98-7	MOLYBDENUM	0.392	J	0.0520	0.520	mg/kg	J	J	Z	1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	6020	8/1/2012	TOTAL	12G123	5.2	0.985	7440-02-0	NICKEL	14.3		0.208	0.520	mg/kg				1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	6020	8/1/2012	TOTAL	12G123	5.2	0.985	7440-09-7	POTASSIUM	3670		31.2	104	mg/kg				1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	6020	8/1/2012	TOTAL	12G123	5.2	0.985	7440-22-4	SILVER	0.148	J	0.0520	0.520	mg/kg	J	J	Z	1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	6020	8/1/2012	TOTAL	12G123	5.2	0.985	7440-23-5	SODIUM	78.5	J	52.0	104	mg/kg	J	J	Z	1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	6020	8/1/2012	TOTAL	12G123	5.2	0.985	7440-24-6	STRONTIUM	46.9		0.260	0.520	mg/kg				1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	6020	8/1/2012	TOTAL	12G123	5.2	0.985	7440-28-0	THALLIUM	0.249	J	0.0520	0.416	mg/kg	J	J	Z	1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	6020	8/1/2012	TOTAL	12G123	5.2	0.985	7440-31-5	TIN	10.4	U	5.20	10.4	mg/kg	U			1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	6020	8/1/2012	TOTAL	12G123	5.2	0.985	7440-32-6	TITANIUM METAL POWDER	691		0.520	1.04	mg/kg				1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	6020	8/1/2012	TOTAL	12G123	5.2	0.985	7440-36-0	ANTIMONY	0.312	J	0.104	0.520	mg/kg	J	J	Q, Z	1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	6020	8/1/2012	TOTAL	12G123	5.2	0.985	7440-38-2	ARSENIC	5.45		0.208	0.520	mg/kg				1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	6020	8/1/2012	TOTAL	12G123	5.2	0.985	7440-39-3	BARIUM	99.2		0.208	0.520	mg/kg				1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	6020	8/1/2012	TOTAL	12G123	5.2	0.985	7440-41-7	BERYLLIUM	0.704		0.0520	0.520	mg/kg				1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	6020	8/1/2012	TOTAL	12G123	5.2	0.985	7440-42-8	BORON	4.7	J	2.60	5.20	mg/kg	J	J	Z	1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	6020	8/1/2012	TOTAL	12G123	5.2	0.985	7440-43-9	CADMIUM	0.478	J	0.0520	0.520	mg/kg	J	J	Z	1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	6020	8/1/2012	TOTAL	12G123	5.2	0.985	7440-47-3	CHROMIUM	22		0.208	0.520	mg/kg				1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	6020	8/1/2012	TOTAL	12G123	5.2	0.985	7440-48-4	COBALT	8.46		0.0520	0.520	mg/kg				1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	6020	8/1/2012	TOTAL	12G123	5.2	0.985	7440-50-8	COPPER	12.3		0.208	0.520	mg/kg				1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	6020	8/1/2012	TOTAL	12G123	5.2	0.985	7440-62-2	VANADIUM (FUME OR DUST)	43.4	J	0.0520	0.520	mg/kg		J	Q	1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	6020	8/1/2012	TOTAL	12G123	5.2	0.985	7440-66-6	ZINC	109		1.56	5.20	mg/kg				1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	6020	8/1/2012	TOTAL	12G123	5.2	0.985	7440-67-7	ZIRCONIUM	5.2	UJ	2.60	5.20	mg/kg	U	UJ	Q	1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	6020	8/1/2012	TOTAL	12G123	5.2	0.985	7440-70-2	CALCIUM METAL	18400		10.4	20.8	mg/kg				1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	6020	8/1/2012	TOTAL	12G123	5.2	0.985	7723-14-0	PHOSPHORUS	314		6.23	12.5	mg/kg				1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	6020	8/1/2012	TOTAL	12G123	5.2	0.985	7782-49-2	SELENIUM	0.52	U	0.208	0.520	mg/kg	U			1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	6850	7/24/2012	Gen Prep	12G123	5.2	1	14797-73-0	PERCHLORATE	5.27	U	2.64	5.27	ug/kg	U			1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	7471A	7/26/2012	7471A	12G123	5.2	0.99	7439-97-6	MERCURY	0.104	U	0.0522	0.104	mg/kg	U			1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	8015B EFH	7/25/2012	3550B	12G123	5.2	1	PHCC12C14	EFH (C12-C14)	5.3	U	2.6	5.3	mg/kg	U			1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	8015B EFH	7/25/2012	3550B	12G123	5.2	1	PHCC15C20	EFH (C15-C20)	5.3	U	2.6	5.3	mg/kg	U			1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	8015B EFH	7/25/2012	3550B	12G123	5.2	1	PHCC21C30	EFH (C21-C30)	6.5		2.6	5.3	mg/kg				1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	8015B EFH	7/25/2012	3550B	12G123	5.2	1	PHCC30C40	EFH (C30-C40)	9.9	J	5.3	11	mg/kg	J	J	Z	1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	8015B EFH	7/25/2012	3550B	12G123	5.2	1	PHCC8C11	EFH (C8-C11)	5.3	U	2.6	5.3	mg/kg	U			1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	8082	7/30/2012	3550B	12G123	5.2	1	11096-82-5	Aroclor 1260	19	J	11	21	ug/kg	J	J	Z	1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	8082	7/30/2012	3550B	12G123	5.2	1	11097-69-1	Aroclor 1254	37		11	21	ug/kg				1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	8082	7/30/2012	3550B	12G123	5.2	1	11100-14-4	Aroclor 1268	21	U	11	21	ug/kg	U			1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	8082	7/30/2012	3550B	12G123	5.2	1	11104-28-2	Aroclor 1221	21	U	11	21	ug/kg	U			1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	8082	7/30/2012	3550B	12G123	5.2	1	11126-42-4	Aroclor 5460	42	U	21	42	ug/kg	U			1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	8082	7/30/2012	3550B	12G123	5.2	1	11141-16-5	Aroclor 1232	21	U	11	21	ug/kg	U			1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	8082	7/30/2012	3550B	12G123	5.2	1	12642-23-8	Aroclor 5442	42	U	21	42	ug/kg	U			1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	8082	7/30/2012	3550B	12G123	5.2	1	12672-29-6	Aroclor 1248	21	U	11	21	ug/kg	U			1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	8082	7/30/2012	3550B	12G123	5.2	1	12674-11-2	Aroclor 1016	21	U	11	21	ug/kg	U			1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	8082	7/30/2012	3550B	12G123	5.2	1	37324-23-5	Aroclor 1262	21	U	11	21	ug/kg	U			1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	8082	7/30/2012	3550B	12G123	5.2	1	53469-21-9	Aroclor 1242	21	U	11	21	ug/kg	U			1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	8082	7/30/2012	3550B	12G123	5.2	1	63496-31-1	Aroclor 5432	42	U	21	42	ug/kg	U			1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	8270C SIM	7/24/2012	3550B	12G123	5.2	1	103-33-3	AZOBENZENE	5.3	U	2.6	5.3	ug/kg	U			1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	8270C SIM	7/24/2012	3550B	12G123	5.2	1	120-12-7	ANTHRACENE	11	U	2.6	11	ug/kg	U			1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	8270C SIM	7/24/2012	3550B	12G123	5.2	1	129-00-0	PYRENE	4	J	2.6	11	ug/kg	J	J	Z	1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	8270C SIM	7/24/2012	3550B	12G123	5.2	1	191-24-2	BENZO(G,H,I)PERYLENE	2.9	J	2.6	11	ug/kg	J	J	Z	1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	8270C SIM	7/24/2012	3550B	12G123	5.2	1	192-97-2	Benzo(e)pyrene	5.3	U	2.6	5.3	ug/kg	U			1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	8270C SIM	7/24/2012	3550B	12G123	5.2	1	193-39-5	INDENO(1,2,3-CD)PYRENE	11	U	2.6	11	ug/kg	U			1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	8270C SIM	7/24/2012	3550B	12G123	5.2	1	205-99-2	BENZO(B)FLUORANTHENE	3.6	J	2.6	11	ug/kg	J	J	Z	1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	8270C SIM	7/24/2012	3550B	12G123	5.2	1	206-44-0	FLUORANTHENE	4.2	J	2.6	11	ug/kg	J	J	Z	1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	8270C SIM	7/24/2012	3550B	12G123	5.2	1	207-08-9	BENZO(K)FLUORANTHENE	11	U	2.6	11	ug/kg	U			1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	8270C SIM	7/24/2012	3550B	12G123	5.2	1	208-96-8	ACENAPHTHYLENE	11	U	2.6	11	ug/kg	U			1785403.832	266089.6466	-118.70993	34.2291
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724187	LL	1613B	7/28/2012	METHOD	PH020	5.5	1	35822-46-9	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	107		0.114	5.19	ng/kg	B			1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724187	LL	1613B	7/28/2012	METHOD	PH020	5.5	1	39001-02-0	OCDF	32.7		0.0362	10.4	ng/kg	B			1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724187	LL	1613B	7/28/2012	METHOD	PH020	5.5	1	39227-28-6	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	1.49	J	0.0548	5.19	ng/kg	JB	J	Z	1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724187	LL	1613B	7/28/2012	METHOD	PH020	5.5	1	40321-76-4	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	1.02	J	0.0723	5.19	ng/kg	JB	J	Z	1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724187	LL	1613B	7/28/2012	METHOD	PH020	5.5	1	51207-31-9	2,3,7,8-TETRACHLORODIBENZOFURAN	1.04	U	0.109	1.04	ng/kg	JB	U	B	1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724187	LL	1613B	7/28/2012	METHOD	PH020	5.5	1	55673-89-7	1,2,3,4,7,8,9-HPCDF	1.28	J	0.0478	5.19	ng/kg	JBQ	J	Z	1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724187	LL	1613B	7/28/2012	METHOD	PH020	5.5	1	57117-31-4	2,3,4,7,8-PECDF	5.19	U	0.0410	5.19	ng/kg	JB	U	B	1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724187	LL	1613B	7/28/2012	METHOD	PH020	5.5	1	57117-41-6	1,2,3,7,8-PENTACHLORODIBENZOFURAN	4.97	J	0.0409	5.19	ng/kg	JB	J	Z	1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724187	LL	1613B	7/28/2012	METHOD	PH020	5.5	1	57117-44-9	1,2,3,6,7,8-HXCDF	0.923	J	0.0394	5.19	ng/kg	JB	J	Z	1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724187	LL	1613B	7/28/2012	METHOD	PH020	5.5	1	57653-85-7	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	5.11	J	0.0565	5.19	ng/kg	JB	J	Z	1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724187	LL	1613B	7/28/2012	METHOD	PH020	5.5	1	60851-34-5	2,3,4,6,7,8-HXCDF	1	J	0.0408	5.19	ng/kg	JB	J	Z	1785496.181	266147.2627	-118.70963	34.22926

REVISED

Master Chemical Database Table for Phase 3 - Area III Sediment Drainage Sampling

Sample Name	Sample Date	Sample Type Code	Start Depth	End Depth	Depth Unit	Matrix Code	Task Code	Parent Sample Code	Lab Sample ID	Lab Name	Analytical Method	Analysis Date	Prep Method	Lab SDG	Percent Moisture	Dilution Factor	Cas RN	Chemical Name	Report Result Value	Final Qualifiers	Method Detection Limit	Reporting Detection Limit	Report Result Unit	Lab Qualifiers	DQM Qualifiers	DQM Remarks	X Coordinate	Y Coordinate	Longitude	Latitude
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724187	LL	1613B	7/28/2012	METHOD	PH020	5.5	1	67562-39-4	1,2,3,4,6,7,8-HPCDF	13.4		0.0362	5.19	ng/kg	B			1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724187	LL	1613B	7/28/2012	METHOD	PH020	5.5	1	70648-26-9	1,2,3,4,7,8-HXCDF	2.44	J	0.0441	5.19	ng/kg	JB	J	Z	1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724187	LL	1613B	7/28/2012	METHOD	PH020	5.5	1	72918-21-9	1,2,3,7,8,9-HXCDF	5.19	U	0.0443	5.19	ng/kg	JB	U	B	1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724187	LL	160.3M	7/24/2012	Gen Prep	PH020	5.5	1	MOIST	MOISTURE	5.5		0.50	0.50	%				1785496.181	266147.2627	-118.70963	34.22926
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	G123-03	EMAX	8270C SIM	7/24/2012	3550B	12G123	2.3	1	103-33-3	AZOBENZENE	5.1	U	2.6	5.1	ug/kg	U			1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	G123-03	EMAX	8270C SIM	7/24/2012	3550B	12G123	2.3	1	120-12-7	ANTHRACENE	10	U	2.6	10	ug/kg	U			1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	G123-03	EMAX	8270C SIM	7/24/2012	3550B	12G123	2.3	1	129-00-0	PYRENE	13		2.6	10	ug/kg				1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	G123-03	EMAX	8270C SIM	7/24/2012	3550B	12G123	2.3	1	191-24-2	BENZO(G,H,I)PERYLENE	4.3	J	2.6	10	ug/kg	J	J	Z	1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	G123-03	EMAX	8270C SIM	7/24/2012	3550B	12G123	2.3	1	192-97-2	Benzo(e)pyrene	5.2		2.6	5.1	ug/kg				1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	G123-03	EMAX	8270C SIM	7/24/2012	3550B	12G123	2.3	1	193-39-5	INDENO(1,2,3-CD)PYRENE	3.3	J	2.6	10	ug/kg	J	J	Z	1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	G123-03	EMAX	8270C SIM	7/24/2012	3550B	12G123	2.3	1	205-99-2	BENZO(B)FLUORANTHENE	10		2.6	10	ug/kg	J			1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	G123-03	EMAX	8270C SIM	7/24/2012	3550B	12G123	2.3	1	206-44-0	FLUORANTHENE	13		2.6	10	ug/kg				1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	G123-03	EMAX	8270C SIM	7/24/2012	3550B	12G123	2.3	1	207-08-9	BENZO(K)FLUORANTHENE	3.1	J	2.6	10	ug/kg	J	J	Z	1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	G123-03	EMAX	8270C SIM	7/24/2012	3550B	12G123	2.3	1	208-96-8	ACENAPHTHYLENE	10	U	2.6	10	ug/kg	U			1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	G123-03	EMAX	8270C SIM	7/24/2012	3550B	12G123	2.3	1	218-01-9	1,2-BENZPHENANTHRACENE	8.3	J	2.6	10	ug/kg	J	J	Z	1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	G123-03	EMAX	8270C SIM	7/24/2012	3550B	12G123	2.3	1	50-32-8	BENZO(A)PYRENE	7.1	J	2.6	10	ug/kg	J	J	Z	1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	G123-03	EMAX	8270C SIM	7/24/2012	3550B	12G123	2.3	1	53-70-3	DIBENZO(A,H)ANTHRACENE	10	U	2.6	10	ug/kg	U			1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	G123-03	EMAX	8270C SIM	7/24/2012	3550B	12G123	2.3	1	56-55-3	BENZO(A)ANTHRACENE	7	J	2.6	10	ug/kg	J	J	Z	1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	G123-03	EMAX	8270C SIM	7/24/2012	3550B	12G123	2.3	1	62-75-9	METHANAMINE, N-METHYL-N-NITROSO	10	U	2.6	10	ug/kg	U			1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	G123-03	EMAX	8270C SIM	7/24/2012	3550B	12G123	2.3	1	83-32-9	ACENAPHTHENE	10	U	2.6	10	ug/kg	U			1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	G123-03	EMAX	8270C SIM	7/24/2012	3550B	12G123	2.3	1	85-01-8	PHENANTHRENE	6.3	J	2.6	10	ug/kg	J	J	Z	1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	G123-03	EMAX	8270C SIM	7/24/2012	3550B	12G123	2.3	1	86-73-7	FLUORENE	10	U	2.6	10	ug/kg	U			1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	G123-03	EMAX	8270C SIM	7/24/2012	3550B	12G123	2.3	1	90-12-0	1-METHYLNAPHTHALENE	10	U	2.6	10	ug/kg	U			1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	G123-03	EMAX	8270C SIM	7/24/2012	3550B	12G123	2.3	1	91-20-3	NAPHTHALENE	10	U	2.6	10	ug/kg	U			1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	G123-03	EMAX	8270C SIM	7/24/2012	3550B	12G123	2.3	1	91-57-6	2-METHYLNAPHTHALENE	10	U	2.6	10	ug/kg	U			1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	G123-03	EMAX	8270C SIM	7/24/2012	3550B	12G123	2.3	1	92-52-4	1,1'-Biphenyl	5.1	U	2.6	5.1	ug/kg	U			1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	G123-03	EMAX	8082	7/30/2012	3550B	12G123	2.3	1	11096-82-5	Aroclor 1260	20	U	10	20	ug/kg	U			1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	G123-03	EMAX	8082	7/30/2012	3550B	12G123	2.3	1	11097-69-1	Aroclor 1254	20	U	10	20	ug/kg	U			1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	G123-03	EMAX	8082	7/30/2012	3550B	12G123	2.3	1	11100-14-4	Aroclor 1268	20	U	10	20	ug/kg	U			1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	G123-03	EMAX	8082	7/30/2012	3550B	12G123	2.3	1	11104-28-2	Aroclor 1221	20	U	10	20	ug/kg	U			1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	G123-03	EMAX	8082	7/30/2012	3550B	12G123	2.3	1	11126-42-4	Aroclor 5460	41	U	20	41	ug/kg	U			1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	G123-03	EMAX	8082	7/30/2012	3550B	12G123	2.3	1	11141-16-5	Aroclor 1232	20	U	10	20	ug/kg	U			1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	G123-03	EMAX	8082	7/30/2012	3550B	12G123	2.3	1	12642-23-8	Aroclor 5442	41	U	20	41	ug/kg	U			1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	G123-03	EMAX	8082	7/30/2012	3550B	12G123	2.3	1	12672-29-6	Aroclor 1248	20	U	10	20	ug/kg	U			1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	G123-03	EMAX	8082	7/30/2012	3550B	12G123	2.3	1	12674-11-2	Aroclor 1016	20	U	10	20	ug/kg	U			1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	G123-03	EMAX	8082	7/30/2012	3550B	12G123	2.3	1	37324-23-5	Aroclor 1262	20	U	10	20	ug/kg	U			1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	G123-03	EMAX	8082	7/30/2012	3550B	12G123	2.3	1	53469-21-9	Aroclor 1242	20	U	10	20	ug/kg	U			1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	G123-03	EMAX	8082	7/30/2012	3550B	12G123	2.3	1	63496-31-1	Aroclor 5432	41	U	20	41	ug/kg	U			1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	G123-03	EMAX	8015B EFH	7/24/2012	3550B	12G123	2.3	1	PHCC12C14	EFH (C12-C14)	5.1	U	2.6	5.1	mg/kg	U			1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	G123-03	EMAX	8015B EFH	7/24/2012	3550B	12G123	2.3	1	PHCC15C20	EFH (C15-C20)	5.1	U	2.6	5.1	mg/kg	U			1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	G123-03	EMAX	8015B EFH	7/24/2012	3550B	12G123	2.3	1	PHCC21C30	EFH (C21-C30)	4	J	2.6	5.1	mg/kg	J	J	Z	1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	G123-03	EMAX	8015B EFH	7/24/2012	3550B	12G123	2.3	1	PHCC30C40	EFH (C30-C40)	6.5	J	5.1	10	mg/kg	J	J	Z	1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	G123-03	EMAX	8015B EFH	7/24/2012	3550B	12G123	2.3	1	PHCC8C11	EFH (C8-C11)	5.1	U	2.6	5.1	mg/kg	U			1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	G123-03	EMAX	7471A	7/26/2012	7471A	12G123	2.3	0.988	7439-97-6	MERCURY	0.101	U	0.0506	0.101	mg/kg	U			1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	G123-03	EMAX	6020	8/1/2012	TOTAL	12G123	2.3	0.995	7429-90-5	ALUMINUM (FUME OR DUST)	20200		12.2	102	mg/kg				1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	G123-03	EMAX	6020	8/1/2012	TOTAL	12G123	2.3	0.995	7439-89-6	IRON	24900		10.2	102	mg/kg				1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	G123-03	EMAX	6020	8/1/2012	TOTAL	12G123	2.3	0.995	7439-92-1	LEAD	11.4		0.102	0.509	mg/kg				1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	G123-03	EMAX	6020	8/1/2012	TOTAL	12G123	2.3	0.995	7439-93-2	LITHIUM	26.3		1.02	2.04	mg/kg				1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	G123-03	EMAX	6020	8/1/2012	TOTAL	12G123	2.3	0.995	7439-95-4	MAGNESIUM	5970		5.09	10.2	mg/kg				1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	G123-03	EMAX	6020	8/1/2012	TOTAL	12G123	2.3	0.995	7439-96-5	MANGANESE	365		0.255	0.509	mg/kg				1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	G123-03	EMAX	6020	8/1/2012	TOTAL	12G123	2.3	0.995	7439-98-7	MOLYBDENUM	0.824		0.0509	0.509	mg/kg				1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	G123-03	EMAX	6020	8/1/2012	TOTAL	12G123	2.3	0.995	7440-02-0	NICKEL	17.1		0.204	0.509	mg/kg				1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	G123-03	EMAX	6020	8/1/2012	TOTAL	12G123	2.3	0.995	7440-09-7	POTASSIUM	4920		30.6	102	mg/kg				1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	G123-03	EMAX	6020	8/1/2012	TOTAL	12G123	2.3	0.995	7440-22-4	SILVER	0.274	J	0.0509	0.509	mg/kg	J	J	Z	1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	G123-03	EMAX	6020	8/1/2012	TOTAL	12G123	2.3	0.995	7440-23-5	SODIUM	113		50.9	102	mg/kg				1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	G123-03	EMAX	6020	8/1/2012	TOTAL	12G123	2.3	0.995	7440-24-6	STRONTIUM	26		0.255	0.509	mg/kg				1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	G123-03	EMAX	6020	8/1/2012	TOTAL	12G123	2.3	0.995	7440-28-0	THALLIUM	0.318	J	0.0509	0.407	mg/kg	J	J	Z	1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	G123-03	EMAX	6020	8/1/2012	TOTAL	12G123	2.3	0.995	7440-31-5	TIN	10.2	U	5.09	10.2	mg/kg	U			1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	G123-03	EMAX	6020	8/1/2012	TOTAL	12G123	2.3	0.995	7440-32-6	TITANIUM METAL POWDER	1020		0.509	1.02	mg/kg				1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	G123-03	EMAX	6020	8/1/2012	TOTAL	12G123	2.3	0.995	7440-36-0	ANTIMONY	0.267	J	0.102	0.509	mg/kg	J	J	Q, Z	1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	G123-03	EMAX	6020	8/1/2012	TOTAL	12G123	2.3	0.995	7440-38-2	ARSENIC	6.28		0.204	0.509	mg/kg				1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	G123-03	EMAX	6020	8/1/2012	TOTAL	12G123	2.3	0.995	7440-39-3	BARIUM	127		0.204	0.509	mg/kg				1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	G123-03	EMAX	6020	8/1/2012	TOTAL	12G123	2.3	0.995	7440-41-7	BERYLLIUM	0.751		0.0509	0.509	mg/kg				1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	G123-03	EMAX	6020	8/1/2012	TOTAL	12G123	2.3	0.995	7440-42-8	BORON	3.73	J	2.55	5.09	mg/kg	J	J	Z	1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	G123-03	EMAX	6020	8/1/2012	TOTAL	12G123	2.3	0.995	7440-43-9	CADMIUM	0.402	J	0.0509	0.509	mg/kg	J	J	Z	1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	G123-03	EMAX	6020	8/1/2012	TOTAL	12G123	2.3	0.995	7440-47-3	CHROMIUM	26.9		0.204	0.509	mg/kg				1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	G123-03	EMAX	6020	8/1/2012	TOTAL	12G123	2.3	0.995	7440-48-4	COBALT	8.73		0.0509	0.509	mg/kg				1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	G123-03	EMAX	6020	8/1/2012	TOTAL	12G123	2.3	0.995	7440-50-8	COPPER	13.5		0.204	0.509	mg/kg				1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	G123-03	EMAX	6020	8/1/2012	TOTAL	12G123	2.3	0.995	7440-62-2	VANADIUM (FUME OR DUST)	46.3	J	0.0509	0.509	mg/kg		J	Q	1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	G123-03	EMAX	6020	8/1/2012	TOTAL	12G123	2.3	0.995	7440-66-6	ZINC	76.9		1.53	5.09	mg/kg				1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	G123-03	EMAX	6020	8/1/2012	TOTAL	12G123	2.3	0.995	7440-67-7	ZIRCONIUM	2.65	J	2.55	5.09	mg/kg	J	J	FD, Q, Z	1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	G123-03	EMAX	6020	8/1/2012	TOTAL	12G123	2.3	0.995	7440-70-2	CALCIUM METAL	3510		10.2	20.4	mg/kg				1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	G123-03	EMAX	6020	8/1/2012	TOTAL	12G123	2.3	0.995	7723-14-0	PHOSPHORUS	436		6.11	12.2	mg/kg				1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	G123-03	EMAX	6020	8/1/2012	TOTAL	12G123	2.3	0.995	7782-49-2	SELENIUM	0.509	U	0.204	0.509	mg/kg	U			1785322.322	265565.863	-118.71019	34.22766
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-02	EMAX	8270C SIM	7/24/2012	3550B	12G123	5.0	1	103-33-3	AZOBENZENE	5.3	U	2.6	5.3	ug/kg	U			1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-02	EMAX	8270C SIM	7/24/2012	3550B	12G123	5.0	1	120-12-7	ANTHRACENE	11	U	2.6	11	ug/kg	U			1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-02	EMAX	8270C SIM	7/24/2012	3550B	12G123	5.0	1	129-00-0	PYRENE	3.8	J	2.6	11	ug/kg	J	J	Z	1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-02	EMAX	8270C SIM	7/24/2012	3550B	12G123	5.0	1	191-24-2	BENZO(G,H,I)PERYLENE	11	U	2.6	11	ug/kg	U			1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-02	EMAX	8270C SIM	7/24/2012	3550B	12G123	5.0	1	192-97-2	Benzo(e)pyrene	5.3	U	2.6	5.3	ug/kg	U			1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-02	EMAX	8270C SIM	7/24/2012	3550B	12G123	5.0	1	193-39-5	INDENO(1,2,3-CD)PYRENE	11	U	2.6	11	ug/kg	U			1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0

REVISED

Master Chemical Database Table for Phase 3 - Area III Sediment Drainage Sampling

Sample Name	Sample Date	Sample Type Code	Start Depth	End Depth	Depth Unit	Matrix Code	Task Code	Parent Sample Code	Lab Sample ID	Lab Name	Analytical Method	Analysis Date	Prep Method	Lab SDG	Percent Moisture	Dilution Factor	Cas RN	Chemical Name	Report Result Value	Final Qualifiers	Method Detection Limit	Reporting Detection Limit	Report Result Unit	Lab Qualifiers	DQM Qualifiers	DQM Remarks	X Coordinate	Y Coordinate	Longitude	Latitude
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-02	EMAX	8270C SIM	7/24/2012	3550B	12G123	5.0	1	208-96-8	ACENAPHTHYLENE	11	U	2.6	11	ug/kg	U			1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-02	EMAX	8270C SIM	7/24/2012	3550B	12G123	5.0	1	218-01-9	1,2-BENZPHENANTHRACENE	11	U	2.6	11	ug/kg	U			1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-02	EMAX	8270C SIM	7/24/2012	3550B	12G123	5.0	1	50-32-8	BENZO(A)PYRENE	11	U	2.6	11	ug/kg	U			1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-02	EMAX	8270C SIM	7/24/2012	3550B	12G123	5.0	1	53-70-3	DIBENZO(A,H)ANTHRACENE	11	U	2.6	11	ug/kg	U			1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-02	EMAX	8270C SIM	7/24/2012	3550B	12G123	5.0	1	56-55-3	BENZO(A)ANTHRACENE	11	U	2.6	11	ug/kg	U			1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-02	EMAX	8270C SIM	7/24/2012	3550B	12G123	5.0	1	62-75-9	METHANAMINE, N-METHYL-N-NITROSO	11	U	2.6	11	ug/kg	U			1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-02	EMAX	8270C SIM	7/24/2012	3550B	12G123	5.0	1	83-32-9	ACENAPHTHENE	11	U	2.6	11	ug/kg	U			1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-02	EMAX	8270C SIM	7/24/2012	3550B	12G123	5.0	1	85-01-8	PHENANTHRENE	11	U	2.6	11	ug/kg	U			1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-02	EMAX	8270C SIM	7/24/2012	3550B	12G123	5.0	1	86-73-7	FLUORENE	11	U	2.6	11	ug/kg	U			1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-02	EMAX	8270C SIM	7/24/2012	3550B	12G123	5.0	1	90-12-0	1-METHYLNAPHTHALENE	11	U	2.6	11	ug/kg	U			1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-02	EMAX	8270C SIM	7/24/2012	3550B	12G123	5.0	1	91-20-3	NAPHTHALENE	11	U	2.6	11	ug/kg	U			1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-02	EMAX	8270C SIM	7/24/2012	3550B	12G123	5.0	1	91-57-6	2-METHYLNAPHTHALENE	11	U	2.6	11	ug/kg	U			1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-02	EMAX	8270C SIM	7/24/2012	3550B	12G123	5.0	1	92-52-4	1,1'-Biphenyl	5.3	U	2.6	5.3	ug/kg	U			1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-02	EMAX	8082	7/30/2012	3550B	12G123	5.0	1	11096-82-5	Aroclor 1260	21	U	11	21	ug/kg	U			1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-02	EMAX	8082	7/30/2012	3550B	12G123	5.0	1	11097-69-1	Aroclor 1254	400		11	21	ug/kg				1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-02	EMAX	8082	7/30/2012	3550B	12G123	5.0	1	11100-14-4	Aroclor 1268	21	U	11	21	ug/kg	U			1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-02	EMAX	8082	7/30/2012	3550B	12G123	5.0	1	11104-28-2	Aroclor 1221	21	U	11	21	ug/kg	U			1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-02	EMAX	8082	7/30/2012	3550B	12G123	5.0	1	11126-42-4	Aroclor 5460	42	U	21	42	ug/kg	U			1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-02	EMAX	8082	7/30/2012	3550B	12G123	5.0	1	11141-16-5	Aroclor 1232	21	U	11	21	ug/kg	U			1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-02	EMAX	8082	7/30/2012	3550B	12G123	5.0	1	12642-23-8	Aroclor 5442	42	U	21	42	ug/kg	U			1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-02	EMAX	8082	7/30/2012	3550B	12G123	5.0	1	12672-29-6	Aroclor 1248	21	U	11	21	ug/kg	U			1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-02	EMAX	8082	7/30/2012	3550B	12G123	5.0	1	12674-11-2	Aroclor 1016	21	U	11	21	ug/kg	U			1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-02	EMAX	8082	7/30/2012	3550B	12G123	5.0	1	37324-23-5	Aroclor 1262	21	U	11	21	ug/kg	U			1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-02	EMAX	8082	7/30/2012	3550B	12G123	5.0	1	53469-21-9	Aroclor 1242	21	U	11	21	ug/kg	U			1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-02	EMAX	8082	7/30/2012	3550B	12G123	5.0	1	63496-31-1	Aroclor 5432	42	U	21	42	ug/kg	U			1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-02	EMAX	8015B EFH	7/24/2012	3550B	12G123	5.0	1	PHCC12C14	EFH (C12-C14)	5.3	U	2.6	5.3	mg/kg	U			1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-02	EMAX	8015B EFH	7/24/2012	3550B	12G123	5.0	1	PHCC15C20	EFH (C15-C20)	5.3	U	2.6	5.3	mg/kg	U			1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-02	EMAX	8015B EFH	7/24/2012	3550B	12G123	5.0	1	PHCC21C30	EFH (C21-C30)	12		2.6	5.3	mg/kg				1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-02	EMAX	8015B EFH	7/24/2012	3550B	12G123	5.0	1	PHCC30C40	EFH (C30-C40)	19		5.3	11	mg/kg				1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-02	EMAX	8015B EFH	7/24/2012	3550B	12G123	5.0	1	PHCC8C11	EFH (C8-C11)	5.3	U	2.6	5.3	mg/kg	U			1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-02	EMAX	7471A	7/26/2012	7471A	12G123	5.0	0.993	7439-97-6	MERCURY	0.105	U	0.0523	0.105	mg/kg	U			1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-02	EMAX	6020	8/1/2012	TOTAL	12G123	5.0	1	7429-90-5	ALUMINUM (FUME OR DUST)	16600		12.6	105	mg/kg				1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-02	EMAX	6020	8/1/2012	TOTAL	12G123	5.0	1	7439-89-6	IRON	22800		10.5	105	mg/kg				1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-02	EMAX	6020	8/1/2012	TOTAL	12G123	5.0	1	7439-92-1	LEAD	18.8		0.105	0.526	mg/kg				1785242.984	264980.8897	-118.71044	34.22605
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-03	EMAX	8082	8/9/2012	3550B	12G198	52.6	1	12674-11-2	Aroclor 1016	42	U	21	42	ug/kg	U			1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-03	EMAX	8082	8/9/2012	3550B	12G198	52.6	1	37324-23-5	Aroclor 1262	42	U	21	42	ug/kg	U			1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-03	EMAX	8082	8/9/2012	3550B	12G198	52.6	1	53469-21-9	Aroclor 1242	42	U	21	42	ug/kg	U			1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-03	EMAX	8082	8/9/2012	3550B	12G198	52.6	1	63496-31-1	Aroclor 5432	84	U	42	84	ug/kg	U			1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-03	EMAX	8270C SIM	8/3/2012	3550B	12G198	52.6	3	103-33-3	AZOBENZENE	32	U	16	32	ug/kg	U			1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-03	EMAX	8270C SIM	8/3/2012	3550B	12G198	52.6	3	120-12-7	ANTHRACENE	63	U	16	63	ug/kg	U			1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-03	EMAX	8270C SIM	8/3/2012	3550B	12G198	52.6	3	129-00-0	PYRENE	49	J	16	63	ug/kg	J	J	Z	1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-03	EMAX	8270C SIM	8/3/2012	3550B	12G198	52.6	3	191-24-2	BENZO(G,H,I)PERYLENE	36	J	16	63	ug/kg	J	J	Z	1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-03	EMAX	8270C SIM	8/3/2012	3550B	12G198	52.6	3	192-97-2	Benzo(e)pyrene	17	J	16	32	ug/kg	J	J	Z	1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-03	EMAX	8270C SIM	8/3/2012	3550B	12G198	52.6	3	193-39-5	INDENO(1,2,3-CD)PYRENE	63	U	16	63	ug/kg	U			1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-03	EMAX	8270C SIM	8/3/2012	3550B	12G198	52.6	3	205-99-2	BENZO(B)FLUORANTHENE	24	J	16	63	ug/kg	J	J	Z	1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-03	EMAX	8270C SIM	8/3/2012	3550B	12G198	52.6	3	206-44-0	FLUORANTHENE	35	J	16	63	ug/kg	J	J	Z	1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-03	EMAX	8270C SIM	8/3/2012	3550B	12G198	52.6	3	207-08-9	BENZO(K)FLUORANTHENE	63	U	16	63	ug/kg	U			1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-03	EMAX	8270C SIM	8/3/2012	3550B	12G198	52.6	3	208-96-8	ACENAPHTHYLENE	63	U	16	63	ug/kg	U			1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-03	EMAX	8270C SIM	8/3/2012	3550B	12G198	52.6	3	218-01-9	1,2-BENZPHENANTHRACENE	63	U	16	63	ug/kg	U			1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-03	EMAX	8270C SIM	8/3/2012	3550B	12G198	52.6	3	50-32-8	BENZO(A)PYRENE	17	J	16	63	ug/kg	J	J	Z	1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-03	EMAX	8270C SIM	8/3/2012	3550B	12G198	52.6	3	53-70-3	DIBENZO(A,H)ANTHRACENE	63	U	16	63	ug/kg	U			1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-03	EMAX	8270C SIM	8/3/2012	3550B	12G198	52.6	3	56-55-3	BENZO(A)ANTHRACENE	63	U	16	63	ug/kg	U			1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-03	EMAX	8270C SIM	8/3/2012	3550B	12G198	52.6	3	62-75-9	METHANAMINE, N-METHYL-N-NITROSO	63	U	16	63	ug/kg	U			1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-03	EMAX	8270C SIM	8/3/2012	3550B	12G198	52.6	3	83-32-9	ACENAPHTHENE	63	U	16	63	ug/kg	U			1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-03	EMAX	8270C SIM	8/3/2012	3550B	12G198	52.6	3	85-01-8	PHENANTHRENE	63	U	16	63	ug/kg	U			1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-03	EMAX	8270C SIM	8/3/2012	3550B	12G198	52.6	3	86-73-7	FLUORENE	63	U	16	63	ug/kg	U			1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-03	EMAX	8270C SIM	8/3/2012	3550B	12G198	52.6	3	90-12-0	1-METHYLNAPHTHALENE	63	U	16	63	ug/kg	U			1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-03	EMAX	8270C SIM	8/3/2012	3550B	12G198	52.6	3	91-20-3	NAPHTHALENE	63	U	16	63	ug/kg	U			1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-03	EMAX	8270C SIM	8/3/2012	3550B	12G198	52.6	3	91-57-6	2-METHYLNAPHTHALENE	63	U	16	63	ug/kg	U			1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-03	EMAX	8270C SIM	8/3/2012	3550B	12G198	52.6	3	92-52-4	1,1'-Biphenyl	32	U	16	32	ug/kg	U			1787328.764	266592.5402	-118.70358	34.23052
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-04	EMAX	6020	8/8/2012	TOTAL	12G198	59.4	0.995	7429-90-5	ALUMINUM (FUME OR DUST)	12800		29.4	245	mg/kg				1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-04	EMAX	6020	8/8/2012	TOTAL	12G198	59.4	0.995	7439-89-6	IRON	20600		24.5	245	mg/kg				1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-04	EMAX	6020	8/8/2012	TOTAL	12G198	59.4	0.995	7439-92-1	LEAD	17.4		0.245	1.23	mg/kg				1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-04	EMAX	6020	8/8/2012	TOTAL	12G198	59.4	0.995	7439-93-2	LITHIUM	24.1		2.45	4.90	mg/kg				1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-04	EMAX	6020	8/8/2012	TOTAL	12G198	59.4	0.995	7439-95-4	MAGNESIUM	4490		12.3	24.5	mg/kg				1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-04	EMAX	6020	8/8/2012	TOTAL	12G198	59.4	0.995	7439-96-5	MANGANESE	695		0.613	1.23	mg/kg				1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-04	EMAX	6020	8/8/2012	TOTAL	12G198	59.4	0.995	7439-98-7	MOLYBDENUM	2.33		0.123	1.23	mg/kg				1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-04	EMAX	6020	8/8/2012	TOTAL	12G198	59.4	0.995	7440-02-0	NICKEL	16.3		0.490	1.23	mg/kg				1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-04	EMAX	6020	8/8/2012	TOTAL	12G198	59.4	0.995	7440-09-7	POTASSIUM	2410		73.5	245	mg/kg				1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-04	EMAX	6020	8/8/2012	TOTAL	12G198	59.4	0.995	7440-22-4	SILVER	12.8		0.123	1.23	mg/kg				1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-04	EMAX	6020	8/8/2012	TOTAL	12G198	59.4	0.995	7440-23-5	SODIUM	274		123	245	mg/kg				1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-04	EMAX	6020	8/8/2012	TOTAL	12G198	59.4	0.995	7440-24-6	STRONTIUM	118		0.613	1.23	mg/kg				1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-04	EMAX	6020	8/8/2012	TOTAL	12G198	59.4	0.995	7440-28-0	THALLIUM	0.198	J	0.123	0.980	mg/kg	J	J	Z	1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-04	EMAX	6020	8/8/2012	TOTAL	12G198	59.4	0.995	7440-31-5	TIN	24.5	U	12.3	24.5	mg/kg	U			1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-04	EMAX	6020	8/8/2012	TOTAL	12G198	59.4	0.995	7440-32-6	TITANIUM METAL POWDER	730		1.23	2.45	mg/kg				1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-04	EMAX	6020	8/8/2012	TOTAL	12G198	59.4	0.995	7440-36-0	ANTIMONY	0.485	J	0.245	1.23	mg/kg	J	J	Z	1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-04	EMAX	6020	8/8/2012	TOTAL	12G198	59.4	0.995	7440-38-2	ARSENIC	5.87		0.490	1.23	mg/kg				1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-04	EMAX	6020	8/8/2012	TOTAL	12G198	59.4	0.995	7440-39-3	BARIUM	92.1		0.490	1.23	mg/kg				1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-04	EMAX	6020	8/8/2012	TOTAL	12G198	59.4	0.995	7440-41-7	BERYLLIUM	0.524	J	0.123	1.23	mg/kg	J	J	Z	1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-04	EMAX	6020	8/8/2012	TOTAL	12G198	59.4	0.995	7440-42-8	BORON	12.3	U	6.13	12.3	mg/kg	U			1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-04	EMAX	6020	8/8/2012	TOTAL	12G198	59.4	0.995	7440-43-9	CADMIUM	1.06	J	0.123	1.23	mg/kg	J	J	Z	1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-04	EMAX	6020	8/8/2012	TOTAL	12G198	59.4	0.995	7440-47-3	CHROMIUM	22.2		0.490	1.23	mg/kg				1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-04	EMAX	6020	8/8/2012	TOTAL	12G198	59.4	0.995	7440-48-4	COBALT	6.31		0.123	1.23	mg/kg				1787238.486	266530.6348	-118.70387	34.23035

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Master Chemical Database Table for Phase 3 - Area III Sediment Drainage Sampling

Sample Name	Sample Date	Sample Type Code	Start Depth	End Depth	Depth Unit	Matrix Code	Task Code	Parent Sample Code	Lab Sample ID	Lab Name	Analytical Method	Analysis Date	Prep Method	Lab SDG	Percent Moisture	Dilution Factor	Cas RN	Chemical Name	Report Result Value	Final Qualifiers	Method Detection Limit	Reporting Detection Limit	Report Result Unit	Lab Qualifiers	DQM Qualifiers	DQM Remarks	X Coordinate	Y Coordinate	Longitude	Latitude
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-04	EMAX	6020	8/8/2012	TOTAL	12G198	59.4	0.995	7440-50-8	COPPER	21.9		0.490	1.23	mg/kg				1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-04	EMAX	6020	8/8/2012	TOTAL	12G198	59.4	0.995	7440-62-2	VANADIUM (FUME OR DUST)	30.4		0.123	1.23	mg/kg				1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-04	EMAX	6020	8/8/2012	TOTAL	12G198	59.4	0.995	7440-66-6	ZINC	101		3.68	12.3	mg/kg				1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-04	EMAX	6020	8/8/2012	TOTAL	12G198	59.4	0.995	7440-67-7	ZIRCONIUM	12.3	U	6.13	12.3	mg/kg	U			1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-04	EMAX	6020	8/8/2012	TOTAL	12G198	59.4	0.995	7440-70-2	CALCIUM METAL	36200		24.5	49.0	mg/kg				1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-04	EMAX	6020	8/8/2012	TOTAL	12G198	59.4	0.995	7723-14-0	PHOSPHORUS	599		14.7	29.4	mg/kg				1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-04	EMAX	6020	8/8/2012	TOTAL	12G198	59.4	0.995	7782-49-2	SELENIUM	1.23	U	0.490	1.23	mg/kg	U			1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-04	EMAX	7471A	8/3/2012	7471A	12G198	59.4	0.998	7439-97-6	MERCURY	0.246	U	0.123	0.246	mg/kg	U			1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-04	EMAX	8015B EFH	8/4/2012	3550B	12G198	59.4	1	PHCC12C14	EFH (C12-C14)	300		6.2	12	mg/kg				1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-04	EMAX	8015B EFH	8/4/2012	3550B	12G198	59.4	1	PHCC15C20	EFH (C15-C20)	430		6.2	12	mg/kg				1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-04	EMAX	8015B EFH	8/4/2012	3550B	12G198	59.4	1	PHCC21C30	EFH (C21-C30)	200		6.2	12	mg/kg				1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-04	EMAX	8015B EFH	8/4/2012	3550B	12G198	59.4	1	PHCC30C40	EFH (C30-C40)	220		12	25	mg/kg				1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-04	EMAX	8015B EFH	8/4/2012	3550B	12G198	59.4	1	PHCC8C11	EFH (C8-C11)	17		6.2	12	mg/kg				1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-04	EMAX	8082	8/9/2012	3550B	12G198	59.4	1	11096-82-5	Aroclor 1260	130		25	49	ug/kg				1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-04	EMAX	8082	8/9/2012	3550B	12G198	59.4	1	11097-69-1	Aroclor 1254	220		25	49	ug/kg				1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-04	EMAX	8082	8/9/2012	3550B	12G198	59.4	1	11100-14-4	Aroclor 1268	49	U	25	49	ug/kg	U			1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-04	EMAX	8082	8/9/2012	3550B	12G198	59.4	1	11104-28-2	Aroclor 1221	49	U	25	49	ug/kg	U			1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-04	EMAX	8082	8/9/2012	3550B	12G198	59.4	1	11126-42-4	Aroclor 5460	99	U	49	99	ug/kg	U			1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-04	EMAX	8082	8/9/2012	3550B	12G198	59.4	1	11141-16-5	Aroclor 1232	49	U	25	49	ug/kg	U			1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-04	EMAX	8082	8/9/2012	3550B	12G198	59.4	1	12642-23-8	Aroclor 5442	99	U	49	99	ug/kg	U			1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-04	EMAX	8082	8/9/2012	3550B	12G198	59.4	1	12672-29-6	Aroclor 1248	49	U	25	49	ug/kg	U			1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-04	EMAX	8082	8/9/2012	3550B	12G198	59.4	1	12674-11-2	Aroclor 1016	49	U	25	49	ug/kg	U			1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-04	EMAX	8082	8/9/2012	3550B	12G198	59.4	1	37324-23-5	Aroclor 1262	49	U	25	49	ug/kg	U			1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-04	EMAX	8082	8/9/2012	3550B	12G198	59.4	1	53469-21-9	Aroclor 1242	49	U	25	49	ug/kg	U			1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-04	EMAX	8082	8/9/2012	3550B	12G198	59.4	1	63496-31-1	Aroclor 5432	99	U	49	99	ug/kg	U			1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-04	EMAX	8270C SIM	8/3/2012	3550B	12G198	59.4	3	103-33-3	AZOBENZENE	37	U	18	37	ug/kg	U			1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-04	EMAX	8270C SIM	8/3/2012	3550B	12G198	59.4	3	120-12-7	ANTHRACENE	74	UJ	18	74	ug/kg	U	UJ	S	1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-04	EMAX	8270C SIM	8/3/2012	3550B	12G198	59.4	3	129-00-0	PYRENE	28	J	18	74	ug/kg	J	J	S, Z	1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-04	EMAX	8270C SIM	8/3/2012	3550B	12G198	59.4	3	191-24-2	BENZO(G,H,I)PERYLENE	24	J	18	74	ug/kg	J	J	S, Z	1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-04	EMAX	8270C SIM	8/3/2012	3550B	12G198	59.4	3	192-97-2	Benzo(e)pyrene	37	UJ	18	37	ug/kg	U	UJ	S	1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-04	EMAX	8270C SIM	8/3/2012	3550B	12G198	59.4	3	193-39-5	INDENO(1,2,3-CD)PYRENE	74	UJ	18	74	ug/kg	U	UJ	S	1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-04	EMAX	8270C SIM	8/3/2012	3550B	12G198	59.4	3	205-99-2	BENZO(B)FLUORANTHENE	74	UJ	18	74	ug/kg	U	UJ	S	1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-04	EMAX	8270C SIM	8/3/2012	3550B	12G198	59.4	3	206-44-0	FLUORANTHENE	22	J	18	74	ug/kg	J	J	S, Z	1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-04	EMAX	8270C SIM	8/3/2012	3550B	12G198	59.4	3	207-08-9	BENZO(K)FLUORANTHENE	74	UJ	18	74	ug/kg	U	UJ	S	1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-04	EMAX	8270C SIM	8/3/2012	3550B	12G198	59.4	3	208-96-8	ACENAPHTHYLENE	74	UJ	18	74	ug/kg	U	UJ	S	1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-04	EMAX	8270C SIM	8/3/2012	3550B	12G198	59.4	3	218-01-9	1,2-BENZPHENANTHRACENE	74	UJ	18	74	ug/kg	U	UJ	S	1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-04	EMAX	8270C SIM	8/3/2012	3550B	12G198	59.4	3	50-32-8	BENZO(A)PYRENE	74	UJ	18	74	ug/kg	U	UJ	S	1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-04	EMAX	8270C SIM	8/3/2012	3550B	12G198	59.4	3	53-70-3	DIBENZO(A,H)ANTHRACENE	74	UJ	18	74	ug/kg	U	UJ	S	1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-04	EMAX	8270C SIM	8/3/2012	3550B	12G198	59.4	3	56-55-3	BENZO(A)ANTHRACENE	74	UJ	18	74	ug/kg	U	UJ	S	1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-04	EMAX	8270C SIM	8/3/2012	3550B	12G198	59.4	3	62-75-9	METHANAMINE, N-METHYL-N-NITROSO	74	UJ	18	74	ug/kg	U	UJ	S	1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-04	EMAX	8270C SIM	8/3/2012	3550B	12G198	59.4	3	83-32-9	ACENAPHTHENE	74	UJ	18	74	ug/kg	U	UJ	S	1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-04	EMAX	8270C SIM	8/3/2012	3550B	12G198	59.4	3	85-01-8	PHENANTHRENE	74	UJ	18	74	ug/kg	U	UJ	S	1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-04	EMAX	8270C SIM	8/3/2012	3550B	12G198	59.4	3	86-73-7	FLUORENE	74	UJ	18	74	ug/kg	U	UJ	S	1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-04	EMAX	8270C SIM	8/3/2012	3550B	12G198	59.4	3	90-12-0	1-METHYLNAPHTHALENE	74	UJ	18	74	ug/kg	U	UJ	S	1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-04	EMAX	8270C SIM	8/3/2012	3550B	12G198	59.4	3	91-20-3	NAPHTHALENE	74	UJ	18	74	ug/kg	U	UJ	S	1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-04	EMAX	8270C SIM	8/3/2012	3550B	12G198	59.4	3	91-57-6	2-METHYLNAPHTHALENE	74	UJ	18	74	ug/kg	U	UJ	S	1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-04	EMAX	8270C SIM	8/3/2012	3550B	12G198	59.4	3	92-52-4	1,1'-Biphenyl	37	U	18	37	ug/kg	U			1787238.486	266530.6348	-118.70387	34.23035
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732501	LL	160.3M	7/27/2012	Gen Prep	PT029	69.6	1	MOIST	MOISTURE	69.6		0.50	0.50	%				1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732501	LL	8015B	8/1/2012	3550B	PT029	69.6	1	84-15-1	O-TERPHENYL	46	U	20	46	mg/kg	U			1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732501	LL	8015B	8/1/2012	3550B	PT029	69.6	1	92-06-8	m-Terphenyl	46	U	20	46	mg/kg	U			1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732501	LL	8015B	8/1/2012	3550B	PT029	69.6	1	92-94-4	p-Terphenyl	46	U	20	46	mg/kg	U			1787495.551	266694.9674	-118.70303	34.23081
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732502	LL	160.3M	7/27/2012	Gen Prep	PT029	62.8	1	MOIST	MOISTURE	62.8		0.50	0.50	%				1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732502	LL	8015B	8/1/2012	3550B	PT029	62.8	1	84-15-1	O-TERPHENYL	38	U	16	38	mg/kg	U			1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732502	LL	8015B	8/1/2012	3550B	PT029	62.8	1	92-06-8	m-Terphenyl	38	U	16	38	mg/kg	U			1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732502	LL	8015B	8/1/2012	3550B	PT029	62.8	1	92-94-4	p-Terphenyl	38	U	16	38	mg/kg	U			1787433.256	266654.5701	-118.70323	34.23069
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732503	LL	160.3M	7/27/2012	Gen Prep	PT029	58.7	1	MOIST	MOISTURE	58.7		0.50	0.50	%				1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732503	LL	8015B	8/1/2012	3550B	PT029	58.7	1	84-15-1	O-TERPHENYL	34	U	15	34	mg/kg	U			1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732503	LL	8015B	8/1/2012	3550B	PT029	58.7	1	92-06-8	m-Terphenyl	34	U	15	34	mg/kg	U			1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732503	LL	8015B	8/1/2012	3550B	PT029	58.7	1	92-94-4	p-Terphenyl	34	U	15	34	mg/kg	U			1787328.764	266592.5402	-118.70358	34.23052
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732504	LL	160.3M	7/27/2012	Gen Prep	PT029	60.6	1	MOIST	MOISTURE	60.6		0.50	0.50	%				1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732504	LL	8015B	8/1/2012	3550B	PT029	60.6	1	84-15-1	O-TERPHENYL	36	U	15	36	mg/kg	U			1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732504	LL	8015B	8/1/2012	3550B	PT029	60.6	1	92-06-8	m-Terphenyl	36	U	15	36	mg/kg	U			1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732504	LL	8015B	8/1/2012	3550B	PT029	60.6	1	92-94-4	p-Terphenyl	36	U	15	36	mg/kg	U			1787238.486	266530.6348	-118.70387	34.23035
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-01	EMAX	6020	8/2/2012	TOTAL	12G140	1.9	0.971	7429-90-5	ALUMINUM (FUME OR DUST)	7400		11.9	99.0	mg/kg				1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-01	EMAX	6020	8/2/2012	TOTAL	12G140	1.9	0.971	7439-89-6	IRON	13800		9.90	99.0	mg/kg				1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-01	EMAX	6020	8/2/2012	TOTAL	12G140	1.9	0.971	7439-92-1	LEAD	8.59		0.0990	0.495	mg/kg				1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-01	EMAX	6020	8/2/2012	TOTAL	12G140	1.9	0.971	7439-93-2	LITHIUM	16.6		0.990	1.98	mg/kg				1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-01	EMAX	6020	8/2/2012	TOTAL	12G140	1.9	0.971	7439-95-4	MAGNESIUM	3160		4.95	9.90	mg/kg				1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-01	EMAX	6020	8/2/2012	TOTAL	12G140	1.9	0.971	7439-96-5	MANGANESE	161		0.247	0.495	mg/kg				1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-01	EMAX	6020	8/2/2012	TOTAL	12G140	1.9	0.971	7439-98-7	MOLYBDENUM	0.498		0.0495	0.495	mg/kg				1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-01	EMAX	6020	8/2/2012	TOTAL	12G140	1.9	0.971	7440-02-0	NICKEL	7.86		0.198	0.495	mg/kg				1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-01	EMAX	6020	8/2/2012	TOTAL	12G140	1.9	0.971	7440-09-7	POTASSIUM	2010		29.7	99.0	mg/kg				1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-01	EMAX	6020	8/2/2012	TOTAL	12G140	1.9	0.971	7440-22-4	SILVER	1.24		0.0495	0.495	mg/kg				1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-01	EMAX	6020	8/2/2012	TOTAL	12G140	1.9	0.971	7440-23-5	SODIUM	75.4	J	49.5	99.0	mg/kg	J	J	Z	1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-01	EMAX	6020	8/2/2012	TOTAL	12G140	1.9	0.971	7440-24-6	STRONTIUM	21.2		0.247	0.495	mg/kg				1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-01	EMAX	6020	8/2/2012	TOTAL	12G140	1.9	0.971	7440-28-0	THALLIUM	0.137	J	0.0495	0.396	mg/kg	J	J	Z	1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-01	EMAX	6020	8/2/2012	TOTAL	12G140	1.9	0.971	7440-31-5	TIN	9.9	U	4.95	9.90	mg/kg	U			1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-01	EMAX	6020	8/2/2012	TOTAL	12G140	1.9	0.971	7440-32-6	TITANIUM METAL POWDER	583		0.495	0.990	mg/kg				1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-01	EMAX	6020	8/2/2012	TOTAL	12G140	1.9	0.971	7440-36-0	ANTIMONY	0.168	J	0.0990	0.495	mg/kg	J	J	Z	1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-01	EMAX	6020	8/2/2012	TOTAL	12G140	1.9	0.971	7440-38-2	ARSENIC	4.06		0.198	0.495	mg/kg				1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-01	EMAX	6020	8/2/2012	TOTAL	12G140	1.9	0.971	7440-39-3	BARIUM	49.4		0.198	0.495	mg/kg				1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-01	EMAX	6020	8/2/2012	TOTAL	12G140	1.9	0.971	7440-41-7	BERYLLIUM	0.281	J	0.0495	0.495	mg/kg	J	J	Z	1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-01	EMAX	6020	8/2/2012	TOTAL	12G140	1.9	0.971	7440-42-8	BORON	4.95	U	2.47	4.95	mg/kg	U			1787722.465	267260.1336	-118.70229	34.23236

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Master Chemical Database Table for Phase 3 - Area III Sediment Drainage Sampling

Sample Name	Sample Date	Sample Type Code	Start Depth	End Depth	Depth Unit	Matrix Code	Task Code	Parent Sample Code	Lab Sample ID	Lab Name	Analytical Method	Analysis Date	Prep Method	Lab SDG	Percent Moisture	Dilution Factor	Cas RN	Chemical Name	Report Result Value	Final Qualifiers	Method Detection Limit	Reporting Detection Limit	Report Result Unit	Lab Qualifiers	DQM Qualifiers	DQM Remarks	X Coordinate	Y Coordinate	Longitude	Latitude
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-01	EMAX	6020	8/2/2012	TOTAL	12G140	1.9	0.971	7440-43-9	CADMIUM	0.35	J	0.0495	0.495	mg/kg	J	J	Z	1787722.465	267260.1336	-118.70229	34.23236
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726228	LL	8015B	8/1/2012	3550B	PT024	0.53	1	92-94-4	p-Terphenyl	7	U	3.0	7.0	mg/kg	U			1786794.589	266819.7922	-118.70535	34.23113
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726232	LL	8015B	8/1/2012	3550B	PT024	3.9	1	84-15-1	O-TERPHENYL	7.3	U	3.1	7.3	mg/kg	U			1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726232	LL	8015B	8/1/2012	3550B	PT024	3.9	1	92-06-8	m-Terphenyl	7.3	U	3.1	7.3	mg/kg	U			1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726232	LL	8015B	8/1/2012	3550B	PT024	3.9	1	92-94-4	p-Terphenyl	7.3	U	3.1	7.3	mg/kg	U			1785907.642	266377.1375	-118.70827	34.2299
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-02	EMAX	8082	8/4/2012	3550B	12G140	2.4	1	11096-82-5	Aroclor 1260	34		10	20	ug/kg				1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-02	EMAX	8082	8/4/2012	3550B	12G140	2.4	1	11097-69-1	Aroclor 1254	46		10	20	ug/kg				1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-02	EMAX	8082	8/4/2012	3550B	12G140	2.4	1	11100-14-4	Aroclor 1268	20	U	10	20	ug/kg	U			1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-02	EMAX	8082	8/4/2012	3550B	12G140	2.4	1	11104-28-2	Aroclor 1221	20	U	10	20	ug/kg	U			1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-02	EMAX	8082	8/4/2012	3550B	12G140	2.4	1	11126-42-4	Aroclor 5460	23	J	20	41	ug/kg	J	J	Z	1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-02	EMAX	8082	8/4/2012	3550B	12G140	2.4	1	11141-16-5	Aroclor 1232	20	U	10	20	ug/kg	U			1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-02	EMAX	8082	8/4/2012	3550B	12G140	2.4	1	12642-23-8	Aroclor 5442	41	U	20	41	ug/kg	U			1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-02	EMAX	8082	8/4/2012	3550B	12G140	2.4	1	12672-29-6	Aroclor 1248	20	U	10	20	ug/kg	U			1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-02	EMAX	8082	8/4/2012	3550B	12G140	2.4	1	12674-11-2	Aroclor 1016	20	U	10	20	ug/kg	U			1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-02	EMAX	8082	8/4/2012	3550B	12G140	2.4	1	37324-23-5	Aroclor 1262	20	U	10	20	ug/kg	U			1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-02	EMAX	8082	8/4/2012	3550B	12G140	2.4	1	53469-21-9	Aroclor 1242	20	U	10	20	ug/kg	U			1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-02	EMAX	8082	8/4/2012	3550B	12G140	2.4	1	63496-31-1	Aroclor 5432	41	U	20	41	ug/kg	U			1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-02	EMAX	8270C SIM	7/31/2012	3550B	12G140	2.4	1	103-33-3	AZOBENZENE	5.1	U	2.6	5.1	ug/kg	U			1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-02	EMAX	8270C SIM	7/31/2012	3550B	12G140	2.4	1	120-12-7	ANTHRACENE	10	U	2.6	10	ug/kg	U			1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-02	EMAX	8270C SIM	7/31/2012	3550B	12G140	2.4	1	129-00-0	PYRENE	5	J	2.6	10	ug/kg	J	J	Z	1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-02	EMAX	8270C SIM	7/31/2012	3550B	12G140	2.4	1	191-24-2	BENZO(G,H,I)PERYLENE	5.5	J	2.6	10	ug/kg	J	J	Z	1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-02	EMAX	8270C SIM	7/31/2012	3550B	12G140	2.4	1	192-97-2	Benzo(e)pyrene	4.8	J	2.6	5.1	ug/kg	J	J	Z	1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-02	EMAX	8270C SIM	7/31/2012	3550B	12G140	2.4	1	193-39-5	INDENO(1,2,3-CD)PYRENE	3.1	J	2.6	10	ug/kg	J	J	Z	1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-02	EMAX	8270C SIM	7/31/2012	3550B	12G140	2.4	1	205-99-2	BENZO(B)FLUORANTHENE	6.3	J	2.6	10	ug/kg	J	J	Z	1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-02	EMAX	8270C SIM	7/31/2012	3550B	12G140	2.4	1	206-44-0	FLUORANTHENE	4.5	J	2.6	10	ug/kg	J	J	Z	1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-02	EMAX	8270C SIM	7/31/2012	3550B	12G140	2.4	1	207-08-9	BENZO(K)FLUORANTHENE	10	U	2.6	10	ug/kg	U			1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-02	EMAX	8270C SIM	7/31/2012	3550B	12G140	2.4	1	208-96-8	ACENAPHTHYLENE	10	U	2.6	10	ug/kg	U			1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-02	EMAX	8270C SIM	7/31/2012	3550B	12G140	2.4	1	218-01-9	1,2-BENZPHENANTHRACENE	10	U	2.6	10	ug/kg	U			1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-02	EMAX	8270C SIM	7/31/2012	3550B	12G140	2.4	1	50-32-8	BENZO(A)PYRENE	3.2	J	2.6	10	ug/kg	J	J	Z	1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-02	EMAX	8270C SIM	7/31/2012	3550B	12G140	2.4	1	53-70-3	DIBENZO(A,H)ANTHRACENE	10	U	2.6	10	ug/kg	U			1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-02	EMAX	8270C SIM	7/31/2012	3550B	12G140	2.4	1	56-55-3	BENZO(A)ANTHRACENE	10	U	2.6	10	ug/kg	U			1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-02	EMAX	8270C SIM	7/31/2012	3550B	12G140	2.4	1	62-75-9	METHANAMINE, N-METHYL-N-NITROSO	10	U	2.6	10	ug/kg	U			1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-02	EMAX	8270C SIM	7/31/2012	3550B	12G140	2.4	1	83-32-9	ACENAPHTHENE	10	U	2.6	10	ug/kg	U			1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-02	EMAX	8270C SIM	7/31/2012	3550B	12G140	2.4	1	85-01-8	PHENANTHRENE	10	U	2.6	10	ug/kg	U			1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-02	EMAX	8270C SIM	7/31/2012	3550B	12G140	2.4	1	86-73-7	FLUORENE	10	U	2.6	10	ug/kg	U			1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-02	EMAX	8270C SIM	7/31/2012	3550B	12G140	2.4	1	90-12-0	1-METHYLNAPHTHALENE	10	U	2.6	10	ug/kg	U			1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-02	EMAX	8270C SIM	7/31/2012	3550B	12G140	2.4	1	91-20-3	NAPHTHALENE	10	U	2.6	10	ug/kg	U			1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-02	EMAX	8270C SIM	7/31/2012	3550B	12G140	2.4	1	91-57-6	2-METHYLNAPHTHALENE	10	U	2.6	10	ug/kg	U			1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-02	EMAX	8270C SIM	7/31/2012	3550B	12G140	2.4	1	92-52-4	1,1'-Biphenyl	5.1	U	2.6	5.1	ug/kg	U			1787614.125	267116.684	-118.70265	34.23197
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-03	EMAX	6020	8/2/2012	TOTAL	12G140	7.3	0.966	7429-90-5	ALUMINUM (FUME OR DUST)	13300		12.5	104	mg/kg				1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-03	EMAX	6020	8/2/2012	TOTAL	12G140	7.3	0.966	7439-89-6	IRON	19900		10.4	104	mg/kg				1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-03	EMAX	6020	8/2/2012	TOTAL	12G140	7.3	0.966	7439-92-1	LEAD	21.5		0.104	0.521	mg/kg				1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-03	EMAX	6020	8/2/2012	TOTAL	12G140	7.3	0.966	7439-93-2	LITHIUM	25.5		1.04	2.08	mg/kg				1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-03	EMAX	6020	8/2/2012	TOTAL	12G140	7.3	0.966	7439-95-4	MAGNESIUM	5920		5.21	10.4	mg/kg				1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-03	EMAX	6020	8/2/2012	TOTAL	12G140	7.3	0.966	7439-96-5	MANGANESE	321		0.261	0.521	mg/kg				1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-03	EMAX	6020	8/2/2012	TOTAL	12G140	7.3	0.966	7439-98-7	MOLYBDENUM	0.584		0.0521	0.521	mg/kg				1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-03	EMAX	6020	8/2/2012	TOTAL	12G140	7.3	0.966	7440-02-0	NICKEL	13.4		0.208	0.521	mg/kg				1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-03	EMAX	6020	8/2/2012	TOTAL	12G140	7.3	0.966	7440-09-7	POTASSIUM	3720		31.3	104	mg/kg				1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-03	EMAX	6020	8/2/2012	TOTAL	12G140	7.3	0.966	7440-22-4	SILVER	1.89		0.0521	0.521	mg/kg				1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-03	EMAX	6020	8/2/2012	TOTAL	12G140	7.3	0.966	7440-23-5	SODIUM	354		52.1	104	mg/kg				1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-03	EMAX	6020	8/2/2012	TOTAL	12G140	7.3	0.966	7440-24-6	STRONTIUM	65.1		0.261	0.521	mg/kg				1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-03	EMAX	6020	8/2/2012	TOTAL	12G140	7.3	0.966	7440-28-0	THALLIUM	0.254	J	0.0521	0.417	mg/kg	J	J	Z	1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-03	EMAX	6020	8/2/2012	TOTAL	12G140	7.3	0.966	7440-31-5	TIN	10.4	U	5.21	10.4	mg/kg	U			1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-03	EMAX	6020	8/2/2012	TOTAL	12G140	7.3	0.966	7440-32-6	TITANIUM METAL POWDER	917		0.521	1.04	mg/kg				1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-03	EMAX	6020	8/2/2012	TOTAL	12G140	7.3	0.966	7440-36-0	ANTIMONY	0.294	J	0.104	0.521	mg/kg	J	J	Z	1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-03	EMAX	6020	8/2/2012	TOTAL	12G140	7.3	0.966	7440-38-2	ARSENIC	5.67		0.208	0.521	mg/kg				1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-03	EMAX	6020	8/2/2012	TOTAL	12G140	7.3	0.966	7440-39-3	BARIUM	113		0.208	0.521	mg/kg				1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-03	EMAX	6020	8/2/2012	TOTAL	12G140	7.3	0.966	7440-41-7	BERYLLIUM	0.563		0.0521	0.521	mg/kg				1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-03	EMAX	6020	8/2/2012	TOTAL	12G140	7.3	0.966	7440-42-8	BORON	10		2.61	5.21	mg/kg				1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-03	EMAX	6020	8/2/2012	TOTAL	12G140	7.3	0.966	7440-43-9	CADMIUM	0.761		0.0521	0.521	mg/kg				1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-03	EMAX	6020	8/2/2012	TOTAL	12G140	7.3	0.966	7440-47-3	CHROMIUM	19.4		0.208	0.521	mg/kg				1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-03	EMAX	6020	8/2/2012	TOTAL	12G140	7.3	0.966	7440-48-4	COBALT	5.76		0.0521	0.521	mg/kg				1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-03	EMAX	6020	8/2/2012	TOTAL	12G140	7.3	0.966	7440-50-8	COPPER	12.3		0.208	0.521	mg/kg				1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-03	EMAX	6020	8/2/2012	TOTAL	12G140	7.3	0.966	7440-62-2	VANADIUM (FUME OR DUST)	32.1		0.0521	0.521	mg/kg				1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-03	EMAX	6020	8/2/2012	TOTAL	12G140	7.3	0.966	7440-66-6	ZINC	94.6		1.56	5.21	mg/kg				1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-03	EMAX	6020	8/2/2012	TOTAL	12G140	7.3	0.966	7440-67-7	ZIRCONIUM	5.21	UJ	2.61	5.21	mg/kg	U	UJ	Q	1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-03	EMAX	6020	8/2/2012	TOTAL	12G140	7.3	0.966	7440-70-2	CALCIUM METAL	11100		10.4	20.8	mg/kg				1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-03	EMAX	6020	8/2/2012	TOTAL	12G140	7.3	0.966	7723-14-0	PHOSPHORUS	401		6.25	12.5	mg/kg				1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-03	EMAX	6020	8/2/2012	TOTAL	12G140	7.3	0.966	7782-49-2	SELENIUM	0.521	U	0.208	0.521	mg/kg	U			1787572.294	266908.5497	-118.70278	34.23139
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	6020	8/1/2012	TOTAL	12G123	6.1	0.976	7429-90-5	ALUMINUM (FUME OR DUST)	18100		12.5	104	mg/kg				1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	6020	8/1/2012	TOTAL	12G123	6.1	0.976	7439-89-6	IRON	19300		10.4	104	mg/kg				1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	6020	8/1/2012	TOTAL	12G123	6.1	0.976	7439-92-1	LEAD	14.4		0.104	0.520	mg/kg				1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	6020	8/1/2012	TOTAL	12G123	6.1	0.976	7439-93-2	LITHIUM	19.9		1.04	2.08	mg/kg				1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	6020	8/1/2012	TOTAL	12G123	6.1	0.976	7439-95-4	MAGNESIUM	4330		5.20	10.4	mg/kg				1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	6020	8/1/2012	TOTAL	12G123	6.1	0.976	7439-96-5	MANGANESE	304		0.260	0.520	mg/kg				1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	6020	8/1/2012	TOTAL	12G123	6.1	0.976	7439-98-7	MOLYBDENUM	0.625		0.0520	0.520	mg/kg				1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	6020	8/1/2012	TOTAL	12G123	6.1	0.976	7440-02-0	NICKEL	13.5		0.208	0.520	mg/kg				1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	6020	8/1/2012	TOTAL	12G123	6.1	0.976	7440-09-7	POTASSIUM	2650		31.2	104	mg/kg				1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	6020	8/1/2012	TOTAL	12G123	6.1	0.976	7440-22-4	SILVER	0.187	J	0.0520	0.520	mg/kg	J	J	Z	1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	6020	8/1/2012	TOTAL	12G123	6.1	0.976	7440-23-5	SODIUM	97	J	52.0	104	mg/kg	J	J	Z	1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	6020	8/1/2012	TOTAL	12G123	6.1	0.976	7440-24-6	STRONTIUM	23.2		0.260	0.520	mg/kg				1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	6020	8/1/2012	TOTAL	12G123	6.1	0.976	7440-28-0	THALLIUM	0.222	J	0.0520	0.416	mg/kg	J	J	Z	1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	6020	8/1/2012	TOTAL	12G123	6.1	0.976	7440-31-5	TIN	10.4	U	5.20	10.4	mg/kg	U			1785496.181	266147.2627	-118.70963	34.22926

REVISED

Master Chemical Database Table for Phase 3 - Area III Sediment Drainage Sampling

Sample Name	Sample Date	Sample Type Code	Start Depth	End Depth	Depth Unit	Matrix Code	Task Code	Parent Sample Code	Lab Sample ID	Lab Name	Analytical Method	Analysis Date	Prep Method	Lab SDG	Percent Moisture	Dilution Factor	Cas RN	Chemical Name	Report Result Value	Final Qualifiers	Method Detection Limit	Reporting Detection Limit	Report Result Unit	Lab Qualifiers	DQM Qualifiers	DQM Remarks	X Coordinate	Y Coordinate	Longitude	Latitude
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	6020	8/1/2012	TOTAL	12G123	6.1	0.976	7440-32-6	TITANIUM METAL POWDER	783		0.520	1.04	mg/kg				1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	6020	8/1/2012	TOTAL	12G123	6.1	0.976	7440-36-0	ANTIMONY	0.229	J	0.104	0.520	mg/kg	J	J	Q, Z	1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	6020	8/1/2012	TOTAL	12G123	6.1	0.976	7440-38-2	ARSENIC	4.63		0.208	0.520	mg/kg				1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	6020	8/1/2012	TOTAL	12G123	6.1	0.976	7440-39-3	BARIUM	109		0.208	0.520	mg/kg				1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	6020	8/1/2012	TOTAL	12G123	6.1	0.976	7440-41-7	BERYLLIUM	0.577		0.0520	0.520	mg/kg				1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	6020	8/1/2012	TOTAL	12G123	6.1	0.976	7440-42-8	BORON	5.2	U	2.60	5.20	mg/kg	U			1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	6020	8/1/2012	TOTAL	12G123	6.1	0.976	7440-43-9	CADMIUM	0.568		0.0520	0.520	mg/kg				1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	6020	8/1/2012	TOTAL	12G123	6.1	0.976	7440-47-3	CHROMIUM	20.7		0.208	0.520	mg/kg				1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	6020	8/1/2012	TOTAL	12G123	6.1	0.976	7440-48-4	COBALT	6.57		0.0520	0.520	mg/kg				1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	6020	8/1/2012	TOTAL	12G123	6.1	0.976	7440-50-8	COPPER	11		0.208	0.520	mg/kg				1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	6020	8/1/2012	TOTAL	12G123	6.1	0.976	7440-62-2	VANADIUM (FUME OR DUST)	36.3	J	0.0520	0.520	mg/kg		J	Q	1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	6020	8/1/2012	TOTAL	12G123	6.1	0.976	7440-66-6	ZINC	198		1.56	5.20	mg/kg				1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	6020	8/1/2012	TOTAL	12G123	6.1	0.976	7440-67-7	ZIRCONIUM	5.2	UJ	2.60	5.20	mg/kg	U	UJ	Q	1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	6020	8/1/2012	TOTAL	12G123	6.1	0.976	7440-70-2	CALCIUM METAL	3500		10.4	20.8	mg/kg				1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	6020	8/1/2012	TOTAL	12G123	6.1	0.976	7723-14-0	PHOSPHORUS	247		6.24	12.5	mg/kg				1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	6020	8/1/2012	TOTAL	12G123	6.1	0.976	7782-49-2	SELENIUM	0.52	U	0.208	0.520	mg/kg	U			1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	6850	7/24/2012	Gen Prep	12G123	6.1	1	14797-73-0	PERCHLORATE	5.32	U	2.66	5.32	ug/kg	U			1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	7471A	7/26/2012	7471A	12G123	6.1	0.992	7439-97-6	MERCURY	0.0639	J	0.0528	0.106	mg/kg	J	J	Z	1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	8015B EFH	7/25/2012	3550B	12G123	6.1	1	PHCC12C14	EFH (C12-C14)	5.3	U	2.7	5.3	mg/kg	U			1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	8015B EFH	7/25/2012	3550B	12G123	6.1	1	PHCC15C20	EFH (C15-C20)	5.3	U	2.7	5.3	mg/kg	U			1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	8015B EFH	7/25/2012	3550B	12G123	6.1	1	PHCC21C30	EFH (C21-C30)	23		2.7	5.3	mg/kg				1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	8015B EFH	7/25/2012	3550B	12G123	6.1	1	PHCC30C40	EFH (C30-C40)	29		5.3	11	mg/kg				1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	8015B EFH	7/25/2012	3550B	12G123	6.1	1	PHCC8C11	EFH (C8-C11)	5.3	U	2.7	5.3	mg/kg	U			1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	8082	7/30/2012	3550B	12G123	6.1	1	11096-82-5	Aroclor 1260	45		11	21	ug/kg				1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	8082	7/30/2012	3550B	12G123	6.1	1	11097-69-1	Aroclor 1254	91		11	21	ug/kg				1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	8082	7/30/2012	3550B	12G123	6.1	1	11100-14-4	Aroclor 1268	21	U	11	21	ug/kg	U			1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	8082	7/30/2012	3550B	12G123	6.1	1	11104-28-2	Aroclor 1221	21	U	11	21	ug/kg	U			1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	8082	7/30/2012	3550B	12G123	6.1	1	11126-42-4	Aroclor 5460	42	J	21	43	ug/kg	J	J	Z	1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	8082	7/30/2012	3550B	12G123	6.1	1	11141-16-5	Aroclor 1232	21	U	11	21	ug/kg	U			1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	8082	7/30/2012	3550B	12G123	6.1	1	12642-23-8	Aroclor 5442	43	U	21	43	ug/kg	U			1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	8082	7/30/2012	3550B	12G123	6.1	1	12672-29-6	Aroclor 1248	21	U	11	21	ug/kg	U			1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	8082	7/30/2012	3550B	12G123	6.1	1	12674-11-2	Aroclor 1016	21	U	11	21	ug/kg	U			1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	8082	7/30/2012	3550B	12G123	6.1	1	37324-23-5	Aroclor 1262	21	U	11	21	ug/kg	U			1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	8082	7/30/2012	3550B	12G123	6.1	1	53469-21-9	Aroclor 1242	21	U	11	21	ug/kg	U			1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	8082	7/30/2012	3550B	12G123	6.1	1	63496-31-1	Aroclor 5432	43	U	21	43	ug/kg	U			1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	8270C SIM	7/24/2012	3550B	12G123	6.1	1	103-33-3	AZOBENZENE	5.3	U	2.7	5.3	ug/kg	U			1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	8270C SIM	7/24/2012	3550B	12G123	6.1	1	120-12-7	ANTHRACENE	11	U	2.7	11	ug/kg	U			1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	8270C SIM	7/24/2012	3550B	12G123	6.1	1	129-00-0	PYRENE	22		2.7	11	ug/kg				1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	8270C SIM	7/24/2012	3550B	12G123	6.1	1	191-24-2	BENZO(G,H,I)PERYLENE	13		2.7	11	ug/kg				1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	8270C SIM	7/24/2012	3550B	12G123	6.1	1	192-97-2	Benzo(e)pyrene	15		2.7	5.3	ug/kg				1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	8270C SIM	7/24/2012	3550B	12G123	6.1	1	193-39-5	INDENO(1,2,3-CD)PYRENE	8.7	J	2.7	11	ug/kg	J	J	Z	1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	8270C SIM	7/24/2012	3550B	12G123	6.1	1	205-99-2	BENZO(B)FLUORANTHENE	25		2.7	11	ug/kg				1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	8270C SIM	7/24/2012	3550B	12G123	6.1	1	206-44-0	FLUORANTHENE	24		2.7	11	ug/kg				1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	8270C SIM	7/24/2012	3550B	12G123	6.1	1	207-08-9	BENZO(K)FLUORANTHENE	7.5	J	2.7	11	ug/kg	J	J	Z	1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	8270C SIM	7/24/2012	3550B	12G123	6.1	1	208-96-8	ACENAPHTHYLENE	11	U	2.7	11	ug/kg	U			1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	8270C SIM	7/24/2012	3550B	12G123	6.1	1	218-01-9	1,2-BENZPHENANTHRACENE	21		2.7	11	ug/kg				1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	8270C SIM	7/24/2012	3550B	12G123	6.1	1	50-32-8	BENZO(A)PYRENE	15		2.7	11	ug/kg				1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	8270C SIM	7/24/2012	3550B	12G123	6.1	1	53-70-3	DIBENZO(A,H)ANTHRACENE	2.9	J	2.7	11	ug/kg	J	J	Z	1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	8270C SIM	7/24/2012	3550B	12G123	6.1	1	56-55-3	BENZO(A)ANTHRACENE	11		2.7	11	ug/kg				1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	8270C SIM	7/24/2012	3550B	12G123	6.1	1	62-75-9	METHANAMINE, N-METHYL-N-NITROSO	11	U	2.7	11	ug/kg	U			1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-06	EMAX	8270C SIM	7/24/2012	3550B	12G123	6.1	1	83-32-9	ACENAPHTHENE	11	U	2.7	11	ug/kg	U			1785496.181	266147.2627	-118.70963	34.22926
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	6724184	LL	1613B	7/28/2012	METHOD	PH020	1.7	1	1746-01-6	2,3,7,8-TCDD	0.981	UJ	0.0457	0.981	ng/kg	U	UJ	FD	1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	6724184	LL	1613B	7/28/2012	METHOD	PH020	1.7	1	19408-74-3	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	2.08	J	0.0406	4.90	ng/kg	JB	J	Z	1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	6724184	LL	1613B	7/28/2012	METHOD	PH020	1.7	1	3268-87-9	OCDD	954		0.0788	9.81	ng/kg	B			1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	6724184	LL	1613B	7/28/2012	METHOD	PH020	1.7	1	35822-46-9	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	63.3		0.0923	4.90	ng/kg	B			1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	6724184	LL	1613B	7/28/2012	METHOD	PH020	1.7	1	39001-02-0	OCDF	68		0.0354	9.81	ng/kg	B			1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	6724184	LL	1613B	7/28/2012	METHOD	PH020	1.7	1	39227-28-6	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	1.01	J	0.0431	4.90	ng/kg	JB	J	Z	1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	6724184	LL	1613B	7/28/2012	METHOD	PH020	1.7	1	40321-76-4	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	0.667	J	0.0489	4.90	ng/kg	JB	J	Z	1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	6724184	LL	1613B	7/28/2012	METHOD	PH020	1.7	1	51207-31-9	2,3,7,8-TETRACHLORODIBENZOFURAN	0.981	U	0.0629	0.981	ng/kg	JB	U	B	1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	6724184	LL	1613B	7/28/2012	METHOD	PH020	1.7	1	55673-89-7	1,2,3,4,7,8,9-HPCDF	1.35	J	0.0457	4.90	ng/kg	JB	J	Z	1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	6724184	LL	1613B	7/28/2012	METHOD	PH020	1.7	1	57117-31-4	2,3,4,7,8-PECDF	4.9	U	0.0287	4.90	ng/kg	JB	U	B	1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	6724184	LL	1613B	7/28/2012	METHOD	PH020	1.7	1	57117-41-6	1,2,3,7,8-PENTACHLORODIBENZOFURAN	4.9	U	0.0285	4.90	ng/kg	JB	U	B	1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	6724184	LL	1613B	7/28/2012	METHOD	PH020	1.7	1	57117-44-9	1,2,3,6,7,8-HXCDF	4.9	U	0.0293	4.90	ng/kg	JB	U	B	1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	6724184	LL	1613B	7/28/2012	METHOD	PH020	1.7	1	57653-85-7	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	2.17	J	0.0454	4.90	ng/kg	JB	J	Z	1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	6724184	LL	1613B	7/28/2012	METHOD	PH020	1.7	1	60851-34-5	2,3,4,6,7,8-HXCDF	4.9	U	0.0283	4.90	ng/kg	JB	U	B	1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	6724184	LL	1613B	7/28/2012	METHOD	PH020	1.7	1	67562-39-4	1,2,3,4,6,7,8-HPCDF	11.9		0.0359	4.90	ng/kg	B			1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	6724184	LL	1613B	7/28/2012	METHOD	PH020	1.7	1	70648-26-9	1,2,3,4,7,8-HXCDF	4.9	U	0.0327	4.90	ng/kg	JB	U	B	1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0	6724184	LL	1613B	7/28/2012	METHOD	PH020	1.7	1	72918-21-9	1,2,3,7,8,9-HXCDF	4.9	U	0.0310	4.90	ng/kg	JB	U	B	1785322.322	265565.863	-118.71019	34.22766
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724177	LL	8015B	7/31/2012	3550B	PT022	5.5	1	84-15-1	O-TERPHENYL	7.4	U	3.2	7.4	mg/kg	U			1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724177	LL	8015B	7/31/2012	3550B	PT022	5.5	1	92-06-8	m-Terphenyl	7.4	U	3.2	7.4	mg/kg	U			1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724177	LL	8015B	7/31/2012	3550B	PT022	5.5	1	92-94-4	p-Terphenyl	7.4	U	3.2	7.4	mg/kg	U			1785496.181	266147.2627	-118.70963	34.22926
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724178	LL	8015B	7/31/2012	3550B	PT022	3.7	1	84-15-1	O-TERPHENYL	7.3	U	3.1	7.3	mg/kg	U			1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724178	LL	8015B	7/31/2012	3550B	PT022	3.7	1	92-06-8	m-Terphenyl	7.3	U	3.1	7.3	mg/kg	U			1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724178	LL	8015B	7/31/2012	3550B	PT022	3.7	1	92-94-4	p-Terphenyl	7.3	U	3.1	7.3	mg/kg	U			1785420.588	266137.9151	-118.70988	34.22923
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724179	LL	8015B	7/31/2012	3550B	PT022	5.2	1	84-15-1	O-TERPHENYL	7.4	U	3.2	7.4	mg/kg	U			1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724179	LL	8015B	7/31/2012	3550B	PT022	5.2	1	92-06-8	m-Terphenyl	7.4	U	3.2	7.4	mg/kg	U			1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724179	LL	8015B	7/31/2012	3550B	PT022	5.2	1	92-94-4	p-Terphenyl	7.4	U	3.2	7.4	mg/kg	U			1785403.832	266089.6466	-118.70993	34.2291
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724175	LL	8015B	7/31/2012	3550B	PT022	6	1	84-15-1	O-TERPHENYL	7.4	U	3.2	7.4	mg/kg	U			1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724175	LL	8015B	7/31/2012	3550B	PT022	6	1	92-06-8	m-Terphenyl	7.4	U	3.2	7.4	mg/kg	U			1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724175	LL	8015B	7/31/2012	3550B	PT022	6	1	92-94-4	p-Terphenyl	7.4	U	3.2	7.4	mg/kg	U			1785484.361	266017.6688	-118.70967	34.2289
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724176	LL	8015B	7/31/2012	3550B	PT022	3.5	1	84-15-1	O-TERPHENYL	7.2	U	3.1	7.2	mg/kg	U			1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724176	LL	8015B	7/31/2012	3550B	PT022	3.5	1	92-06-8	m-Terphenyl	7.2	U	3.1	7.2	mg/kg	U			1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724176	LL	8015B	7/31/2012	3550B	PT022	3.5	1	92-94-4	p-Terphenyl	7.2	U	3.1	7.2	mg/kg	U			1785342.

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Master Chemical Database Table for Phase 3 - Area III Sediment Drainage Sampling

Sample Name	Sample Date	Sample Type Code	Start Depth	End Depth	Depth Unit	Matrix Code	Task Code	Parent Sample Code	Lab Sample ID	Lab Name	Analytical Method	Analysis Date	Prep Method	Lab SDG	Percent Moisture	Dilution Factor	Cas RN	Chemical Name	Report Result Value	Final Qualifiers	Method Detection Limit	Reporting Detection Limit	Report Result Unit	Lab Qualifiers	DQM Qualifiers	DQM Remarks	X Coordinate	Y Coordinate	Longitude	Latitude
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724170	LL	8015B	7/31/2012	3550B	PT022	1.7	1	84-15-1	O-TERPHENYL	7.1	U	3.1	7.1	mg/kg	U			1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724170	LL	8015B	7/31/2012	3550B	PT022	1.7	1	92-06-8	m-Terphenyl	7.1	U	3.1	7.1	mg/kg	U			1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724170	LL	8015B	7/31/2012	3550B	PT022	1.7	1	92-94-4	p-Terphenyl	7.1	U	3.1	7.1	mg/kg	U			1785322.322	265565.863	-118.71019	34.22766
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724173	LL	8015B	7/31/2012	3550B	PT022	5.4	1	84-15-1	O-TERPHENYL	7.4	U	3.2	7.4	mg/kg	U			1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724173	LL	8015B	7/31/2012	3550B	PT022	5.4	1	92-06-8	m-Terphenyl	7.4	U	3.2	7.4	mg/kg	U			1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724173	LL	8015B	7/31/2012	3550B	PT022	5.4	1	92-94-4	p-Terphenyl	7.4	U	3.2	7.4	mg/kg	U			1785242.984	264980.8897	-118.71044	34.22605
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0.0	6724174	LL	8015B	7/31/2012	3550B	PT022	1.7	1	84-15-1	O-TERPHENYL	7.1	U	3.0	7.1	mg/kg	U			1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0.0	6724174	LL	8015B	7/31/2012	3550B	PT022	1.7	1	92-06-8	m-Terphenyl	7.1	U	3.0	7.1	mg/kg	U			1785322.322	265565.863	-118.71019	34.22766
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0.0	6724174	LL	8015B	7/31/2012	3550B	PT022	1.7	1	92-94-4	p-Terphenyl	7.1	U	3.0	7.1	mg/kg	U			1785322.322	265565.863	-118.71019	34.22766
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726231	LL	8015B	8/1/2012	3550B	PT024	7.1	1	84-15-1	O-TERPHENYL	7.5	U	3.2	7.5	mg/kg	U			1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726231	LL	8015B	8/1/2012	3550B	PT024	7.1	1	92-06-8	m-Terphenyl	7.5	U	3.2	7.5	mg/kg	U			1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726231	LL	8015B	8/1/2012	3550B	PT024	7.1	1	92-94-4	p-Terphenyl	7.5	U	3.2	7.5	mg/kg	U			1785926.464	266290.9562	-118.70821	34.22966
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724189	LL	1613B	7/28/2012	METHOD	PH020	5.2	1	1746-01-6	2,3,7,8-TCDD	1.04	U	0.0746	1.04	ng/kg	JB	U	B	1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724189	LL	1613B	7/28/2012	METHOD	PH020	5.2	1	19408-74-3	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	11.9		0.0625	5.22	ng/kg	B			1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724189	LL	1613B	7/28/2012	METHOD	PH020	5.2	1	3268-87-9	OCDD	3210		0.123	10.4	ng/kg	B			1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724189	LL	1613B	7/28/2012	METHOD	PH020	5.2	1	35822-46-9	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	356		0.162	5.22	ng/kg	B			1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724189	LL	1613B	7/28/2012	METHOD	PH020	5.2	1	39001-02-0	OCDF	107		0.0383	10.4	ng/kg	B			1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724189	LL	1613B	7/28/2012	METHOD	PH020	5.2	1	39227-28-6	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	6.64		0.0656	5.22	ng/kg	B			1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724189	LL	1613B	7/28/2012	METHOD	PH020	5.2	1	40321-76-4	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	4.18	J	0.0776	5.22	ng/kg	JB	J	Z	1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724189	LL	1613B	7/28/2012	METHOD	PH020	5.2	1	51207-31-9	2,3,7,8-TETRACHLORODIBENZOFURAN	0.81	J	0.126	1.04	ng/kg	JB	J	Z	1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724189	LL	1613B	7/28/2012	METHOD	PH020	5.2	1	55673-89-7	1,2,3,4,7,8,9-HPCDF	4.46	J	0.0557	5.22	ng/kg	JB	J	Z	1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724189	LL	1613B	7/28/2012	METHOD	PH020	5.2	1	57117-31-4	2,3,4,7,8-PECDF	1.52	J	0.0423	5.22	ng/kg	JB	J	Z	1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724189	LL	1613B	7/28/2012	METHOD	PH020	5.2	1	57117-41-6	1,2,3,7,8-PENTACHLORODIBENZOFURAN	6.17		0.0450	5.22	ng/kg	B			1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724189	LL	1613B	7/28/2012	METHOD	PH020	5.2	1	57117-44-9	1,2,3,6,7,8-HXCDF	1.91	J	0.0457	5.22	ng/kg	JB	J	Z	1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724189	LL	1613B	7/28/2012	METHOD	PH020	5.2	1	57653-85-7	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	17.5		0.0666	5.22	ng/kg	B			1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724189	LL	1613B	7/28/2012	METHOD	PH020	5.2	1	60851-34-5	2,3,4,6,7,8-HXCDF	2.71	J	0.0457	5.22	ng/kg	JB	J	Z	1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724189	LL	1613B	7/28/2012	METHOD	PH020	5.2	1	67562-39-4	1,2,3,4,6,7,8-HPCDF	38.1		0.0451	5.22	ng/kg	B			1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724189	LL	1613B	7/28/2012	METHOD	PH020	5.2	1	70648-26-9	1,2,3,4,7,8-HXCDF	3.36	J	0.0505	5.22	ng/kg	JB	J	Z	1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724189	LL	1613B	7/28/2012	METHOD	PH020	5.2	1	72918-21-9	1,2,3,7,8,9-HXCDF	5.22	U	0.0495	5.22	ng/kg	JB	U	B	1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724189	LL	160.3M	7/24/2012	Gen Prep	PH020	5.2	1	MOIST	MOISTURE	5.2		0.50	0.50	%				1785403.832	266089.6466	-118.70993	34.2291
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724188	LL	1613B	7/28/2012	METHOD	PH020	3.7	1	1746-01-6	2,3,7,8-TCDD	1.02	U	0.0406	1.02	ng/kg	JB	U	B	1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724188	LL	1613B	7/28/2012	METHOD	PH020	3.7	1	19408-74-3	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	17.1		0.0821	5.11	ng/kg	B			1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724188	LL	1613B	7/28/2012	METHOD	PH020	3.7	1	3268-87-9	OCDD	6400	J	0.109	10.2	ng/kg	EB	J	*#	1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724188	LL	1613B	7/28/2012	METHOD	PH020	3.7	1	35822-46-9	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	800		0.197	5.11	ng/kg	B			1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724188	LL	1613B	7/28/2012	METHOD	PH020	3.7	1	39001-02-0	OCDF	200		0.0322	10.2	ng/kg	B			1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724188	LL	1613B	7/28/2012	METHOD	PH020	3.7	1	39227-28-6	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	8.57		0.0858	5.11	ng/kg	B			1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724188	LL	1613B	7/28/2012	METHOD	PH020	3.7	1	40321-76-4	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	3.64	J	0.0696	5.11	ng/kg	JB	J	Z	1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724188	LL	1613B	7/28/2012	METHOD	PH020	3.7	1	51207-31-9	2,3,7,8-TETRACHLORODIBENZOFURAN	1.02	U	0.0489	1.02	ng/kg	JB	U	B	1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724188	LL	1613B	7/28/2012	METHOD	PH020	3.7	1	55673-89-7	1,2,3,4,7,8,9-HPCDF	8.9		0.0541	5.11	ng/kg	B			1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724188	LL	1613B	7/28/2012	METHOD	PH020	3.7	1	57117-31-4	2,3,4,7,8-PECDF	1.35	J	0.0236	5.11	ng/kg	JB	J	Z	1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724188	LL	1613B	7/28/2012	METHOD	PH020	3.7	1	57117-41-6	1,2,3,7,8-PENTACHLORODIBENZOFURAN	2.32	J	0.0255	5.11	ng/kg	JB	J	Z	1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724188	LL	1613B	7/28/2012	METHOD	PH020	3.7	1	57117-44-9	1,2,3,6,7,8-HXCDF	3.46	J	0.0444	5.11	ng/kg	JB	J	Z	1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724188	LL	1613B	7/28/2012	METHOD	PH020	3.7	1	57653-85-7	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	39.8		0.0825	5.11	ng/kg	B			1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724188	LL	1613B	7/28/2012	METHOD	PH020	3.7	1	60851-34-5	2,3,4,6,7,8-HXCDF	5.49		0.0444	5.11	ng/kg	B			1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724188	LL	1613B	7/28/2012	METHOD	PH020	3.7	1	67562-39-4	1,2,3,4,6,7,8-HPCDF	86		0.0448	5.11	ng/kg	B			1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724188	LL	1613B	7/28/2012	METHOD	PH020	3.7	1	70648-26-9	1,2,3,4,7,8-HXCDF	3.47	J	0.0477	5.11	ng/kg	JB	J	Z	1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724188	LL	1613B	7/28/2012	METHOD	PH020	3.7	1	72918-21-9	1,2,3,7,8,9-HXCDF	5.11	U	0.0437	5.11	ng/kg	JBQ	U	B	1785420.588	266137.9151	-118.70988	34.22923
SL-012-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724188	LL	160.3M	7/24/2012	Gen Prep	PH020	3.7	1	MOIST	MOISTURE	3.7		0.50	0.50	%				1785420.588	266137.9151	-118.70988	34.22923
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724187	LL	1613B	7/28/2012	METHOD	PH020	5.5	1	1746-01-6	2,3,7,8-TCDD	1.04	U	0.0565	1.04	ng/kg	JB	U	B	1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724187	LL	1613B	7/28/2012	METHOD	PH020	5.5	1	19408-74-3	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	3.44	J	0.0495	5.19	ng/kg	JB	J	Z	1785496.181	266147.2627	-118.70963	34.22926
SL-011-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724187	LL	1613B	7/28/2012	METHOD	PH020	5.5	1	3268-87-9	OCDD	1020		0.0739	10.4	ng/kg	B			1785496.181	266147.2627	-118.70963	34.22926
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-05	EMAX	6020	8/2/2012	TOTAL	12G140	1.0	0.98	7440-02-0	NICKEL	8.38		0.198	0.495	mg/kg				1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-05	EMAX	6020	8/2/2012	TOTAL	12G140	1.0	0.98	7440-09-7	POTASSIUM	2580		29.7	99.0	mg/kg				1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-05	EMAX	6020	8/2/2012	TOTAL	12G140	1.0	0.98	7440-22-4	SILVER	0.056	J	0.0495	0.495	mg/kg	J	J	Z	1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-05	EMAX	6020	8/2/2012	TOTAL	12G140	1.0	0.98	7440-23-5	SODIUM	57.4	J	49.5	99.0	mg/kg	J	J	Z	1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-05	EMAX	6020	8/2/2012	TOTAL	12G140	1.0	0.98	7440-24-6	STRONTIUM	13.8		0.247	0.495	mg/kg				1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-05	EMAX	6020	8/2/2012	TOTAL	12G140	1.0	0.98	7440-28-0	THALLIUM	0.186	J	0.0495	0.396	mg/kg	J	J	Z	1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-05	EMAX	6020	8/2/2012	TOTAL	12G140	1.0	0.98	7440-31-5	TIN	9.9	U	4.95	9.90	mg/kg	U			1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-05	EMAX	6020	8/2/2012	TOTAL	12G140	1.0	0.98	7440-32-6	TITANIUM METAL POWDER	655		0.495	0.990	mg/kg				1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-05	EMAX	6020	8/2/2012	TOTAL	12G140	1.0	0.98	7440-36-0	ANTIMONY	0.156	J	0.0990	0.495	mg/kg	J	J	Z	1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-05	EMAX	6020	8/2/2012	TOTAL	12G140	1.0	0.98	7440-38-2	ARSENIC	3.61		0.198	0.495	mg/kg				1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-05	EMAX	6020	8/2/2012	TOTAL	12G140	1.0	0.98	7440-39-3	BARIUM	77		0.198	0.495	mg/kg				1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-05	EMAX	6020	8/2/2012	TOTAL	12G140	1.0	0.98	7440-41-7	BERYLLIUM	0.38	J	0.0495	0.495	mg/kg	J	J	Z	1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-05	EMAX	6020	8/2/2012	TOTAL	12G140	1.0	0.98	7440-42-8	BORON	4.95	U	2.47	4.95	mg/kg	U			1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-05	EMAX	6020	8/2/2012	TOTAL	12G140	1.0	0.98	7440-43-9	CADMIUM	0.182	J	0.0495	0.495	mg/kg	J	J	Z	1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-05	EMAX	6020	8/2/2012	TOTAL	12G140	1.0	0.98	7440-47-3	CHROMIUM	13.1		0.198	0.495	mg/kg				1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-05	EMAX	6020	8/2/2012	TOTAL	12G140	1.0	0.98	7440-48-4	COBALT	4.28		0.0495	0.495	mg/kg				1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-05	EMAX	6020	8/2/2012	TOTAL	12G140	1.0	0.98	7440-50-8	COPPER	6.23		0.198	0.495	mg/kg				1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-05	EMAX	6020	8/2/2012	TOTAL	12G140	1.0	0.98	7440-62-2	VANADIUM (FUME OR DUST)	24		0.0495	0.495	mg/kg				1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-05	EMAX	6020	8/2/2012	TOTAL	12G140	1.0	0.98	7440-66-6	ZINC	40.1		1.48	4.95	mg/kg				1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-05	EMAX	6020	8/2/2012	TOTAL	12G140	1.0	0.98	7440-67-7	ZIRCONIUM	4.95	UJ	2.47	4.95	mg/kg	U	UJ	Q	1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-05	EMAX	6020	8/2/2012	TOTAL	12G140	1.0	0.98	7440-70-2	CALCIUM METAL	1430		9.90	19.8	mg/kg				1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-05	EMAX	6020	8/2/2012	TOTAL	12G140	1.0	0.98	7723-14-0	PHOSPHORUS	230		5.94	11.9	mg/kg				1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-05	EMAX	6020	8/2/2012	TOTAL	12G140	1.0	0.98	7782-49-2	SELENIUM	0.495	U	0.198	0.495	mg/kg	U			1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-05	EMAX	7471A	7/26/2012	7471A	12G140	1.0	0.998	7439-97-6	MERCURY	0.101	U	0.0504	0.101	mg/kg	U			1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-05	EMAX	8015B EFH	7/25/2012	3550B	12G140	1.0	1	PHCC12C14	EFH (C12-C14)	5.1	U	2.5	5.1	mg/kg	U			1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-05	EMAX	8015B EFH	7/25/2012	3550B	12G140	1.0	1	PHCC15C20	EFH (C15-C20)	5.1	U	2.5	5.1	mg/kg	U			1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-05	EMAX	8015B EFH	7/25/2012	3550B	12G140	1.0	1	PHCC21C30	EFH (C21-C30)	5.1	U	2.5	5.1	mg/kg	U			1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-05	EMAX	8015B EFH	7/25/2012	3550B	12G140	1.0	1	PHCC30C40	EFH (C30-C40)	10	U	5.1	10	mg/kg	U			1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-05	EMAX	8015B EFH	7/25/2012	3550B	12G140	1.0	1	PHCC8C11	EFH (C8-C11)	5.1	U	2.5	5.1	mg/kg	U			1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-05	EMAX	8082	8/4/2012	3550B	12G140	1.0	1	11096-82-5	Aroclor 1260	20	U	10	20	ug/kg	U			1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-05	EMAX	8082	8/4/2012	3550B	12G140	1.0	1	11097-69-1	Aroclor 1254	20	U	10	20	ug/kg	U			1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-05	EMAX	8082	8/4/2012

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Master Chemical Database Table for Phase 3 - Area III Sediment Drainage Sampling

Sample Name	Sample Date	Sample Type Code	Start Depth	End Depth	Depth Unit	Matrix Code	Task Code	Parent Sample Code	Lab Sample ID	Lab Name	Analytical Method	Analysis Date	Prep Method	Lab SDG	Percent Moisture	Dilution Factor	Cas RN	Chemical Name	Report Result Value	Final Qualifiers	Method Detection Limit	Reporting Detection Limit	Report Result Unit	Lab Qualifiers	DQM Qualifiers	DQM Remarks	X Coordinate	Y Coordinate	Longitude	Latitude
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-05	EMAX	8082	8/4/2012	3550B	12G140	1.0	1	11104-28-2	Aroclor 1221	20	U	10	20	ug/kg	U			1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-05	EMAX	8082	8/4/2012	3550B	12G140	1.0	1	11126-42-4	Aroclor 5460	40	U	20	40	ug/kg	U			1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-05	EMAX	8082	8/4/2012	3550B	12G140	1.0	1	11141-16-5	Aroclor 1232	20	U	10	20	ug/kg	U			1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-05	EMAX	8082	8/4/2012	3550B	12G140	1.0	1	12642-23-8	Aroclor 5442	40	U	20	40	ug/kg	U			1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-05	EMAX	8082	8/4/2012	3550B	12G140	1.0	1	12672-29-6	Aroclor 1248	20	U	10	20	ug/kg	U			1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-05	EMAX	8082	8/4/2012	3550B	12G140	1.0	1	12674-11-2	Aroclor 1016	20	U	10	20	ug/kg	U			1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-05	EMAX	8082	8/4/2012	3550B	12G140	1.0	1	37324-23-5	Aroclor 1262	20	U	10	20	ug/kg	U			1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-05	EMAX	8082	8/4/2012	3550B	12G140	1.0	1	53469-21-9	Aroclor 1242	20	U	10	20	ug/kg	U			1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-05	EMAX	8082	8/4/2012	3550B	12G140	1.0	1	63496-31-1	Aroclor 5432	40	U	20	40	ug/kg	U			1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-05	EMAX	8270C SIM	7/31/2012	3550B	12G140	1.0	1	103-33-3	AZOBENZENE	5.1	U	2.5	5.1	ug/kg	U			1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-05	EMAX	8270C SIM	7/31/2012	3550B	12G140	1.0	1	120-12-7	ANTHRACENE	10	U	2.5	10	ug/kg	U			1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-05	EMAX	8270C SIM	7/31/2012	3550B	12G140	1.0	1	129-00-0	PYRENE	2.9	J	2.5	10	ug/kg	J	J	Z	1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-05	EMAX	8270C SIM	7/31/2012	3550B	12G140	1.0	1	191-24-2	BENZO(G,H,I)PERYLENE	10	U	2.5	10	ug/kg	U			1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-05	EMAX	8270C SIM	7/31/2012	3550B	12G140	1.0	1	192-97-2	Benzo(e)pyrene	5.1	U	2.5	5.1	ug/kg	U			1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-05	EMAX	8270C SIM	7/31/2012	3550B	12G140	1.0	1	193-39-5	INDENO(1,2,3-CD)PYRENE	10	U	2.5	10	ug/kg	U			1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-05	EMAX	8270C SIM	7/31/2012	3550B	12G140	1.0	1	205-99-2	BENZO(B)FLUORANTHENE	3	J	2.5	10	ug/kg	J	J	Z	1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-05	EMAX	8270C SIM	7/31/2012	3550B	12G140	1.0	1	206-44-0	FLUORANTHENE	2.9	J	2.5	10	ug/kg	J	J	Z	1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-05	EMAX	8270C SIM	7/31/2012	3550B	12G140	1.0	1	207-08-9	BENZO(K)FLUORANTHENE	10	U	2.5	10	ug/kg	U			1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-05	EMAX	8270C SIM	7/31/2012	3550B	12G140	1.0	1	208-96-8	ACENAPHTHYLENE	10	U	2.5	10	ug/kg	U			1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-05	EMAX	8270C SIM	7/31/2012	3550B	12G140	1.0	1	218-01-9	1,2-BENZPHENANTHRACENE	10	U	2.5	10	ug/kg	U			1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-05	EMAX	8270C SIM	7/31/2012	3550B	12G140	1.0	1	50-32-8	BENZO(A)PYRENE	10	U	2.5	10	ug/kg	U			1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-05	EMAX	8270C SIM	7/31/2012	3550B	12G140	1.0	1	53-70-3	DIBENZO(A,H)ANTHRACENE	10	U	2.5	10	ug/kg	U			1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-05	EMAX	8270C SIM	7/31/2012	3550B	12G140	1.0	1	56-55-3	BENZO(A)ANTHRACENE	10	U	2.5	10	ug/kg	U			1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-05	EMAX	8270C SIM	7/31/2012	3550B	12G140	1.0	1	62-75-9	METHANAMINE, N-METHYL-N-NITROSO	10	U	2.5	10	ug/kg	U			1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-05	EMAX	8270C SIM	7/31/2012	3550B	12G140	1.0	1	83-32-9	ACENAPHTHENE	10	U	2.5	10	ug/kg	U			1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-05	EMAX	8270C SIM	7/31/2012	3550B	12G140	1.0	1	85-01-8	PHENANTHRENE	10	U	2.5	10	ug/kg	U			1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-05	EMAX	8270C SIM	7/31/2012	3550B	12G140	1.0	1	86-73-7	FLUORENE	10	U	2.5	10	ug/kg	U			1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-05	EMAX	8270C SIM	7/31/2012	3550B	12G140	1.0	1	90-12-0	1-METHYLNAPHTHALENE	10	U	2.5	10	ug/kg	U			1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-05	EMAX	8270C SIM	7/31/2012	3550B	12G140	1.0	1	91-20-3	NAPHTHALENE	10	U	2.5	10	ug/kg	U			1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-05	EMAX	8270C SIM	7/31/2012	3550B	12G140	1.0	1	91-57-6	2-METHYLNAPHTHALENE	10	U	2.5	10	ug/kg	U			1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-05	EMAX	8270C SIM	7/31/2012	3550B	12G140	1.0	1	92-52-4	1,1'-Biphenyl	5.1	U	2.5	5.1	ug/kg	U			1786794.589	266819.7922	-118.70535	34.23113
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	6020	8/2/2012	TOTAL	12G140	4.7	0.98	7429-90-5	ALUMINUM (FUME OR DUST)	9690		12.3	103	mg/kg				1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	6020	8/2/2012	TOTAL	12G140	4.7	0.98	7439-89-6	IRON	14200		10.3	103	mg/kg				1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	6020	8/2/2012	TOTAL	12G140	4.7	0.98	7439-92-1	LEAD	12		0.103	0.514	mg/kg				1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	6020	8/2/2012	TOTAL	12G140	4.7	0.98	7439-93-2	LITHIUM	18		1.03	2.06	mg/kg				1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	6020	8/2/2012	TOTAL	12G140	4.7	0.98	7439-95-4	MAGNESIUM	3450		5.14	10.3	mg/kg				1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	6020	8/2/2012	TOTAL	12G140	4.7	0.98	7439-96-5	MANGANESE	201		0.257	0.514	mg/kg				1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	6020	8/2/2012	TOTAL	12G140	4.7	0.98	7439-98-7	MOLYBDENUM	0.497	J	0.0514	0.514	mg/kg	J	J	Z	1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	6020	8/2/2012	TOTAL	12G140	4.7	0.98	7440-02-0	NICKEL	11		0.206	0.514	mg/kg				1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	6020	8/2/2012	TOTAL	12G140	4.7	0.98	7440-09-7	POTASSIUM	2160		30.8	103	mg/kg				1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	6020	8/2/2012	TOTAL	12G140	4.7	0.98	7440-22-4	SILVER	1.4		0.0514	0.514	mg/kg				1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	6020	8/2/2012	TOTAL	12G140	4.7	0.98	7440-23-5	SODIUM	182		51.4	103	mg/kg				1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	6020	8/2/2012	TOTAL	12G140	4.7	0.98	7440-24-6	STRONTIUM	24.4		0.257	0.514	mg/kg				1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	6020	8/2/2012	TOTAL	12G140	4.7	0.98	7440-28-0	THALLIUM	0.188	J	0.0514	0.411	mg/kg	J	J	Z	1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	6020	8/2/2012	TOTAL	12G140	4.7	0.98	7440-31-5	TIN	10.3	U	5.14	10.3	mg/kg	U			1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	6020	8/2/2012	TOTAL	12G140	4.7	0.98	7440-32-6	TITANIUM METAL POWDER	644		0.514	1.03	mg/kg				1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	6020	8/2/2012	TOTAL	12G140	4.7	0.98	7440-36-0	ANTIMONY	0.261	J	0.103	0.514	mg/kg	J	J	Z	1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	6020	8/2/2012	TOTAL	12G140	4.7	0.98	7440-38-2	ARSENIC	5.02		0.206	0.514	mg/kg				1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	6020	8/2/2012	TOTAL	12G140	4.7	0.98	7440-39-3	BARIUM	68		0.206	0.514	mg/kg				1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	6020	8/2/2012	TOTAL	12G140	4.7	0.98	7440-41-7	BERYLLIUM	0.34	J	0.0514	0.514	mg/kg	J	J	Z	1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	6020	8/2/2012	TOTAL	12G140	4.7	0.98	7440-42-8	BORON	4.14	J	2.57	5.14	mg/kg	J	J	Z	1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	6020	8/2/2012	TOTAL	12G140	4.7	0.98	7440-43-9	CADMIUM	0.569		0.0514	0.514	mg/kg				1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	6020	8/2/2012	TOTAL	12G140	4.7	0.98	7440-47-3	CHROMIUM	16		0.206	0.514	mg/kg				1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	6020	8/2/2012	TOTAL	12G140	4.7	0.98	7440-48-4	COBALT	4.93		0.0514	0.514	mg/kg				1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	6020	8/2/2012	TOTAL	12G140	4.7	0.98	7440-50-8	COPPER	11.4		0.206	0.514	mg/kg				1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	6020	8/2/2012	TOTAL	12G140	4.7	0.98	7440-62-2	VANADIUM (FUME OR DUST)	23.7		0.0514	0.514	mg/kg				1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	6020	8/2/2012	TOTAL	12G140	4.7	0.98	7440-66-6	ZINC	202		1.54	5.14	mg/kg				1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	6020	8/2/2012	TOTAL	12G140	4.7	0.98	7440-67-7	ZIRCONIUM	5.14	UJ	2.57	5.14	mg/kg	U	UJ	Q	1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	6020	8/2/2012	TOTAL	12G140	4.7	0.98	7440-70-2	CALCIUM METAL	3410		10.3	20.6	mg/kg				1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	6020	8/2/2012	TOTAL	12G140	4.7	0.98	7723-14-0	PHOSPHORUS	286		6.17	12.3	mg/kg				1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	6020	8/2/2012	TOTAL	12G140	4.7	0.98	7782-49-2	SELENIUM	0.514	U	0.206	0.514	mg/kg	U			1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	6850	7/24/2012	Gen Prep	12G140	4.7	1	14797-73-0	PERCHLORATE	5.25	U	2.62	5.25	ug/kg	U			1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	7471A	7/26/2012	7471A	12G140	4.7	0.99	7439-97-6	MERCURY	0.0712	J	0.0519	0.104	mg/kg	J	J	Z	1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	8015B EFH	7/25/2012	3550B	12G140	4.7	1	PHCC12C14	EFH (C12-C14)	5.2	U	2.6	5.2	mg/kg	U			1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	8015B EFH	7/25/2012	3550B	12G140	4.7	1	PHCC15C20	EFH (C15-C20)	5.2	U	2.6	5.2	mg/kg	U			1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	8015B EFH	7/25/2012	3550B	12G140	4.7	1	PHCC21C30	EFH (C21-C30)	17		2.6	5.2	mg/kg				1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	8015B EFH	7/25/2012	3550B	12G140	4.7	1	PHCC30C40	EFH (C30-C40)	24		5.2	10	mg/kg				1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	8015B EFH	7/25/2012	3550B	12G140	4.7	1	PHCC8C11	EFH (C8-C11)	5.2	U	2.6	5.2	mg/kg	U			1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	8082	8/4/2012	3550B	12G140	4.7	1	11096-82-5	Aroclor 1260	15	J	10	21	ug/kg	J	J	Z	1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	8082	8/4/2012	3550B	12G140	4.7	1	11097-69-1	Aroclor 1254	21	U	10	21	ug/kg	U			1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	8082	8/4/2012	3550B	12G140	4.7	1	11100-14-4	Aroclor 1268	21	U	10	21	ug/kg	U			1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	8082	8/4/2012	3550B	12G140	4.7	1	11104-28-2	Aroclor 1221	21	U	10	21	ug/kg	U			1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	8082	8/4/2012	3550B	12G140	4.7	1	11126-42-4	Aroclor 5460	42	U	21	42	ug/kg	U			1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	8082	8/4/2012	3550B	12G140	4.7	1	11141-16-5	Aroclor 1232	21	U	10	21	ug/kg	U			1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	8082	8/4/2012	3550B	12G140	4.7	1	12642-23-8	Aroclor 5442	42	U	21	42	ug/kg	U			1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	8082	8/4/2012	3550B	12G140	4.7	1	12672-29-6	Aroclor 1248	21	U	10	21	ug/kg	U			1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	8082	8/4/2012	3550B	12G140	4.7	1	12674-11-2	Aroclor 1016	21	U	10	21	ug/kg	U			1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	8082	8/4/2012	3550B	12G140	4.7	1	37324-23-5	Aroclor 1262	21	U	10	21	ug/kg	U			1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	8082	8/4/2012	3550B	12G140	4.7	1	53469-21-9	Aroclor 1242	21	U	10	21	ug/kg	U			1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	8082	8/4/2012	3550B	12G140	4.7	1	63496-31-1	Aroclor 5432	42	U	21	42	ug/kg	U			1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	8270C SIM	7/31/2012	3550B	12G140	4.7	1	103-33-3	AZOBENZENE	5.2	U	2.6	5.2	ug/kg	U			1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	8270C SIM	7/31/2012	3550B	12G140	4.7	1	120-12-7	ANTHRACENE	6.1	J	2.6	10	ug/kg	J	J	Z	1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	8270C SIM	7/31/2012	3550B	12G140	4.7	1	129-00-0	PYRENE	77		2.6	10	ug/kg				1785907.642	266377.1375	-118.70827	34.2299

REVISED

Master Chemical Database Table for Phase 3 - Area III Sediment Drainage Sampling

Sample Name	Sample Date	Sample Type Code	Start Depth	End Depth	Depth Unit	Matrix Code	Task Code	Parent Sample Code	Lab Sample ID	Lab Name	Analytical Method	Analysis Date	Prep Method	Lab SDG	Percent Moisture	Dilution Factor	Cas RN	Chemical Name	Report Result Value	Final Qualifiers	Method Detection Limit	Reporting Detection Limit	Report Result Unit	Lab Qualifiers	DQM Qualifiers	DQM Remarks	X Coordinate	Y Coordinate	Longitude	Latitude
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	8270C SIM	7/31/2012	3550B	12G140	4.7	1	191-24-2	BENZO(G,H,I)PERYLENE	520		2.6	10	ug/kg				1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	8270C SIM	7/31/2012	3550B	12G140	4.7	1	192-97-2	Benzo(e)pyrene	200		2.6	5.2	ug/kg				1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	8270C SIM	7/31/2012	3550B	12G140	4.7	1	193-39-5	INDENO(1,2,3-CD)PYRENE	370		2.6	10	ug/kg				1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	8270C SIM	7/31/2012	3550B	12G140	4.7	1	205-99-2	BENZO(B)FLUORANTHENE	220		2.6	10	ug/kg				1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	8270C SIM	7/31/2012	3550B	12G140	4.7	1	206-44-0	FLUORANTHENE	62		2.6	10	ug/kg				1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	8270C SIM	7/31/2012	3550B	12G140	4.7	1	207-08-9	BENZO(K)FLUORANTHENE	27		2.6	10	ug/kg				1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	8270C SIM	7/31/2012	3550B	12G140	4.7	1	208-96-8	ACENAPHTHYLENE	3	J	2.6	10	ug/kg	J	J	Z	1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	8270C SIM	7/31/2012	3550B	12G140	4.7	1	218-01-9	1,2-BENZPHENANTHRACENE	57		2.6	10	ug/kg				1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	8270C SIM	7/31/2012	3550B	12G140	4.7	1	50-32-8	BENZO(A)PYRENE	150		2.6	10	ug/kg				1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	8270C SIM	7/31/2012	3550B	12G140	4.7	1	53-70-3	DIBENZO(A,H)ANTHRACENE	31		2.6	10	ug/kg				1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	8270C SIM	7/31/2012	3550B	12G140	4.7	1	56-55-3	BENZO(A)ANTHRACENE	27		2.6	10	ug/kg				1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	8270C SIM	7/31/2012	3550B	12G140	4.7	1	62-75-9	METHANAMINE, N-METHYL-N-NITROSO	10	U	2.6	10	ug/kg	U			1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	8270C SIM	7/31/2012	3550B	12G140	4.7	1	83-32-9	ACENAPHTHENE	10	U	2.6	10	ug/kg	U			1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	8270C SIM	7/31/2012	3550B	12G140	4.7	1	85-01-8	PHENANTHRENE	30		2.6	10	ug/kg				1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	8270C SIM	7/31/2012	3550B	12G140	4.7	1	86-73-7	FLUORENE	10	U	2.6	10	ug/kg	U			1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	8270C SIM	7/31/2012	3550B	12G140	4.7	1	90-12-0	1-METHYLNAPHTHALENE	10	U	2.6	10	ug/kg	U			1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	8270C SIM	7/31/2012	3550B	12G140	4.7	1	91-20-3	NAPHTHALENE	2.8	J	2.6	10	ug/kg	J	J	Z	1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	8270C SIM	7/31/2012	3550B	12G140	4.7	1	91-57-6	2-METHYLNAPHTHALENE	3.2	J	2.6	10	ug/kg	J	J	Z	1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-07	EMAX	8270C SIM	7/31/2012	3550B	12G140	4.7	1	92-52-4	1,1'-Biphenyl	5.2	U	2.6	5.2	ug/kg	U			1785907.642	266377.1375	-118.70827	34.2299
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-02	EMAX	6020	8/1/2012	TOTAL	12G123	5.0	1	7439-93-2	LITHIUM	25		1.05	2.11	mg/kg				1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-02	EMAX	6020	8/1/2012	TOTAL	12G123	5.0	1	7439-95-4	MAGNESIUM	6520		5.26	10.5	mg/kg				1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-02	EMAX	6020	8/1/2012	TOTAL	12G123	5.0	1	7439-96-5	MANGANESE	313		0.263	0.526	mg/kg				1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-02	EMAX	6020	8/1/2012	TOTAL	12G123	5.0	1	7439-98-7	MOLYBDENUM	0.47	J	0.0526	0.526	mg/kg	J	J	Z	1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-02	EMAX	6020	8/1/2012	TOTAL	12G123	5.0	1	7440-02-0	NICKEL	12.6		0.211	0.526	mg/kg				1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-02	EMAX	6020	8/1/2012	TOTAL	12G123	5.0	1	7440-09-7	POTASSIUM	4490		31.6	105	mg/kg				1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-02	EMAX	6020	8/1/2012	TOTAL	12G123	5.0	1	7440-22-4	SILVER	0.526	U	0.0526	0.526	mg/kg	U			1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-02	EMAX	6020	8/1/2012	TOTAL	12G123	5.0	1	7440-23-5	SODIUM	96.9	J	52.6	105	mg/kg	J	J	Z	1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-02	EMAX	6020	8/1/2012	TOTAL	12G123	5.0	1	7440-24-6	STRONTIUM	30.7		0.263	0.526	mg/kg				1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-02	EMAX	6020	8/1/2012	TOTAL	12G123	5.0	1	7440-28-0	THALLIUM	0.243	J	0.0526	0.421	mg/kg	J	J	Z	1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-02	EMAX	6020	8/1/2012	TOTAL	12G123	5.0	1	7440-31-5	TIN	10.5	U	5.26	10.5	mg/kg	U			1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-02	EMAX	6020	8/1/2012	TOTAL	12G123	5.0	1	7440-32-6	TITANIUM METAL POWDER	674		0.526	1.05	mg/kg				1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-02	EMAX	6020	8/1/2012	TOTAL	12G123	5.0	1	7440-36-0	ANTIMONY	0.258	J	0.105	0.526	mg/kg	J	J	Q, Z	1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-02	EMAX	6020	8/1/2012	TOTAL	12G123	5.0	1	7440-38-2	ARSENIC	4.22		0.211	0.526	mg/kg				1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-02	EMAX	6020	8/1/2012	TOTAL	12G123	5.0	1	7440-39-3	BARIUM	86.5		0.211	0.526	mg/kg				1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-02	EMAX	6020	8/1/2012	TOTAL	12G123	5.0	1	7440-41-7	BERYLLIUM	0.549		0.0526	0.526	mg/kg				1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-02	EMAX	6020	8/1/2012	TOTAL	12G123	5.0	1	7440-42-8	BORON	6.69		2.63	5.26	mg/kg				1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-02	EMAX	6020	8/1/2012	TOTAL	12G123	5.0	1	7440-43-9	CADMIUM	0.319	J	0.0526	0.526	mg/kg	J	J	Z	1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-02	EMAX	6020	8/1/2012	TOTAL	12G123	5.0	1	7440-47-3	CHROMIUM	25.2		0.211	0.526	mg/kg				1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-02	EMAX	6020	8/1/2012	TOTAL	12G123	5.0	1	7440-48-4	COBALT	6.86		0.0526	0.526	mg/kg				1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-02	EMAX	6020	8/1/2012	TOTAL	12G123	5.0	1	7440-50-8	COPPER	10.6		0.211	0.526	mg/kg				1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-02	EMAX	6020	8/1/2012	TOTAL	12G123	5.0	1	7440-62-2	VANADIUM (FUME OR DUST)	46.7	J	0.0526	0.526	mg/kg		J	Q	1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-02	EMAX	6020	8/1/2012	TOTAL	12G123	5.0	1	7440-66-6	ZINC	67.6		1.58	5.26	mg/kg				1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-02	EMAX	6020	8/1/2012	TOTAL	12G123	5.0	1	7440-67-7	ZIRCONIUM	5.26	UJ	2.63	5.26	mg/kg	U	UJ	Q	1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-02	EMAX	6020	8/1/2012	TOTAL	12G123	5.0	1	7440-70-2	CALCIUM METAL	8550		10.5	21.1	mg/kg				1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-02	EMAX	6020	8/1/2012	TOTAL	12G123	5.0	1	7723-14-0	PHOSPHORUS	620		6.32	12.6	mg/kg				1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-02	EMAX	6020	8/1/2012	TOTAL	12G123	5.0	1	7782-49-2	SELENIUM	0.276	J	0.211	0.526	mg/kg	J	J	Z	1785242.984	264980.8897	-118.71044	34.22605
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	6020	8/2/2012	TOTAL	12G140	7.7	0.971	7429-90-5	ALUMINUM (FUME OR DUST)	13200		12.6	105	mg/kg				1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	6020	8/2/2012	TOTAL	12G140	7.7	0.971	7439-89-6	IRON	17700		10.5	105	mg/kg				1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	6020	8/2/2012	TOTAL	12G140	7.7	0.971	7439-92-1	LEAD	15.1		0.105	0.526	mg/kg				1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	6020	8/2/2012	TOTAL	12G140	7.7	0.971	7439-93-2	LITHIUM	21.7		1.05	2.10	mg/kg				1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	6020	8/2/2012	TOTAL	12G140	7.7	0.971	7439-95-4	MAGNESIUM	4090		5.26	10.5	mg/kg				1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	6020	8/2/2012	TOTAL	12G140	7.7	0.971	7439-96-5	MANGANESE	263		0.263	0.526	mg/kg				1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	6020	8/2/2012	TOTAL	12G140	7.7	0.971	7439-98-7	MOLYBDENUM	0.517	J	0.0526	0.526	mg/kg	J	J	Z	1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	6020	8/2/2012	TOTAL	12G140	7.7	0.971	7440-02-0	NICKEL	12.4		0.210	0.526	mg/kg				1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	6020	8/2/2012	TOTAL	12G140	7.7	0.971	7440-09-7	POTASSIUM	2890		31.6	105	mg/kg				1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	6020	8/2/2012	TOTAL	12G140	7.7	0.971	7440-22-4	SILVER	1.11		0.0526	0.526	mg/kg				1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	6020	8/2/2012	TOTAL	12G140	7.7	0.971	7440-23-5	SODIUM	114		52.6	105	mg/kg				1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	6020	8/2/2012	TOTAL	12G140	7.7	0.971	7440-24-6	STRONTIUM	22.9		0.263	0.526	mg/kg				1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	6020	8/2/2012	TOTAL	12G140	7.7	0.971	7440-28-0	THALLIUM	0.223	J	0.0526	0.421	mg/kg	J	J	Z	1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	6020	8/2/2012	TOTAL	12G140	7.7	0.971	7440-31-5	TIN	10.5	U	5.26	10.5	mg/kg	U			1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	6020	8/2/2012	TOTAL	12G140	7.7	0.971	7440-32-6	TITANIUM METAL POWDER	816		0.526	1.05	mg/kg				1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	6020	8/2/2012	TOTAL	12G140	7.7	0.971	7440-36-0	ANTIMONY	0.424	J	0.105	0.526	mg/kg	J	J	Z	1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	6020	8/2/2012	TOTAL	12G140	7.7	0.971	7440-38-2	ARSENIC	9.14		0.210	0.526	mg/kg				1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	6020	8/2/2012	TOTAL	12G140	7.7	0.971	7440-39-3	BARIUM	98.7		0.210	0.526	mg/kg				1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	6020	8/2/2012	TOTAL	12G140	7.7	0.971	7440-41-7	BERYLLIUM	0.503	J	0.0526	0.526	mg/kg	J	J	Z	1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	6020	8/2/2012	TOTAL	12G140	7.7	0.971	7440-42-8	BORON	2.73	J	2.63	5.26	mg/kg	J	J	Z	1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	6020	8/2/2012	TOTAL	12G140	7.7	0.971	7440-43-9	CADMIUM	0.414	J	0.0526	0.526	mg/kg	J	J	Z	1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	6020	8/2/2012	TOTAL	12G140	7.7	0.971	7440-47-3	CHROMIUM	18.7		0.210	0.526	mg/kg				1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	6020	8/2/2012	TOTAL	12G140	7.7	0.971	7440-48-4	COBALT	5.48		0.0526	0.526	mg/kg				1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	6020	8/2/2012	TOTAL	12G140	7.7	0.971	7440-50-8	COPPER	10.1		0.210	0.526	mg/kg				1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	6020	8/2/2012	TOTAL	12G140	7.7	0.971	7440-62-2	VANADIUM (FUME OR DUST)	30.8		0.0526	0.526	mg/kg				1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	6020	8/2/2012	TOTAL	12G140	7.7	0.971	7440-66-6	ZINC	169		1.58	5.26	mg/kg				1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	6020	8/2/2012	TOTAL	12G140	7.7	0.971	7440-67-7	ZIRCONIUM	5.26	UJ	2.63	5.26	mg/kg	U	UJ	Q	1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	6020	8/2/2012	TOTAL	12G140	7.7	0.971	7440-70-2	CALCIUM METAL	3750		10.5	21.0	mg/kg				1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	6020	8/2/2012	TOTAL	12G140	7.7	0.971	7723-14-0	PHOSPHORUS	246		6.31	12.6	mg/kg				1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	6020	8/2/2012	TOTAL	12G140	7.7	0.971	7782-49-2	SELENIUM	0.526	U	0.210	0.526	mg/kg	U			1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	6850	7/24/2012	Gen Prep	12G140	7.7	1	14797-73-0	PERCHLORATE	5.42	U	2.71	5.42	ug/kg	U			1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	7471A	7/26/2012	7471A	12G140	7.7	0.984	7439-97-6	MERCURY	0.107	U	0.0533	0.107	mg/kg	U			1785926.464	266290.9562	-118.70821	34.22966
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-01	EMAX	6020	8/8/2012	TOTAL	12G198	65.6	0.962	7429-90-5	ALUMINUM (FUME OR DUST)	26600		33.6	280	mg/kg				1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-01	EMAX	6020	8/8/2012	TOTAL	12G198	65.6	0.962	7439-89-6	IRON	42700		28.0	280	mg/kg				1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-01	EMAX	6020	8/8/2012	TOTAL	12G198	65.6	0.962	7439-92-1	LEAD	35.8		0.280	1.40	mg/kg				1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-01	EMAX	6020	8/8/2012	TOTAL	12G198	65.6	0.962	7439-93-2	LITHIUM	54.3		2.80	5.59	mg/kg				1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-01	EMAX	6020	8/8/2012	TOTAL	12G198	65.6	0.962	7439-95-4	MAGNESIUM	9320		14.0	28.0	mg/kg				1787495.551	266694.9674	-118.70303	34.23081

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Master Chemical Database Table for Phase 3 - Area III Sediment Drainage Sampling

Sample Name	Sample Date	Sample Type Code	Start Depth	End Depth	Depth Unit	Matrix Code	Task Code	Parent Sample Code	Lab Sample ID	Lab Name	Analytical Method	Analysis Date	Prep Method	Lab SDG	Percent Moisture	Dilution Factor	Cas RN	Chemical Name	Report Result Value	Final Qualifiers	Method Detection Limit	Reporting Detection Limit	Report Result Unit	Lab Qualifiers	DQM Qualifiers	DQM Remarks	X Coordinate	Y Coordinate	Longitude	Latitude
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-01	EMAX	6020	8/8/2012	TOTAL	12G198	65.6	0.962	7439-96-5	MANGANESE	656		0.699	1.40	mg/kg				1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-01	EMAX	6020	8/8/2012	TOTAL	12G198	65.6	0.962	7439-98-7	MOLYBDENUM	1.38	J	0.140	1.40	mg/kg	J	J	Z	1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-01	EMAX	6020	8/8/2012	TOTAL	12G198	65.6	0.962	7440-02-0	NICKEL	39.6		0.559	1.40	mg/kg				1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-01	EMAX	6020	8/8/2012	TOTAL	12G198	65.6	0.962	7440-09-7	POTASSIUM	4830		83.9	280	mg/kg				1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-01	EMAX	6020	8/8/2012	TOTAL	12G198	65.6	0.962	7440-22-4	SILVER	25.4		0.140	1.40	mg/kg				1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-01	EMAX	6020	8/8/2012	TOTAL	12G198	65.6	0.962	7440-23-5	SODIUM	552		140	280	mg/kg				1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-01	EMAX	6020	8/8/2012	TOTAL	12G198	65.6	0.962	7440-24-6	STRONTIUM	142		0.699	1.40	mg/kg				1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-01	EMAX	6020	8/8/2012	TOTAL	12G198	65.6	0.962	7440-28-0	THALLIUM	0.407	J	0.140	1.12	mg/kg	J	J	Z	1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-01	EMAX	6020	8/8/2012	TOTAL	12G198	65.6	0.962	7440-31-5	TIN	28	U	14.0	28.0	mg/kg	U			1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-01	EMAX	6020	8/8/2012	TOTAL	12G198	65.6	0.962	7440-32-6	TITANIUM METAL POWDER	1460		1.40	2.80	mg/kg				1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-01	EMAX	6020	8/8/2012	TOTAL	12G198	65.6	0.962	7440-36-0	ANTIMONY	0.878	J	0.280	1.40	mg/kg	J	J	Z	1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-01	EMAX	6020	8/8/2012	TOTAL	12G198	65.6	0.962	7440-38-2	ARSENIC	10.6		0.559	1.40	mg/kg				1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-01	EMAX	6020	8/8/2012	TOTAL	12G198	65.6	0.962	7440-39-3	BARIUM	175		0.559	1.40	mg/kg				1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-01	EMAX	6020	8/8/2012	TOTAL	12G198	65.6	0.962	7440-41-7	BERYLLIUM	1.26	J	0.140	1.40	mg/kg	J	J	Z	1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-01	EMAX	6020	8/8/2012	TOTAL	12G198	65.6	0.962	7440-42-8	BORON	12.1	J	6.99	14.0	mg/kg	J	J	Z	1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-01	EMAX	6020	8/8/2012	TOTAL	12G198	65.6	0.962	7440-43-9	CADMIUM	3.35		0.140	1.40	mg/kg				1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-01	EMAX	6020	8/8/2012	TOTAL	12G198	65.6	0.962	7440-47-3	CHROMIUM	47.5		0.559	1.40	mg/kg				1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-01	EMAX	6020	8/8/2012	TOTAL	12G198	65.6	0.962	7440-48-4	COBALT	17.8		0.140	1.40	mg/kg				1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-01	EMAX	6020	8/8/2012	TOTAL	12G198	65.6	0.962	7440-50-8	COPPER	51.3		0.559	1.40	mg/kg				1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-01	EMAX	6020	8/8/2012	TOTAL	12G198	65.6	0.962	7440-62-2	VANADIUM (FUME OR DUST)	58.7		0.140	1.40	mg/kg				1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-01	EMAX	6020	8/8/2012	TOTAL	12G198	65.6	0.962	7440-66-6	ZINC	335		4.19	14.0	mg/kg				1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-01	EMAX	6020	8/8/2012	TOTAL	12G198	65.6	0.962	7440-67-7	ZIRCONIUM	14	U	6.99	14.0	mg/kg	U			1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-01	EMAX	6020	8/8/2012	TOTAL	12G198	65.6	0.962	7440-70-2	CALCIUM METAL	36900		28.0	55.9	mg/kg				1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-01	EMAX	6020	8/8/2012	TOTAL	12G198	65.6	0.962	7723-14-0	PHOSPHORUS	785		16.8	33.6	mg/kg				1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-01	EMAX	6020	8/8/2012	TOTAL	12G198	65.6	0.962	7782-49-2	SELENIUM	0.746	J	0.559	1.40	mg/kg	J	J	Z	1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-01	EMAX	7471A	8/3/2012	7471A	12G198	65.6	0.992	7439-97-6	MERCURY	0.288	U	0.144	0.288	mg/kg	U			1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-01	EMAX	8015B EFH	8/4/2012	3550B	12G198	65.6	1	PHCC12C14	EFH (C12-C14)	8.5	J	7.3	15	mg/kg	J	J	Z	1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-01	EMAX	8015B EFH	8/4/2012	3550B	12G198	65.6	1	PHCC15C20	EFH (C15-C20)	80		7.3	15	mg/kg				1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-01	EMAX	8015B EFH	8/4/2012	3550B	12G198	65.6	1	PHCC21C30	EFH (C21-C30)	170		7.3	15	mg/kg				1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-01	EMAX	8015B EFH	8/4/2012	3550B	12G198	65.6	1	PHCC30C40	EFH (C30-C40)	310		15	29	mg/kg				1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-01	EMAX	8015B EFH	8/4/2012	3550B	12G198	65.6	1	PHCC8C11	EFH (C8-C11)	15	U	7.3	15	mg/kg	U			1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-01	EMAX	8082	8/9/2012	3550B	12G198	65.6	1	11096-82-5	Aroclor 1260	150		29	58	ug/kg				1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-01	EMAX	8082	8/9/2012	3550B	12G198	65.6	1	11097-69-1	Aroclor 1254	260		29	58	ug/kg				1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-01	EMAX	8082	8/9/2012	3550B	12G198	65.6	1	11100-14-4	Aroclor 1268	58	U	29	58	ug/kg	U			1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-01	EMAX	8082	8/9/2012	3550B	12G198	65.6	1	11104-28-2	Aroclor 1221	58	U	29	58	ug/kg	U			1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-01	EMAX	8082	8/9/2012	3550B	12G198	65.6	1	11126-42-4	Aroclor 5460	95	J	58	120	ug/kg	J	J	Z	1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-01	EMAX	8082	8/9/2012	3550B	12G198	65.6	1	11141-16-5	Aroclor 1232	58	U	29	58	ug/kg	U			1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-01	EMAX	8082	8/9/2012	3550B	12G198	65.6	1	12642-23-8	Aroclor 5442	120	U	58	120	ug/kg	U			1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-01	EMAX	8082	8/9/2012	3550B	12G198	65.6	1	12672-29-6	Aroclor 1248	58	U	29	58	ug/kg	U			1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-01	EMAX	8082	8/9/2012	3550B	12G198	65.6	1	12674-11-2	Aroclor 1016	58	U	29	58	ug/kg	U			1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-01	EMAX	8082	8/9/2012	3550B	12G198	65.6	1	37324-23-5	Aroclor 1262	58	U	29	58	ug/kg	U			1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-01	EMAX	8082	8/9/2012	3550B	12G198	65.6	1	53469-21-9	Aroclor 1242	58	U	29	58	ug/kg	U			1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		G198-01	EMAX	8082	8/9/2012	3550B	12G198	65.6	1	63496-31-1	Aroclor 5432	120	U	58	120	ug/kg	U			1787495.551	266694.9674	-118.70303	34.23081
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726246	LL	160.3M	7/25/2012	Gen Prep	PH024	10.5	1	MOIST	MOISTURE	10.5		0.50	0.50	%				1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726246	LL	1613B	7/29/2012	METHOD	PH024	10.5	1	51207-31-9	2,3,7,8-TETRACHLORODIBENZOFURAN	3.19		0.150	1.11	ng/kg	BC			1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726246	LL	1613B	7/27/2012	METHOD	PH024	10.5	1	1746-01-6	2,3,7,8-TCDD	0.717	J	0.0794	1.11	ng/kg	JBQ	J	Z	1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726246	LL	1613B	7/27/2012	METHOD	PH024	10.5	1	19408-74-3	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	11		0.0829	5.56	ng/kg	B			1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726246	LL	1613B	7/27/2012	METHOD	PH024	10.5	1	3268-87-9	OCDD	3930		0.0440	11.1	ng/kg	B			1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726246	LL	1613B	7/27/2012	METHOD	PH024	10.5	1	35822-46-9	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	485		0.0873	5.56	ng/kg	B			1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726246	LL	1613B	7/27/2012	METHOD	PH024	10.5	1	39001-02-0	OCDF	214		0.0225	11.1	ng/kg	B			1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726246	LL	1613B	7/27/2012	METHOD	PH024	10.5	1	39227-28-6	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	8.17		0.0798	5.56	ng/kg	B			1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726246	LL	1613B	7/27/2012	METHOD	PH024	10.5	1	40321-76-4	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	3.1	J	0.0982	5.56	ng/kg	JB	J	Z	1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726246	LL	1613B	7/27/2012	METHOD	PH024	10.5	1	55673-89-7	1,2,3,4,7,8,9-HPCDF	7.21		0.0500	5.56	ng/kg	B			1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726246	LL	1613B	7/27/2012	METHOD	PH024	10.5	1	57117-31-4	2,3,4,7,8-PECDF	3.17	J	0.0697	5.56	ng/kg	JB	J	Z	1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726246	LL	1613B	7/27/2012	METHOD	PH024	10.5	1	57117-41-6	1,2,3,7,8-PENTACHLORODIBENZOFURAN	7.99		0.0770	5.56	ng/kg	B			1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726246	LL	1613B	7/27/2012	METHOD	PH024	10.5	1	57117-44-9	1,2,3,6,7,8-HXCDF	4.75	J	0.0709	5.56	ng/kg	JB	J	Z	1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726246	LL	1613B	7/27/2012	METHOD	PH024	10.5	1	57653-85-7	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	19.3		0.0871	5.56	ng/kg	B			1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726246	LL	1613B	7/27/2012	METHOD	PH024	10.5	1	60851-34-5	2,3,4,6,7,8-HXCDF	5.05	J	0.0645	5.56	ng/kg	JB	J	Z	1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726246	LL	1613B	7/27/2012	METHOD	PH024	10.5	1	67562-39-4	1,2,3,4,6,7,8-HPCDF	72.6		0.0438	5.56	ng/kg	B			1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726246	LL	1613B	7/27/2012	METHOD	PH024	10.5	1	70648-26-9	1,2,3,4,7,8-HXCDF	9.48		0.0703	5.56	ng/kg	B			1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726246	LL	1613B	7/27/2012	METHOD	PH024	10.5	1	72918-21-9	1,2,3,7,8,9-HXCDF	5.56	U	0.0673	5.56	ng/kg	U			1787722.465	267260.1336	-118.70229	34.23236
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726247	LL	160.3M	7/25/2012	Gen Prep	PH024	1.3	1	MOIST	MOISTURE	1.3		0.50	0.50	%				1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726247	LL	1613B	7/27/2012	METHOD	PH024	1.3	1	1746-01-6	2,3,7,8-TCDD	1.01	U	0.0312	1.01	ng/kg	JB	U	B	1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726247	LL	1613B	7/27/2012	METHOD	PH024	1.3	1	19408-74-3	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	2.17	J	0.0519	5.06	ng/kg	JB	J	Z	1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726247	LL	1613B	7/27/2012	METHOD	PH024	1.3	1	3268-87-9	OCDD	1080		0.0281	10.1	ng/kg	B			1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726247	LL	1613B	7/27/2012	METHOD	PH024	1.3	1	35822-46-9	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	113		0.0567	5.06	ng/kg	B			1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726247	LL	1613B	7/27/2012	METHOD	PH024	1.3	1	39001-02-0	OCDF	49.5		0.0170	10.1	ng/kg	B			1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726247	LL	1613B	7/27/2012	METHOD	PH024	1.3	1	39227-28-6	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	1.3	J	0.0534	5.06	ng/kg	JB	J	Z	1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726247	LL	1613B	7/27/2012	METHOD	PH024	1.3	1	40321-76-4	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	5.06	U	0.0566	5.06	ng/kg	JB	U	B	1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726247	LL	1613B	7/27/2012	METHOD	PH024	1.3	1	51207-31-9	2,3,7,8-TETRACHLORODIBENZOFURAN	1.01	U	0.0700	1.01	ng/kg	JB	U	B	1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726247	LL	1613B	7/27/2012	METHOD	PH024	1.3	1	55673-89-7	1,2,3,4,7,8,9-HPCDF	2.11	J	0.0345	5.06	ng/kg	JB	J	Z	1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726247	LL	1613B	7/27/2012	METHOD	PH024	1.3	1	57117-31-4	2,3,4,7,8-PECDF	5.06	U	0.0373	5.06	ng/kg	JB	U	B	1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726247	LL	1613B	7/27/2012	METHOD	PH024	1.3	1	57117-41-6	1,2,3,7,8-PENTACHLORODIBENZOFURAN	5.06	U	0.0401	5.06	ng/kg	JB	U	B	1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726247	LL	1613B	7/27/2012	METHOD	PH024	1.3	1	57117-44-9	1,2,3,6,7,8-HXCDF	1.1	J	0.0347	5.06	ng/kg	JB	J	Z	1787614.125	267116.684	-118.70265	34.23197
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	8270C SIM	7/24/2012	3550B	12G123	5.2	1	218-01-9	1,2-BENZPHENANTHRACENE	11	U	2.6	11	ug/kg	U			1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	8270C SIM	7/24/2012	3550B	12G123	5.2	1	50-32-8	BENZO(A)PYRENE	11	U	2.6	11	ug/kg	U			1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	8270C SIM	7/24/2012	3550B	12G123	5.2	1	53-70-3	DIBENZO(A,H)ANTHRACENE	11	U	2.6	11	ug/kg	U			1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	8270C SIM	7/24/2012	3550B	12G123	5.2	1	56-55-3	BENZO(A)ANTHRACENE	11	U	2.6	11	ug/kg	U			1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	8270C SIM	7/24/2012	3550B	12G123	5.2	1	62-75-9	METHANAMINE, N-METHYL-N-NITROSO	11	U	2.6	11	ug/kg	U			1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	8270C SIM	7/24/2012	3550B	12G123	5.2	1	83-32-9	ACENAPHTHENE	11	U	2.6	11	ug/kg	U			1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	8270C SIM	7/24/2012	3550B	12G123	5.2	1	85-01-8	PHENANTHRENE	11	U	2.6	11	ug/kg	U			1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	8270C SIM	7/24/2012	3550B	12G123	5.2	1	86-73-7	FLUORENE	11	U	2.6	11	ug/kg	U			1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	8270C SIM	7/24/2012	3550B	12G123	5.2	1	90-12-0	1-METHYLNAPHTHALENE	11	U	2.6	11	ug/kg	U			1785403.832	266089.6466	-118.70993	34.2291

REVISED

Master Chemical Database Table for Phase 3 - Area III Sediment Drainage Sampling

Sample Name	Sample Date	Sample Type Code	Start Depth	End Depth	Depth Unit	Matrix Code	Task Code	Parent Sample Code	Lab Sample ID	Lab Name	Analytical Method	Analysis Date	Prep Method	Lab SDG	Percent Moisture	Dilution Factor	Cas RN	Chemical Name	Report Result Value	Final Qualifiers	Method Detection Limit	Reporting Detection Limit	Report Result Unit	Lab Qualifiers	DQM Qualifiers	DQM Remarks	X Coordinate	Y Coordinate	Longitude	Latitude
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	8270C SIM	7/24/2012	3550B	12G123	5.2	1	91-20-3	NAPHTHALENE	11	U	2.6	11	ug/kg	U			1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	8270C SIM	7/24/2012	3550B	12G123	5.2	1	91-57-6	2-METHYLNAPHTHALENE	11	U	2.6	11	ug/kg	U			1785403.832	266089.6466	-118.70993	34.2291
SL-013-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-08	EMAX	8270C SIM	7/24/2012	3550B	12G123	5.2	1	92-52-4	1,1'-Biphenyl	5.3	U	2.6	5.3	ug/kg	U			1785403.832	266089.6466	-118.70993	34.2291
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	6020	8/1/2012	TOTAL	12G123	4.4	0.962	7429-90-5	ALUMINUM (FUME OR DUST)	14200		12.1	101	mg/kg				1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	6020	8/1/2012	TOTAL	12G123	4.4	0.962	7439-89-6	IRON	18900		10.1	101	mg/kg				1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	6020	8/1/2012	TOTAL	12G123	4.4	0.962	7439-92-1	LEAD	11.2		0.101	0.503	mg/kg				1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	6020	8/1/2012	TOTAL	12G123	4.4	0.962	7439-93-2	LITHIUM	20.3		1.01	2.01	mg/kg				1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	6020	8/1/2012	TOTAL	12G123	4.4	0.962	7439-95-4	MAGNESIUM	4280		5.03	10.1	mg/kg				1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	6020	8/1/2012	TOTAL	12G123	4.4	0.962	7439-96-5	MANGANESE	215		0.252	0.503	mg/kg				1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	6020	8/1/2012	TOTAL	12G123	4.4	0.962	7439-98-7	MOLYBDENUM	0.448	J	0.0503	0.503	mg/kg	J	J	Z	1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	6020	8/1/2012	TOTAL	12G123	4.4	0.962	7440-02-0	NICKEL	12.1		0.201	0.503	mg/kg				1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	6020	8/1/2012	TOTAL	12G123	4.4	0.962	7440-09-7	POTASSIUM	2940		30.2	101	mg/kg				1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	6020	8/1/2012	TOTAL	12G123	4.4	0.962	7440-22-4	SILVER	0.107	J	0.0503	0.503	mg/kg	J	J	Z	1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	6020	8/1/2012	TOTAL	12G123	4.4	0.962	7440-23-5	SODIUM	110		50.3	101	mg/kg				1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	6020	8/1/2012	TOTAL	12G123	4.4	0.962	7440-24-6	STRONTIUM	29.2		0.252	0.503	mg/kg				1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	6020	8/1/2012	TOTAL	12G123	4.4	0.962	7440-28-0	THALLIUM	0.209	J	0.0503	0.403	mg/kg	J	J	Z	1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	6020	8/1/2012	TOTAL	12G123	4.4	0.962	7440-31-5	TIN	10.1	U	5.03	10.1	mg/kg	U			1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	6020	8/1/2012	TOTAL	12G123	4.4	0.962	7440-32-6	TITANIUM METAL POWDER	793		0.503	1.01	mg/kg				1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	6020	8/1/2012	TOTAL	12G123	4.4	0.962	7440-36-0	ANTIMONY	0.293	J	0.101	0.503	mg/kg	J	J	Q, Z	1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	6020	8/1/2012	TOTAL	12G123	4.4	0.962	7440-38-2	ARSENIC	4.48		0.201	0.503	mg/kg				1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	6020	8/1/2012	TOTAL	12G123	4.4	0.962	7440-39-3	BARIUM	85.9		0.201	0.503	mg/kg				1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	6020	8/1/2012	TOTAL	12G123	4.4	0.962	7440-41-7	BERYLLIUM	0.453	J	0.0503	0.503	mg/kg	J	J	Z	1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	6020	8/1/2012	TOTAL	12G123	4.4	0.962	7440-42-8	BORON	3.15	J	2.52	5.03	mg/kg	J	J	Z	1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	6020	8/1/2012	TOTAL	12G123	4.4	0.962	7440-43-9	CADMIUM	0.395	J	0.0503	0.503	mg/kg	J	J	Z	1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	6020	8/1/2012	TOTAL	12G123	4.4	0.962	7440-47-3	CHROMIUM	18		0.201	0.503	mg/kg				1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	6020	8/1/2012	TOTAL	12G123	4.4	0.962	7440-48-4	COBALT	5.58		0.0503	0.503	mg/kg				1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	6020	8/1/2012	TOTAL	12G123	4.4	0.962	7440-50-8	COPPER	21.5		0.201	0.503	mg/kg				1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	6020	8/1/2012	TOTAL	12G123	4.4	0.962	7440-62-2	VANADIUM (FUME OR DUST)	33.4	J	0.0503	0.503	mg/kg		J	Q	1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	6020	8/1/2012	TOTAL	12G123	4.4	0.962	7440-66-6	ZINC	148		1.51	5.03	mg/kg				1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	6020	8/1/2012	TOTAL	12G123	4.4	0.962	7440-67-7	ZIRCONIUM	5.03	UJ	2.52	5.03	mg/kg	U	UJ	Q	1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	6020	8/1/2012	TOTAL	12G123	4.4	0.962	7440-70-2	CALCIUM METAL	5070		10.1	20.1	mg/kg				1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	6020	8/1/2012	TOTAL	12G123	4.4	0.962	7723-14-0	PHOSPHORUS	428		6.04	12.1	mg/kg				1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	6020	8/1/2012	TOTAL	12G123	4.4	0.962	7782-49-2	SELENIUM	0.503	U	0.201	0.503	mg/kg	U			1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	6850	7/24/2012	Gen Prep	12G123	4.4	1	14797-73-0	PERCHLORATE	5.23	U	2.62	5.23	ug/kg	U			1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	7471A	7/26/2012	7471A	12G123	4.4	1	7439-97-6	MERCURY	0.105	U	0.0523	0.105	mg/kg	U			1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	8015B EFH	7/24/2012	3550B	12G123	4.4	1	PHCC12C14	EFH (C12-C14)	5.2	U	2.6	5.2	mg/kg	U			1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	8015B EFH	7/24/2012	3550B	12G123	4.4	1	PHCC15C20	EFH (C15-C20)	5.2	U	2.6	5.2	mg/kg	U			1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	8015B EFH	7/24/2012	3550B	12G123	4.4	1	PHCC21C30	EFH (C21-C30)	22		2.6	5.2	mg/kg				1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	8015B EFH	7/24/2012	3550B	12G123	4.4	1	PHCC30C40	EFH (C30-C40)	42		5.2	10	mg/kg				1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	8015B EFH	7/24/2012	3550B	12G123	4.4	1	PHCC8C11	EFH (C8-C11)	5.2	U	2.6	5.2	mg/kg	U			1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	8082	7/30/2012	3550B	12G123	4.4	1	11096-82-5	Aroclor 1260	21	U	10	21	ug/kg	U			1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	8082	7/30/2012	3550B	12G123	4.4	1	11097-69-1	Aroclor 1254	170		10	21	ug/kg				1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	8082	7/30/2012	3550B	12G123	4.4	1	11100-14-4	Aroclor 1268	21	U	10	21	ug/kg	U			1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	8082	7/30/2012	3550B	12G123	4.4	1	11104-28-2	Aroclor 1221	21	U	10	21	ug/kg	U			1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	8082	7/30/2012	3550B	12G123	4.4	1	11126-42-4	Aroclor 5460	42	U	21	42	ug/kg	U			1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	8082	7/30/2012	3550B	12G123	4.4	1	11141-16-5	Aroclor 1232	21	U	10	21	ug/kg	U			1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	8082	7/30/2012	3550B	12G123	4.4	1	12642-23-8	Aroclor 5442	42	U	21	42	ug/kg	U			1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	8082	7/30/2012	3550B	12G123	4.4	1	12672-29-6	Aroclor 1248	21	U	10	21	ug/kg	U			1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	8082	7/30/2012	3550B	12G123	4.4	1	12674-11-2	Aroclor 1016	21	U	10	21	ug/kg	U			1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	8082	7/30/2012	3550B	12G123	4.4	1	37324-23-5	Aroclor 1262	21	U	10	21	ug/kg	U			1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	8082	7/30/2012	3550B	12G123	4.4	1	53469-21-9	Aroclor 1242	21	U	10	21	ug/kg	U			1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	8082	7/30/2012	3550B	12G123	4.4	1	63496-31-1	Aroclor 5432	42	U	21	42	ug/kg	U			1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	8270C SIM	7/24/2012	3550B	12G123	4.4	3	103-33-3	AZOBENZENE	16	U	7.8	16	ug/kg	U			1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	8270C SIM	7/24/2012	3550B	12G123	4.4	3	120-12-7	ANTHRACENE	31	U	7.8	31	ug/kg	U			1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	8270C SIM	7/24/2012	3550B	12G123	4.4	3	129-00-0	PYRENE	19	J	7.8	31	ug/kg	J	J	Z	1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	8270C SIM	7/24/2012	3550B	12G123	4.4	3	191-24-2	BENZO(G,H,I)PERYLENE	14	J	7.8	31	ug/kg	J	J	Z	1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	8270C SIM	7/24/2012	3550B	12G123	4.4	3	192-97-2	Benzo(e)pyrene	21		7.8	16	ug/kg				1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	8270C SIM	7/24/2012	3550B	12G123	4.4	3	193-39-5	INDENO(1,2,3-CD)PYRENE	31	U	7.8	31	ug/kg	U			1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	8270C SIM	7/24/2012	3550B	12G123	4.4	3	205-99-2	BENZO(B)FLUORANTHENE	19	J	7.8	31	ug/kg	J	J	Z	1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	8270C SIM	7/24/2012	3550B	12G123	4.4	3	206-44-0	FLUORANTHENE	21	J	7.8	31	ug/kg	J	J	Z	1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	8270C SIM	7/24/2012	3550B	12G123	4.4	3	207-08-9	BENZO(K)FLUORANTHENE	31	U	7.8	31	ug/kg	U			1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	8270C SIM	7/24/2012	3550B	12G123	4.4	3	208-96-8	ACENAPHTHYLENE	31	U	7.8	31	ug/kg	U			1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	8270C SIM	7/24/2012	3550B	12G123	4.4	3	218-01-9	1,2-BENZPHENANTHRACENE	11	J	7.8	31	ug/kg	J	J	Z	1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	8270C SIM	7/24/2012	3550B	12G123	4.4	3	50-32-8	BENZO(A)PYRENE	12	J	7.8	31	ug/kg	J	J	Z	1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	8270C SIM	7/24/2012	3550B	12G123	4.4	3	53-70-3	DIBENZO(A,H)ANTHRACENE	31	U	7.8	31	ug/kg	U			1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	8270C SIM	7/24/2012	3550B	12G123	4.4	3	56-55-3	BENZO(A)ANTHRACENE	31	U	7.8	31	ug/kg	U			1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	8270C SIM	7/24/2012	3550B	12G123	4.4	3	62-75-9	METHANAMINE, N-METHYL-N-NITROSO	31	U	7.8	31	ug/kg	U			1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	8270C SIM	7/24/2012	3550B	12G123	4.4	3	83-32-9	ACENAPHTHENE	31	U	7.8	31	ug/kg	U			1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	8270C SIM	7/24/2012	3550B	12G123	4.4	3	85-01-8	PHENANTHRENE	13	J	7.8	31	ug/kg	J	J	Z	1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	8270C SIM	7/24/2012	3550B	12G123	4.4	3	86-73-7	FLUORENE	31	U	7.8	31	ug/kg	U			1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	8270C SIM	7/24/2012	3550B	12G123	4.4	3	90-12-0	1-METHYLNAPHTHALENE	31	U	7.8	31	ug/kg	U			1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	8270C SIM	7/24/2012	3550B	12G123	4.4	3	91-20-3	NAPHTHALENE	31	U	7.8	31	ug/kg	U			1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	8270C SIM	7/24/2012	3550B	12G123	4.4	3	91-57-6	2-METHYLNAPHTHALENE	31	U	7.8	31	ug/kg	U			1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-04	EMAX	8270C SIM	7/24/2012	3550B	12G123	4.4	3	92-52-4	1,1'-Biphenyl	16	U	7.8	16	ug/kg	U			1785484.361	266017.6688	-118.70967	34.2289
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	6020	8/1/2012	TOTAL	12G123	3.6	0.98	7429-90-5	ALUMINUM (FUME OR DUST)	19000		12.2	102	mg/kg				1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	6020	8/1/2012	TOTAL	12G123	3.6	0.98	7439-89-6	IRON	20600		10.2	102	mg/kg				1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	6020	8/1/2012	TOTAL	12G123	3.6	0.98	7439-92-1	LEAD	11.3		0.102	0.508	mg/kg				1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	6020	8/1/2012	TOTAL	12G123	3.6	0.98	7439-93-2	LITHIUM	20.2		1.02	2.03	mg/kg				1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	6020	8/1/2012	TOTAL	12G123	3.6	0.98	7439-95-4	MAGNESIUM	4970		5.08	10.2	mg/kg				1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	6020	8/1/2012	TOTAL	12G123	3.6	0.98	7439-96-5	MANGANESE	285		0.254	0.508	mg/kg				1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	6020	8/1/2012	TOTAL	12G123	3.6	0.98	7439-98-7	MOLYBDENUM	0.394	J	0.0508	0.508	mg/kg	J	J	Z	1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	6020	8/1/2012	TOTAL	12G123	3.6	0.98	7440-02-0	NICKEL	13		0.203	0.508	mg/kg				1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	6020	8/1/2012	TOTAL	12G123	3.6	0.98	7440-09-7	POTASSIUM	3290		30.5	102	mg/kg				1785342.316	265996.1282	-118.71014	34.22884

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Master Chemical Database Table for Phase 3 - Area III Sediment Drainage Sampling

Sample Name	Sample Date	Sample Type Code	Start Depth	End Depth	Depth Unit	Matrix Code	Task Code	Parent Sample Code	Lab Sample ID	Lab Name	Analytical Method	Analysis Date	Prep Method	Lab SDG	Percent Moisture	Dilution Factor	Cas RN	Chemical Name	Report Result Value	Final Qualifiers	Method Detection Limit	Reporting Detection Limit	Report Result Unit	Lab Qualifiers	DQM Qualifiers	DQM Remarks	X Coordinate	Y Coordinate	Longitude	Latitude
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	6020	8/1/2012	TOTAL	12G123	3.6	0.98	7440-22-4	SILVER	0.134	J	0.0508	0.508	mg/kg	J	J	Z	1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	6020	8/1/2012	TOTAL	12G123	3.6	0.98	7440-23-5	SODIUM	84.5	J	50.8	102	mg/kg	J	J	Z	1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	6020	8/1/2012	TOTAL	12G123	3.6	0.98	7440-24-6	STRONTIUM	27.8		0.254	0.508	mg/kg				1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	6020	8/1/2012	TOTAL	12G123	3.6	0.98	7440-28-0	THALLIUM	0.243	J	0.0508	0.407	mg/kg	J	J	Z	1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	6020	8/1/2012	TOTAL	12G123	3.6	0.98	7440-31-5	TIN	10.2	U	5.08	10.2	mg/kg	U			1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	6020	8/1/2012	TOTAL	12G123	3.6	0.98	7440-32-6	TITANIUM METAL POWDER	837		0.508	1.02	mg/kg				1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	6020	8/1/2012	TOTAL	12G123	3.6	0.98	7440-36-0	ANTIMONY	0.177	J	0.102	0.508	mg/kg	J	J	Q, Z	1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	6020	8/1/2012	TOTAL	12G123	3.6	0.98	7440-38-2	ARSENIC	5.22		0.203	0.508	mg/kg				1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	6020	8/1/2012	TOTAL	12G123	3.6	0.98	7440-39-3	BARIUM	110		0.203	0.508	mg/kg				1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	6020	8/1/2012	TOTAL	12G123	3.6	0.98	7440-41-7	BERYLLIUM	0.581		0.0508	0.508	mg/kg				1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	6020	8/1/2012	TOTAL	12G123	3.6	0.98	7440-42-8	BORON	2.89	J	2.54	5.08	mg/kg	J	J	Z	1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	6020	8/1/2012	TOTAL	12G123	3.6	0.98	7440-43-9	CADMIUM	0.359	J	0.0508	0.508	mg/kg	J	J	Z	1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	6020	8/1/2012	TOTAL	12G123	3.6	0.98	7440-47-3	CHROMIUM	21.4		0.203	0.508	mg/kg				1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	6020	8/1/2012	TOTAL	12G123	3.6	0.98	7440-48-4	COBALT	6.47		0.0508	0.508	mg/kg				1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	6020	8/1/2012	TOTAL	12G123	3.6	0.98	7440-50-8	COPPER	17.3		0.203	0.508	mg/kg				1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	6020	8/1/2012	TOTAL	12G123	3.6	0.98	7440-62-2	VANADIUM (FUME OR DUST)	39.3	J	0.0508	0.508	mg/kg		J	Q	1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	6020	8/1/2012	TOTAL	12G123	3.6	0.98	7440-66-6	ZINC	84.4		1.52	5.08	mg/kg				1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	6020	8/1/2012	TOTAL	12G123	3.6	0.98	7440-67-7	ZIRCONIUM	5.08	UJ	2.54	5.08	mg/kg	U	UJ	Q	1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	6020	8/1/2012	TOTAL	12G123	3.6	0.98	7440-70-2	CALCIUM METAL	3530		10.2	20.3	mg/kg				1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	6020	8/1/2012	TOTAL	12G123	3.6	0.98	7723-14-0	PHOSPHORUS	283		6.10	12.2	mg/kg				1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	6020	8/1/2012	TOTAL	12G123	3.6	0.98	7782-49-2	SELENIUM	0.508	U	0.203	0.508	mg/kg	U			1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	6850	7/24/2012	Gen Prep	12G123	3.6	1	14797-73-0	PERCHLORATE	5.19	U	2.59	5.19	ug/kg	U			1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	7471A	7/26/2012	7471A	12G123	3.6	1	7439-97-6	MERCURY	0.104	U	0.0519	0.104	mg/kg	U			1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	8015B EFH	7/24/2012	3550B	12G123	3.6	1	PHCC12C14	EFH (C12-C14)	5.2	U	2.6	5.2	mg/kg	U			1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	8015B EFH	7/24/2012	3550B	12G123	3.6	1	PHCC15C20	EFH (C15-C20)	5.2	U	2.6	5.2	mg/kg	U			1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	8015B EFH	7/24/2012	3550B	12G123	3.6	1	PHCC21C30	EFH (C21-C30)	11		2.6	5.2	mg/kg				1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	8015B EFH	7/24/2012	3550B	12G123	3.6	1	PHCC30C40	EFH (C30-C40)	20		5.2	10	mg/kg				1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	8015B EFH	7/24/2012	3550B	12G123	3.6	1	PHCC8C11	EFH (C8-C11)	5.2	U	2.6	5.2	mg/kg	U			1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	8082	7/30/2012	3550B	12G123	3.6	1	11096-82-5	Aroclor 1260	21	U	10	21	ug/kg	U			1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	8082	7/30/2012	3550B	12G123	3.6	1	11097-69-1	Aroclor 1254	21	U	10	21	ug/kg	U			1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	8082	7/30/2012	3550B	12G123	3.6	1	11100-14-4	Aroclor 1268	21	U	10	21	ug/kg	U			1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	8082	7/30/2012	3550B	12G123	3.6	1	11104-28-2	Aroclor 1221	21	U	10	21	ug/kg	U			1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	8082	7/30/2012	3550B	12G123	3.6	1	11126-42-4	Aroclor 5460	41	U	21	41	ug/kg	U			1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	8082	7/30/2012	3550B	12G123	3.6	1	11141-16-5	Aroclor 1232	21	U	10	21	ug/kg	U			1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	8082	7/30/2012	3550B	12G123	3.6	1	12642-23-8	Aroclor 5442	41	U	21	41	ug/kg	U			1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	8082	7/30/2012	3550B	12G123	3.6	1	12672-29-6	Aroclor 1248	21	U	10	21	ug/kg	U			1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	8082	7/30/2012	3550B	12G123	3.6	1	12674-11-2	Aroclor 1016	21	U	10	21	ug/kg	U			1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	8082	7/30/2012	3550B	12G123	3.6	1	37324-23-5	Aroclor 1262	21	U	10	21	ug/kg	U			1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	8082	7/30/2012	3550B	12G123	3.6	1	53469-21-9	Aroclor 1242	21	U	10	21	ug/kg	U			1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	8082	7/30/2012	3550B	12G123	3.6	1	63496-31-1	Aroclor 5432	41	U	21	41	ug/kg	U			1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	8270C SIM	7/24/2012	3550B	12G123	3.6	1	103-33-3	AZOBENZENE	5.2	U	2.6	5.2	ug/kg	U			1785342.316	265996.1282	-118.71014	34.22884
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726247	LL	1613B	7/27/2012	METHOD	PH024	1.3	1	57653-85-7	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	4.72	J	0.0552	5.06	ng/kg	JB	J	Z	1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726247	LL	1613B	7/27/2012	METHOD	PH024	1.3	1	60851-34-5	2,3,4,6,7,8-HXCDF	1.37	J	0.0340	5.06	ng/kg	JB	J	Z	1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726247	LL	1613B	7/27/2012	METHOD	PH024	1.3	1	67562-39-4	1,2,3,4,6,7,8-HPCDF	20.2		0.0291	5.06	ng/kg	B			1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726247	LL	1613B	7/27/2012	METHOD	PH024	1.3	1	70648-26-9	1,2,3,4,7,8-HXCDF	2.18	J	0.0385	5.06	ng/kg	JB	J	Z	1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726247	LL	1613B	7/27/2012	METHOD	PH024	1.3	1	72918-21-9	1,2,3,7,8,9-HXCDF	5.06	U	0.0323	5.06	ng/kg	JB	U	B	1787614.125	267116.684	-118.70265	34.23197
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726248	LL	160.3M	7/25/2012	Gen Prep	PH024	6.7	1	MOIST	MOISTURE	6.7		0.50	0.50	%				1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726248	LL	1613B	7/27/2012	METHOD	PH024	6.7	1	1746-01-6	2,3,7,8-TCDD	0.679	J	0.0750	1.07	ng/kg	JB	J	Z	1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726248	LL	1613B	7/27/2012	METHOD	PH024	6.7	1	19408-74-3	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	8.62		0.0980	5.33	ng/kg	B			1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726248	LL	1613B	7/27/2012	METHOD	PH024	6.7	1	3268-87-9	OCDD	3880		0.0545	10.7	ng/kg	B			1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726248	LL	1613B	7/27/2012	METHOD	PH024	6.7	1	35822-46-9	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	412		0.110	5.33	ng/kg	B			1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726248	LL	1613B	7/27/2012	METHOD	PH024	6.7	1	39001-02-0	OCDF	207		0.0262	10.7	ng/kg	B			1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726248	LL	1613B	7/27/2012	METHOD	PH024	6.7	1	39227-28-6	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	6.91		0.100	5.33	ng/kg	B			1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726248	LL	1613B	7/27/2012	METHOD	PH024	6.7	1	40321-76-4	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	2.88	J	0.0992	5.33	ng/kg	JB	J	Z	1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726248	LL	1613B	7/27/2012	METHOD	PH024	6.7	1	51207-31-9	2,3,7,8-TETRACHLORODIBENZOFURAN	1.62		0.213	1.07	ng/kg	BC			1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726248	LL	1613B	7/27/2012	METHOD	PH024	6.7	1	55673-89-7	1,2,3,4,7,8,9-HPCDF	7.16		0.0667	5.33	ng/kg	B			1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726248	LL	1613B	7/27/2012	METHOD	PH024	6.7	1	57117-31-4	2,3,4,7,8-PECDF	5.33	U	0.0839	5.33	ng/kg	JB	U	B	1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726248	LL	1613B	7/27/2012	METHOD	PH024	6.7	1	57117-41-6	1,2,3,7,8-PENTACHLORODIBENZOFURAN	13.6		0.0939	5.33	ng/kg	B			1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726248	LL	1613B	7/27/2012	METHOD	PH024	6.7	1	57117-44-9	1,2,3,6,7,8-HXCDF	3.83	J	0.0771	5.33	ng/kg	JB	J	Z	1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726248	LL	1613B	7/27/2012	METHOD	PH024	6.7	1	57653-85-7	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	17.6		0.105	5.33	ng/kg	B			1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726248	LL	1613B	7/27/2012	METHOD	PH024	6.7	1	60851-34-5	2,3,4,6,7,8-HXCDF	4.78	J	0.0758	5.33	ng/kg	JB	J	Z	1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726248	LL	1613B	7/27/2012	METHOD	PH024	6.7	1	67562-39-4	1,2,3,4,6,7,8-HPCDF	73.9		0.0560	5.33	ng/kg	B			1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726248	LL	1613B	7/27/2012	METHOD	PH024	6.7	1	70648-26-9	1,2,3,4,7,8-HXCDF	8.35		0.0877	5.33	ng/kg	B			1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726248	LL	1613B	7/27/2012	METHOD	PH024	6.7	1	72918-21-9	1,2,3,7,8,9-HXCDF	1.08	J	0.0810	5.33	ng/kg	JB	J	Z	1787572.294	266908.5497	-118.70278	34.23139
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732506	LL	1613B	7/31/2012	METHOD	PH024	69.6	1	51207-31-9	2,3,7,8-TETRACHLORODIBENZOFURAN	56.6		0.491	3.24	ng/kg	BC			1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732506	LL	1613B	7/30/2012	METHOD	PH024	69.6	1	1746-01-6	2,3,7,8-TCDD	2.17	J	0.224	3.24	ng/kg	JB	J	Z	1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732506	LL	1613B	7/30/2012	METHOD	PH024	69.6	1	19408-74-3	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	32.8		0.276	16.2	ng/kg	B			1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732506	LL	1613B	7/30/2012	METHOD	PH024	69.6	1	3268-87-9	OCDD	12600		0.285	32.4	ng/kg	B			1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732506	LL	1613B	7/30/2012	METHOD	PH024	69.6	1	35822-46-9	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	1400		0.499	16.2	ng/kg	B			1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732506	LL	1613B	7/30/2012	METHOD	PH024	69.6	1	39001-02-0	OCDF	550		0.139	32.4	ng/kg	B			1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732506	LL	1613B	7/30/2012	METHOD	PH024	69.6	1	39227-28-6	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	18.1		0.264	16.2	ng/kg				1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732506	LL	1613B	7/30/2012	METHOD	PH024	69.6	1	40321-76-4	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	9.26	J	0.389	16.2	ng/kg	JB	J	Z	1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732506	LL	1613B	7/30/2012	METHOD	PH024	69.6	1	55673-89-7	1,2,3,4,7,8,9-HPCDF	27		0.226	16.2	ng/kg	B			1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732506	LL	1613B	7/30/2012	METHOD	PH024	69.6	1	57117-31-4	2,3,4,7,8-PECDF	15.1	J	0.142	16.2	ng/kg	JB	J	Z	1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732506	LL	1613B	7/30/2012	METHOD	PH024	69.6	1	57117-41-6	1,2,3,7,8-PENTACHLORODIBENZOFURAN	25		0.145	16.2	ng/kg	B			1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732506	LL	1613B	7/30/2012	METHOD	PH024	69.6	1	57117-44-9	1,2,3,6,7,8-HXCDF	19.4		0.219	16.2	ng/kg	B			1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732506	LL	1613B	7/30/2012	METHOD	PH024	69.6	1	57653-85-7	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	60.6		0.293	16.2	ng/kg	B			1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732506	LL	1613B	7/30/2012	METHOD	PH024	69.6	1	60851-34-5	2,3,4,6,7,8-HXCDF	22.5		0.193	16.2	ng/kg	B			1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732506	LL	1613B	7/30/2012	METHOD	PH024	69.6	1	67562-39-4	1,2,3,4,6,7,8-HPCDF	237		0.186	16.2	ng/kg	B			1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732506	LL	1613B	7/30/2012	METHOD	PH024	69.6	1	70648-26-9	1,2,3,4,7,8-HXCDF	15.2	J	0.216	16.2	ng/kg	JB	J	Z	1787495.551	266694.9674	-118.70303	34.23081
SL-004-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732506	LL	1613B	7/30/2012	METHOD	PH024	69.6	1	72918-21-9	1,2,3,7,8,9-HXCDF	4.72	J	0.214	16.2	ng/kg	JB	J	Z	1787495.551	266694.9674	-118.70303	34.23081
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732507	LL	1613B	7/31/2012	METHOD	PH024	62.8	1	51207-31-9	2,3,7,8-TETRACHLORODIBENZOFURAN	67.9		0.446	2.66	ng/kg	BC			1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732507	LL	1613B	7/30/2012	METHOD	PH024	62.8	1	1746-

REVISED

Master Chemical Database Table for Phase 3 - Area III Sediment Drainage Sampling

Sample Name	Sample Date	Sample Type Code	Start Depth	End Depth	Depth Unit	Matrix Code	Task Code	Parent Sample Code	Lab Sample ID	Lab Name	Analytical Method	Analysis Date	Prep Method	Lab SDG	Percent Moisture	Dilution Factor	Cas RN	Chemical Name	Report Result Value	Final Qualifiers	Method Detection Limit	Reporting Detection Limit	Report Result Unit	Lab Qualifiers	DQM Qualifiers	DQM Remarks	X Coordinate	Y Coordinate	Longitude	Latitude
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732507	LL	1613B	7/30/2012	METHOD	PH024	62.8	1	19408-74-3	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	42.5		0.408	13.3	ng/kg	B			1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732507	LL	1613B	7/30/2012	METHOD	PH024	62.8	1	3268-87-9	OCDD	18100	J	0.298	26.6	ng/kg	EB	J	*#	1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732507	LL	1613B	7/30/2012	METHOD	PH024	62.8	1	35822-46-9	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	2080		0.776	13.3	ng/kg	B			1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732507	LL	1613B	7/30/2012	METHOD	PH024	62.8	1	39001-02-0	OCDF	796		0.199	26.6	ng/kg	B			1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732507	LL	1613B	7/30/2012	METHOD	PH024	62.8	1	39227-28-6	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	22		0.411	13.3	ng/kg				1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732507	LL	1613B	7/30/2012	METHOD	PH024	62.8	1	40321-76-4	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	10	J	0.432	13.3	ng/kg	JB	J	Z	1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732507	LL	1613B	7/30/2012	METHOD	PH024	62.8	1	55673-89-7	1,2,3,4,7,8,9-HPCDF	41.4		0.302	13.3	ng/kg	B			1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732507	LL	1613B	7/30/2012	METHOD	PH024	62.8	1	57117-31-4	2,3,4,7,8-PECDF	17.4		0.132	13.3	ng/kg	B			1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732507	LL	1613B	7/30/2012	METHOD	PH024	62.8	1	57117-41-6	1,2,3,7,8-PENTACHLORODIBENZOFURAN	29.5		0.134	13.3	ng/kg	B			1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732507	LL	1613B	7/30/2012	METHOD	PH024	62.8	1	57117-44-9	1,2,3,6,7,8-HXCDF	27.5		0.248	13.3	ng/kg	B			1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732507	LL	1613B	7/30/2012	METHOD	PH024	62.8	1	57653-85-7	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	88.6		0.417	13.3	ng/kg	B			1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732507	LL	1613B	7/30/2012	METHOD	PH024	62.8	1	60851-34-5	2,3,4,6,7,8-HXCDF	35.3		0.230	13.3	ng/kg	B			1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732507	LL	1613B	7/30/2012	METHOD	PH024	62.8	1	67562-39-4	1,2,3,4,6,7,8-HPCDF	348		0.216	13.3	ng/kg	B			1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732507	LL	1613B	7/30/2012	METHOD	PH024	62.8	1	70648-26-9	1,2,3,4,7,8-HXCDF	18.9		0.248	13.3	ng/kg	B			1787433.256	266654.5701	-118.70323	34.23069
SL-005-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732507	LL	1613B	7/30/2012	METHOD	PH024	62.8	1	72918-21-9	1,2,3,7,8,9-HXCDF	6.05	J	0.235	13.3	ng/kg	JB	J	Z	1787433.256	266654.5701	-118.70323	34.23069
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732508	LL	1613B	7/31/2012	METHOD	PH024	58.7	1	51207-31-9	2,3,7,8-TETRACHLORODIBENZOFURAN	28.3		0.307	2.39	ng/kg	BC			1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732508	LL	1613B	7/30/2012	METHOD	PH024	58.7	1	1746-01-6	2,3,7,8-TCDD	3.35		0.212	2.39	ng/kg	B			1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732508	LL	1613B	7/30/2012	METHOD	PH024	58.7	1	19408-74-3	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	47.7		0.331	11.9	ng/kg	B			1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732508	LL	1613B	7/30/2012	METHOD	PH024	58.7	1	3268-87-9	OCDD	18400	J	0.314	23.9	ng/kg	EB	J	*#	1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732508	LL	1613B	7/30/2012	METHOD	PH024	58.7	1	35822-46-9	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	2260		0.698	11.9	ng/kg	B			1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732508	LL	1613B	7/30/2012	METHOD	PH024	58.7	1	39001-02-0	OCDF	877		0.173	23.9	ng/kg	B			1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732508	LL	1613B	7/30/2012	METHOD	PH024	58.7	1	39227-28-6	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	25.7		0.334	11.9	ng/kg				1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732508	LL	1613B	7/30/2012	METHOD	PH024	58.7	1	40321-76-4	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	11.3	J	0.387	11.9	ng/kg	JB	J	Z	1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732508	LL	1613B	7/30/2012	METHOD	PH024	58.7	1	55673-89-7	1,2,3,4,7,8,9-HPCDF	50.2		0.334	11.9	ng/kg	B			1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732508	LL	1613B	7/30/2012	METHOD	PH024	58.7	1	57117-31-4	2,3,4,7,8-PECDF	12.8		0.116	11.9	ng/kg	B			1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732508	LL	1613B	7/30/2012	METHOD	PH024	58.7	1	57117-41-6	1,2,3,7,8-PENTACHLORODIBENZOFURAN	10.6	J	0.126	11.9	ng/kg	JB	J	Z	1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732508	LL	1613B	7/30/2012	METHOD	PH024	58.7	1	57117-44-9	1,2,3,6,7,8-HXCDF	26.4		0.246	11.9	ng/kg	B			1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732508	LL	1613B	7/30/2012	METHOD	PH024	58.7	1	57653-85-7	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	99.9		0.331	11.9	ng/kg	B			1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732508	LL	1613B	7/30/2012	METHOD	PH024	58.7	1	60851-34-5	2,3,4,6,7,8-HXCDF	40.8		0.249	11.9	ng/kg	B			1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732508	LL	1613B	7/30/2012	METHOD	PH024	58.7	1	67562-39-4	1,2,3,4,6,7,8-HPCDF	421		0.260	11.9	ng/kg	B			1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732508	LL	1613B	7/30/2012	METHOD	PH024	58.7	1	70648-26-9	1,2,3,4,7,8-HXCDF	20.4		0.263	11.9	ng/kg	B			1787328.764	266592.5402	-118.70358	34.23052
SL-006-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732508	LL	1613B	7/30/2012	METHOD	PH024	58.7	1	72918-21-9	1,2,3,7,8,9-HXCDF	5.97	J	0.293	11.9	ng/kg	JB	J	Z	1787328.764	266592.5402	-118.70358	34.23052
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732509	LL	1613B	7/31/2012	METHOD	PH024	60.6	1	51207-31-9	2,3,7,8-TETRACHLORODIBENZOFURAN	13.2		0.235	2.52	ng/kg	BC			1787238.486	266530.6348	-118.70387	34.23035
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	8270C SIM	7/24/2012	3550B	12G123	3.6	1	120-12-7	ANTHRACENE	4.6	J	2.6	10	ug/kg	J	J	Z	1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	8270C SIM	7/24/2012	3550B	12G123	3.6	1	129-00-0	PYRENE	54		2.6	10	ug/kg				1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	8270C SIM	7/24/2012	3550B	12G123	3.6	1	191-24-2	BENZO(G,H,I)PERYLENE	13		2.6	10	ug/kg				1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	8270C SIM	7/24/2012	3550B	12G123	3.6	1	192-97-2	Benzo(e)pyrene	16		2.6	5.2	ug/kg				1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	8270C SIM	7/24/2012	3550B	12G123	3.6	1	193-39-5	INDENO(1,2,3-CD)PYRENE	10		2.6	10	ug/kg	J			1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	8270C SIM	7/24/2012	3550B	12G123	3.6	1	205-99-2	BENZO(B)FLUORANTHENE	33		2.6	10	ug/kg				1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	8270C SIM	7/24/2012	3550B	12G123	3.6	1	206-44-0	FLUORANTHENE	63		2.6	10	ug/kg				1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	8270C SIM	7/24/2012	3550B	12G123	3.6	1	207-08-9	BENZO(K)FLUORANTHENE	11		2.6	10	ug/kg				1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	8270C SIM	7/24/2012	3550B	12G123	3.6	1	208-96-8	ACENAPHTHYLENE	10	U	2.6	10	ug/kg	U			1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	8270C SIM	7/24/2012	3550B	12G123	3.6	1	218-01-9	1,2-BENZPHENANTHRACENE	28		2.6	10	ug/kg				1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	8270C SIM	7/24/2012	3550B	12G123	3.6	1	50-32-8	BENZO(A)PYRENE	20		2.6	10	ug/kg				1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	8270C SIM	7/24/2012	3550B	12G123	3.6	1	53-70-3	DIBENZO(A,H)ANTHRACENE	3.3	J	2.6	10	ug/kg	J	J	Z	1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	8270C SIM	7/24/2012	3550B	12G123	3.6	1	56-55-3	BENZO(A)ANTHRACENE	19		2.6	10	ug/kg				1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	8270C SIM	7/24/2012	3550B	12G123	3.6	1	62-75-9	METHANAMINE, N-METHYL-N-NITROSO	10	U	2.6	10	ug/kg	U			1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	8270C SIM	7/24/2012	3550B	12G123	3.6	1	83-32-9	ACENAPHTHENE	10	U	2.6	10	ug/kg	U			1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	8270C SIM	7/24/2012	3550B	12G123	3.6	1	85-01-8	PHENANTHRENE	28		2.6	10	ug/kg				1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	8270C SIM	7/24/2012	3550B	12G123	3.6	1	86-73-7	FLUORENE	10	U	2.6	10	ug/kg	U			1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	8270C SIM	7/24/2012	3550B	12G123	3.6	1	90-12-0	1-METHYLNAPHTHALENE	10	U	2.6	10	ug/kg	U			1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	8270C SIM	7/24/2012	3550B	12G123	3.6	1	91-20-3	NAPHTHALENE	10	U	2.6	10	ug/kg	U			1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	8270C SIM	7/24/2012	3550B	12G123	3.6	1	91-57-6	2-METHYLNAPHTHALENE	10	U	2.6	10	ug/kg	U			1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-05	EMAX	8270C SIM	7/24/2012	3550B	12G123	3.6	1	92-52-4	1,1'-Biphenyl	5.2	U	2.6	5.2	ug/kg	U			1785342.316	265996.1282	-118.71014	34.22884
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-01	EMAX	6020	8/1/2012	TOTAL	12G123	2.5	0.99	7429-90-5	ALUMINUM (FUME OR DUST)	19000		12.2	102	mg/kg				1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-01	EMAX	6020	8/1/2012	TOTAL	12G123	2.5	0.99	7439-89-6	IRON	24300		10.2	102	mg/kg				1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-01	EMAX	6020	8/1/2012	TOTAL	12G123	2.5	0.99	7439-92-1	LEAD	10.3		0.102	0.508	mg/kg				1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-01	EMAX	6020	8/1/2012	TOTAL	12G123	2.5	0.99	7439-93-2	LITHIUM	25.6		1.02	2.03	mg/kg				1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-01	EMAX	6020	8/1/2012	TOTAL	12G123	2.5	0.99	7439-95-4	MAGNESIUM	6090		5.08	10.2	mg/kg				1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-01	EMAX	6020	8/1/2012	TOTAL	12G123	2.5	0.99	7439-96-5	MANGANESE	344		0.254	0.508	mg/kg				1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-01	EMAX	6020	8/1/2012	TOTAL	12G123	2.5	0.99	7439-98-7	MOLYBDENUM	0.74		0.0508	0.508	mg/kg				1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-01	EMAX	6020	8/1/2012	TOTAL	12G123	2.5	0.99	7440-02-0	NICKEL	16.4		0.203	0.508	mg/kg				1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-01	EMAX	6020	8/1/2012	TOTAL	12G123	2.5	0.99	7440-09-7	POTASSIUM	4680		30.5	102	mg/kg				1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-01	EMAX	6020	8/1/2012	TOTAL	12G123	2.5	0.99	7440-22-4	SILVER	0.399	J	0.0508	0.508	mg/kg	J	J	Z	1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-01	EMAX	6020	8/1/2012	TOTAL	12G123	2.5	0.99	7440-23-5	SODIUM	113		50.8	102	mg/kg				1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-01	EMAX	6020	8/1/2012	TOTAL	12G123	2.5	0.99	7440-24-6	STRONTIUM	24.8		0.254	0.508	mg/kg				1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-01	EMAX	6020	8/1/2012	TOTAL	12G123	2.5	0.99	7440-28-0	THALLIUM	0.313	J	0.0508	0.406	mg/kg	J	J	Z	1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-01	EMAX	6020	8/1/2012	TOTAL	12G123	2.5	0.99	7440-31-5	TIN	10.2	U	5.08	10.2	mg/kg	U			1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-01	EMAX	6020	8/1/2012	TOTAL	12G123	2.5	0.99	7440-32-6	TITANIUM METAL POWDER	957		0.508	1.02	mg/kg				1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-01	EMAX	6020	8/1/2012	TOTAL	12G123	2.5	0.99	7440-36-0	ANTIMONY	0.203	J	0.102	0.508	mg/kg	J	J	Q, Z	1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-01	EMAX	6020	8/1/2012	TOTAL	12G123	2.5	0.99	7440-38-2	ARSENIC	6.28		0.203	0.508	mg/kg				1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-01	EMAX	6020	8/1/2012	TOTAL	12G123	2.5	0.99	7440-39-3	BARIUM	119		0.203	0.508	mg/kg				1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-01	EMAX	6020	8/1/2012	TOTAL	12G123	2.5	0.99	7440-41-7	BERYLLIUM	0.708		0.0508	0.508	mg/kg				1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-01	EMAX	6020	8/1/2012	TOTAL	12G123	2.5	0.99	7440-42-8	BORON	4	J	2.54	5.08	mg/kg	J	J	Z	1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-01	EMAX	6020	8/1/2012	TOTAL	12G123	2.5	0.99	7440-43-9	CADMIUM	0.4	J	0.0508	0.508	mg/kg	J	J	Z	1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-01	EMAX	6020	8/1/2012	TOTAL	12G123	2.5	0.99	7440-47-3	CHROMIUM	25.5		0.203	0.508	mg/kg				1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-01	EMAX	6020	8/1/2012	TOTAL	12G123	2.5	0.99	7440-48-4	COBALT	8.43		0.0508	0.508	mg/kg				1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-01	EMAX	6020	8/1/2012	TOTAL	12G123	2.5	0.99	7440-50-8	COPPER	13.3		0.203	0.508	mg/kg				1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-01	EMAX	6020	8/1/2012	TOTAL	12G123	2.5	0.99	7440-62-2	VANADIUM (FUME OR DUST)	43.7	J	0.0508	0.508	mg/kg		J	Q	1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-01	EMAX	6020	8/1/2012	TOTAL	12G123	2.5	0.99	7440-66-6	ZINC	75.6		1.52	5.08	mg/kg				1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-01	EMAX	6020	8/1/2012	TOTAL	12G123	2.5	0.99	7440-67-7	ZIRCONIUM	5.08	UJ	2.54	5.08	mg/kg	U	UJ	FD, Q	1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-01	EMAX	6020	8/1/2012	TOTAL	12G123	2.5	0.99	7440-70-2	CALCIUM METAL	3680		10.2	20.3	mg/kg				1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-01	EMAX	6020	8/1/2012	TOTAL	12G123	2.5	0.99	7723-14-0	PHOSPHORUS	453		6.09	12.2	mg/kg	

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Master Chemical Database Table for Phase 3 - Area III Sediment Drainage Sampling

Sample Name	Sample Date	Sample Type Code	Start Depth	End Depth	Depth Unit	Matrix Code	Task Code	Parent Sample Code	Lab Sample ID	Lab Name	Analytical Method	Analysis Date	Prep Method	Lab SDG	Percent Moisture	Dilution Factor	Cas RN	Chemical Name	Report Result Value	Final Qualifiers	Method Detection Limit	Reporting Detection Limit	Report Result Unit	Lab Qualifiers	DQM Qualifiers	DQM Remarks	X Coordinate	Y Coordinate	Longitude	Latitude
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-01	EMAX	6020	8/1/2012	TOTAL	12G123	2.5	0.99	7782-49-2	SELENIUM	0.508	U	0.203	0.508	mg/kg	U			1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-01	EMAX	7471A	7/26/2012	7471A	12G123	2.5	1	7439-97-6	MERCURY	0.103	U	0.0513	0.103	mg/kg	U			1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-01	EMAX	8015B EFH	7/24/2012	3550B	12G123	2.5	1	PHCC12C14	EFH (C12-C14)	5.1	U	2.6	5.1	mg/kg	U			1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-01	EMAX	8015B EFH	7/24/2012	3550B	12G123	2.5	1	PHCC15C20	EFH (C15-C20)	5.1	U	2.6	5.1	mg/kg	U			1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-01	EMAX	8015B EFH	7/24/2012	3550B	12G123	2.5	1	PHCC21C30	EFH (C21-C30)	5.3		2.6	5.1	mg/kg				1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-01	EMAX	8015B EFH	7/24/2012	3550B	12G123	2.5	1	PHCC30C40	EFH (C30-C40)	9.7	J	5.1	10	mg/kg	J	J	Z	1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-01	EMAX	8015B EFH	7/24/2012	3550B	12G123	2.5	1	PHCC8C11	EFH (C8-C11)	5.1	U	2.6	5.1	mg/kg	U			1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-01	EMAX	8082	7/30/2012	3550B	12G123	2.5	1	11096-82-5	Aroclor 1260	21	U	10	21	ug/kg	U			1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-01	EMAX	8082	7/30/2012	3550B	12G123	2.5	1	11097-69-1	Aroclor 1254	21	U	10	21	ug/kg	U			1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-01	EMAX	8082	7/30/2012	3550B	12G123	2.5	1	11100-14-4	Aroclor 1268	21	U	10	21	ug/kg	U			1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-01	EMAX	8082	7/30/2012	3550B	12G123	2.5	1	11104-28-2	Aroclor 1221	21	U	10	21	ug/kg	U			1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-01	EMAX	8082	7/30/2012	3550B	12G123	2.5	1	11126-42-4	Aroclor 5460	41	U	21	41	ug/kg	U			1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-01	EMAX	8082	7/30/2012	3550B	12G123	2.5	1	11141-16-5	Aroclor 1232	21	U	10	21	ug/kg	U			1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-01	EMAX	8082	7/30/2012	3550B	12G123	2.5	1	12642-23-8	Aroclor 5442	41	U	21	41	ug/kg	U			1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-01	EMAX	8082	7/30/2012	3550B	12G123	2.5	1	12672-29-6	Aroclor 1248	21	U	10	21	ug/kg	U			1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-01	EMAX	8082	7/30/2012	3550B	12G123	2.5	1	12674-11-2	Aroclor 1016	21	U	10	21	ug/kg	U			1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-01	EMAX	8082	7/30/2012	3550B	12G123	2.5	1	37324-23-5	Aroclor 1262	21	U	10	21	ug/kg	U			1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-01	EMAX	8082	7/30/2012	3550B	12G123	2.5	1	53469-21-9	Aroclor 1242	21	U	10	21	ug/kg	U			1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-01	EMAX	8082	7/30/2012	3550B	12G123	2.5	1	63496-31-1	Aroclor 5432	41	U	21	41	ug/kg	U			1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-01	EMAX	8270C SIM	7/24/2012	3550B	12G123	2.5	1	103-33-3	AZOBENZENE	5.1	U	2.6	5.1	ug/kg	U			1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-01	EMAX	8270C SIM	7/24/2012	3550B	12G123	2.5	1	120-12-7	ANTHRACENE	10	U	2.6	10	ug/kg	U			1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-01	EMAX	8270C SIM	7/24/2012	3550B	12G123	2.5	1	129-00-0	PYRENE	13		2.6	10	ug/kg				1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-01	EMAX	8270C SIM	7/24/2012	3550B	12G123	2.5	1	191-24-2	BENZO(G,H,I)PERYLENE	4.9	J	2.6	10	ug/kg	J	J	Z	1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-01	EMAX	8270C SIM	7/24/2012	3550B	12G123	2.5	1	192-97-2	Benzo(e)pyrene	5.7		2.6	5.1	ug/kg				1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-01	EMAX	8270C SIM	7/24/2012	3550B	12G123	2.5	1	193-39-5	INDENO(1,2,3-CD)PYRENE	3.7	J	2.6	10	ug/kg	J	J	Z	1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-01	EMAX	8270C SIM	7/24/2012	3550B	12G123	2.5	1	205-99-2	BENZO(B)FLUORANTHENE	11		2.6	10	ug/kg				1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-01	EMAX	8270C SIM	7/24/2012	3550B	12G123	2.5	1	206-44-0	FLUORANTHENE	14		2.6	10	ug/kg				1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-01	EMAX	8270C SIM	7/24/2012	3550B	12G123	2.5	1	207-08-9	BENZO(K)FLUORANTHENE	3.1	J	2.6	10	ug/kg	J	J	Z	1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-01	EMAX	8270C SIM	7/24/2012	3550B	12G123	2.5	1	208-96-8	ACENAPHTHYLENE	10	U	2.6	10	ug/kg	U			1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-01	EMAX	8270C SIM	7/24/2012	3550B	12G123	2.5	1	218-01-9	1,2-BENZPHENANTHRACENE	7.9	J	2.6	10	ug/kg	J	J	Z	1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-01	EMAX	8270C SIM	7/24/2012	3550B	12G123	2.5	1	50-32-8	BENZO(A)PYRENE	7.3	J	2.6	10	ug/kg	J	J	Z	1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-01	EMAX	8270C SIM	7/24/2012	3550B	12G123	2.5	1	53-70-3	DIBENZO(A,H)ANTHRACENE	10	U	2.6	10	ug/kg	U			1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-01	EMAX	8270C SIM	7/24/2012	3550B	12G123	2.5	1	56-55-3	BENZO(A)ANTHRACENE	7.1	J	2.6	10	ug/kg	J	J	Z	1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-01	EMAX	8270C SIM	7/24/2012	3550B	12G123	2.5	1	62-75-9	METHANAMINE, N-METHYL-N-NITROSO	10	U	2.6	10	ug/kg	U			1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-01	EMAX	8270C SIM	7/24/2012	3550B	12G123	2.5	1	83-32-9	ACENAPHTHENE	10	U	2.6	10	ug/kg	U			1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-01	EMAX	8270C SIM	7/24/2012	3550B	12G123	2.5	1	85-01-8	PHENANTHRENE	6.6	J	2.6	10	ug/kg	J	J	Z	1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-01	EMAX	8270C SIM	7/24/2012	3550B	12G123	2.5	1	86-73-7	FLUORENE	10	U	2.6	10	ug/kg	U			1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-01	EMAX	8270C SIM	7/24/2012	3550B	12G123	2.5	1	90-12-0	1-METHYLNAPHTHALENE	10	U	2.6	10	ug/kg	U			1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-01	EMAX	8270C SIM	7/24/2012	3550B	12G123	2.5	1	91-20-3	NAPHTHALENE	10	U	2.6	10	ug/kg	U			1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-01	EMAX	8270C SIM	7/24/2012	3550B	12G123	2.5	1	91-57-6	2-METHYLNAPHTHALENE	10	U	2.6	10	ug/kg	U			1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		G123-01	EMAX	8270C SIM	7/24/2012	3550B	12G123	2.5	1	92-52-4	1,1'-Biphenyl	5.1	U	2.6	5.1	ug/kg	U			1785322.322	265565.863	-118.71019	34.22766
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	8015B EFH	7/25/2012	3550B	12G140	7.7	1	PHCC12C14	EFH (C12-C14)	5.4	U	2.7	5.4	mg/kg	U			1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	8015B EFH	7/25/2012	3550B	12G140	7.7	1	PHCC15C20	EFH (C15-C20)	5.4	U	2.7	5.4	mg/kg	U			1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	8015B EFH	7/25/2012	3550B	12G140	7.7	1	PHCC21C30	EFH (C21-C30)	22		2.7	5.4	mg/kg				1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	8015B EFH	7/25/2012	3550B	12G140	7.7	1	PHCC30C40	EFH (C30-C40)	32		5.4	11	mg/kg				1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	8015B EFH	7/25/2012	3550B	12G140	7.7	1	PHCC8C11	EFH (C8-C11)	5.4	U	2.7	5.4	mg/kg	U			1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	8082	8/4/2012	3550B	12G140	7.7	1	11096-82-5	Aroclor 1260	19	J	11	22	ug/kg	J	J	Z	1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	8082	8/4/2012	3550B	12G140	7.7	1	11097-69-1	Aroclor 1254	30		11	22	ug/kg				1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	8082	8/4/2012	3550B	12G140	7.7	1	11100-14-4	Aroclor 1268	22	U	11	22	ug/kg	U			1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	8082	8/4/2012	3550B	12G140	7.7	1	11104-28-2	Aroclor 1221	22	U	11	22	ug/kg	U			1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	8082	8/4/2012	3550B	12G140	7.7	1	11126-42-4	Aroclor 5460	43	U	22	43	ug/kg	U			1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	8082	8/4/2012	3550B	12G140	7.7	1	11141-16-5	Aroclor 1232	22	U	11	22	ug/kg	U			1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	8082	8/4/2012	3550B	12G140	7.7	1	12642-23-8	Aroclor 5442	43	U	22	43	ug/kg	U			1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	8082	8/4/2012	3550B	12G140	7.7	1	12672-29-6	Aroclor 1248	22	U	11	22	ug/kg	U			1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	8082	8/4/2012	3550B	12G140	7.7	1	12674-11-2	Aroclor 1016	22	U	11	22	ug/kg	U			1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	8082	8/4/2012	3550B	12G140	7.7	1	37324-23-5	Aroclor 1262	22	U	11	22	ug/kg	U			1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	8082	8/4/2012	3550B	12G140	7.7	1	53469-21-9	Aroclor 1242	22	U	11	22	ug/kg	U			1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	8082	8/4/2012	3550B	12G140	7.7	1	63496-31-1	Aroclor 5432	43	U	22	43	ug/kg	U			1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	8270C SIM	7/31/2012	3550B	12G140	7.7	1	103-33-3	AZOBENZENE	5.4	U	2.7	5.4	ug/kg	U			1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	8270C SIM	7/31/2012	3550B	12G140	7.7	1	120-12-7	ANTHRACENE	3.7	J	2.7	11	ug/kg	J	J	Z	1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	8270C SIM	7/31/2012	3550B	12G140	7.7	1	129-00-0	PYRENE	21		2.7	11	ug/kg				1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	8270C SIM	7/31/2012	3550B	12G140	7.7	1	191-24-2	BENZO(G,H,I)PERYLENE	82		2.7	11	ug/kg				1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	8270C SIM	7/31/2012	3550B	12G140	7.7	1	192-97-2	Benzo(e)pyrene	40		2.7	5.4	ug/kg				1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	8270C SIM	7/31/2012	3550B	12G140	7.7	1	193-39-5	INDENO(1,2,3-CD)PYRENE	56		2.7	11	ug/kg				1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	8270C SIM	7/31/2012	3550B	12G140	7.7	1	205-99-2	BENZO(B)FLUORANTHENE	48		2.7	11	ug/kg				1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	8270C SIM	7/31/2012	3550B	12G140	7.7	1	206-44-0	FLUORANTHENE	23		2.7	11	ug/kg				1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	8270C SIM	7/31/2012	3550B	12G140	7.7	1	207-08-9	BENZO(K)FLUORANTHENE	8.7	J	2.7	11	ug/kg	J	J	Z	1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	8270C SIM	7/31/2012	3550B	12G140	7.7	1	208-96-8	ACENAPHTHYLENE	11	U	2.7	11	ug/kg	U			1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	8270C SIM	7/31/2012	3550B	12G140	7.7	1	218-01-9	1,2-BENZPHENANTHRACENE	22		2.7	11	ug/kg				1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	8270C SIM	7/31/2012	3550B	12G140	7.7	1	50-32-8	BENZO(A)PYRENE	29		2.7	11	ug/kg				1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	8270C SIM	7/31/2012	3550B	12G140	7.7	1	53-70-3	DIBENZO(A,H)ANTHRACENE	11		2.7	11	ug/kg	J			1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	8270C SIM	7/31/2012	3550B	12G140	7.7	1	56-55-3	BENZO(A)ANTHRACENE	11		2.7	11	ug/kg				1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	8270C SIM	7/31/2012	3550B	12G140	7.7	1	62-75-9	METHANAMINE, N-METHYL-N-NITROSO	11	U	2.7	11	ug/kg	U			1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	8270C SIM	7/31/2012	3550B	12G140	7.7	1	83-32-9	ACENAPHTHENE	11	U	2.7	11	ug/kg	U			1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	8270C SIM	7/31/2012	3550B	12G140	7.7	1	85-01-8	PHENANTHRENE	12		2.7	11	ug/kg				1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	8270C SIM	7/31/2012	3550B	12G140	7.7	1	86-73-7	FLUORENE	11	U	2.7	11	ug/kg	U			1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	8270C SIM	7/31/2012	3550B	12G140	7.7	1	90-12-0	1-METHYLNAPHTHALENE	11	U	2.7	11	ug/kg	U			1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	8270C SIM	7/31/2012	3550B	12G140	7.7	1	91-20-3	NAPHTHALENE	11	U	2.7	11	ug/kg	U			1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	8270C SIM	7/31/2012	3550B	12G140	7.7	1	91-57-6	2-METHYLNAPHTHALENE	11	U	2.7	11	ug/kg	U			1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		G140-06	EMAX	8270C SIM	7/31/2012	3550B	12G140	7.7	1	92-52-4	1,1'-Biphenyl	5.4	U	2.7	5.4	ug/kg	U			1785926.464	266290.9562	-118.70821	34.22966
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724185	LL	160.3M	7/24/2012	Gen Prep	PH020	6	1	MOIST	MOISTURE	6		0.50	0.50	%				1785484.361	266017.6688	-118.70967	34.2289
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732509	LL	1613B	7/30/2012	METHOD	PH024	60.6	1	1746-01-6	2,3,7,8-TCDD	1.39	J	0.115	2.52	ng/kg	JB	J	Z	1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732509	LL	1613B	7/30/2012	METHOD	PH024	60.6	1	19408-74-3	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	22.2		0.220	12.6	ng/kg	B			1787238.486	266530.6348	-118.70387	34.23035

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Master Chemical Database Table for Phase 3 - Area III Sediment Drainage Sampling

Sample Name	Sample Date	Sample Type Code	Start Depth	End Depth	Depth Unit	Matrix Code	Task Code	Parent Sample Code	Lab Sample ID	Lab Name	Analytical Method	Analysis Date	Prep Method	Lab SDG	Percent Moisture	Dilution Factor	Cas RN	Chemical Name	Report Result Value	Final Qualifiers	Method Detection Limit	Reporting Detection Limit	Report Result Unit	Lab Qualifiers	DQM Qualifiers	DQM Remarks	X Coordinate	Y Coordinate	Longitude	Latitude
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732509	LL	1613B	7/30/2012	METHOD	PH024	60.6	1	3268-87-9	OCDD	9740		0.245	25.2	ng/kg	B			1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732509	LL	1613B	7/30/2012	METHOD	PH024	60.6	1	35822-46-9	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	1070		0.427	12.6	ng/kg	B			1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732509	LL	1613B	7/30/2012	METHOD	PH024	60.6	1	39001-02-0	OCDF	405		0.144	25.2	ng/kg	B			1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732509	LL	1613B	7/30/2012	METHOD	PH024	60.6	1	39227-28-6	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	11.7	J	0.223	12.6	ng/kg	J	J	Z	1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732509	LL	1613B	7/30/2012	METHOD	PH024	60.6	1	40321-76-4	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	5.17	J	0.266	12.6	ng/kg	JB	J	Z	1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732509	LL	1613B	7/30/2012	METHOD	PH024	60.6	1	55673-89-7	1,2,3,4,7,8,9-HPCDF	19.1		0.238	12.6	ng/kg	B			1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732509	LL	1613B	7/30/2012	METHOD	PH024	60.6	1	57117-31-4	2,3,4,7,8-PECDF	6.95	J	0.0888	12.6	ng/kg	JB	J	Z	1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732509	LL	1613B	7/30/2012	METHOD	PH024	60.6	1	57117-41-6	1,2,3,7,8-PENTACHLORODIBENZOFURAN	4.21	J	0.0921	12.6	ng/kg	JB	J	Z	1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732509	LL	1613B	7/30/2012	METHOD	PH024	60.6	1	57117-44-9	1,2,3,6,7,8-HXCDF	10.3	J	0.191	12.6	ng/kg	JB	J	Z	1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732509	LL	1613B	7/30/2012	METHOD	PH024	60.6	1	57653-85-7	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	44.5		0.230	12.6	ng/kg	B			1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732509	LL	1613B	7/30/2012	METHOD	PH024	60.6	1	60851-34-5	2,3,4,6,7,8-HXCDF	15.8		0.172	12.6	ng/kg	B			1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732509	LL	1613B	7/30/2012	METHOD	PH024	60.6	1	67562-39-4	1,2,3,4,6,7,8-HPCDF	171		0.182	12.6	ng/kg	B			1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732509	LL	1613B	7/30/2012	METHOD	PH024	60.6	1	70648-26-9	1,2,3,4,7,8-HXCDF	9.9	J	0.213	12.6	ng/kg	JB	J	Z	1787238.486	266530.6348	-118.70387	34.23035
SL-007-A3-SB-0.0-0.5	7/24/2012	N	0	0.5	ft	SE	A3_Sed_DG		6732509	LL	1613B	7/30/2012	METHOD	PH024	60.6	1	72918-21-9	1,2,3,7,8,9-HXCDF	2.45	J	0.180	12.6	ng/kg	JB	J	Z	1787238.486	266530.6348	-118.70387	34.23035
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726250	LL	160.3M	7/27/2012	Gen Prep	PH024	0.53	1	MOIST	MOISTURE	0.53		0.50	0.50	%				1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726250	LL	1613B	7/27/2012	METHOD	PH024	0.53	1	1746-01-6	2,3,7,8-TCDD	0.998	U	0.0447	0.998	ng/kg	U			1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726250	LL	1613B	7/27/2012	METHOD	PH024	0.53	1	19408-74-3	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	0.996	J	0.0347	4.99	ng/kg	JB	J	Z	1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726250	LL	1613B	7/27/2012	METHOD	PH024	0.53	1	3268-87-9	OCDD	403		0.0243	9.98	ng/kg	B			1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726250	LL	1613B	7/27/2012	METHOD	PH024	0.53	1	35822-46-9	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	29.9		0.0430	4.99	ng/kg	B			1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726250	LL	1613B	7/27/2012	METHOD	PH024	0.53	1	39001-02-0	OCDF	31.4		0.0254	9.98	ng/kg	B			1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726250	LL	1613B	7/27/2012	METHOD	PH024	0.53	1	39227-28-6	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	4.99	U	0.0374	4.99	ng/kg	JB	U	B	1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726250	LL	1613B	7/27/2012	METHOD	PH024	0.53	1	40321-76-4	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	4.99	U	0.0331	4.99	ng/kg	JB	U	B	1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726250	LL	1613B	7/27/2012	METHOD	PH024	0.53	1	51207-31-9	2,3,7,8-TETRACHLORODIBENZOFURAN	0.998	U	0.0528	0.998	ng/kg	JBQ	U	B	1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726250	LL	1613B	7/27/2012	METHOD	PH024	0.53	1	55673-89-7	1,2,3,4,7,8,9-HPCDF	0.627	J	0.0323	4.99	ng/kg	JB	J	Z	1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726250	LL	1613B	7/27/2012	METHOD	PH024	0.53	1	57117-31-4	2,3,4,7,8-PECDF	4.99	U	0.0332	4.99	ng/kg	JB	U	B	1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726250	LL	1613B	7/27/2012	METHOD	PH024	0.53	1	57117-41-6	1,2,3,7,8-PENTACHLORODIBENZOFURAN	4.99	U	0.0360	4.99	ng/kg	JB	U	B	1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726250	LL	1613B	7/27/2012	METHOD	PH024	0.53	1	57117-44-9	1,2,3,6,7,8-HXCDF	4.99	U	0.0351	4.99	ng/kg	JB	U	B	1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726250	LL	1613B	7/27/2012	METHOD	PH024	0.53	1	57653-85-7	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	1.01	J	0.0370	4.99	ng/kg	JB	J	Z	1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726250	LL	1613B	7/27/2012	METHOD	PH024	0.53	1	60851-34-5	2,3,4,6,7,8-HXCDF	4.99	U	0.0357	4.99	ng/kg	JB	U	B	1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726250	LL	1613B	7/27/2012	METHOD	PH024	0.53	1	67562-39-4	1,2,3,4,6,7,8-HPCDF	6.34		0.0243	4.99	ng/kg	B			1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726250	LL	1613B	7/27/2012	METHOD	PH024	0.53	1	70648-26-9	1,2,3,4,7,8-HXCDF	4.99	U	0.0389	4.99	ng/kg	JB	U	B	1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726250	LL	1613B	7/27/2012	METHOD	PH024	0.53	1	72918-21-9	1,2,3,7,8,9-HXCDF	4.99	U	0.0340	4.99	ng/kg	JB	U	B	1786794.589	266819.7922	-118.70535	34.23113
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726254	LL	160.3M	7/25/2012	Gen Prep	PH024	3.9	1	MOIST	MOISTURE	3.9		0.50	0.50	%				1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726254	LL	1613B	7/27/2012	METHOD	PH024	3.9	1	1746-01-6	2,3,7,8-TCDD	0.765	J	0.0713	1.03	ng/kg	JB	J	Z	1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726254	LL	1613B	7/27/2012	METHOD	PH024	3.9	1	19408-74-3	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	32		0.146	5.17	ng/kg	B			1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726254	LL	1613B	7/27/2012	METHOD	PH024	3.9	1	3268-87-9	OCDD	14200	J	0.0593	10.3	ng/kg	EB	J	*#	1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726254	LL	1613B	7/27/2012	METHOD	PH024	3.9	1	35822-46-9	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	1290		0.140	5.17	ng/kg	B			1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726254	LL	1613B	7/27/2012	METHOD	PH024	3.9	1	39001-02-0	OCDF	475		0.0338	10.3	ng/kg	B			1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726254	LL	1613B	7/27/2012	METHOD	PH024	3.9	1	39227-28-6	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	16.9		0.150	5.17	ng/kg	B			1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726254	LL	1613B	7/27/2012	METHOD	PH024	3.9	1	40321-76-4	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	6.36		0.122	5.17	ng/kg	B			1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726254	LL	1613B	7/27/2012	METHOD	PH024	3.9	1	51207-31-9	2,3,7,8-TETRACHLORODIBENZOFURAN	1.07		0.151	1.03	ng/kg	BC			1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726254	LL	1613B	7/27/2012	METHOD	PH024	3.9	1	55673-89-7	1,2,3,4,7,8,9-HPCDF	13.9		0.0894	5.17	ng/kg	B			1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726254	LL	1613B	7/27/2012	METHOD	PH024	3.9	1	57117-31-4	2,3,4,7,8-PECDF	2.01	J	0.0638	5.17	ng/kg	JB	J	Z	1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726254	LL	1613B	7/27/2012	METHOD	PH024	3.9	1	57117-41-6	1,2,3,7,8-PENTACHLORODIBENZOFURAN	4.49	J	0.0682	5.17	ng/kg	JB	J	Z	1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726254	LL	1613B	7/27/2012	METHOD	PH024	3.9	1	57117-44-9	1,2,3,6,7,8-HXCDF	6.92		0.0788	5.17	ng/kg	B			1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726254	LL	1613B	7/27/2012	METHOD	PH024	3.9	1	57653-85-7	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	56.3		0.156	5.17	ng/kg	B			1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726254	LL	1613B	7/27/2012	METHOD	PH024	3.9	1	60851-34-5	2,3,4,6,7,8-HXCDF	11.4		0.0777	5.17	ng/kg	B			1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726254	LL	1613B	7/27/2012	METHOD	PH024	3.9	1	67562-39-4	1,2,3,4,6,7,8-HPCDF	184		0.0805	5.17	ng/kg	B			1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726254	LL	1613B	7/27/2012	METHOD	PH024	3.9	1	70648-26-9	1,2,3,4,7,8-HXCDF	10.1		0.0911	5.17	ng/kg	B			1785907.642	266377.1375	-118.70827	34.2299
SL-009-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726254	LL	1613B	7/27/2012	METHOD	PH024	3.9	1	72918-21-9	1,2,3,7,8,9-HXCDF	1.94	J	0.0693	5.17	ng/kg	JB	J	Z	1785907.642	266377.1375	-118.70827	34.2299
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726253	LL	160.3M	7/25/2012	Gen Prep	PH024	7.1	1	MOIST	MOISTURE	7.1		0.50	0.50	%				1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726253	LL	1613B	7/27/2012	METHOD	PH024	7.1	1	1746-01-6	2,3,7,8-TCDD	0.726	J	0.0382	1.04	ng/kg	JB	J	Z	1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726253	LL	1613B	7/27/2012	METHOD	PH024	7.1	1	19408-74-3	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	21.3		0.0665	5.18	ng/kg	B			1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726253	LL	1613B	7/27/2012	METHOD	PH024	7.1	1	3268-87-9	OCDD	5480	J	0.0486	10.4	ng/kg	EB	J	*#	1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726253	LL	1613B	7/27/2012	METHOD	PH024	7.1	1	35822-46-9	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	463		0.0938	5.18	ng/kg	B			1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726253	LL	1613B	7/27/2012	METHOD	PH024	7.1	1	39001-02-0	OCDF	173		0.0263	10.4	ng/kg	B			1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726253	LL	1613B	7/27/2012	METHOD	PH024	7.1	1	39227-28-6	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	10.6		0.0683	5.18	ng/kg	B			1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726253	LL	1613B	7/27/2012	METHOD	PH024	7.1	1	40321-76-4	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	5.73		0.0732	5.18	ng/kg	B			1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726253	LL	1613B	7/27/2012	METHOD	PH024	7.1	1	51207-31-9	2,3,7,8-TETRACHLORODIBENZOFURAN	1.04	U	0.0723	1.04	ng/kg	JB	U	B	1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726253	LL	1613B	7/27/2012	METHOD	PH024	7.1	1	55673-89-7	1,2,3,4,7,8,9-HPCDF	5.32		0.0547	5.18	ng/kg	B			1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726253	LL	1613B	7/27/2012	METHOD	PH024	7.1	1	57117-31-4	2,3,4,7,8-PECDF	5.18	U	0.0454	5.18	ng/kg	JB	U	B	1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726253	LL	1613B	7/27/2012	METHOD	PH024	7.1	1	57117-41-6	1,2,3,7,8-PENTACHLORODIBENZOFURAN	5.18	U	0.0483	5.18	ng/kg	JB	U	B	1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726253	LL	1613B	7/27/2012	METHOD	PH024	7.1	1	57117-44-9	1,2,3,6,7,8-HXCDF	3.81	J	0.0525	5.18	ng/kg	JB	J	Z	1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726253	LL	1613B	7/27/2012	METHOD	PH024	7.1	1	57653-85-7	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	18.1		0.0708	5.18	ng/kg	B			1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726253	LL	1613B	7/27/2012	METHOD	PH024	7.1	1	60851-34-5	2,3,4,6,7,8-HXCDF	5.64		0.0525	5.18	ng/kg	B			1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726253	LL	1613B	7/27/2012	METHOD	PH024	7.1	1	67562-39-4	1,2,3,4,6,7,8-HPCDF	79.5		0.0421	5.18	ng/kg	B			1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726253	LL	1613B	7/27/2012	METHOD	PH024	7.1	1	70648-26-9	1,2,3,4,7,8-HXCDF	3.37	J	0.0534	5.18	ng/kg	JB	J	Z	1785926.464	266290.9562	-118.70821	34.22966
SL-010-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726253	LL	1613B	7/27/2012	METHOD	PH024	7.1	1	72918-21-9	1,2,3,7,8,9-HXCDF	5.18	U	0.0546	5.18	ng/kg	JB	U	B	1785926.464	266290.9562	-118.70821	34.22966
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726224	LL	8015B	8/1/2012	3550B	PT024	10.5	1	84-15-1	O-TERPHENYL	7.8	U	3.4	7.8	mg/kg	U			1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726224	LL	8015B	8/1/2012	3550B	PT024	10.5	1	92-06-8	m-Terphenyl	7.8	U	3.4	7.8	mg/kg	U			1787722.465	267260.1336	-118.70229	34.23236
SL-001-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726224	LL	8015B	8/1/2012	3550B	PT024	10.5	1	92-94-4	p-Terphenyl	7.8	U	3.4	7.8	mg/kg	U			1787722.465	267260.1336	-118.70229	34.23236
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726225	LL	8015B	8/1/2012	3550B	PT024	1.3	1	84-15-1	O-TERPHENYL	7.1	U	3.0	7.1	mg/kg	U			1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726225	LL	8015B	8/1/2012	3550B	PT024	1.3	1	92-06-8	m-Terphenyl	7.1	U	3.0	7.1	mg/kg	U			1787614.125	267116.684	-118.70265	34.23197
SL-002-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726225	LL	8015B	8/1/2012	3550B	PT024	1.3	1	92-94-4	p-Terphenyl	7.1	U	3.0	7.1	mg/kg	U			1787614.125	267116.684	-118.70265	34.23197
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726226	LL	8015B	8/1/2012	3550B	PT024	6.7	1	84-15-1	O-TERPHENYL	7.5	U	3.2	7.5	mg/kg	U			1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726226	LL	8015B	8/1/2012	3550B	PT024	6.7	1	92-06-8	m-Terphenyl	7.5	U	3.2	7.5	mg/kg	U			1787572.294	266908.5497	-118.70278	34.23139
SL-003-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726226	LL	8015B	8/1/2012	3550B	PT024	6.7	1	92-94-4	p-Terphenyl	7.5	U	3.2	7.5	mg/kg	U			1787572.294	266908.5497	-118.70278	34.23139
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726228	LL	8015B	8/1/2012	3550B	PT024	0.53	1	84-15-1	O-TERPHENYL	7	U	3.0	7.0	mg/kg	U			1786794.589	266819.7922	-118.70535	34.23113
SL-008-A3-SB-0.0-0.5	7/18/2012	N	0	0.5	ft	SE	A3_Sed_DG		6726228	LL	8015B	8/1/2012	3550B	PT024	0.53	1	92-06-8	m-Terphenyl	7	U	3.0	7.0	mg/kg	U			1786794.589	266819.7922	-118.70535	34.23113
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724185	LL	1613B	7/28/2012	METHOD	PH020	6	1	1746-01-6	2,3,7,8-TCDD	1.23		0.0966	1.05	ng/kg	B			1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724185	LL	1613B	7/28/2012	METHOD	PH020	6	1	19408-74-3	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	52.3		0.154	5.27	ng/kg	B			1785484.361	266017.6688	-118.

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Master Chemical Database Table for Phase 3 - Area III Sediment Drainage Sampling

Sample Name	Sample Date	Sample Type Code	Start Depth	End Depth	Depth Unit	Matrix Code	Task Code	Parent Sample Code	Lab Sample ID	Lab Name	Analytical Method	Analysis Date	Prep Method	Lab SDG	Percent Moisture	Dilution Factor	Cas RN	Chemical Name	Report Result Value	Final Qualifiers	Method Detection Limit	Reporting Detection Limit	Report Result Unit	Lab Qualifiers	DQM Qualifiers	DQM Remarks	X Coordinate	Y Coordinate	Longitude	Latitude
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724185	LL	1613B	7/28/2012	METHOD	PH020	6	1	39001-02-0	OCDF	760		0.0641	10.5	ng/kg	B			1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724185	LL	1613B	7/28/2012	METHOD	PH020	6	1	39227-28-6	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	27.1		0.153	5.27	ng/kg	B			1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724185	LL	1613B	7/28/2012	METHOD	PH020	6	1	40321-76-4	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	11.8		0.135	5.27	ng/kg	B			1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724185	LL	1613B	7/28/2012	METHOD	PH020	6	1	51207-31-9	2,3,7,8-TETRACHLORODIBENZOFURAN	1.05	U	0.163	1.05	ng/kg	JB	U	B	1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724185	LL	1613B	7/28/2012	METHOD	PH020	6	1	55673-89-7	1,2,3,4,7,8,9-HPCDF	21.4		0.121	5.27	ng/kg	B			1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724185	LL	1613B	7/28/2012	METHOD	PH020	6	1	57117-31-4	2,3,4,7,8-PECDF	2.98	J	0.0588	5.27	ng/kg	JB	J	Z	1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724185	LL	1613B	7/28/2012	METHOD	PH020	6	1	57117-41-6	1,2,3,7,8-PENTACHLORODIBENZOFURAN	12		0.0625	5.27	ng/kg	B			1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724185	LL	1613B	7/28/2012	METHOD	PH020	6	1	57117-44-9	1,2,3,6,7,8-HXCDF	7.36		0.0853	5.27	ng/kg	B			1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724185	LL	1613B	7/28/2012	METHOD	PH020	6	1	57653-85-7	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	114		0.156	5.27	ng/kg	B			1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724185	LL	1613B	7/28/2012	METHOD	PH020	6	1	60851-34-5	2,3,4,6,7,8-HXCDF	13.5		0.0879	5.27	ng/kg	B			1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724185	LL	1613B	7/28/2012	METHOD	PH020	6	1	67562-39-4	1,2,3,4,6,7,8-HPCDF	254		0.106	5.27	ng/kg	B			1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724185	LL	1613B	7/28/2012	METHOD	PH020	6	1	70648-26-9	1,2,3,4,7,8-HXCDF	9.52		0.0925	5.27	ng/kg	B			1785484.361	266017.6688	-118.70967	34.2289
SL-014-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724185	LL	1613B	7/28/2012	METHOD	PH020	6	1	72918-21-9	1,2,3,7,8,9-HXCDF	2.36	J	0.0844	5.27	ng/kg	JB	J	Z	1785484.361	266017.6688	-118.70967	34.2289
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724186	LL	160.3M	7/24/2012	Gen Prep	PH020	3.5	1	MOIST	MOISTURE	3.5		0.50	0.50	%				1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724186	LL	1613B	7/28/2012	METHOD	PH020	3.5	1	1746-01-6	2,3,7,8-TCDD	1	U	0.0490	1.00	ng/kg	JB	U	B	1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724186	LL	1613B	7/28/2012	METHOD	PH020	3.5	1	19408-74-3	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	27		0.0840	5.01	ng/kg	B			1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724186	LL	1613B	7/28/2012	METHOD	PH020	3.5	1	3268-87-9	OCDD	21300	J	0.213	10.0	ng/kg	EB	J	*#	1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724186	LL	1613B	7/28/2012	METHOD	PH020	3.5	1	35822-46-9	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	941		0.316	5.01	ng/kg	B			1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724186	LL	1613B	7/28/2012	METHOD	PH020	3.5	1	39001-02-0	OCDF	256		0.0498	10.0	ng/kg	B			1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724186	LL	1613B	7/28/2012	METHOD	PH020	3.5	1	39227-28-6	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	13.3		0.0868	5.01	ng/kg	B			1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724186	LL	1613B	7/28/2012	METHOD	PH020	3.5	1	40321-76-4	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	6.66		0.0835	5.01	ng/kg	B			1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724186	LL	1613B	7/28/2012	METHOD	PH020	3.5	1	51207-31-9	2,3,7,8-TETRACHLORODIBENZOFURAN	1	U	0.0778	1.00	ng/kg	JB	U	B	1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724186	LL	1613B	7/28/2012	METHOD	PH020	3.5	1	55673-89-7	1,2,3,4,7,8,9-HPCDF	5.63		0.0678	5.01	ng/kg	B			1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724186	LL	1613B	7/28/2012	METHOD	PH020	3.5	1	57117-31-4	2,3,4,7,8-PECDF	5.01	U	0.0384	5.01	ng/kg	JBQ	U	B	1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724186	LL	1613B	7/28/2012	METHOD	PH020	3.5	1	57117-41-6	1,2,3,7,8-PENTACHLORODIBENZOFURAN	1.63	J	0.0355	5.01	ng/kg	JB	J	Z	1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724186	LL	1613B	7/28/2012	METHOD	PH020	3.5	1	57117-44-9	1,2,3,6,7,8-HXCDF	2.33	J	0.0503	5.01	ng/kg	JB	J	Z	1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724186	LL	1613B	7/28/2012	METHOD	PH020	3.5	1	57653-85-7	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	39.8		0.0944	5.01	ng/kg	B			1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724186	LL	1613B	7/28/2012	METHOD	PH020	3.5	1	60851-34-5	2,3,4,6,7,8-HXCDF	3.32	J	0.0484	5.01	ng/kg	JB	J	Z	1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724186	LL	1613B	7/28/2012	METHOD	PH020	3.5	1	67562-39-4	1,2,3,4,6,7,8-HPCDF	68.8		0.0540	5.01	ng/kg	B			1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724186	LL	1613B	7/28/2012	METHOD	PH020	3.5	1	70648-26-9	1,2,3,4,7,8-HXCDF	4.18	J	0.0542	5.01	ng/kg	JB	J	Z	1785342.316	265996.1282	-118.71014	34.22884
SL-015-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724186	LL	1613B	7/28/2012	METHOD	PH020	3.5	1	72918-21-9	1,2,3,7,8,9-HXCDF	1.57	J	0.0517	5.01	ng/kg	JB	J	Z	1785342.316	265996.1282	-118.71014	34.22884
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724180	LL	160.3M	7/24/2012	Gen Prep	PH020	1.7	1	MOIST	MOISTURE	1.7		0.50	0.50	%				1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724180	LL	1613B	7/27/2012	METHOD	PH020	1.7	1	1746-01-6	2,3,7,8-TCDD	1.01	UJ	0.0378	1.01	ng/kg	JBQ	UJ	B, FD	1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724180	LL	1613B	7/27/2012	METHOD	PH020	1.7	1	19408-74-3	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	1.9	J	0.0339	5.03	ng/kg	JB	J	Z	1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724180	LL	1613B	7/27/2012	METHOD	PH020	1.7	1	3268-87-9	OCDD	805		0.0557	10.1	ng/kg	B			1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724180	LL	1613B	7/27/2012	METHOD	PH020	1.7	1	35822-46-9	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	57.7		0.0762	5.03	ng/kg	B			1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724180	LL	1613B	7/27/2012	METHOD	PH020	1.7	1	39001-02-0	OCDF	63.5		0.0283	10.1	ng/kg	B			1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724180	LL	1613B	7/27/2012	METHOD	PH020	1.7	1	39227-28-6	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	5.03	U	0.0339	5.03	ng/kg	JB	U	B	1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724180	LL	1613B	7/27/2012	METHOD	PH020	1.7	1	40321-76-4	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	5.03	U	0.0371	5.03	ng/kg	JB	U	B	1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724180	LL	1613B	7/27/2012	METHOD	PH020	1.7	1	51207-31-9	2,3,7,8-TETRACHLORODIBENZOFURAN	1.01	U	0.0469	1.01	ng/kg	JB	U	B	1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724180	LL	1613B	7/27/2012	METHOD	PH020	1.7	1	55673-89-7	1,2,3,4,7,8,9-HPCDF	1.28	J	0.0317	5.03	ng/kg	JB	J	Z	1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724180	LL	1613B	7/27/2012	METHOD	PH020	1.7	1	57117-31-4	2,3,4,7,8-PECDF	5.03	U	0.0215	5.03	ng/kg	JB	U	B	1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724180	LL	1613B	7/27/2012	METHOD	PH020	1.7	1	57117-41-6	1,2,3,7,8-PENTACHLORODIBENZOFURAN	5.03	U	0.0217	5.03	ng/kg	JB	U	B	1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724180	LL	1613B	7/27/2012	METHOD	PH020	1.7	1	57117-44-9	1,2,3,6,7,8-HXCDF	5.03	U	0.0218	5.03	ng/kg	JB	U	B	1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724180	LL	1613B	7/27/2012	METHOD	PH020	1.7	1	57653-85-7	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	1.92	J	0.0363	5.03	ng/kg	JB	J	Z	1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724180	LL	1613B	7/27/2012	METHOD	PH020	1.7	1	60851-34-5	2,3,4,6,7,8-HXCDF	5.03	U	0.0226	5.03	ng/kg	JB	U	B	1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724180	LL	1613B	7/27/2012	METHOD	PH020	1.7	1	67562-39-4	1,2,3,4,6,7,8-HPCDF	11		0.0238	5.03	ng/kg	B			1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724180	LL	1613B	7/27/2012	METHOD	PH020	1.7	1	70648-26-9	1,2,3,4,7,8-HXCDF	5.03	U	0.0240	5.03	ng/kg	JB	U	B	1785322.322	265565.863	-118.71019	34.22766
SL-016-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724180	LL	1613B	7/27/2012	METHOD	PH020	1.7	1	72918-21-9	1,2,3,7,8,9-HXCDF	5.03	U	0.0259	5.03	ng/kg	JBQ	U	B	1785322.322	265565.863	-118.71019	34.22766
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724183	LL	160.3M	7/24/2012	Gen Prep	PH020	5.4	1	MOIST	MOISTURE	5.4		0.50	0.50	%				1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724183	LL	1613B	7/28/2012	METHOD	PH020	5.4	1	1746-01-6	2,3,7,8-TCDD	1.03	U	0.0463	1.03	ng/kg	JBQ	U	B	1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724183	LL	1613B	7/28/2012	METHOD	PH020	5.4	1	19408-74-3	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	1.2	J	0.0371	5.15	ng/kg	JBQ	J	Z	1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724183	LL	1613B	7/28/2012	METHOD	PH020	5.4	1	3268-87-9	OCDD	284		0.0457	10.3	ng/kg	B			1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724183	LL	1613B	7/28/2012	METHOD	PH020	5.4	1	35822-46-9	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	21.9		0.0571	5.15	ng/kg	B			1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724183	LL	1613B	7/28/2012	METHOD	PH020	5.4	1	39001-02-0	OCDF	12.5		0.0326	10.3	ng/kg	B			1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724183	LL	1613B	7/28/2012	METHOD	PH020	5.4	1	39227-28-6	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	5.15	U	0.0382	5.15	ng/kg	JB	U	B	1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724183	LL	1613B	7/28/2012	METHOD	PH020	5.4	1	40321-76-4	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	5.15	U	0.0454	5.15	ng/kg	JB	U	B	1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724183	LL	1613B	7/28/2012	METHOD	PH020	5.4	1	51207-31-9	2,3,7,8-TETRACHLORODIBENZOFURAN	0.769	J	0.105	1.03	ng/kg	JB	J	Z	1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724183	LL	1613B	7/28/2012	METHOD	PH020	5.4	1	55673-89-7	1,2,3,4,7,8,9-HPCDF	5.15	U	0.0384	5.15	ng/kg	JB	U	B	1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724183	LL	1613B	7/28/2012	METHOD	PH020	5.4	1	57117-31-4	2,3,4,7,8-PECDF	1.49	J	0.0423	5.15	ng/kg	JB	J	Z	1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724183	LL	1613B	7/28/2012	METHOD	PH020	5.4	1	57117-41-6	1,2,3,7,8-PENTACHLORODIBENZOFURAN	1.54	J	0.0437	5.15	ng/kg	JB	J	Z	1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724183	LL	1613B	7/28/2012	METHOD	PH020	5.4	1	57117-44-9	1,2,3,6,7,8-HXCDF	5.15	U	0.0304	5.15	ng/kg	JB	U	B	1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724183	LL	1613B	7/28/2012	METHOD	PH020	5.4	1	57653-85-7	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	1.23	J	0.0366	5.15	ng/kg	JB	J	Z	1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724183	LL	1613B	7/28/2012	METHOD	PH020	5.4	1	60851-34-5	2,3,4,6,7,8-HXCDF	5.15	U	0.0299	5.15	ng/kg	JB	U	B	1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724183	LL	1613B	7/28/2012	METHOD	PH020	5.4	1	67562-39-4	1,2,3,4,6,7,8-HPCDF	4.15	J	0.0291	5.15	ng/kg	JB	J	Z	1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724183	LL	1613B	7/28/2012	METHOD	PH020	5.4	1	70648-26-9	1,2,3,4,7,8-HXCDF	5.15	U	0.0334	5.15	ng/kg	U			1785242.984	264980.8897	-118.71044	34.22605
SL-017-A3-SB-0.0-0.5	7/17/2012	N	0	0.5	ft	SE	A3_Sed_DG		6724183	LL	1613B	7/28/2012	METHOD	PH020	5.4	1	72918-21-9	1,2,3,7,8,9-HXCDF	5.15	U	0.0317	5.15	ng/kg	JBQ	U	B	1785242.984	264980.8897	-118.71044	34.22605
SL-316-A3-SB-0.0-0.5	7/17/2012	FD	0	0.5	ft	SE	A3_Sed_DG	6-A3-SB-0.(	6724184	LL	160.3M	7/24/2012	Gen Prep	PH020	1.7	1	MOIST	MOISTURE	1.7		0.50	0.50	%				1785322.322	265565.863	-118.71019	34.22766

Appendix G
USEPA Radionuclide Master Database Table
(On CD)

USEPA Radionuclide Master Database Table - Phase 3 Area III Sediment Drainage Samples

Location Name	Date Collected	Sample Type	Matrix	Lab Sample ID	Analyte ID	Activity	Rpt Units	MDC	Gross CPM	Count Uncertainity	Lab Flag	Total Propagated Uncertainty	Sigma Value	Instrument ID	Detector ID	Critical Level Ref	Required MDC Ref	Chem Yield	Chem Yield Upper Limit	Chemical Yield Lower Limit	Chemical Yield Units
SL-001-A3	2011-10-05	Normal	SO	308925002	Cd-113m	-62.7	pCi/g	107		32	U	35.2	1	GAM11	09069163	52.6	35				pCi/g
SL-001-A3	2011-10-05	Normal	SO	308925002	Sn-126	0.00423	pCi/g	0.0149		0.00424	U	0.00435	1	GAM11	09069163	0.0072	0.01				pCi/g
SL-001-A3	2011-10-05	Normal	SO	308925002	Eu-155	0.0341	pCi/g	0.0574		0.017	J	0.0188	1	GAM11	09069163	0.0283	0.04				pCi/g
SL-001-A3	2011-10-05	Normal	SO	308925002	C-14	0.0856	pCi/g	0.674	11.6	0.202	U	0.202	1	LSCYELLOW	4140127	0.33	1				pCi/g
SL-001-A3	2011-10-05	Normal	SO	308925002	Pu-238	0.00301	pCi/g	0.0111		0.00369	U	0.00369	1	1081	79996	0.00351	0.08	0.827	1.25	0.2	pCi/g
SL-001-A3	2011-10-05	Normal	SO	308925002	Th-229	-4.64E-09	pCi/g	0.0731		0.0193	U	0.0193	1	1026	80017	0.029	0.25	1.01	1.25	0.2	pCi/g
SL-001-A3	2011-10-05	Normal	SO	308925002	I-129	0.0677	pCi/g	0.165		0.0285	J	0.0325	1	XRAY5	488926	0.0662	0.5		1.25	0.25	pCi/g
SL-001-A3	2011-10-05	Normal	SO	308925002	U-235/236	0.0464	pCi/g	0.0615		0.0236		0.0238	1	1118	80061	0.0232	0.25	0.869	1.25	0.2	pCi/g
SL-001-A3	2011-10-05	Normal	SO	308925002	Ni-59	0.251	pCi/g	1.72		0.485	U	0.488	1	XRAY3	3984452	0.813	4	0.812	1.25	0.4	pCi/g
SL-001-A3	2011-10-05	Normal	SO	308925002	Th-232	0.865	pCi/g	0.0408		0.0701		0.0802	1	1026	80017	0.0129	0.25	1.01	1.25	0.2	pCi/g
SL-001-A3	2011-10-05	Normal	SO	308925002	Tc-99	-0.0934	pCi/g	1.47		0.433	U	0.433	1	LSCGREEN	7067404	0.716	1.5	0.982	1.25	0.2	pCi/g
SL-001-A3	2011-10-05	Normal	SO	308925002	Sr-90	0.267	pCi/g	0.347		0.11		0.112	1	PIC1B	10751	0.216	0.5	0.737	1.25	0.4	pCi/g
SL-001-A3	2011-10-05	Normal	SO	308925002	Ni-63	-0.343	pCi/g	1.07		0.315	U	0.315	1	LSCYELLOW	4140127	0.526	2	0.732	1.25	0.4	pCi/g
SL-001-A3	2011-10-05	Normal	SO	308925002	Cs-134	0.00648	pCi/g	0.0128		0.00407	J	0.00434	1	GAM11	09069163	0.0062	0.0085				pCi/g
SL-001-A3	2011-10-05	Normal	SO	308925002	Co-60	0.00818	pCi/g	0.0165		0.00458	J	0.00496	1	GAM11	09069163	0.00792	0.0085				pCi/g
SL-001-A3	2011-10-05	Normal	SO	308925002	H-3	4.43	pCi/g	5.96	1.62	1.88		1.88	1	LSCORANGE	DG06095168	2.75	10				pCi/g
SL-001-A3	2011-10-05	Normal	SO	308925002	Pm-147	-1.87	pCi/g	6.71		1.92	U	1.92	1	LSCGOLD	7070506	3.23	10	0.889	1.25	0.4	pCi/g
SL-001-A3	2011-10-05	Normal	SO	308925002	U-238	0.786	pCi/g	0.0551		0.0672		0.0852	1	1118	80061	0.0217	0.25	0.869	1.25	0.2	pCi/g
SL-001-A3	2011-10-05	Normal	SO	308925002	Th-230	0.745	pCi/g	0.0729		0.0672		0.0751	1	1026	80017	0.0289	0.25	1.01	1.25	0.2	pCi/g
SL-001-A3	2011-10-05	Normal	SO	308925002	Pa-231	0.0806	pCi/g	0.66		0.192	U	0.193	1	GAM11	09069163	0.323	0.45				pCi/g
SL-001-A3	2011-10-05	Normal	SO	308925002	Pb-214	0.802	pCi/g	0.0279		0.0276		0.0382	1	GAM11	09069163	0.0136	0.02				pCi/g
SL-001-A3	2011-10-05	Normal	SO	308925002	Ac-227	0.0313	pCi/g	0.163		0.047	U	0.0476	1	GAM11	09069163	0.0798	0.15				pCi/g
SL-001-A3	2011-10-05	Normal	SO	308925002	Th-228	0.81	pCi/g	0.111		0.0746		0.0839	1	1026	80017	0.0479	0.25	1.01	1.25	0.2	pCi/g
SL-001-A3	2011-10-05	Normal	SO	308925002	Np-239	0.0248	pCi/g	0.106		0.0306	U	0.0312	1	GAM11	09069163	0.0524	0.075				pCi/g
SL-001-A3	2011-10-05	Normal	SO	308925002	Cf-249	-0.00286	pCi/g	0.07		0.0279	U	0.0279	1	GAM11	09069163	0.0342	0.05				pCi/g
SL-001-A3	2011-10-05	Normal	SO	308925002	Cm-243/244	0.00357	pCi/g	0.0166		0.00506	U	0.00506	1	1210	87898	0.00588	0.08	0.996	1.25	0.2	pCi/g
SL-001-A3	2011-10-05	Normal	SO	308925002	K-40	22	pCi/g	0.109		0.974		1.21	1	GAM11	09069163	0.051	0.085				pCi/g
SL-001-A3	2011-10-05	Normal	SO	308925002	Pb-212	0.926	pCi/g	0.0275		0.0418		0.0518	1	GAM11	09069163	0.0135	0.02				pCi/g
SL-001-A3	2011-10-05	Normal	SO	308925002	Np-236	-0.00436	pCi/g	0.0307		0.00925	U	0.00931	1	GAM11	09069163	0.0151	0.025				pCi/g
SL-001-A3	2011-10-05	Normal	SO	308925002	Ho-166m	-0.00493	pCi/g	0.0221		0.00652	U	0.00662	1	GAM11	09069163	0.0107	0.02				pCi/g
SL-001-A3	2011-10-05	Normal	SO	308925002	Am-241	0.00712	pCi/g	0.00483		0.00436		0.00438	1	1210	87898	0	0.08	0.996	1.25	0.2	pCi/g
SL-001-A3	2011-10-05	Normal	SO	308925002	Bi-214	0.71	pCi/g	0.0254		0.0266		0.0355	1	GAM11	09069163	0.0123	0.02				pCi/g
SL-001-A3	2011-10-05	Normal	SO	308925002	Y-90	0.267	pCi/g	0.347		0.11		0.112	1	PIC1B	10751	0.216	0.5	0.737	1.25	0.4	pCi/g
SL-001-A3	2011-10-05	Normal	SO	308925002	Eu-154	-0.0383	pCi/g	0.0867		0.0268	U	0.0282	1	GAM11	09069163	0.0419	0.045				pCi/g
SL-001-A3	2011-10-05	Normal	SO	308925002	Tm-171	-0.0741	pCi/g	10.8		3.55	U	3.55	1	GAM11	09069163	5.35	9				pCi/g
SL-001-A3	2011-10-05	Normal	SO	308925002	Bi-212	0.55	pCi/g	0.11		0.0575		0.0603	1	GAM11	09069163	0.0534	0.075				pCi/g
SL-001-A3	2011-10-05	Normal	SO	308925002	Ac-228	0.802	pCi/g	0.0879		0.0341		0.0432	1	GAM11	09069163	0.0425	0.05				pCi/g
SL-001-A3	2011-10-05	Normal	SO	308925002	Ba-133	-0.00931	pCi/g	0.0161		0.00563	U	0.00603	1	GAM11	09069163	0.00787	0.015				pCi/g
SL-001-A3	2011-10-05	Normal	SO	308925002	Tl-208	0.281	pCi/g	0.0144		0.0148		0.0175	1	GAM11	09069163	0.00698	0.01				pCi/g
SL-001-A3	2011-10-05	Normal	SO	308925002	Sb-125	0.00609	pCi/g	0.0375		0.0111	U	0.0112	1	GAM11	09069163	0.0183	0.03				pCi/g
SL-001-A3	2011-10-05	Normal	SO	308925002	Na-22	-0.00581	pCi/g	0.0183		0.00542	UJ	0.00558	1	GAM11	09069163	0.00881	0.0085				pCi/g
SL-001-A3	2011-10-05	Normal	SO	308925002	Cs-137	0.0574	pCi/g	0.0144		0.00666		0.00693	1	GAM11	09069163	0.00696	0.01				pCi/g
SL-001-A3	2011-10-05	Normal	SO	308925002	U-233/234	0.885	pCi/g	0.0815		0.0729		0.0943	1	1118	80061	0.0355	0.25	0.869	1.25	0.2	pCi/g
SL-001-A3	2011-10-05	Normal	SO	308925002	Pu-239/240	0.00602	pCi/g	0.00408		0.00369		0.0037	1	1081	79996	0	0.08	0.827	1.25	0.2	pCi/g
SL-001-A3	2011-10-05	Normal	SO	308925002	Ag-108m	-0.00599	pCi/g	0.0127		0.00434	U	0.00456	1	GAM11	09069163	0.00613	0.0085				pCi/g
SL-001-A3	2011-10-05	Normal	SO	308925002	Th-234	1.17	pCi/g	0.243		0.11		0.117	1	GAM11	09069163	0.323	0.2				pCi/g
SL-001-A3	2011-10-05	Normal	SO	308925002	Nb-94	0.00506	pCi/g	0.0134		0.00381	U	0.00399	1	GAM11	09069163	0.00649	0.0095				pCi/g
SL-001-A3	2011-10-05	Normal	SO	308925002	Am-243	0.0182	pCi/g	0.0218		0.00835		0.00842	1	1210	87898	0.00816	0.08	0.996	1.25	0.2	pCi/g
SL-001-A3	2011-10-05	Normal	SO	308925002	Eu-152	0.000454	pCi/g	0.0393		0.012	U	0.012	1	GAM11	09069163	0.0192	0.03				pCi/g
SL-002-A3	2011-10-05	Normal	SO	308925001	Eu-154	-0.0508	pCi/g	0.108		0.0325	U	0.0346	1	GAM06	11912876	0.0521	0.045				pCi/g
SL-002-A3	2011-10-05	Normal	SO	308925001	Np-239	-0.0233	pCi/g	0.13		0.0389	U	0.0393	1	GAM06	11912876	0.064	0.075				pCi/g
SL-002-A3	2011-10-05	Normal	SO	308925001	Ag-108m	-0.00413	pCi/g	0.0158		0.00546	U	0.00555	1	GAM06	11912876	0.00765	0.0085				pCi/g
SL-002-A3	2011-10-05	Normal	SO	308925001	Th-229	0.0118	pCi/g	0.0886		0.025	U	0.025	1	1025	45-149AA5	0.0363	0.25	0.921	1.25	0.2	pCi/g

Location Name	Date Collected	Sample Type	Matrix	Lab Sample ID	Analyte ID	Activity	Rpt Units	MDC	Gross CPM	Count Uncertainity	Lab Flag	Total Propagated Uncertainty	Sigma Value	Instrument ID	Detector ID	Critical Level Ref	Required MDC Ref	Chem Yield	Chem Yield Upper Limit	Chemical Yield Lower Limit	Chemical Yield Units
SL-002-A3	2011-10-05	Normal	SO	308925001	Ac-227	-0.141	pCi/g	0.196		0.0603	UJ	0.0686	1	GAM06	11912876	0.0961	0.15				pCi/g
SL-002-A3	2011-10-05	Normal	SO	308925001	Cf-249	-0.00637	pCi/g	0.0881		0.0426	U	0.0426	1	GAM06	11912876	0.0431	0.05				pCi/g
SL-002-A3	2011-10-05	Normal	SO	308925001	Th-234	1.04	pCi/g	0.304		0.149		0.153	1	GAM06	11912876	0.0956	0.2				pCi/g
SL-002-A3	2011-10-05	Normal	SO	308925001	Am-241	0	pCi/g	0.00492		0.00257		0.00257	1	1209	87897	0	0.08	0.975	1.25	0.2	pCi/g
SL-002-A3	2011-10-05	Normal	SO	308925001	U-238	0.878	pCi/g	0.0489		0.0748		0.0956	1	1117	80003	0.0173	0.25	0.761	1.25	0.2	pCi/g
SL-002-A3	2011-10-05	Normal	SO	308925001	Pb-214	0.917	pCi/g	0.0344		0.0343		0.0457	1	GAM06	11912876	0.0168	0.02				pCi/g
SL-002-A3	2011-10-05	Normal	SO	308925001	Ho-166m	-0.00387	pCi/g	0.0277		0.00828	U	0.00833	1	GAM06	11912876	0.0134	0.02				pCi/g
SL-002-A3	2011-10-05	Normal	SO	308925001	Eu-155	0.0362	pCi/g	0.0699		0.0214	J	0.023	1	GAM06	11912876	0.0345	0.04				pCi/g
SL-002-A3	2011-10-05	Normal	SO	308925001	Eu-152	0.017	pCi/g	0.0489		0.0178	U	0.0182	1	GAM06	11912876	0.0239	0.03				pCi/g
SL-002-A3	2011-10-05	Normal	SO	308925001	H-3	1.85	pCi/g	5.83	1.31	1.73	U	1.73	1	LSCORANGE	DG06095168	2.69	10				pCi/g
SL-002-A3	2011-10-05	Normal	SO	308925001	Ac-228	0.82	pCi/g	0.104		0.0379		0.0465	1	GAM06	11912876	0.05	0.05				pCi/g
SL-002-A3	2011-10-05	Normal	SO	308925001	I-129	0.0115	pCi/g	0.139		0.0367	U	0.0368	1	XRAY3	3984452	0.062	0.5		1.25	0.25	pCi/g
SL-002-A3	2011-10-05	Normal	SO	308925001	Pu-238	2.59E-10	pCi/g	0.0115		0.00311	U	0.00311	1	1101	83287	0.00362	0.08	0.835	1.25	0.2	pCi/g
SL-002-A3	2011-10-05	Normal	SO	308925001	K-40	22.6	pCi/g	0.136		0.975		1.23	1	GAM06	11912876	0.0639	0.085				pCi/g
SL-002-A3	2011-10-05	Normal	SO	308925001	Tc-99	-0.29	pCi/g	1.24		0.366	U	0.366	1	LSCGREEN	7067404	0.608	1.5	0.997	1.25	0.2	pCi/g
SL-002-A3	2011-10-05	Normal	SO	308925001	Tl-208	0.277	pCi/g	0.017		0.0162		0.0186	1	GAM06	11912876	0.00825	0.01				pCi/g
SL-002-A3	2011-10-05	Normal	SO	308925001	U-233/234	0.772	pCi/g	0.104		0.0745		0.0916	1	1117	80003	0.0466	0.25	0.761	1.25	0.2	pCi/g
SL-002-A3	2011-10-05	Normal	SO	308925001	Na-22	-0.0092	pCi/g	0.0235		0.00714	UJ	0.00745	1	GAM06	11912876	0.0113	0.0085				pCi/g
SL-002-A3	2011-10-05	Normal	SO	308925001	Am-243	0	pCi/g	0.0198		0.00522	U	0.00522	1	1209	87897	0.00701	0.08	0.975	1.25	0.2	pCi/g
SL-002-A3	2011-10-05	Normal	SO	308925001	Co-60	0.011	pCi/g	0.0201		0.00559	J	0.00614	1	GAM06	11912876	0.00961	0.0085				pCi/g
SL-002-A3	2011-10-05	Normal	SO	308925001	Pm-147	-1.57	pCi/g	7.07		2.03	U	2.03	1	LSCGOLD	7070506	3.4	10	0.882	1.25	0.4	pCi/g
SL-002-A3	2011-10-05	Normal	SO	308925001	Th-228	1.16	pCi/g	0.117		0.0898		0.106	1	1025	45-149AA5	0.0502	0.25	0.921	1.25	0.2	pCi/g
SL-002-A3	2011-10-05	Normal	SO	308925001	Y-90	0.0408	pCi/g	0.172		0.0488	U	0.049	1	PIC1A	10751	0.0992	0.5	0.749	1.25	0.4	pCi/g
SL-002-A3	2011-10-05	Normal	SO	308925001	Bi-214	0.823	pCi/g	0.0319		0.0323		0.0422	1	GAM06	11912876	0.0154	0.02				pCi/g
SL-002-A3	2011-10-05	Normal	SO	308925001	Ba-133	0.00905	pCi/g	0.0208		0.00699	U	0.0073	1	GAM06	11912876	0.0101	0.015				pCi/g
SL-002-A3	2011-10-05	Normal	SO	308925001	Cd-113m	-86.6	pCi/g	130		43.3	U	47.7	1	GAM06	11912876	63.6	35				pCi/g
SL-002-A3	2011-10-05	Normal	SO	308925001	Cs-137	0.0467	pCi/g	0.0191		0.0082		0.00835	1	GAM06	11912876	0.00925	0.01				pCi/g
SL-002-A3	2011-10-05	Normal	SO	308925001	Pa-231	0.0223	pCi/g	0.81		0.262	U	0.262	1	GAM06	11912876	0.397	0.45				pCi/g
SL-002-A3	2011-10-05	Normal	SO	308925001	Np-236	-0.00568	pCi/g	0.0363		0.0113	U	0.0114	1	GAM06	11912876	0.0179	0.025				pCi/g
SL-002-A3	2011-10-05	Normal	SO	308925001	Bi-212	0.45	pCi/g	0.136		0.0686		0.0702	1	GAM06	11912876	0.0655	0.075				pCi/g
SL-002-A3	2011-10-05	Normal	SO	308925001	Th-232	0.809	pCi/g	0.0632		0.0709		0.0802	1	1025	45-149AA5	0.0236	0.25	0.921	1.25	0.2	pCi/g
SL-002-A3	2011-10-05	Normal	SO	308925001	Th-230	0.735	pCi/g	0.0634		0.0679		0.076	1	1025	45-149AA5	0.0237	0.25	0.921	1.25	0.2	pCi/g
SL-002-A3	2011-10-05	Normal	SO	308925001	Sb-125	0.0143	pCi/g	0.0473		0.0142	U	0.0146	1	GAM06	11912876	0.0231	0.03				pCi/g
SL-002-A3	2011-10-05	Normal	SO	308925001	Tm-171	-13.3	pCi/g	14.4		5.16	UJ	6.02	1	GAM06	11912876	7.12	9				pCi/g
SL-002-A3	2011-10-05	Normal	SO	308925001	Ni-59	0.671	pCi/g	1.78		0.484	U	0.508	1	XRAY3	3984452	0.838	4	0.785	1.25	0.4	pCi/g
SL-002-A3	2011-10-05	Normal	SO	308925001	Nb-94	-0.00189	pCi/g	0.0157		0.0047	U	0.00472	1	GAM06	11912876	0.00762	0.0095				pCi/g
SL-002-A3	2011-10-05	Normal	SO	308925001	Cm-243/244	0.00182	pCi/g	0.00494		0.00316		0.00316	1	1209	87897	0	0.08	0.975	1.25	0.2	pCi/g
SL-002-A3	2011-10-05	Normal	SO	308925001	Sn-126	0.00183	pCi/g	0.0172		0.00504	U	0.00506	1	GAM06	11912876	0.00831	0.01				pCi/g
SL-002-A3	2011-10-05	Normal	SO	308925001	Ni-63	-0.34	pCi/g	1.22		0.357	U	0.357	1	LSCYELLOW	4140127	0.595	2	0.672	1.25	0.4	pCi/g
SL-002-A3	2011-10-05	Normal	SO	308925001	Cs-134	-0.000558	pCi/g	0.0155		0.00527	U	0.00527	1	GAM06	11912876	0.00753	0.0085				pCi/g
SL-002-A3	2011-10-05	Normal	SO	308925001	C-14	-0.117	pCi/g	0.678	11.7	0.2	U	0.2	1	LSCYELLOW	4140127	0.332	1				pCi/g
SL-002-A3	2011-10-05	Normal	SO	308925001	U-235/236	0.0536	pCi/g	0.0208		0.0224		0.0227	1	1117	80003	0	0.25	0.761	1.25	0.2	pCi/g
SL-002-A3	2011-10-05	Normal	SO	308925001	Pb-212	0.954	pCi/g	0.033		0.0492		0.0584	1	GAM06	11912876	0.0162	0.02				pCi/g
SL-002-A3	2011-10-05	Normal	SO	308925001	Pu-239/240	0.00466	pCi/g	0.0167		0.00516	U	0.00516	1	1101	83287	0.00626	0.08	0.835	1.25	0.2	pCi/g
SL-002-A3	2011-10-05	Normal	SO	308925001	Sr-90	0.0408	pCi/g	0.172		0.0488	U	0.049	1	PIC1A	10751	0.0992	0.5	0.749	1.25	0.4	pCi/g
SL-003-A3	2011-10-05	Normal	SO	308925003	H-3	3.25	pCi/g	5.38	1.33	1.67		1.67	1	LSCORANGE	DG06095168	2.47	10				pCi/g
SL-003-A3	2011-10-05	Normal	SO	308925003	Ho-166m	0.00647	pCi/g	0.0333		0.00953	U	0.00965	1	GAM14	10059017	0.0162	0.02				pCi/g
SL-003-A3	2011-10-05	Normal	SO	308925003	Am-241	0.00547	pCi/g	0.00494		0.00408		0.00409	1	1211	87899	0	0.08	0.992	1.25	0.2	pCi/g
SL-003-A3	2011-10-05	Normal	SO	308925003	Y-90	0.0592	pCi/g	0.214		0.0624	U	0.0626	1	PIC2A	10752	0.128	0.5	0.762	1.25	0.4	pCi/g
SL-003-A3	2011-10-05	Normal	SO	308925003	Am-243	0.0231	pCi/g	0.0153		0.00738		0.00749	1	1211	87899	0.00543	0.08	0.992	1.25	0.2	pCi/g
SL-003-A3	2011-10-05	Normal	SO	308925003	Bi-214	1.23	pCi/g	0.0368		0.0424		0.0586	1	GAM14	10059017	0.0179	0.02				pCi/g
SL-003-A3	2011-10-05	Normal	SO	308925003	Pu-239/240	0.00868	pCi/g	0.00784		0.00647		0.00649	1	1082	79997	0	0.08	0.473	1.25	0.2	pCi/g
SL-003-A3	2011-10-05	Normal	SO	308925003	Th-234	1.63	pCi/g	0.35		0.168		0.176	1	GAM14	10059017	0.118	0.2				pCi/g

Location Name	Date Collected	Sample Type	Matrix	Lab Sample ID	Analyte ID	Activity	Rpt Units	MDC	Gross CPM	Count Uncertainity	Lab Flag	Total Propagated Uncertainty	Sigma Value	Instrument ID	Detector ID	Critical Level Ref	Required MDC Ref	Chem Yield	Chem Yield Upper Limit	Chemical Yield Lower Limit	Chemical Yield Units
SL-003-A3	2011-10-05	Normal	SO	308925003	Ag-108m	0.00109	pCi/g	0.0182		0.00629	U	0.0063	1	GAM14	10059017	0.00881	0.0085				pCi/g
SL-003-A3	2011-10-05	Normal	SO	308925003	Ni-63	0.566	pCi/g	0.77		0.236		0.242	1	LSCYELLOW	4140127	0.379	2	0.705	1.25	0.4	pCi/g
SL-003-A3	2011-10-05	Normal	SO	308925003	Bi-212	0.941	pCi/g	0.166		0.101		0.105	1	GAM14	10059017	0.0803	0.075				pCi/g
SL-003-A3	2011-10-05	Normal	SO	308925003	Eu-154	-0.0234	pCi/g	0.125		0.0372	U	0.0376	1	GAM14	10059017	0.0604	0.045				pCi/g
SL-003-A3	2011-10-05	Normal	SO	308925003	Eu-155	0.0156	pCi/g	0.083		0.027	U	0.0272	1	GAM14	10059017	0.041	0.04				pCi/g
SL-003-A3	2011-10-05	Normal	SO	308925003	Na-22	-0.0146	pCi/g	0.0237		0.00739	UJ	0.00814	1	GAM14	10059017	0.0114	0.0085				pCi/g
SL-003-A3	2011-10-05	Normal	SO	308925003	Sb-125	0.00816	pCi/g	0.0549		0.0162	U	0.0163	1	GAM14	10059017	0.0268	0.03				pCi/g
SL-003-A3	2011-10-05	Normal	SO	308925003	Tl-208	0.454	pCi/g	0.0199		0.0228		0.0273	1	GAM14	10059017	0.00967	0.01				pCi/g
SL-003-A3	2011-10-05	Normal	SO	308925003	Eu-152	-0.0116	pCi/g	0.0591		0.0233	U	0.0234	1	GAM14	10059017	0.0289	0.03				pCi/g
SL-003-A3	2011-10-05	Normal	SO	308925003	Cs-134	0.00499	pCi/g	0.019		0.00652	U	0.00662	1	GAM14	10059017	0.00926	0.0085				pCi/g
SL-003-A3	2011-10-05	Normal	SO	308925003	Ac-228	1.34	pCi/g	0.112		0.0573		0.0724	1	GAM14	10059017	0.0541	0.05				pCi/g
SL-003-A3	2011-10-05	Normal	SO	308925003	Pu-238	0.00579	pCi/g	0.00785		0.00579		0.0058	1	1082	79997	0	0.08	0.473	1.25	0.2	pCi/g
SL-003-A3	2011-10-05	Normal	SO	308925003	Ba-133	0.0175	pCi/g	0.0259		0.00855	J	0.00946	1	GAM14	10059017	0.0127	0.015				pCi/g
SL-003-A3	2011-10-05	Normal	SO	308925003	Nb-94	0.00542	pCi/g	0.0191		0.00544	U	0.00558	1	GAM14	10059017	0.00927	0.0095				pCi/g
SL-003-A3	2011-10-05	Normal	SO	308925003	Cf-249	-0.052	pCi/g	0.105		0.0467	U	0.0482	1	GAM14	10059017	0.0514	0.05				pCi/g
SL-003-A3	2011-10-05	Normal	SO	308925003	Np-239	0.0204	pCi/g	0.158		0.0462	U	0.0464	1	GAM14	10059017	0.0781	0.075				pCi/g
SL-003-A3	2011-10-05	Normal	SO	308925003	U-235/236	0.122	pCi/g	0.0757		0.0429		0.0439	1	1119	79450	0.0235	0.25	0.525	1.25	0.2	pCi/g
SL-003-A3	2011-10-05	Normal	SO	308925003	Pb-214	1.4	pCi/g	0.0422		0.046		0.0652	1	GAM14	10059017	0.0207	0.02				pCi/g
SL-003-A3	2011-10-05	Normal	SO	308925003	C-14	-0.0239	pCi/g	0.687	11.8	0.204	U	0.204	1	LSCYELLOW	4140127	0.336	1				pCi/g
SL-003-A3	2011-10-05	Normal	SO	308925003	Cs-137	0.143	pCi/g	0.0228		0.0139		0.0147	1	GAM14	10059017	0.0111	0.01				pCi/g
SL-003-A3	2011-10-05	Normal	SO	308925003	Th-230	0.973	pCi/g	0.0686		0.0736		0.0854	1	1027	70317	0.0272	0.25	1	1.25	0.2	pCi/g
SL-003-A3	2011-10-05	Normal	SO	308925003	Th-228	1.35	pCi/g	0.0946		0.089		0.109	1	1027	70317	0.04	0.25	1	1.25	0.2	pCi/g
SL-003-A3	2011-10-05	Normal	SO	308925003	U-238	0.997	pCi/g	0.112		0.102		0.126	1	1119	79450	0.0465	0.25	0.525	1.25	0.2	pCi/g
SL-003-A3	2011-10-05	Normal	SO	308925003	Cm-243/244	0.00732	pCi/g	0.0135		0.00518		0.00519	1	1211	87899	0.00426	0.08	0.992	1.25	0.2	pCi/g
SL-003-A3	2011-10-05	Normal	SO	308925003	K-40	21.4	pCi/g	0.149		0.927		1.17	1	GAM14	10059017	0.0698	0.085				pCi/g
SL-003-A3	2011-10-05	Normal	SO	308925003	Ac-227	0.0314	pCi/g	0.237		0.0692	U	0.0696	1	GAM14	10059017	0.117	0.15				pCi/g
SL-003-A3	2011-10-05	Normal	SO	308925003	Th-229	0.0839	pCi/g	0.0487		0.0246		0.0249	1	1027	70317	0.0172	0.25	1	1.25	0.2	pCi/g
SL-003-A3	2011-10-05	Normal	SO	308925003	Tc-99	0.00524	pCi/g	1.48		0.436	U	0.436	1	LSCGREEN	7067404	0.718	1.5	0.931	1.25	0.2	pCi/g
SL-003-A3	2011-10-05	Normal	SO	308925003	Pb-212	1.48	pCi/g	0.0399		0.0692		0.0847	1	GAM14	10059017	0.0196	0.02				pCi/g
SL-003-A3	2011-10-05	Normal	SO	308925003	Pa-231	0.341	pCi/g	1.03		0.327	U	0.336	1	GAM14	10059017	0.504	0.45				pCi/g
SL-003-A3	2011-10-05	Normal	SO	308925003	Sn-126	0.00327	pCi/g	0.021		0.006	U	0.00605	1	GAM14	10059017	0.0102	0.01				pCi/g
SL-003-A3	2011-10-05	Normal	SO	308925003	Cd-113m	-18.3	pCi/g	157		53.1	U	53.2	1	GAM14	10059017	77	35				pCi/g
SL-003-A3	2011-10-05	Normal	SO	308925003	Pm-147	-2.03	pCi/g	6.41		1.82	U	1.82	1	LSCGOLD	7070506	3.08	10	0.957	1.25	0.4	pCi/g
SL-003-A3	2011-10-05	Normal	SO	308925003	Co-60	0.00181	pCi/g	0.0215		0.00629	U	0.0063	1	GAM14	10059017	0.0103	0.0085				pCi/g
SL-003-A3	2011-10-05	Normal	SO	308925003	Sr-90	0.0592	pCi/g	0.214		0.0624	U	0.0626	1	PIC2A	10752	0.128	0.5	0.762	1.25	0.4	pCi/g
SL-003-A3	2011-10-05	Normal	SO	308925003	Ni-59	0.00736	pCi/g	0.696		0.167	U	0.167	1	XRAY6	10902649	0.294	4	0.713	1.25	0.4	pCi/g
SL-003-A3	2011-10-05	Normal	SO	308925003	Np-236	-0.00696	pCi/g	0.0445		0.0135	U	0.0136	1	GAM14	10059017	0.022	0.025				pCi/g
SL-003-A3	2011-10-05	Normal	SO	308925003	Tm-171	-12.6	pCi/g	15.6		5.46	UJ	6.2	1	GAM14	10059017	7.7	9				pCi/g
SL-003-A3	2011-10-05	Normal	SO	308925003	I-129	0.069	pCi/g	0.19		0.0394	U	0.0425	1	XRAY6	10902649	0.0789	0.5		1.25	0.25	pCi/g
SL-003-A3	2011-10-05	Normal	SO	308925003	Th-232	1.15	pCi/g	0.0141		0.0779		0.0933	1	1027	70317	0	0.25	1	1.25	0.2	pCi/g
SL-003-A3	2011-10-05	Normal	SO	308925003	U-233/234	1.35	pCi/g	0.149		0.121		0.158	1	1119	79450	0.0656	0.25	0.525	1.25	0.2	pCi/g
SL-004-A3	2011-10-05	Normal	SO	308925009	Th-234	3.46	pCi/g	0.46		0.269		0.292	1	GAM16	09069175	0.639	0.2				pCi/g
SL-004-A3	2011-10-05	Normal	SO	308925009	Am-241	0.0105	pCi/g	0.0057		0.00557		0.0056	1	1220	87908	0	0.08	0.866	1.25	0.2	pCi/g
SL-004-A3	2011-10-05	Normal	SO	308925009	Pb-214	2.29	pCi/g	0.0559		0.0742		0.106	1	GAM16	09069175	0.0272	0.02				pCi/g
SL-004-A3	2011-10-05	Normal	SO	308925009	Nb-94	0.0107	pCi/g	0.0269		0.00751	U	0.00792	1	GAM16	09069175	0.013	0.0095				pCi/g
SL-004-A3	2011-10-05	Normal	SO	308925009	Np-236	-0.047	pCi/g	0.0545		0.0176	UJ	0.0207	1	GAM16	09069175	0.0268	0.025				pCi/g
SL-004-A3	2011-10-05	Normal	SO	308925009	Eu-152	0.00472	pCi/g	0.0807		0.0251	U	0.0252	1	GAM16	09069175	0.0393	0.03				pCi/g
SL-004-A3	2011-10-05	Normal	SO	308925009	Bi-214	2	pCi/g	0.0478		0.0677		0.0945	1	GAM16	09069175	0.023	0.02				pCi/g
SL-004-A3	2011-10-05	Normal	SO	308925009	Eu-155	0.101	pCi/g	0.102		0.044		0.0441	1	GAM16	09069175	0.0503	0.04				pCi/g
SL-004-A3	2011-10-05	Normal	SO	308925009	Cs-137	0.302	pCi/g	0.0279		0.0188		0.0213	1	GAM16	09069175	0.0134	0.01				pCi/g
SL-004-A3	2011-10-05	Normal	SO	308925009	K-40	17.9	pCi/g	0.246		0.813		1	1	GAM16	09069175	0.115	0.085				pCi/g
SL-004-A3	2011-10-05	Normal	SO	308925009	Np-239	-0.0206	pCi/g	0.21		0.0646	U	0.0648	1	GAM16	09069175	0.103	0.075				pCi/g
SL-004-A3	2011-10-05	Normal	SO	308925009	Pu-238	0.00396	pCi/g	0.00536		0.00396		0.00396	1	1210	87898	0	0.08	0.866	1.25	0.2	pCi/g

Location Name	Date Collected	Sample Type	Matrix	Lab Sample ID	Analyte ID	Activity	Rpt Units	MDC	Gross CPM	Count Uncertainity	Lab Flag	Total Propagated Uncertainty	Sigma Value	Instrument ID	Detector ID	Critical Level Ref	Required MDC Ref	Chem Yield	Chem Yield Upper Limit	Chemical Yield Lower Limit	Chemical Yield Units
SL-004-A3	2011-10-05	Normal	SO	308925009	Ni-59	-0.5	pCi/g	2.59		0.762	U	0.77	1	XRAY3	3984452	1.22	4	0.556	1.25	0.4	pCi/g
SL-004-A3	2011-10-05	Normal	SO	308925009	Ag-108m	0.00213	pCi/g	0.0242		0.00821	U	0.00822	1	GAM16	09069175	0.0116	0.0085				pCi/g
SL-004-A3	2011-10-05	Normal	SO	308925009	Sn-126	0.00866	pCi/g	0.0296		0.00828	U	0.00852	1	GAM16	09069175	0.0143	0.01				pCi/g
SL-004-A3	2011-10-05	Normal	SO	308925009	Th-228	1.95	pCi/g	0.0826		0.102		0.135	1	1039	67580	0.0344	0.25	0.97	1.25	0.2	pCi/g
SL-004-A3	2011-10-05	Normal	SO	308925009	U-235/236	0.0474	pCi/g	0.0415		0.0206		0.0209	1	1010	72529	0.0128	0.25	0.756	1.25	0.2	pCi/g
SL-004-A3	2011-10-05	Normal	SO	308925009	Th-232	1.95	pCi/g	0.0367		0.0991		0.131	1	1039	67580	0.0116	0.25	0.97	1.25	0.2	pCi/g
SL-004-A3	2011-10-05	Normal	SO	308925009	Pa-231	0.265	pCi/g	1.31		0.373	U	0.378	1	GAM16	09069175	0.639	0.45				pCi/g
SL-004-A3	2011-10-05	Normal	SO	308925009	I-129	0.0511	pCi/g	0.201		0.0463	U	0.0477	1	XRAY5	488926	0.0841	0.5		1.25	0.25	pCi/g
SL-004-A3	2011-10-05	Normal	SO	308925009	Cm-243/244	0.0105	pCi/g	0.00572		0.00558		0.00561	1	1220	87908	0	0.08	0.866	1.25	0.2	pCi/g
SL-004-A3	2011-10-05	Normal	SO	308925009	U-233/234	1.67	pCi/g	0.0811		0.0962		0.148	1	1010	72529	0.0356	0.25	0.756	1.25	0.2	pCi/g
SL-004-A3	2011-10-05	Normal	SO	308925009	Sr-90	0.0311	pCi/g	0.158		0.0445	U	0.0446	1	PIC5B	0525768	0.0915	0.5	0.811	1.25	0.4	pCi/g
SL-004-A3	2011-10-05	Normal	SO	308925009	Pb-212	2.56	pCi/g	0.0514		0.12		0.147	1	GAM16	09069175	0.0252	0.02				pCi/g
SL-004-A3	2011-10-05	Normal	SO	308925009	Co-60	-0.00338	pCi/g	0.0271		0.00775	U	0.00779	1	GAM16	09069175	0.0127	0.0085				pCi/g
SL-004-A3	2011-10-05	Normal	SO	308925009	Cf-249	0.129	pCi/g	0.152		0.0559	J	0.0634	1	GAM16	09069175	0.0743	0.05				pCi/g
SL-004-A3	2011-10-05	Normal	SO	308925009	C-14	0.132	pCi/g	0.621	10.5	0.186	U	0.186	1	LSCYELLOW	4140127	0.303	1				pCi/g
SL-004-A3	2011-10-05	Normal	SO	308925009	Cs-134	-0.000745	pCi/g	0.0242		0.00832	U	0.00832	1	GAM16	09069175	0.0117	0.0085				pCi/g
SL-004-A3	2011-10-05	Normal	SO	308925009	Sb-125	0.0283	pCi/g	0.0783		0.0225	U	0.0235	1	GAM16	09069175	0.038	0.03				pCi/g
SL-004-A3	2011-10-05	Normal	SO	308925009	H-3	2.42	pCi/g	5.91	1.38	1.78	U	1.78	1	LSCORANGE	DG06095168	2.73	10				pCi/g
SL-004-A3	2011-10-05	Normal	SO	308925009	Am-243	0.0222	pCi/g	0.0191		0.00778		0.00787	1	1220	87908	0.00738	0.08	0.866	1.25	0.2	pCi/g
SL-004-A3	2011-10-05	Normal	SO	308925009	Ba-133	0.00191	pCi/g	0.0321		0.0105	U	0.0105	1	GAM16	09069175	0.0156	0.015				pCi/g
SL-004-A3	2011-10-05	Normal	SO	308925009	Pu-239/240	0.00593	pCi/g	0.0184		0.00593	U	0.00594	1	1210	87898	0.00651	0.08	0.866	1.25	0.2	pCi/g
SL-004-A3	2011-10-05	Normal	SO	308925009	Bi-212	1.31	pCi/g	0.217		0.123		0.131	1	GAM16	09069175	0.104	0.075				pCi/g
SL-004-A3	2011-10-05	Normal	SO	308925009	Th-230	1.5	pCi/g	0.0539		0.0876		0.11	1	1039	67580	0.0202	0.25	0.97	1.25	0.2	pCi/g
SL-004-A3	2011-10-05	Normal	SO	308925009	Na-22	0.00123	pCi/g	0.0326		0.00922	UJ	0.00923	1	GAM16	09069175	0.0155	0.0085				pCi/g
SL-004-A3	2011-10-05	Normal	SO	308925009	Eu-154	-0.0567	pCi/g	0.158		0.0478	U	0.0496	1	GAM16	09069175	0.0754	0.045				pCi/g
SL-004-A3	2011-10-05	Normal	SO	308925009	Th-229	0.0301	pCi/g	0.0657		0.0213		0.0213	1	1039	67580	0.0261	0.25	0.97	1.25	0.2	pCi/g
SL-004-A3	2011-10-05	Normal	SO	308925009	Ac-228	2.07	pCi/g	0.142		0.0858		0.11	1	GAM16	09069175	0.0673	0.05				pCi/g
SL-004-A3	2011-10-05	Normal	SO	308925009	Cd-113m	50.7	pCi/g	208		66.6	U	67.7	1	GAM16	09069175	102	35				pCi/g
SL-004-A3	2011-10-05	Normal	SO	308925009	Ac-227	0.0778	pCi/g	0.313		0.095	U	0.0967	1	GAM16	09069175	0.153	0.15				pCi/g
SL-004-A3	2011-10-05	Normal	SO	308925009	Y-90	0.0311	pCi/g	0.158		0.0445	U	0.0446	1	PIC5B	0525768	0.0915	0.5	0.811	1.25	0.4	pCi/g
SL-004-A3	2011-10-05	Normal	SO	308925009	Tl-208	0.758	pCi/g	0.0283		0.0361		0.0439	1	GAM16	09069175	0.0137	0.01				pCi/g
SL-004-A3	2011-10-05	Normal	SO	308925009	Tm-171	-3.74	pCi/g	21.5		6.96	U	7.01	1	GAM16	09069175	10.6	9				pCi/g
SL-004-A3	2011-10-05	Normal	SO	308925009	Ho-166m	0.0216	pCi/g	0.0451		0.0125	U	0.0134	1	GAM16	09069175	0.0217	0.02				pCi/g
SL-004-A3	2011-10-05	Normal	SO	308925009	Pm-147	-1.86	pCi/g	6.75		1.93	U	1.93	1	LSCGOLD	7070506	3.25	10	0.867	1.25	0.4	pCi/g
SL-004-A3	2011-10-05	Normal	SO	308925009	Ni-63	-0.217	pCi/g	0.894		0.266	U	0.266	1	LSCYELLOW	4140127	0.44	2	0.642	1.25	0.4	pCi/g
SL-004-A3	2011-10-05	Normal	SO	308925009	Tc-99	0.304	pCi/g	1.44		0.43	U	0.43	1	LSCGREEN	7067404	0.698	1.5	0.968	1.25	0.2	pCi/g
SL-004-A3	2011-10-05	Normal	SO	308925009	U-238	1.65	pCi/g	0.0615		0.0946		0.145	1	1010	72529	0.0255	0.25	0.756	1.25	0.2	pCi/g
SL-005-A3	2011-10-05	Normal	SO	308925010	Am-243	0.00939	pCi/g	0.0226		0.00727		0.00729	1	1221	87909	0.00873	0.08	0.992	1.25	0.2	pCi/g
SL-005-A3	2011-10-05	Normal	SO	308925010	Eu-155	0.215	pCi/g	0.0957		0.0469		0.0474	1	GAM17	30-TN10348	0.0469	0.04				pCi/g
SL-005-A3	2011-10-05	Normal	SO	308925010	H-3	2.96	pCi/g	5.9	1.44	1.8		1.8	1	LSCORANGE	DG06095168	2.72	10				pCi/g
SL-005-A3	2011-10-05	Normal	SO	308925010	Bi-214	2.08	pCi/g	0.0655		0.0799		0.105	1	GAM17	30-TN10348	0.0314	0.02				pCi/g
SL-005-A3	2011-10-05	Normal	SO	308925010	Na-22	-0.00871	pCi/g	0.0421		0.0127	UJ	0.0129	1	GAM17	30-TN10348	0.0199	0.0085				pCi/g
SL-005-A3	2011-10-05	Normal	SO	308925010	Bi-212	1.78	pCi/g	0.279		0.173		0.183	1	GAM17	30-TN10348	0.134	0.075				pCi/g
SL-005-A3	2011-10-05	Normal	SO	308925010	Th-232	1.91	pCi/g	0.0675		0.134	J	0.167	1	1168	72547	0.0213	0.25	0.734	1.25	0.2	pCi/g
SL-005-A3	2011-10-05	Normal	SO	308925010	Cs-137	0.324	pCi/g	0.0383		0.0223		0.0248	1	GAM17	30-TN10348	0.0184	0.01				pCi/g
SL-005-A3	2011-10-05	Normal	SO	308925010	Pb-214	2.41	pCi/g	0.0659		0.0792		0.112	1	GAM17	30-TN10348	0.0319	0.02				pCi/g
SL-005-A3	2011-10-05	Normal	SO	308925010	Pu-238	0	pCi/g	0.0195		0.00531	UJ	0.00531	1	1211	87899	0.00617	0.08	0.686	1.25	0.2	pCi/g
SL-005-A3	2011-10-05	Normal	SO	308925010	C-14	0.0252	pCi/g	0.669	11.3	0.199	U	0.199	1	LSCYELLOW	4140127	0.327	1				pCi/g
SL-005-A3	2011-10-05	Normal	SO	308925010	Th-230	1.65	pCi/g	0.099		0.126	J	0.153	1	1168	72547	0.0371	0.25	0.734	1.25	0.2	pCi/g
SL-005-A3	2011-10-05	Normal	SO	308925010	Th-234	3.23	pCi/g	0.442		0.229		0.252	1	GAM17	30-TN10348	0.156	0.2				pCi/g
SL-005-A3	2011-10-05	Normal	SO	308925010	Y-90	-0.0146	pCi/g	0.142		0.0356	U	0.0356	1	PIC7C	1208	0.0815	0.5	0.799	1.25	0.4	pCi/g
SL-005-A3	2011-10-05	Normal	SO	308925010	U-233/234	1.7	pCi/g	0.108		0.1		0.152	1	1012	80054	0.0499	0.25	0.752	1.25	0.2	pCi/g
SL-005-A3	2011-10-05	Normal	SO	308925010	Th-229	-0.0277	pCi/g	0.13		0.0306	UJ	0.0306	1	1168	72547	0.0525	0.25	0.734	1.25	0.2	pCi/g

Location Name	Date Collected	Sample Type	Matrix	Lab Sample ID	Analyte ID	Activity	Rpt Units	MDC	Gross CPM	Count Uncertainity	Lab Flag	Total Propagated Uncertainty	Sigma Value	Instrument ID	Detector ID	Critical Level Ref	Required MDC Ref	Chem Yield	Chem Yield Upper Limit	Chemical Yield Lower Limit	Chemical Yield Units
SL-005-A3	2011-10-05	Normal	SO	308925010	K-40	16.9	pCi/g	0.317		0.826		0.996	1	GAM17	30-TN10348	0.147	0.085				pCi/g
SL-005-A3	2011-10-05	Normal	SO	308925010	U-238	1.62	pCi/g	0.0836		0.0963		0.145	1	1012	80054	0.0371	0.25	0.752	1.25	0.2	pCi/g
SL-005-A3	2011-10-05	Normal	SO	308925010	U-235/236	0.136	pCi/g	0.0428		0.0322		0.0335	1	1012	80054	0.0133	0.25	0.752	1.25	0.2	pCi/g
SL-005-A3	2011-10-05	Normal	SO	308925010	Th-228	2.07	pCi/g	0.29		0.162	J	0.196	1	1168	72547	0.132	0.25	0.734	1.25	0.2	pCi/g
SL-005-A3	2011-10-05	Normal	SO	308925010	Tc-99	-0.193	pCi/g	1.35		0.398	U	0.398	1	LSCGREEN	7067404	0.658	1.5	0.89	1.25	0.2	pCi/g
SL-005-A3	2011-10-05	Normal	SO	308925010	Tl-208	0.834	pCi/g	0.0361		0.0439		0.0518	1	GAM17	30-TN10348	0.0174	0.01				pCi/g
SL-005-A3	2011-10-05	Normal	SO	308925010	Am-241	0.00886	pCi/g	0.0131		0.00532		0.00534	1	1221	87909	0.00412	0.08	0.992	1.25	0.2	pCi/g
SL-005-A3	2011-10-05	Normal	SO	308925010	Np-236	-0.0416	pCi/g	0.0515		0.0156	UJ	0.0184	1	GAM17	30-TN10348	0.0253	0.025				pCi/g
SL-005-A3	2011-10-05	Normal	SO	308925010	I-129	0.043	pCi/g	0.136		0.036	U	0.0373	1	GAM21	03068173	0.0621	0.5		1.25	0.25	pCi/g
SL-005-A3	2011-10-05	Normal	SO	308925010	Cs-134	-0.0095	pCi/g	0.0331		0.0116	U	0.0118	1	GAM17	30-TN10348	0.0159	0.0085				pCi/g
SL-005-A3	2011-10-05	Normal	SO	308925010	Ba-133	-0.0169	pCi/g	0.037		0.0125	U	0.0131	1	GAM17	30-TN10348	0.0179	0.015				pCi/g
SL-005-A3	2011-10-05	Normal	SO	308925010	Pm-147	-0.857	pCi/g	6.48		1.87	U	1.87	1	LSCGOLD	7070506	3.11	10	0.919	1.25	0.4	pCi/g
SL-005-A3	2011-10-05	Normal	SO	308925010	Co-60	-0.0149	pCi/g	0.0361		0.0107	U	0.0112	1	GAM17	30-TN10348	0.0169	0.0085				pCi/g
SL-005-A3	2011-10-05	Normal	SO	308925010	Sn-126	-0.00855	pCi/g	0.0382		0.0117	U	0.0119	1	GAM17	30-TN10348	0.0183	0.01				pCi/g
SL-005-A3	2011-10-05	Normal	SO	308925010	Ni-63	-0.374	pCi/g	0.937		0.277	U	0.277	1	LSCYELLOW	4140127	0.461	2	0.593	1.25	0.4	pCi/g
SL-005-A3	2011-10-05	Normal	SO	308925010	Np-239	0.0522	pCi/g	0.218		0.0653	U	0.0664	1	GAM17	30-TN10348	0.107	0.075				pCi/g
SL-005-A3	2011-10-05	Normal	SO	308925010	Tm-171	8.69	pCi/g	12.6		4.23	J	4.69	1	GAM17	30-TN10348	6.18	9				pCi/g
SL-005-A3	2011-10-05	Normal	SO	308925010	Ho-166m	-0.0133	pCi/g	0.0582		0.0168	U	0.0171	1	GAM17	30-TN10348	0.0279	0.02				pCi/g
SL-005-A3	2011-10-05	Normal	SO	308925010	Ac-227	-0.0987	pCi/g	0.337		0.104	U	0.107	1	GAM17	30-TN10348	0.164	0.15				pCi/g
SL-005-A3	2011-10-05	Normal	SO	308925010	Ag-108m	0.00463	pCi/g	0.0327		0.0109	U	0.011	1	GAM17	30-TN10348	0.0156	0.0085				pCi/g
SL-005-A3	2011-10-05	Normal	SO	308925010	Eu-154	-0.0373	pCi/g	0.209		0.0617	U	0.0623	1	GAM17	30-TN10348	0.0992	0.045				pCi/g
SL-005-A3	2011-10-05	Normal	SO	308925010	Sb-125	-0.0263	pCi/g	0.0902		0.0268	U	0.0275	1	GAM17	30-TN10348	0.0436	0.03				pCi/g
SL-005-A3	2011-10-05	Normal	SO	308925010	Eu-152	-0.00382	pCi/g	0.0907		0.027	U	0.027	1	GAM17	30-TN10348	0.044	0.03				pCi/g
SL-005-A3	2011-10-05	Normal	SO	308925010	Ac-228	2.18	pCi/g	0.206		0.0856		0.112	1	GAM17	30-TN10348	0.0976	0.05				pCi/g
SL-005-A3	2011-10-05	Normal	SO	308925010	Pu-239/240	0.00796	pCi/g	0.0246		0.00796	UJ	0.00797	1	1211	87899	0.00873	0.08	0.686	1.25	0.2	pCi/g
SL-005-A3	2011-10-05	Normal	SO	308925010	Pa-231	0.131	pCi/g	1.48		0.45	U	0.451	1	GAM17	30-TN10348	0.718	0.45				pCi/g
SL-005-A3	2011-10-05	Normal	SO	308925010	Cd-113m	32.3	pCi/g	218		65.9	U	66.3	1	GAM17	30-TN10348	106	35				pCi/g
SL-005-A3	2011-10-05	Normal	SO	308925010	Cm-243/244	0.016	pCi/g	0.0165		0.00689		0.00694	1	1221	87909	0.00585	0.08	0.992	1.25	0.2	pCi/g
SL-005-A3	2011-10-05	Normal	SO	308925010	Pb-212	2.61	pCi/g	0.0587		0.118		0.146	1	GAM17	30-TN10348	0.0287	0.02				pCi/g
SL-005-A3	2011-10-05	Normal	SO	308925010	Nb-94	0.0283	pCi/g	0.0387		0.011	J	0.0128	1	GAM17	30-TN10348	0.0187	0.0095				pCi/g
SL-005-A3	2011-10-05	Normal	SO	308925010	Sr-90	-0.0146	pCi/g	0.142		0.0356	U	0.0356	1	PIC7C	1208	0.0815	0.5	0.799	1.25	0.4	pCi/g
SL-005-A3	2011-10-05	Normal	SO	308925010	Cf-249	0.00221	pCi/g	0.162		0.0722	U	0.0722	1	GAM17	30-TN10348	0.0786	0.05				pCi/g
SL-005-A3	2011-10-05	Normal	SO	308925010	Ni-59	-0.0915	pCi/g	0.888		0.224	U	0.225	1	XRAY6	10902649	0.378	4	0.619	1.25	0.4	pCi/g
SL-006-A3	2011-10-05	Normal	SO	308925008	Th-229	0.0151	pCi/g	0.0838		0.0241	U	0.0241	1	1038	72532	0.0351	0.25	0.971	1.25	0.2	pCi/g
SL-006-A3	2011-10-05	Normal	SO	308925008	Ho-166m	0.00394	pCi/g	0.052		0.0153	U	0.0153	1	GAM08	1943234	0.0251	0.02				pCi/g
SL-006-A3	2011-10-05	Normal	SO	308925008	Tl-208	0.735	pCi/g	0.031		0.0389		0.0459	1	GAM08	1943234	0.0149	0.01				pCi/g
SL-006-A3	2011-10-05	Normal	SO	308925008	Pa-231	0.498	pCi/g	1.6		0.471	U	0.485	1	GAM08	1943234	0.78	0.45				pCi/g
SL-006-A3	2011-10-05	Normal	SO	308925008	Cs-134	0.00303	pCi/g	0.0284		0.00951	U	0.00953	1	GAM08	1943234	0.0137	0.0085				pCi/g
SL-006-A3	2011-10-05	Normal	SO	308925008	C-14	0.114	pCi/g	0.652	12.3	0.196	U	0.196	1	LSCYELLOW	4140127	0.319	1				pCi/g
SL-006-A3	2011-10-05	Normal	SO	308925008	Ac-228	2.15	pCi/g	0.168		0.0851		0.111	1	GAM08	1943234	0.08	0.05				pCi/g
SL-006-A3	2011-10-05	Normal	SO	308925008	Eu-154	-0.014	pCi/g	0.177		0.0513	U	0.0514	1	GAM08	1943234	0.0848	0.045				pCi/g
SL-006-A3	2011-10-05	Normal	SO	308925008	Na-22	-0.0171	pCi/g	0.0376		0.0115	UJ	0.0122	1	GAM08	1943234	0.0179	0.0085				pCi/g
SL-006-A3	2011-10-05	Normal	SO	308925008	Cm-243/244	0.0133	pCi/g	0.0318		0.0103		0.0103	1	1110	83292	0.0129	0.08	0.697	1.25	0.2	pCi/g
SL-006-A3	2011-10-05	Normal	SO	308925008	Sb-125	-0.0139	pCi/g	0.087		0.0253	U	0.0255	1	GAM08	1943234	0.0423	0.03				pCi/g
SL-006-A3	2011-10-05	Normal	SO	308925008	U-233/234	1.7	pCi/g	0.0748		0.0925		0.145	1	1009	72528	0.0329	0.25	0.752	1.25	0.2	pCi/g
SL-006-A3	2011-10-05	Normal	SO	308925008	U-235/236	0.0867	pCi/g	0.047		0.0256		0.0263	1	1009	72528	0.0166	0.25	0.752	1.25	0.2	pCi/g
SL-006-A3	2011-10-05	Normal	SO	308925008	Th-230	1.3	pCi/g	0.054		0.0821		0.1	1	1038	72532	0.0202	0.25	0.971	1.25	0.2	pCi/g
SL-006-A3	2011-10-05	Normal	SO	308925008	Pm-147	-2.18	pCi/g	6.47		1.84	U	1.84	1	LSCGOLD	7070506	3.11	10	0.852	1.25	0.4	pCi/g
SL-006-A3	2011-10-05	Normal	SO	308925008	Tc-99	-0.0293	pCi/g	1.32		0.39	U	0.39	1	LSCGREEN	7067404	0.643	1.5	0.986	1.25	0.2	pCi/g
SL-006-A3	2011-10-05	Normal	SO	308925008	Cd-113m	-79.7	pCi/g	241		75.8	U	78	1	GAM08	1943234	118	35				pCi/g
SL-006-A3	2011-10-05	Normal	SO	308925008	Co-60	0.00544	pCi/g	0.0323		0.00917	U	0.00926	1	GAM08	1943234	0.0153	0.0085				pCi/g
SL-006-A3	2011-10-05	Normal	SO	308925008	Pb-212	2.43	pCi/g	0.0606		0.125		0.148	1	GAM08	1943234	0.0297	0.02				pCi/g
SL-006-A3	2011-10-05	Normal	SO	308925008	Sr-90	-0.00008	pCi/g	0.244		0.0669	U	0.0669	1	PIC4A	10754	0.147	0.5	0.713	1.25	0.4	pCi/g

Location Name	Date Collected	Sample Type	Matrix	Lab Sample ID	Analyte ID	Activity	Rpt Units	MDC	Gross CPM	Count Uncertainity	Lab Flag	Total Propagated Uncertainty	Sigma Value	Instrument ID	Detector ID	Critical Level Ref	Required MDC Ref	Chem Yield	Chem Yield Upper Limit	Chemical Yield Lower Limit	Chemical Yield Units
SL-006-A3	2011-10-05	Normal	SO	308925008	H-3	3.39	pCi/g	5.75	1.51	1.78		1.78	1	LSCORANGE	DG06095168	2.65	10				pCi/g
SL-006-A3	2011-10-05	Normal	SO	308925008	Tm-171	0.345	pCi/g	30.8		10.5	U	10.5	1	GAM08	1943234	15.2	9				pCi/g
SL-006-A3	2011-10-05	Normal	SO	308925008	Cf-249	0.0964	pCi/g	0.163		0.0743	J	0.0776	1	GAM08	1943234	0.0792	0.05				pCi/g
SL-006-A3	2011-10-05	Normal	SO	308925008	Sn-126	0.000412	pCi/g	0.0338		0.00996	U	0.00996	1	GAM08	1943234	0.0163	0.01				pCi/g
SL-006-A3	2011-10-05	Normal	SO	308925008	Y-90	-0.00008	pCi/g	0.244		0.0669	U	0.0669	1	PIC4A	10754	0.147	0.5	0.713	1.25	0.4	pCi/g
SL-006-A3	2011-10-05	Normal	SO	308925008	U-238	1.62	pCi/g	0.0436		0.0891		0.139	1	1009	72528	0.0165	0.25	0.752	1.25	0.2	pCi/g
SL-006-A3	2011-10-05	Normal	SO	308925008	Ac-227	0.0636	pCi/g	0.377		0.112	U	0.113	1	GAM08	1943234	0.185	0.15				pCi/g
SL-006-A3	2011-10-05	Normal	SO	308925008	I-129	-0.026	pCi/g	0.17		0.0482	U	0.0485	1	XRAY5	488926	0.0697	0.5		1.25	0.25	pCi/g
SL-006-A3	2011-10-05	Normal	SO	308925008	Th-228	1.65	pCi/g	0.0946		0.0955		0.121	1	1038	72532	0.0403	0.25	0.971	1.25	0.2	pCi/g
SL-006-A3	2011-10-05	Normal	SO	308925008	Pb-214	2.15	pCi/g	0.0628		0.0763		0.104	1	GAM08	1943234	0.0305	0.02				pCi/g
SL-006-A3	2011-10-05	Normal	SO	308925008	Am-241	-0.000536	pCi/g	0.0233		0.00564	UJ	0.00564	1	1110	83292	0.00815	0.08	0.697	1.25	0.2	pCi/g
SL-006-A3	2011-10-05	Normal	SO	308925008	Np-239	-0.043	pCi/g	0.247		0.0739	U	0.0745	1	GAM08	1943234	0.121	0.075				pCi/g
SL-006-A3	2011-10-05	Normal	SO	308925008	Am-243	0.00833	pCi/g	0.02		0.00645		0.00647	1	1110	83292	0.00775	0.08	0.697	1.25	0.2	pCi/g
SL-006-A3	2011-10-05	Normal	SO	308925008	K-40	18.9	pCi/g	0.236		0.88		1.08	1	GAM08	1943234	0.109	0.085				pCi/g
SL-006-A3	2011-10-05	Normal	SO	308925008	Pu-239/240	0.0057	pCi/g	0.014		0.00503		0.00504	1	1209	87897	0.00442	0.08	0.92	1.25	0.2	pCi/g
SL-006-A3	2011-10-05	Normal	SO	308925008	Pu-238	0	pCi/g	0.014		0.00381	U	0.00381	1	1209	87897	0.00443	0.08	0.92	1.25	0.2	pCi/g
SL-006-A3	2011-10-05	Normal	SO	308925008	Th-234	3.34	pCi/g	0.58		0.343		0.36	1	GAM08	1943234	0.78	0.2				pCi/g
SL-006-A3	2011-10-05	Normal	SO	308925008	Ba-133	0.00878	pCi/g	0.0391		0.0133	U	0.0135	1	GAM08	1943234	0.019	0.015				pCi/g
SL-006-A3	2011-10-05	Normal	SO	308925008	Ni-59	-0.179	pCi/g	0.762		0.198	U	0.202	1	XRAY6	10902649	0.315	4	0.619	1.25	0.4	pCi/g
SL-006-A3	2011-10-05	Normal	SO	308925008	Bi-212	1.38	pCi/g	0.229		0.138		0.145	1	GAM08	1943234	0.11	0.075				pCi/g
SL-006-A3	2011-10-05	Normal	SO	308925008	Nb-94	0.0107	pCi/g	0.0313		0.00906	U	0.00939	1	GAM08	1943234	0.0151	0.0095				pCi/g
SL-006-A3	2011-10-05	Normal	SO	308925008	Ni-63	-0.335	pCi/g	1.3		0.384	U	0.384	1	LSCYELLOW	4140127	0.639	2	0.63	1.25	0.4	pCi/g
SL-006-A3	2011-10-05	Normal	SO	308925008	Cs-137	0.292	pCi/g	0.038		0.0228		0.0247	1	GAM08	1943234	0.0184	0.01				pCi/g
SL-006-A3	2011-10-05	Normal	SO	308925008	Bi-214	1.87	pCi/g	0.0603		0.0681		0.0919	1	GAM08	1943234	0.0292	0.02				pCi/g
SL-006-A3	2011-10-05	Normal	SO	308925008	Np-236	0.000475	pCi/g	0.0677		0.0209	U	0.0209	1	GAM08	1943234	0.0333	0.025				pCi/g
SL-006-A3	2011-10-05	Normal	SO	308925008	Eu-155	0.168	pCi/g	0.123		0.0498		0.0501	1	GAM08	1943234	0.0603	0.04				pCi/g
SL-006-A3	2011-10-05	Normal	SO	308925008	Th-232	1.62	pCi/g	0.0135		0.0903		0.115	1	1038	72532	0	0.25	0.971	1.25	0.2	pCi/g
SL-006-A3	2011-10-05	Normal	SO	308925008	Eu-152	-0.0189	pCi/g	0.0922		0.0305	U	0.0308	1	GAM08	1943234	0.0449	0.03				pCi/g
SL-006-A3	2011-10-05	Normal	SO	308925008	Ag-108m	0.00403	pCi/g	0.0296		0.0099	U	0.00994	1	GAM08	1943234	0.0143	0.0085				pCi/g
SL-007-A3	2011-10-05	Normal	SO	308925007	Ni-59	-0.195	pCi/g	2.23		0.644	U	0.646	1	XRAY3	3984452	1.05	4	0.619	1.25	0.4	pCi/g
SL-007-A3	2011-10-05	Normal	SO	308925007	Pb-212	2.43	pCi/g	0.0523		0.11		0.136	1	GAM02	CV-P122204CA	0.0257	0.02				pCi/g
SL-007-A3	2011-10-05	Normal	SO	308925007	Sr-90	0.0184	pCi/g	0.189		0.052	U	0.052	1	PIC3D	10753	0.111	0.5	0.749	1.25	0.4	pCi/g
SL-007-A3	2011-10-05	Normal	SO	308925007	Na-22	-0.00549	pCi/g	0.0362		0.0108	UJ	0.0109	1	GAM02	CV-P122204CA	0.0173	0.0085				pCi/g
SL-007-A3	2011-10-05	Normal	SO	308925007	Th-228	1.7	pCi/g	0.107		0.105		0.132	1	1036	78267	0.0456	0.25	0.933	1.25	0.2	pCi/g
SL-007-A3	2011-10-05	Normal	SO	308925007	Pm-147	-3.25	pCi/g	7.25		2.04	U	2.04	1	LSCGOLD	7070506	3.49	10	0.815	1.25	0.4	pCi/g
SL-007-A3	2011-10-05	Normal	SO	308925007	Eu-154	0.0371	pCi/g	0.175		0.0571	U	0.0577	1	GAM02	CV-P122204CA	0.0838	0.045				pCi/g
SL-007-A3	2011-10-05	Normal	SO	308925007	Th-230	1.41	pCi/g	0.0767		0.0931		0.114	1	1036	78267	0.0304	0.25	0.933	1.25	0.2	pCi/g
SL-007-A3	2011-10-05	Normal	SO	308925007	K-40	21.5	pCi/g	0.275		0.96		1.19	1	GAM02	CV-P122204CA	0.129	0.085				pCi/g
SL-007-A3	2011-10-05	Normal	SO	308925007	U-238	1.75	pCi/g	0.0547		0.0948		0.149	1	1008	78788	0.0221	0.25	0.751	1.25	0.2	pCi/g
SL-007-A3	2011-10-05	Normal	SO	308925007	Cs-134	0.00475	pCi/g	0.0266		0.00879	U	0.00885	1	GAM02	CV-P122204CA	0.0129	0.0085				pCi/g
SL-007-A3	2011-10-05	Normal	SO	308925007	Cd-113m	5.88	pCi/g	214		67.1	U	67.1	1	GAM02	CV-P122204CA	105	35				pCi/g
SL-007-A3	2011-10-05	Normal	SO	308925007	U-235/236	0.0858	pCi/g	0.0561		0.0271		0.0277	1	1008	78788	0.0212	0.25	0.751	1.25	0.2	pCi/g
SL-007-A3	2011-10-05	Normal	SO	308925007	Pu-239/240	0.00444	pCi/g	0.00601		0.00444		0.00444	1	1216	87904	0	0.08	0.821	1.25	0.2	pCi/g
SL-007-A3	2011-10-05	Normal	SO	308925007	Pb-214	2.17	pCi/g	0.0598		0.071		0.101	1	GAM02	CV-P122204CA	0.0291	0.02				pCi/g
SL-007-A3	2011-10-05	Normal	SO	308925007	Bi-212	1.43	pCi/g	0.23		0.144		0.152	1	GAM02	CV-P122204CA	0.111	0.075				pCi/g
SL-007-A3	2011-10-05	Normal	SO	308925007	Nb-94	0.00163	pCi/g	0.0291		0.00855	U	0.00856	1	GAM02	CV-P122204CA	0.0141	0.0095				pCi/g
SL-007-A3	2011-10-05	Normal	SO	308925007	Ag-108m	0.0208	pCi/g	0.028		0.00879	J	0.01	1	GAM02	CV-P122204CA	0.0135	0.0085				pCi/g
SL-007-A3	2011-10-05	Normal	SO	308925007	Ni-63	-0.648	pCi/g	1.16		0.337	U	0.337	1	LSCYELLOW	4140127	0.569	2	0.574	1.25	0.4	pCi/g
SL-007-A3	2011-10-05	Normal	SO	308925007	Pa-231	-0.142	pCi/g	1.39		0.408	U	0.41	1	GAM02	CV-P122204CA	0.678	0.45				pCi/g
SL-007-A3	2011-10-05	Normal	SO	308925007	U-233/234	1.87	pCi/g	0.075		0.0987		0.158	1	1008	78788	0.0326	0.25	0.751	1.25	0.2	pCi/g
SL-007-A3	2011-10-05	Normal	SO	308925007	Th-234	3.15	pCi/g	0.463		0.269		0.289	1	GAM02	CV-P122204CA	0.678	0.2				pCi/g
SL-007-A3	2011-10-05	Normal	SO	308925007	Th-229	-0.0117	pCi/g	0.114		0.0299	U	0.0299	1	1036	78267	0.0492	0.25	0.933	1.25	0.2	pCi/g
SL-007-A3	2011-10-05	Normal	SO	308925007	Cs-137	0.273	pCi/g	0.0336		0.0197		0.0216	1	GAM02	CV-P122204CA	0.0163	0.01				pCi/g

Location Name	Date Collected	Sample Type	Matrix	Lab Sample ID	Analyte ID	Activity	Rpt Units	MDC	Gross CPM	Count Uncertainity	Lab Flag	Total Propagated Uncertainty	Sigma Value	Instrument ID	Detector ID	Critical Level Ref	Required MDC Ref	Chem Yield	Chem Yield Upper Limit	Chemical Yield Lower Limit	Chemical Yield Units
SL-007-A3	2011-10-05	Normal	SO	308925007	Bi-214	1.89	pCi/g	0.054		0.0686		0.0927	1	GAM02	CV-P122204CA	0.0261	0.02				pCi/g
SL-007-A3	2011-10-05	Normal	SO	308925007	H-3	4.37	pCi/g	5.87	1.62	1.86		1.86	1	LSCORANGE	DG06095168	2.71	10				pCi/g
SL-007-A3	2011-10-05	Normal	SO	308925007	Cf-249	0.0177	pCi/g	0.145		0.067	U	0.0671	1	GAM02	CV-P122204CA	0.0706	0.05				pCi/g
SL-007-A3	2011-10-05	Normal	SO	308925007	Pu-238	-0.00222	pCi/g	0.0206		0.00497	U	0.00497	1	1216	87904	0.00731	0.08	0.821	1.25	0.2	pCi/g
SL-007-A3	2011-10-05	Normal	SO	308925007	C-14	-0.344	pCi/g	0.674	11.7	0.196	U	0.196	1	LSCYELLOW	4140127	0.33	1				pCi/g
SL-007-A3	2011-10-05	Normal	SO	308925007	Th-232	1.8	pCi/g	0.043		0.103		0.133	1	1036	78267	0.0136	0.25	0.933	1.25	0.2	pCi/g
SL-007-A3	2011-10-05	Normal	SO	308925007	Tl-208	0.756	pCi/g	0.0298		0.0374		0.045	1	GAM02	CV-P122204CA	0.0144	0.01				pCi/g
SL-007-A3	2011-10-05	Normal	SO	308925007	Ho-166m	-0.0056	pCi/g	0.0486		0.0144	U	0.0145	1	GAM02	CV-P122204CA	0.0235	0.02				pCi/g
SL-007-A3	2011-10-05	Normal	SO	308925007	Cm-243/244	0.0163	pCi/g	0.0355		0.0115		0.0115	1	1216	87904	0.0141	0.08	0.669	1.25	0.2	pCi/g
SL-007-A3	2011-10-05	Normal	SO	308925007	Am-241	0.0108	pCi/g	0.0251		0.00855		0.00857	1	1216	87904	0.00889	0.08	0.669	1.25	0.2	pCi/g
SL-007-A3	2011-10-05	Normal	SO	308925007	Sn-126	-0.0000927	pCi/g	0.0315		0.00925	U	0.00925	1	GAM02	CV-P122204CA	0.0152	0.01				pCi/g
SL-007-A3	2011-10-05	Normal	SO	308925007	Tm-171	-7.79	pCi/g	24.4		7.97	U	8.17	1	GAM02	CV-P122204CA	12	9				pCi/g
SL-007-A3	2011-10-05	Normal	SO	308925007	Tc-99	-0.16	pCi/g	1.23		0.36	U	0.36	1	LSCGREEN	7067404	0.597	1.5	0.981	1.25	0.2	pCi/g
SL-007-A3	2011-10-05	Normal	SO	308925007	Ac-227	-0.0556	pCi/g	0.323		0.0949	U	0.0958	1	GAM02	CV-P122204CA	0.158	0.15				pCi/g
SL-007-A3	2011-10-05	Normal	SO	308925007	Np-239	0.0043	pCi/g	0.208		0.0603	U	0.0603	1	GAM02	CV-P122204CA	0.102	0.075				pCi/g
SL-007-A3	2011-10-05	Normal	SO	308925007	Y-90	0.0184	pCi/g	0.189		0.052	U	0.052	1	PIC3D	10753	0.111	0.5	0.749	1.25	0.4	pCi/g
SL-007-A3	2011-10-05	Normal	SO	308925007	Np-236	-0.00627	pCi/g	0.0573		0.0171	U	0.0172	1	GAM02	CV-P122204CA	0.0282	0.025				pCi/g
SL-007-A3	2011-10-05	Normal	SO	308925007	I-129	0.00161	pCi/g	0.169		0.044	U	0.044	1	XRAY5	488926	0.0694	0.5		1.25	0.25	pCi/g
SL-007-A3	2011-10-05	Normal	SO	308925007	Eu-155	0.11	pCi/g	0.105		0.0456		0.0457	1	GAM02	CV-P122204CA	0.0517	0.04				pCi/g
SL-007-A3	2011-10-05	Normal	SO	308925007	Am-243	0.00787	pCi/g	0.0283		0.00871	UJ	0.00872	1	1216	87904	0.0106	0.08	0.669	1.25	0.2	pCi/g
SL-007-A3	2011-10-05	Normal	SO	308925007	Co-60	0.00876	pCi/g	0.0332		0.00945	U	0.00966	1	GAM02	CV-P122204CA	0.0158	0.0085				pCi/g
SL-007-A3	2011-10-05	Normal	SO	308925007	Ac-228	2.14	pCi/g	0.176		0.0856		0.111	1	GAM02	CV-P122204CA	0.0848	0.05				pCi/g
SL-007-A3	2011-10-05	Normal	SO	308925007	Eu-152	-0.0171	pCi/g	0.0808		0.0298	U	0.03	1	GAM02	CV-P122204CA	0.0394	0.03				pCi/g
SL-007-A3	2011-10-05	Normal	SO	308925007	Sb-125	0.0197	pCi/g	0.083		0.0247	U	0.0251	1	GAM02	CV-P122204CA	0.0404	0.03				pCi/g
SL-007-A3	2011-10-05	Normal	SO	308925007	Ba-133	0.0112	pCi/g	0.0355		0.0118	U	0.0121	1	GAM02	CV-P122204CA	0.0173	0.015				pCi/g
SL-008-A3	2011-10-05	Normal	SO	308925004	C-14	-0.233	pCi/g	0.665	10.9	0.195	U	0.195	1	LSCYELLOW	4140127	0.326	1				pCi/g
SL-008-A3	2011-10-05	Normal	SO	308925004	Cs-134	-0.00135	pCi/g	0.0121		0.00402	U	0.00403	1	GAM24	04099544	0.00587	0.0085				pCi/g
SL-008-A3	2011-10-05	Normal	SO	308925004	Am-243	0.00167	pCi/g	0.0218		0.006	U	0.006	1	1212	87900	0.00866	0.08	0.93	1.25	0.2	pCi/g
SL-008-A3	2011-10-05	Normal	SO	308925004	Bi-214	0.948	pCi/g	0.0251		0.0315		0.0444	1	GAM24	04099544	0.0122	0.02				pCi/g
SL-008-A3	2011-10-05	Normal	SO	308925004	Cs-137	0.0361	pCi/g	0.014		0.00756		0.00765	1	GAM24	04099544	0.00679	0.01				pCi/g
SL-008-A3	2011-10-05	Normal	SO	308925004	U-233/234	0.851	pCi/g	0.0908		0.0738		0.0938	1	1121	75545	0.0402	0.25	0.849	1.25	0.2	pCi/g
SL-008-A3	2011-10-05	Normal	SO	308925004	Co-60	0.00421	pCi/g	0.015		0.00421	U	0.00432	1	GAM24	04099544	0.0072	0.0085				pCi/g
SL-008-A3	2011-10-05	Normal	SO	308925004	Pu-239/240	0	pCi/g	0.0178		0.00469	U	0.00469	1	1084	78265	0.0069	0.08	0.858	1.25	0.2	pCi/g
SL-008-A3	2011-10-05	Normal	SO	308925004	Sr-90	-0.0673	pCi/g	0.191		0.0462	U	0.0462	1	PIC2D	10752	0.113	0.5	0.774	1.25	0.4	pCi/g
SL-008-A3	2011-10-05	Normal	SO	308925004	Cd-113m	14.9	pCi/g	104		30.4	U	30.6	1	GAM24	04099544	51.1	35				pCi/g
SL-008-A3	2011-10-05	Normal	SO	308925004	Bi-212	0.684	pCi/g	0.107		0.0601		0.0642	1	GAM24	04099544	0.0518	0.075				pCi/g
SL-008-A3	2011-10-05	Normal	SO	308925004	Th-230	0.965	pCi/g	0.0918		0.0806		0.092	1	1028	78792	0.0376	0.25	1.05	1.25	0.2	pCi/g
SL-008-A3	2011-10-05	Normal	SO	308925004	Th-232	1.36	pCi/g	0.0566		0.0924		0.112	1	1028	78792	0.02	0.25	1.05	1.25	0.2	pCi/g
SL-008-A3	2011-10-05	Normal	SO	308925004	Ba-133	-0.00871	pCi/g	0.0159		0.00556	U	0.00592	1	GAM24	04099544	0.00778	0.015				pCi/g
SL-008-A3	2011-10-05	Normal	SO	308925004	Sb-125	-0.0149	pCi/g	0.0359		0.011	U	0.0115	1	GAM24	04099544	0.0175	0.03				pCi/g
SL-008-A3	2011-10-05	Normal	SO	308925004	Am-241	0.00563	pCi/g	0.0138		0.00496		0.00497	1	1212	87900	0.00436	0.08	0.93	1.25	0.2	pCi/g
SL-008-A3	2011-10-05	Normal	SO	308925004	Tm-171	0.598	pCi/g	9.18		3.08	U	3.09	1	GAM24	04099544	4.54	9				pCi/g
SL-008-A3	2011-10-05	Normal	SO	308925004	Ho-166m	0.00077	pCi/g	0.0215		0.00625	U	0.00625	1	GAM24	04099544	0.0105	0.02				pCi/g
SL-008-A3	2011-10-05	Normal	SO	308925004	Ac-228	1.05	pCi/g	0.0792		0.0414		0.0541	1	GAM24	04099544	0.0383	0.05				pCi/g
SL-008-A3	2011-10-05	Normal	SO	308925004	Pa-231	0.0893	pCi/g	0.654		0.192	U	0.193	1	GAM24	04099544	0.321	0.45				pCi/g
SL-008-A3	2011-10-05	Normal	SO	308925004	Tl-208	0.373	pCi/g	0.0134		0.0177		0.0215	1	GAM24	04099544	0.00651	0.01				pCi/g
SL-008-A3	2011-10-05	Normal	SO	308925004	Na-22	-0.00773	pCi/g	0.0166		0.00494	UJ	0.00525	1	GAM24	04099544	0.00801	0.0085				pCi/g
SL-008-A3	2011-10-05	Normal	SO	308925004	Eu-154	0.00696	pCi/g	0.0773		0.0263	U	0.0263	1	GAM24	04099544	0.0374	0.045				pCi/g
SL-008-A3	2011-10-05	Normal	SO	308925004	Th-234	1.38	pCi/g	0.218		0.117		0.126	1	GAM24	04099544	0.321	0.2				pCi/g
SL-008-A3	2011-10-05	Normal	SO	308925004	Y-90	-0.0673	pCi/g	0.191		0.0462	U	0.0462	1	PIC2D	10752	0.113	0.5	0.774	1.25	0.4	pCi/g
SL-008-A3	2011-10-05	Normal	SO	308925004	Eu-155	0.0625	pCi/g	0.0541		0.0222		0.0223	1	GAM24	04099544	0.0267	0.04				pCi/g
SL-008-A3	2011-10-05	Normal	SO	308925004	Eu-152	0.00225	pCi/g	0.0392		0.012	U	0.012	1	GAM24	04099544	0.0192	0.03				pCi/g
SL-008-A3	2011-10-05	Normal	SO	308925004	Nb-94	0.00797	pCi/g	0.0131		0.00371	J	0.00414	1	GAM24	04099544	0.00638	0.0095				pCi/g

Location Name	Date Collected	Sample Type	Matrix	Lab Sample ID	Analyte ID	Activity	Rpt Units	MDC	Gross CPM	Count Uncertainity	Lab Flag	Total Propagated Uncertainty	Sigma Value	Instrument ID	Detector ID	Critical Level Ref	Required MDC Ref	Chem Yield	Chem Yield Upper Limit	Chemical Yield Lower Limit	Chemical Yield Units
SL-008-A3	2011-10-05	Normal	SO	308925004	Np-239	-0.0278	pCi/g	0.106		0.0312	U	0.0318	1	GAM24	04099544	0.052	0.075				pCi/g
SL-008-A3	2011-10-05	Normal	SO	308925004	K-40	20.4	pCi/g	0.0984		0.887		1.11	1	GAM24	04099544	0.0464	0.085				pCi/g
SL-008-A3	2011-10-05	Normal	SO	308925004	Ac-227	-0.0744	pCi/g	0.155		0.0464	U	0.0495	1	GAM24	04099544	0.0763	0.15				pCi/g
SL-008-A3	2011-10-05	Normal	SO	308925004	Sn-126	-0.0133	pCi/g	0.0135		0.00419	UJ	0.00521	1	GAM24	04099544	0.00656	0.01				pCi/g
SL-008-A3	2011-10-05	Normal	SO	308925004	Np-236	-0.00159	pCi/g	0.0299		0.00916	U	0.00916	1	GAM24	04099544	0.0148	0.025				pCi/g
SL-008-A3	2011-10-05	Normal	SO	308925004	Ni-59	-0.0546	pCi/g	0.741		0.185	U	0.186	1	XRAY6	10902649	0.316	4	0.758	1.25	0.4	pCi/g
SL-008-A3	2011-10-05	Normal	SO	308925004	H-3	2.57	pCi/g	5.8	1.4	1.75	U	1.75	1	LSCORANGE	DG06095168	2.67	10				pCi/g
SL-008-A3	2011-10-05	Normal	SO	308925004	Ag-108m	0.00209	pCi/g	0.0125		0.00409	U	0.00412	1	GAM24	04099544	0.00608	0.0085				pCi/g
SL-008-A3	2011-10-05	Normal	SO	308925004	Th-229	-0.00612	pCi/g	0.131		0.0352	U	0.0352	1	1028	78792	0.057	0.25	1.05	1.25	0.2	pCi/g
SL-008-A3	2011-10-05	Normal	SO	308925004	Th-228	1.37	pCi/g	0.108		0.0975		0.117	1	1028	78792	0.0453	0.25	1.05	1.25	0.2	pCi/g
SL-008-A3	2011-10-05	Normal	SO	308925004	Cf-249	0.0158	pCi/g	0.0698		0.0322	U	0.0324	1	GAM24	04099544	0.0342	0.05				pCi/g
SL-008-A3	2011-10-05	Normal	SO	308925004	Pu-238	0	pCi/g	0.0109		0.00297	U	0.00297	1	1084	78265	0.00345	0.08	0.858	1.25	0.2	pCi/g
SL-008-A3	2011-10-05	Normal	SO	308925004	Pb-214	1.08	pCi/g	0.0271		0.0326		0.0484	1	GAM24	04099544	0.0132	0.02				pCi/g
SL-008-A3	2011-10-05	Normal	SO	308925004	U-235/236	0.0637	pCi/g	0.0192		0.0229		0.0233	1	1121	75545	0	0.25	0.849	1.25	0.2	pCi/g
SL-008-A3	2011-10-05	Normal	SO	308925004	Pb-212	1.18	pCi/g	0.0264		0.0507		0.064	1	GAM24	04099544	0.013	0.02				pCi/g
SL-008-A3	2011-10-05	Normal	SO	308925004	Pm-147	-1.01	pCi/g	7.42		2.14	U	2.14	1	LSCGOLD	7070506	3.57	10	0.845	1.25	0.4	pCi/g
SL-008-A3	2011-10-05	Normal	SO	308925004	Tc-99	-0.303	pCi/g	1.33		0.387	U	0.387	1	LSCGREEN	7067404	0.645	1.5	0.974	1.25	0.2	pCi/g
SL-008-A3	2011-10-05	Normal	SO	308925004	Ni-63	-0.196	pCi/g	0.786		0.233	U	0.233	1	LSCYELLOW	4140127	0.387	2	0.735	1.25	0.4	pCi/g
SL-008-A3	2011-10-05	Normal	SO	308925004	I-129	0.00417	pCi/g	0.204		0.0561	U	0.0561	1	XRAY2	1954119	0.0928	0.5		1.25	0.25	pCi/g
SL-008-A3	2011-10-05	Normal	SO	308925004	Cm-243/244	0.00188	pCi/g	0.0203		0.00565	U	0.00565	1	1212	87900	0.00759	0.08	0.93	1.25	0.2	pCi/g
SL-008-A3	2011-10-05	Normal	SO	308925004	U-238	0.789	pCi/g	0.0518		0.0685		0.0864	1	1121	75545	0.0196	0.25	0.849	1.25	0.2	pCi/g
SL-009-A3	2011-10-05	Normal	SO	308925005	Th-229	0.0514	pCi/g	0.0906		0.0296		0.0297	1	1030	33447	0.0375	0.25	0.896	1.25	0.2	pCi/g
SL-009-A3	2011-10-05	Normal	SO	308925005	Ag-108m	-0.000114	pCi/g	0.0141		0.00491	U	0.00491	1	GAM27	04099570	0.00686	0.0085				pCi/g
SL-009-A3	2011-10-05	Normal	SO	308925005	Pu-239/240	0.00315	pCi/g	0.0146		0.00445	U	0.00446	1	1085	78776	0.00518	0.08	0.833	1.25	0.2	pCi/g
SL-009-A3	2011-10-05	Normal	SO	308925005	Ac-227	0.00813	pCi/g	0.188		0.0574	U	0.0575	1	GAM27	04099570	0.0925	0.15				pCi/g
SL-009-A3	2011-10-05	Normal	SO	308925005	Pb-212	1.36	pCi/g	0.0312		0.0631		0.0773	1	GAM27	04099570	0.0154	0.02				pCi/g
SL-009-A3	2011-10-05	Normal	SO	308925005	Pa-231	0.473	pCi/g	0.789		0.257	J	0.28	1	GAM27	04099570	0.388	0.45				pCi/g
SL-009-A3	2011-10-05	Normal	SO	308925005	Co-60	0.00933	pCi/g	0.0176		0.00489	J	0.00535	1	GAM27	04099570	0.0085	0.0085				pCi/g
SL-009-A3	2011-10-05	Normal	SO	308925005	Ni-59	0.563	pCi/g	1.71		0.471	U	0.489	1	XRAY3	3984452	0.807	4	0.812	1.25	0.4	pCi/g
SL-009-A3	2011-10-05	Normal	SO	308925005	Am-243	0.00337	pCi/g	0.0124		0.00412	U	0.00413	1	1213	87901	0.00392	0.08	0.733	1.25	0.2	pCi/g
SL-009-A3	2011-10-05	Normal	SO	308925005	Bi-212	0.819	pCi/g	0.128		0.0779		0.0824	1	GAM27	04099570	0.0623	0.075				pCi/g
SL-009-A3	2011-10-05	Normal	SO	308925005	H-3	1.23	pCi/g	5.71	1.24	1.66	U	1.66	1	LSCORANGE	DG06095168	2.64	10				pCi/g
SL-009-A3	2011-10-05	Normal	SO	308925005	Pu-238	-0.00315	pCi/g	0.017		0.00386	U	0.00386	1	1085	78776	0.00635	0.08	0.833	1.25	0.2	pCi/g
SL-009-A3	2011-10-05	Normal	SO	308925005	Tm-171	-7.24	pCi/g	11.1		3.75	U	4.11	1	GAM27	04099570	5.51	9				pCi/g
SL-009-A3	2011-10-05	Normal	SO	308925005	Sn-126	-0.000662	pCi/g	0.0165		0.005	U	0.00501	1	GAM27	04099570	0.00803	0.01				pCi/g
SL-009-A3	2011-10-05	Normal	SO	308925005	Th-232	0.851	pCi/g	0.0611		0.0713		0.0812	1	1030	33447	0.0229	0.25	0.896	1.25	0.2	pCi/g
SL-009-A3	2011-10-05	Normal	SO	308925005	Pm-147	-1.4	pCi/g	7.5		2.16	U	2.16	1	LSCGOLD	7070506	3.61	10	0.8	1.25	0.4	pCi/g
SL-009-A3	2011-10-05	Normal	SO	308925005	Th-230	0.848	pCi/g	0.0613		0.0713		0.0812	1	1030	33447	0.0229	0.25	0.896	1.25	0.2	pCi/g
SL-009-A3	2011-10-05	Normal	SO	308925005	Ac-228	1.13	pCi/g	0.088		0.046		0.0592	1	GAM27	04099570	0.0426	0.05				pCi/g
SL-009-A3	2011-10-05	Normal	SO	308925005	Th-228	1.14	pCi/g	0.106		0.0865		0.102	1	1030	33447	0.045	0.25	0.896	1.25	0.2	pCi/g
SL-009-A3	2011-10-05	Normal	SO	308925005	Pb-214	1.31	pCi/g	0.0317		0.0415		0.0599	1	GAM27	04099570	0.0156	0.02				pCi/g
SL-009-A3	2011-10-05	Normal	SO	308925005	Th-234	2.21	pCi/g	0.27		0.148		0.165	1	GAM27	04099570	0.0952	0.2				pCi/g
SL-009-A3	2011-10-05	Normal	SO	308925005	Sr-90	0.0301	pCi/g	0.213		0.0599	U	0.0599	1	PIC2D	10752	0.127	0.5	0.762	1.25	0.4	pCi/g
SL-009-A3	2011-10-05	Normal	SO	308925005	Sb-125	-0.0214	pCi/g	0.0419		0.0127	U	0.0136	1	GAM27	04099570	0.0205	0.03				pCi/g
SL-009-A3	2011-10-05	Normal	SO	308925005	Tl-208	0.403	pCi/g	0.0163		0.019		0.0232	1	GAM27	04099570	0.00797	0.01				pCi/g
SL-009-A3	2011-10-05	Normal	SO	308925005	Am-241	0.0098	pCi/g	0.00664		0.006		0.00603	1	1213	87901	0	0.08	0.733	1.25	0.2	pCi/g
SL-009-A3	2011-10-05	Normal	SO	308925005	Tc-99	0.242	pCi/g	1.36		0.405	U	0.405	1	LSCGREEN	7067404	0.659	1.5	0.962	1.25	0.2	pCi/g
SL-009-A3	2011-10-05	Normal	SO	308925005	K-40	20.3	pCi/g	0.126		0.872		1.1	1	GAM27	04099570	0.06	0.085				pCi/g
SL-009-A3	2011-10-05	Normal	SO	308925005	Cf-249	0.0396	pCi/g	0.0839		0.0315	U	0.0328	1	GAM27	04099570	0.0412	0.05				pCi/g
SL-009-A3	2011-10-05	Normal	SO	308925005	C-14	0.173	pCi/g	0.674	12.3	0.203	U	0.203	1	LSCYELLOW	4140127	0.33	1				pCi/g
SL-009-A3	2011-10-05	Normal	SO	308925005	Np-239	-0.0181	pCi/g	0.127		0.0388	U	0.0391	1	GAM27	04099570	0.0626	0.075				pCi/g
SL-009-A3	2011-10-05	Normal	SO	308925005	Na-22	-0.0118	pCi/g	0.019		0.00595	UJ	0.00656	1	GAM27	04099570	0.00918	0.0085				pCi/g
SL-009-A3	2011-10-05	Normal	SO	308925005	Eu-154	0.000361	pCi/g	0.0947		0.0326	U	0.0326	1	GAM27	04099570	0.0459	0.045				pCi/g

USEPA Radionuclide Master Database Table - Phase 3 Area III Sediment Drainage Samples

Location Name	Date Collected	Sample Type	Matrix	Lab Sample ID	Analyte ID	Activity	Rpt Units	MDC	Gross CPM	Count Uncertainity	Lab Flag	Total Propagated Uncertainty	Sigma Value	Instrument ID	Detector ID	Critical Level Ref	Required MDC Ref	Chem Yield	Chem Yield Upper Limit	Chemical Yield Lower Limit	Chemical Yield Units
SL-009-A3	2011-10-05	Normal	SO	308925005	I-129	-0.0159	pCi/g	0.153		0.0414	U	0.0415	1	XRAY5	488926	0.0604	0.5		1.25	0.25	pCi/g
SL-009-A3	2011-10-05	Normal	SO	308925005	Eu-152	-0.0159	pCi/g	0.0454		0.0165	U	0.0169	1	GAM27	04099570	0.0223	0.03				pCi/g
SL-009-A3	2011-10-05	Normal	SO	308925005	U-235/236	0.0406	pCi/g	0.131		0.0403	UJ	0.0404	1	1122	75546	0.0514	0.25	0.435	1.25	0.2	pCi/g
SL-009-A3	2011-10-05	Normal	SO	308925005	Np-236	0.00833	pCi/g	0.0356		0.0105	U	0.0107	1	GAM27	04099570	0.0176	0.025				pCi/g
SL-009-A3	2011-10-05	Normal	SO	308925005	Eu-155	0.0578	pCi/g	0.0661		0.0194	J	0.0236	1	GAM27	04099570	0.0327	0.04				pCi/g
SL-009-A3	2011-10-05	Normal	SO	308925005	Ho-166m	-0.00697	pCi/g	0.025		0.00769	U	0.00786	1	GAM27	04099570	0.0121	0.02				pCi/g
SL-009-A3	2011-10-05	Normal	SO	308925005	Cm-243/244	0.0172	pCi/g	0.00667		0.00738		0.00744	1	1213	87901	0	0.08	0.733	1.25	0.2	pCi/g
SL-009-A3	2011-10-05	Normal	SO	308925005	U-238	1.29	pCi/g	0.0671		0.118		0.152	1	1122	75546	0.0208	0.25	0.435	1.25	0.2	pCi/g
SL-009-A3	2011-10-05	Normal	SO	308925005	Nb-94	0.00178	pCi/g	0.0148		0.00447	U	0.00449	1	GAM27	04099570	0.00723	0.0095				pCi/g
SL-009-A3	2011-10-05	Normal	SO	308925005	Cd-113m	22.3	pCi/g	127		40.1	U	40.4	1	GAM27	04099570	62.5	35				pCi/g
SL-009-A3	2011-10-05	Normal	SO	308925005	Y-90	0.0301	pCi/g	0.213		0.0599	U	0.0599	1	PIC2D	10752	0.127	0.5	0.762	1.25	0.4	pCi/g
SL-009-A3	2011-10-05	Normal	SO	308925005	Bi-214	1.16	pCi/g	0.0287		0.0375		0.0536	1	GAM27	04099570	0.014	0.02				pCi/g
SL-009-A3	2011-10-05	Normal	SO	308925005	Ba-133	0.0037	pCi/g	0.0193		0.00644	U	0.0065	1	GAM27	04099570	0.00945	0.015				pCi/g
SL-009-A3	2011-10-05	Normal	SO	308925005	Cs-137	0.134	pCi/g	0.0175		0.0103		0.0112	1	GAM27	04099570	0.00852	0.01				pCi/g
SL-009-A3	2011-10-05	Normal	SO	308925005	Ni-63	-0.0912	pCi/g	1.02		0.303	U	0.303	1	LSCYELLOW	4140127	0.501	2	0.747	1.25	0.4	pCi/g
SL-009-A3	2011-10-05	Normal	SO	308925005	Cs-134	0.00149	pCi/g	0.0144		0.00499	U	0.005	1	GAM27	04099570	0.00704	0.0085				pCi/g
SL-009-A3	2011-10-05	Normal	SO	308925005	U-233/234	1.55	pCi/g	0.157		0.134		0.178	1	1122	75546	0.0685	0.25	0.435	1.25	0.2	pCi/g
SL-010-A3	2011-10-05	Normal	SO	308925006	U-233/234	0.687	pCi/g	0.092		0.0625		0.0775	1	1007	50-066Z1	0.0423	0.25	0.846	1.25	0.2	pCi/g
SL-010-A3	2011-10-05	Normal	SO	308925006	Ac-228	1.11	pCi/g	0.0856		0.0444		0.0575	1	GAM28	9624	0.0414	0.05				pCi/g
SL-010-A3	2011-10-05	Normal	SO	308925006	Ni-59	-0.0204	pCi/g	0.749		0.186	U	0.186	1	XRAY6	10902649	0.323	4	0.749	1.25	0.4	pCi/g
SL-010-A3	2011-10-05	Normal	SO	308925006	Cd-113m	-4.48	pCi/g	116		34.3	U	34.3	1	GAM28	9624	56.9	35				pCi/g
SL-010-A3	2011-10-05	Normal	SO	308925006	Th-230	0.716	pCi/g	0.0682		0.0662		0.0738	1	1033	83293	0.0264	0.25	0.982	1.25	0.2	pCi/g
SL-010-A3	2011-10-05	Normal	SO	308925006	Eu-154	-0.0505	pCi/g	0.0853		0.027	U	0.0294	1	GAM28	9624	0.0412	0.045				pCi/g
SL-010-A3	2011-10-05	Normal	SO	308925006	Am-241	0.0114	pCi/g	0.0062		0.00605		0.00609	1	1215	87903	0	0.08	0.84	1.25	0.2	pCi/g
SL-010-A3	2011-10-05	Normal	SO	308925006	Cs-137	0.0573	pCi/g	0.0147		0.00782		0.00804	1	GAM28	9624	0.00711	0.01				pCi/g
SL-010-A3	2011-10-05	Normal	SO	308925006	Np-239	0.0311	pCi/g	0.117		0.0342	U	0.035	1	GAM28	9624	0.0578	0.075				pCi/g
SL-010-A3	2011-10-05	Normal	SO	308925006	Th-229	0.0398	pCi/g	0.0903		0.0285		0.0285	1	1033	83293	0.0375	0.25	0.982	1.25	0.2	pCi/g
SL-010-A3	2011-10-05	Normal	SO	308925006	U-238	0.69	pCi/g	0.0434		0.0585		0.0739	1	1007	50-066Z1	0.0164	0.25	0.846	1.25	0.2	pCi/g
SL-010-A3	2011-10-05	Normal	SO	308925006	Np-236	-0.00809	pCi/g	0.0331		0.0102	U	0.0104	1	GAM28	9624	0.0164	0.025				pCi/g
SL-010-A3	2011-10-05	Normal	SO	308925006	U-235/236	0.0194	pCi/g	0.0378		0.0146		0.0146	1	1007	50-066Z1	0.0117	0.25	0.846	1.25	0.2	pCi/g
SL-010-A3	2011-10-05	Normal	SO	308925006	H-3	0.129	pCi/g	5.85	1.09	1.65	U	1.65	1	LSCORANGE	DG06095168	2.7	10				pCi/g
SL-010-A3	2011-10-05	Normal	SO	308925006	Bi-212	0.782	pCi/g	0.112		0.0736		0.078	1	GAM28	9624	0.0543	0.075				pCi/g
SL-010-A3	2011-10-05	Normal	SO	308925006	K-40	20.5	pCi/g	0.0963		0.884		1.11	1	GAM28	9624	0.0449	0.085				pCi/g
SL-010-A3	2011-10-05	Normal	SO	308925006	Ni-63	-0.347	pCi/g	0.789		0.233	U	0.233	1	LSCYELLOW	4140127	0.389	2	0.705	1.25	0.4	pCi/g
SL-010-A3	2011-10-05	Normal	SO	308925006	Nb-94	0.00648	pCi/g	0.0137		0.00392	U	0.0042	1	GAM28	9624	0.00665	0.0095				pCi/g
SL-010-A3	2011-10-05	Normal	SO	308925006	Th-228	0.91	pCi/g	0.0971		0.0775		0.0889	1	1033	83293	0.0406	0.25	0.982	1.25	0.2	pCi/g
SL-010-A3	2011-10-05	Normal	SO	308925006	Ac-227	0.00134	pCi/g	0.177		0.0523	U	0.0523	1	GAM28	9624	0.0872	0.15				pCi/g
SL-010-A3	2011-10-05	Normal	SO	308925006	Am-243	0.0107	pCi/g	0.0166		0.00618		0.00622	1	1215	87903	0.00587	0.08	0.84	1.25	0.2	pCi/g
SL-010-A3	2011-10-05	Normal	SO	308925006	Na-22	0.0013	pCi/g	0.0184		0.00536	UJ	0.00537	1	GAM28	9624	0.0089	0.0085				pCi/g
SL-010-A3	2011-10-05	Normal	SO	308925006	Pu-238	-0.00162	pCi/g	0.0194		0.00486	U	0.00486	1	1086	78198	0.00753	0.08	0.878	1.25	0.2	pCi/g
SL-010-A3	2011-10-05	Normal	SO	308925006	Cm-243/244	0.00459	pCi/g	0.0213		0.00649	U	0.0065	1	1215	87903	0.00755	0.08	0.84	1.25	0.2	pCi/g
SL-010-A3	2011-10-05	Normal	SO	308925006	Eu-152	-0.00672	pCi/g	0.0429		0.0134	U	0.0135	1	GAM28	9624	0.021	0.03				pCi/g
SL-010-A3	2011-10-05	Normal	SO	308925006	Sr-90	-0.0308	pCi/g	0.241		0.0632	U	0.0633	1	PIC3C	10753	0.144	0.5	0.614	1.25	0.4	pCi/g
SL-010-A3	2011-10-05	Normal	SO	308925006	Co-60	0.00482	pCi/g	0.0162		0.00461	U	0.00475	1	GAM28	9624	0.00779	0.0085				pCi/g
SL-010-A3	2011-10-05	Normal	SO	308925006	Ho-166m	0.00173	pCi/g	0.0235		0.00688	U	0.00689	1	GAM28	9624	0.0114	0.02				pCi/g
SL-010-A3	2011-10-05	Normal	SO	308925006	Tl-208	0.36	pCi/g	0.0145		0.0181		0.0216	1	GAM28	9624	0.00704	0.01				pCi/g
SL-010-A3	2011-10-05	Normal	SO	308925006	Th-232	0.866	pCi/g	0.0153		0.0705		0.0808	1	1033	83293	0	0.25	0.982	1.25	0.2	pCi/g
SL-010-A3	2011-10-05	Normal	SO	308925006	Sn-126	0.00758	pCi/g	0.0156		0.00448	U	0.00481	1	GAM28	9624	0.0076	0.01				pCi/g
SL-010-A3	2011-10-05	Normal	SO	308925006	Sb-125	0.0113	pCi/g	0.0391		0.0116	U	0.0119	1	GAM28	9624	0.0191	0.03				pCi/g
SL-010-A3	2011-10-05	Normal	SO	308925006	Tm-171	-0.0728	pCi/g	13.3		4.45	U	4.45	1	GAM28	9624	6.56	9				pCi/g
SL-010-A3	2011-10-05	Normal	SO	308925006	Ba-133	-0.00279	pCi/g	0.0175		0.00603	U	0.00607	1	GAM28	9624	0.00855	0.015				pCi/g
SL-010-A3	2011-10-05	Normal	SO	308925006	Pu-239/240	0.00647	pCi/g	0.0194		0.00605	U	0.00606	1	1086	78198	0.00753	0.08	0.878	1.25	0.2	pCi/g
SL-010-A3	2011-10-05	Normal	SO	308925006	Y-90	-0.0308	pCi/g	0.241		0.0632	U	0.0633	1	PIC3C	10753	0.144	0.5	0.614	1.25	0.4	pCi/g

Location Name	Date Collected	Sample Type	Matrix	Lab Sample ID	Analyte ID	Activity	Rpt Units	MDC	Gross CPM	Count Uncertainity	Lab Flag	Total Propagated Uncertainty	Sigma Value	Instrument ID	Detector ID	Critical Level Ref	Required MDC Ref	Chem Yield	Chem Yield Upper Limit	Chemical Yield Lower Limit	Chemical Yield Units
SL-010-A3	2011-10-05	Normal	SO	308925006	Bi-214	0.882	pCi/g	0.0259		0.0301		0.0419	1	GAM28	9624	0.0126	0.02				pCi/g
SL-010-A3	2011-10-05	Normal	SO	308925006	Tc-99	-0.524	pCi/g	1.37		0.397	U	0.397	1	LSCGREEN	7067404	0.668	1.5	0.981	1.25	0.2	pCi/g
SL-010-A3	2011-10-05	Normal	SO	308925006	Cf-249	0.0422	pCi/g	0.0745		0.0339	J	0.0353	1	GAM28	9624	0.0365	0.05				pCi/g
SL-010-A3	2011-10-05	Normal	SO	308925006	Pb-212	1.19	pCi/g	0.0295		0.0593		0.0712	1	GAM28	9624	0.0145	0.02				pCi/g
SL-010-A3	2011-10-05	Normal	SO	308925006	Cs-134	0.0221	pCi/g	0.0145		0.0063	J	0.00813	1	GAM28	9624	0.00708	0.0085				pCi/g
SL-010-A3	2011-10-05	Normal	SO	308925006	Eu-155	0.0653	pCi/g	0.0614		0.0257		0.0258	1	GAM28	9624	0.0303	0.04				pCi/g
SL-010-A3	2011-10-05	Normal	SO	308925006	Ag-108m	0.00224	pCi/g	0.0136		0.00394	U	0.00397	1	GAM28	9624	0.00663	0.0085				pCi/g
SL-010-A3	2011-10-05	Normal	SO	308925006	Th-234	1.1	pCi/g	0.281		0.125		0.13	1	GAM28	9624	0.0888	0.2				pCi/g
SL-010-A3	2011-10-05	Normal	SO	308925006	Pb-214	1.04	pCi/g	0.0296		0.0357		0.0496	1	GAM28	9624	0.0145	0.02				pCi/g
SL-010-A3	2011-10-05	Normal	SO	308925006	C-14	0.0726	pCi/g	0.679	12	0.203	U	0.203	1	LSCYELLOW	4140127	0.332	1				pCi/g
SL-010-A3	2011-10-05	Normal	SO	308925006	I-129	0.0383	pCi/g	0.208		0.0512	U	0.0519	1	XRAY5	488926	0.0881	0.5		1.25	0.25	pCi/g
SL-010-A3	2011-10-05	Normal	SO	308925006	Pa-231	-0.12	pCi/g	0.73		0.218	U	0.22	1	GAM28	9624	0.358	0.45				pCi/g
SL-010-A3	2011-10-05	Normal	SO	308925006	Pm-147	-1.72	pCi/g	6.29		1.79	U	1.79	1	LSCGOLD	7070506	3.02	10	0.867	1.25	0.4	pCi/g
SL-011-A3	2011-10-05	Normal	SO	308925016	Cs-134	0.0109	pCi/g	0.0131		0.00419	J	0.0049	1	GAM20	04069118	0.00637	0.0085				pCi/g
SL-011-A3	2011-10-05	Normal	SO	308925016	Th-232	0.76	pCi/g	0.056		0.0693		0.0778	1	1041	78205	0.0198	0.25	0.853	1.25	0.2	pCi/g
SL-011-A3	2011-10-05	Normal	SO	308925016	Tl-208	0.364	pCi/g	0.0136		0.0173		0.0211	1	GAM20	04069118	0.00662	0.01				pCi/g
SL-011-A3	2011-10-05	Normal	SO	308925016	Na-22	-0.0112	pCi/g	0.0166		0.00507	UJ	0.0057	1	GAM20	04069118	0.008	0.0085				pCi/g
SL-011-A3	2011-10-05	Normal	SO	308925016	Th-234	1.34	pCi/g	0.247		0.129		0.136	1	GAM20	04069118	0.0866	0.2				pCi/g
SL-011-A3	2011-10-05	Normal	SO	308925016	Pu-238	-0.00195	pCi/g	0.0144		0.00338	U	0.00338	1	1217	87905	0.00454	0.08	0.877	1.25	0.2	pCi/g
SL-011-A3	2011-10-05	Normal	SO	308925016	Eu-155	0.0687	pCi/g	0.0553		0.0228		0.023	1	GAM20	04069118	0.0273	0.04				pCi/g
SL-011-A3	2011-10-05	Normal	SO	308925016	Am-241	0.00548	pCi/g	0.00495		0.00408		0.0041	1	1227	87915	0	0.08	0.925	1.25	0.2	pCi/g
SL-011-A3	2011-10-05	Normal	SO	308925016	H-3	0.63	pCi/g	5.48	1.15	1.57	U	1.57	1	LSCORANGE	DG06095168	2.53	10				pCi/g
SL-011-A3	2011-10-05	Normal	SO	308925016	Y-90	-0.0365	pCi/g	0.18		0.044	U	0.044	1	PIC5C	0525768	0.104	0.5	0.688	1.25	0.4	pCi/g
SL-011-A3	2011-10-05	Normal	SO	308925016	I-129	0.0039	pCi/g	0.128		0.0358	U	0.0358	1	GAM21	03068173	0.0581	0.5		1.25	0.25	pCi/g
SL-011-A3	2011-10-05	Normal	SO	308925016	Ba-133	-0.000459	pCi/g	0.0165		0.00572	U	0.00572	1	GAM20	04069118	0.00805	0.015				pCi/g
SL-011-A3	2011-10-05	Normal	SO	308925016	Pu-239/240	0	pCi/g	0.0181		0.00478	U	0.00478	1	1217	87905	0.00641	0.08	0.877	1.25	0.2	pCi/g
SL-011-A3	2011-10-05	Normal	SO	308925016	Am-243	0	pCi/g	0.0226		0.00595	U	0.00595	1	1227	87915	0.00876	0.08	0.925	1.25	0.2	pCi/g
SL-011-A3	2011-10-05	Normal	SO	308925016	Sb-125	0.00671	pCi/g	0.04		0.0121	U	0.0122	1	GAM20	04069118	0.0195	0.03				pCi/g
SL-011-A3	2011-10-05	Normal	SO	308925016	Co-60	0.000121	pCi/g	0.0141		0.00407	U	0.00407	1	GAM20	04069118	0.00676	0.0085				pCi/g
SL-011-A3	2011-10-05	Normal	SO	308925016	Sn-126	-0.00389	pCi/g	0.0142		0.00424	U	0.00434	1	GAM20	04069118	0.00688	0.01				pCi/g
SL-011-A3	2011-10-05	Normal	SO	308925016	Cm-243/244	0.0128	pCi/g	0.017		0.00661		0.00665	1	1227	87915	0.00603	0.08	0.925	1.25	0.2	pCi/g
SL-011-A3	2011-10-05	Normal	SO	308925016	Np-239	0.0422	pCi/g	0.116		0.0344	U	0.0358	1	GAM20	04069118	0.0571	0.075				pCi/g
SL-011-A3	2011-10-05	Normal	SO	308925016	Cf-249	0.00439	pCi/g	0.073		0.0272	U	0.0272	1	GAM20	04069118	0.0358	0.05				pCi/g
SL-011-A3	2011-10-05	Normal	SO	308925016	Pa-231	0.106	pCi/g	0.715		0.214	U	0.216	1	GAM20	04069118	0.351	0.45				pCi/g
SL-011-A3	2011-10-05	Normal	SO	308925016	Cd-113m	-46.7	pCi/g	114		36	U	37.6	1	GAM20	04069118	55.9	35				pCi/g
SL-011-A3	2011-10-05	Normal	SO	308925016	Eu-152	0.00389	pCi/g	0.0422		0.0138	U	0.0138	1	GAM20	04069118	0.0207	0.03				pCi/g
SL-011-A3	2011-10-05	Normal	SO	308925016	Pb-214	1.01	pCi/g	0.0287		0.0378		0.0505	1	GAM20	04069118	0.014	0.02				pCi/g
SL-011-A3	2011-10-05	Normal	SO	308925016	K-40	18.6	pCi/g	0.109		0.801		1.01	1	GAM20	04069118	0.0513	0.085				pCi/g
SL-011-A3	2011-10-05	Normal	SO	308925016	Pm-147	-3.99	pCi/g	7.3		2.03	U	2.03	1	LSCGOLD	7070506	3.51	10	0.8	1.25	0.4	pCi/g
SL-011-A3	2011-10-05	Normal	SO	308925016	Ho-166m	-0.0102	pCi/g	0.0212		0.00643	U	0.00686	1	GAM20	04069118	0.0103	0.02				pCi/g
SL-011-A3	2011-10-05	Normal	SO	308925016	Ac-227	-0.00884	pCi/g	0.176		0.0528	U	0.0529	1	GAM20	04069118	0.0864	0.15				pCi/g
SL-011-A3	2011-10-05	Normal	SO	308925016	Ac-228	0.993	pCi/g	0.083		0.043		0.054	1	GAM20	04069118	0.0402	0.05				pCi/g
SL-011-A3	2011-10-05	Normal	SO	308925016	Tm-171	0.75	pCi/g	10		3.51	U	3.51	1	GAM20	04069118	4.97	9				pCi/g
SL-011-A3	2011-10-05	Normal	SO	308925016	Cs-137	0.0366	pCi/g	0.0138		0.00608		0.0062	1	GAM20	04069118	0.00669	0.01				pCi/g
SL-011-A3	2011-10-05	Normal	SO	308925016	Ag-108m	-0.00169	pCi/g	0.0128		0.00436	U	0.00438	1	GAM20	04069118	0.00623	0.0085				pCi/g
SL-011-A3	2011-10-05	Normal	SO	308925016	Np-236	-0.00242	pCi/g	0.0316		0.00999	U	0.01	1	GAM20	04069118	0.0156	0.025				pCi/g
SL-011-A3	2011-10-05	Normal	SO	308925016	Eu-154	-0.0656	pCi/g	0.0799		0.0258	UJ	0.0299	1	GAM20	04069118	0.0386	0.045				pCi/g
SL-011-A3	2011-10-05	Normal	SO	308925016	Ni-63	-0.177	pCi/g	0.752		0.223	U	0.223	1	LSCYELLOW	4140127	0.37	2	0.675	1.25	0.4	pCi/g
SL-011-A3	2011-10-05	Normal	SO	308925016	Ni-59	-0.331	pCi/g	0.672		0.19	U	0.205	1	XRAY6	10902649	0.277	4	0.664	1.25	0.4	pCi/g
SL-011-A3	2011-10-05	Normal	SO	308925016	Nb-94	0.0035	pCi/g	0.013		0.00378	U	0.00387	1	GAM20	04069118	0.00633	0.0095				pCi/g
SL-011-A3	2011-10-05	Normal	SO	308925016	Pb-212	1.2	pCi/g	0.0283		0.0658		0.0768	1	GAM20	04069118	0.0139	0.02				pCi/g
SL-011-A3	2011-10-05	Normal	SO	308925016	U-233/234	0.48	pCi/g	0.0591		0.0451		0.0549	1	1009	72528	0.026	0.25	0.937	1.25	0.2	pCi/g
SL-011-A3	2011-10-05	Normal	SO	308925016	Th-230	0.599	pCi/g	0.0651		0.0626		0.0685	1	1041	78205	0.0244	0.25	0.853	1.25	0.2	pCi/g

Location Name	Date Collected	Sample Type	Matrix	Lab Sample ID	Analyte ID	Activity	Rpt Units	MDC	Gross CPM	Count Uncertainity	Lab Flag	Total Propagated Uncertainty	Sigma Value	Instrument ID	Detector ID	Critical Level Ref	Required MDC Ref	Chem Yield	Chem Yield Upper Limit	Chemical Yield Lower Limit	Chemical Yield Units
SL-011-A3	2011-10-05	Normal	SO	308925016	Th-228	0.761	pCi/g	0.107		0.0747		0.0836	1	1041	78205	0.045	0.25	0.853	1.25	0.2	pCi/g
SL-011-A3	2011-10-05	Normal	SO	308925016	U-235/236	0.0349	pCi/g	0.0364		0.0157		0.0159	1	1009	72528	0.0129	0.25	0.937	1.25	0.2	pCi/g
SL-011-A3	2011-10-05	Normal	SO	308925016	Bi-214	0.912	pCi/g	0.0267		0.0314		0.0435	1	GAM20	04069118	0.013	0.02				pCi/g
SL-011-A3	2011-10-05	Normal	SO	308925016	Tc-99	-0.0188	pCi/g	1.05		0.31	U	0.31	1	LSCGREEN	7067404	0.511	1.5	0.957	1.25	0.2	pCi/g
SL-011-A3	2011-10-05	Normal	SO	308925016	Sr-90	-0.0365	pCi/g	0.18		0.044	U	0.044	1	PIC5C	0525768	0.104	0.5	0.688	1.25	0.4	pCi/g
SL-011-A3	2011-10-05	Normal	SO	308925016	C-14	-0.157	pCi/g	0.667	11.2	0.196	U	0.196	1	LSCYELLOW	4140127	0.326	1				pCi/g
SL-011-A3	2011-10-05	Normal	SO	308925016	Th-229	0.00606	pCi/g	0.0962		0.0264	U	0.0264	1	1041	78205	0.0399	0.25	0.853	1.25	0.2	pCi/g
SL-011-A3	2011-10-05	Normal	SO	308925016	U-238	0.549	pCi/g	0.0338		0.0461		0.0578	1	1009	72528	0.0128	0.25	0.937	1.25	0.2	pCi/g
SL-011-A3	2011-10-05	Normal	SO	308925016	Bi-212	0.693	pCi/g	0.101		0.0591		0.0634	1	GAM20	04069118	0.049	0.075				pCi/g
SL-012-A3	2011-10-05	Normal	SO	308925017	Th-229	0.0222	pCi/g	0.0599		0.0193	U	0.0193	1	1044	80060	0.0224	0.25	0.864	1.25	0.2	pCi/g
SL-012-A3	2011-10-05	Normal	SO	308925017	Eu-154	-0.0365	pCi/g	0.0759		0.023	U	0.0246	1	GAM29	9639	0.0366	0.045				pCi/g
SL-012-A3	2011-10-05	Normal	SO	308925017	Ac-227	-0.0422	pCi/g	0.158		0.0467	U	0.0477	1	GAM29	9639	0.0778	0.15				pCi/g
SL-012-A3	2011-10-05	Normal	SO	308925017	C-14	-0.155	pCi/g	0.699	11.9	0.206	U	0.206	1	LSCYELLOW	4140127	0.342	1				pCi/g
SL-012-A3	2011-10-05	Normal	SO	308925017	Pm-147	-0.46	pCi/g	6.38		1.85	U	1.85	1	LSCGOLD	7070506	3.07	10	0.964	1.25	0.4	pCi/g
SL-012-A3	2011-10-05	Normal	SO	308925017	I-129	0.0714	pCi/g	0.191		0.0397	U	0.0429	1	XRAY5	488926	0.0796	0.5		1.25	0.25	pCi/g
SL-012-A3	2011-10-05	Normal	SO	308925017	Pb-214	0.948	pCi/g	0.0281		0.0314		0.0443	1	GAM29	9639	0.0137	0.02				pCi/g
SL-012-A3	2011-10-05	Normal	SO	308925017	Eu-152	-0.0109	pCi/g	0.0394		0.0127	U	0.013	1	GAM29	9639	0.0193	0.03				pCi/g
SL-012-A3	2011-10-05	Normal	SO	308925017	Na-22	-0.00841	pCi/g	0.0161		0.00552	UJ	0.00586	1	GAM29	9639	0.00776	0.0085				pCi/g
SL-012-A3	2011-10-05	Normal	SO	308925017	Th-230	0.666	pCi/g	0.0515		0.0623		0.0693	1	1044	80060	0.0182	0.25	0.864	1.25	0.2	pCi/g
SL-012-A3	2011-10-05	Normal	SO	308925017	Ho-166m	0.00585	pCi/g	0.0222		0.00663	U	0.00677	1	GAM29	9639	0.0108	0.02				pCi/g
SL-012-A3	2011-10-05	Normal	SO	308925017	U-233/234	0.62	pCi/g	0.0741		0.0578		0.0711	1	1010	72529	0.0326	0.25	0.864	1.25	0.2	pCi/g
SL-012-A3	2011-10-05	Normal	SO	308925017	U-235/236	0.0252	pCi/g	0.0376		0.0156		0.0157	1	1010	72529	0.0116	0.25	0.864	1.25	0.2	pCi/g
SL-012-A3	2011-10-05	Normal	SO	308925017	K-40	19.2	pCi/g	0.106		0.822		1.04	1	GAM29	9639	0.05	0.085				pCi/g
SL-012-A3	2011-10-05	Normal	SO	308925017	Nb-94	0.00167	pCi/g	0.0127		0.00382	U	0.00384	1	GAM29	9639	0.00615	0.0095				pCi/g
SL-012-A3	2011-10-05	Normal	SO	308925017	Ni-59	0.0394	pCi/g	1.87		0.532	U	0.532	1	XRAY3	3984452	0.878	4	0.682	1.25	0.4	pCi/g
SL-012-A3	2011-10-05	Normal	SO	308925017	Th-228	1.07	pCi/g	0.0849		0.0816		0.0963	1	1044	80060	0.0347	0.25	0.864	1.25	0.2	pCi/g
SL-012-A3	2011-10-05	Normal	SO	308925017	Ni-63	-0.509	pCi/g	0.915		0.266	U	0.266	1	LSCYELLOW	4140127	0.448	2	0.713	1.25	0.4	pCi/g
SL-012-A3	2011-10-05	Normal	SO	308925017	Eu-155	0.0709	pCi/g	0.0602		0.0225		0.0226	1	GAM29	9639	0.0297	0.04				pCi/g
SL-012-A3	2011-10-05	Normal	SO	308925017	Am-241	0.00543	pCi/g	0.0049		0.00405		0.00406	1	1228	87916	0	0.08	0.966	1.25	0.2	pCi/g
SL-012-A3	2011-10-05	Normal	SO	308925017	Pb-212	1.2	pCi/g	0.0273		0.0541		0.067	1	GAM29	9639	0.0134	0.02				pCi/g
SL-012-A3	2011-10-05	Normal	SO	308925017	Np-236	-0.00754	pCi/g	0.0329		0.0101	U	0.0103	1	GAM29	9639	0.0162	0.025				pCi/g
SL-012-A3	2011-10-05	Normal	SO	308925017	Ag-108m	0.00453	pCi/g	0.0127		0.00428	U	0.0044	1	GAM29	9639	0.00618	0.0085				pCi/g
SL-012-A3	2011-10-05	Normal	SO	308925017	Cs-137	0.0166	pCi/g	0.0138		0.00486		0.00489	1	GAM29	9639	0.00672	0.01				pCi/g
SL-012-A3	2011-10-05	Normal	SO	308925017	H-3	-0.752	pCi/g	5.64	0.977	1.54	U	1.54	1	LSCORANGE	DG06095168	2.6	10				pCi/g
SL-012-A3	2011-10-05	Normal	SO	308925017	Tm-171	-6.11	pCi/g	12.5		4.29	U	4.51	1	GAM29	9639	6.2	9				pCi/g
SL-012-A3	2011-10-05	Normal	SO	308925017	Th-232	1.01	pCi/g	0.0407		0.0756		0.0887	1	1044	80060	0.0129	0.25	0.864	1.25	0.2	pCi/g
SL-012-A3	2011-10-05	Normal	SO	308925017	Ac-228	1.08	pCi/g	0.0745		0.0453		0.0576	1	GAM29	9639	0.0359	0.05				pCi/g
SL-012-A3	2011-10-05	Normal	SO	308925017	Tc-99	0.616	pCi/g	1.34		0.406	U	0.408	1	LSCGREEN	7067404	0.651	1.5	0.986	1.25	0.2	pCi/g
SL-012-A3	2011-10-05	Normal	SO	308925017	U-238	0.518	pCi/g	0.0557		0.0517		0.0618	1	1010	72529	0.0231	0.25	0.864	1.25	0.2	pCi/g
SL-012-A3	2011-10-05	Normal	SO	308925017	Co-60	-0.00116	pCi/g	0.014		0.00415	U	0.00415	1	GAM29	9639	0.00668	0.0085				pCi/g
SL-012-A3	2011-10-05	Normal	SO	308925017	Bi-212	0.764	pCi/g	0.11		0.0619		0.0668	1	GAM29	9639	0.0534	0.075				pCi/g
SL-012-A3	2011-10-05	Normal	SO	308925017	Sb-125	0.00905	pCi/g	0.0366		0.0107	U	0.0109	1	GAM29	9639	0.0179	0.03				pCi/g
SL-012-A3	2011-10-05	Normal	SO	308925017	Y-90	0.0292	pCi/g	0.177		0.0493	U	0.0494	1	PIC5D	0525768	0.103	0.5	0.602	1.25	0.4	pCi/g
SL-012-A3	2011-10-05	Normal	SO	308925017	Cm-243/244	0.00182	pCi/g	0.00492		0.00315		0.00315	1	1228	87916	0	0.08	0.966	1.25	0.2	pCi/g
SL-012-A3	2011-10-05	Normal	SO	308925017	Cs-134	0.00274	pCi/g	0.0122		0.00413	U	0.00418	1	GAM29	9639	0.00592	0.0085				pCi/g
SL-012-A3	2011-10-05	Normal	SO	308925017	Sr-90	0.0292	pCi/g	0.177		0.0493	U	0.0494	1	PIC5D	0525768	0.103	0.5	0.602	1.25	0.4	pCi/g
SL-012-A3	2011-10-05	Normal	SO	308925017	Np-239	-0.00864	pCi/g	0.109		0.0319	U	0.032	1	GAM29	9639	0.0539	0.075				pCi/g
SL-012-A3	2011-10-05	Normal	SO	308925017	Tl-208	0.37	pCi/g	0.0135		0.0173		0.0211	1	GAM29	9639	0.00656	0.01				pCi/g
SL-012-A3	2011-10-05	Normal	SO	308925017	Am-243	0.0129	pCi/g	0.0106		0.00517		0.00522	1	1228	87916	0.00334	0.08	0.966	1.25	0.2	pCi/g
SL-012-A3	2011-10-05	Normal	SO	308925017	Sn-126	0.00187	pCi/g	0.0141		0.00422	U	0.00425	1	GAM29	9639	0.00682	0.01				pCi/g
SL-012-A3	2011-10-05	Normal	SO	308925017	Bi-214	0.856	pCi/g	0.0252		0.0295		0.0408	1	GAM29	9639	0.0122	0.02				pCi/g
SL-012-A3	2011-10-05	Normal	SO	308925017	Ba-133	0.00531	pCi/g	0.0166		0.00547	U	0.00561	1	GAM29	9639	0.00811	0.015				pCi/g
SL-012-A3	2011-10-05	Normal	SO	308925017	Cd-113m	-33	pCi/g	104		31.7	U	32.6	1	GAM29	9639	50.9	35				pCi/g

Location Name	Date Collected	Sample Type	Matrix	Lab Sample ID	Analyte ID	Activity	Rpt Units	MDC	Gross CPM	Count Uncertainity	Lab Flag	Total Propagated Uncertainty	Sigma Value	Instrument ID	Detector ID	Critical Level Ref	Required MDC Ref	Chem Yield	Chem Yield Upper Limit	Chemical Yield Lower Limit	Chemical Yield Units
SL-012-A3	2011-10-05	Normal	SO	308925017	Pa-231	0.103	pCi/g	0.668		0.201	U	0.202	1	GAM29	9639	0.328	0.45				pCi/g
SL-012-A3	2011-10-05	Normal	SO	308925017	Pu-238	0.002	pCi/g	0.0147		0.00447	U	0.00447	1	1218	87906	0.00465	0.08	0.856	1.25	0.2	pCi/g
SL-012-A3	2011-10-05	Normal	SO	308925017	Cf-249	-0.00993	pCi/g	0.069		0.025	U	0.0251	1	GAM29	9639	0.0338	0.05				pCi/g
SL-012-A3	2011-10-05	Normal	SO	308925017	Th-234	1.02	pCi/g	0.27		0.121		0.126	1	GAM29	9639	0.0835	0.2				pCi/g
SL-012-A3	2011-10-05	Normal	SO	308925017	Pu-239/240	0	pCi/g	0.0185		0.00489	U	0.00489	1	1218	87906	0.00657	0.08	0.856	1.25	0.2	pCi/g
SL-013-A3	2011-10-05	Normal	SO	308925018	Nb-94	0.00435	pCi/g	0.0136		0.00385	U	0.00398	1	GAM30	6953489	0.00659	0.0095				pCi/g
SL-013-A3	2011-10-05	Normal	SO	308925018	Cs-134	-0.00148	pCi/g	0.0133		0.00464	U	0.00465	1	GAM30	6953489	0.00643	0.0085				pCi/g
SL-013-A3	2011-10-05	Normal	SO	308925018	Ni-63	-0.354	pCi/g	0.752		0.222	U	0.222	1	LSCYELLOW	4140127	0.37	2	0.653	1.25	0.4	pCi/g
SL-013-A3	2011-10-05	Normal	SO	308925018	Ni-59	-0.288	pCi/g	2.06		0.6	U	0.603	1	XRAY3	3984452	0.968	4	0.65	1.25	0.4	pCi/g
SL-013-A3	2011-10-05	Normal	SO	308925018	Pu-239/240	0.00783	pCi/g	0.0144		0.00554		0.00555	1	1219	87907	0.00455	0.08	0.857	1.25	0.2	pCi/g
SL-013-A3	2011-10-05	Normal	SO	308925018	Am-243	-0.00232	pCi/g	0.0215		0.00519	U	0.00519	1	1229	87917	0.00763	0.08	0.892	1.25	0.2	pCi/g
SL-013-A3	2011-10-05	Normal	SO	308925018	K-40	19.6	pCi/g	0.105		0.847		1.07	1	GAM30	6953489	0.0491	0.085				pCi/g
SL-013-A3	2011-10-05	Normal	SO	308925018	Ba-133	-0.011	pCi/g	0.0168		0.00589	U	0.00642	1	GAM30	6953489	0.00819	0.015				pCi/g
SL-013-A3	2011-10-05	Normal	SO	308925018	U-233/234	0.624	pCi/g	0.109		0.0656		0.0783	1	1012	80054	0.0506	0.25	0.733	1.25	0.2	pCi/g
SL-013-A3	2011-10-05	Normal	SO	308925018	Sb-125	-0.00722	pCi/g	0.0387		0.0116	U	0.0117	1	GAM30	6953489	0.0188	0.03				pCi/g
SL-013-A3	2011-10-05	Normal	SO	308925018	Co-60	-0.00177	pCi/g	0.0147		0.0044	U	0.00442	1	GAM30	6953489	0.00699	0.0085				pCi/g
SL-013-A3	2011-10-05	Normal	SO	308925018	Pu-238	0.00196	pCi/g	0.0144		0.00438	U	0.00438	1	1219	87907	0.00456	0.08	0.857	1.25	0.2	pCi/g
SL-013-A3	2011-10-05	Normal	SO	308925018	Th-228	1.16	pCi/g	0.0779		0.0826		0.0988	1	1045	78783	0.0314	0.25	0.919	1.25	0.2	pCi/g
SL-013-A3	2011-10-05	Normal	SO	308925018	Ac-227	0.0388	pCi/g	0.171		0.0494	U	0.0503	1	GAM30	6953489	0.0837	0.15				pCi/g
SL-013-A3	2011-10-05	Normal	SO	308925018	Pb-212	1.21	pCi/g	0.0288		0.0558		0.0686	1	GAM30	6953489	0.0142	0.02				pCi/g
SL-013-A3	2011-10-05	Normal	SO	308925018	Cd-113m	32.3	pCi/g	114		32.9	U	33.7	1	GAM30	6953489	55.7	35				pCi/g
SL-013-A3	2011-10-05	Normal	SO	308925018	Pa-231	0.0319	pCi/g	0.712		0.215	U	0.215	1	GAM30	6953489	0.349	0.45				pCi/g
SL-013-A3	2011-10-05	Normal	SO	308925018	Bi-214	0.862	pCi/g	0.0267		0.0304		0.0416	1	GAM30	6953489	0.013	0.02				pCi/g
SL-013-A3	2011-10-05	Normal	SO	308925018	I-129	0.0198	pCi/g	0.144		0.0401	U	0.0403	1	GAM21	03068173	0.0664	0.5		1.25	0.25	pCi/g
SL-013-A3	2011-10-05	Normal	SO	308925018	Cf-249	0.0205	pCi/g	0.074		0.0289	U	0.0293	1	GAM30	6953489	0.0362	0.05				pCi/g
SL-013-A3	2011-10-05	Normal	SO	308925018	Pm-147	0.145	pCi/g	6.21		1.82	U	1.82	1	LSCGOLD	7070506	2.99	10	0.972	1.25	0.4	pCi/g
SL-013-A3	2011-10-05	Normal	SO	308925018	Ho-166m	-0.013	pCi/g	0.0218		0.00654	U	0.0072	1	GAM30	6953489	0.0105	0.02				pCi/g
SL-013-A3	2011-10-05	Normal	SO	308925018	Eu-152	-0.00953	pCi/g	0.041		0.0127	U	0.0128	1	GAM30	6953489	0.02	0.03				pCi/g
SL-013-A3	2011-10-05	Normal	SO	308925018	C-14	-0.288	pCi/g	0.677	10.7	0.197	U	0.197	1	LSCYELLOW	4140127	0.331	1				pCi/g
SL-013-A3	2011-10-05	Normal	SO	308925018	Np-236	-0.00514	pCi/g	0.0321		0.00981	U	0.00988	1	GAM30	6953489	0.0158	0.025				pCi/g
SL-013-A3	2011-10-05	Normal	SO	308925018	Eu-154	-0.0277	pCi/g	0.0886		0.0267	U	0.0274	1	GAM30	6953489	0.0427	0.045				pCi/g
SL-013-A3	2011-10-05	Normal	SO	308925018	Th-229	0.0376	pCi/g	0.0645		0.0221		0.0222	1	1045	78783	0.025	0.25	0.919	1.25	0.2	pCi/g
SL-013-A3	2011-10-05	Normal	SO	308925018	Cm-243/244	0.00582	pCi/g	0.0209		0.00643	U	0.00644	1	1229	87917	0.00781	0.08	0.892	1.25	0.2	pCi/g
SL-013-A3	2011-10-05	Normal	SO	308925018	Th-230	0.863	pCi/g	0.0395		0.0688		0.0791	1	1045	78783	0.0125	0.25	0.919	1.25	0.2	pCi/g
SL-013-A3	2011-10-05	Normal	SO	308925018	Sn-126	0.00173	pCi/g	0.0148		0.00424	U	0.00426	1	GAM30	6953489	0.00718	0.01				pCi/g
SL-013-A3	2011-10-05	Normal	SO	308925018	Pb-214	0.956	pCi/g	0.029		0.0325		0.0453	1	GAM30	6953489	0.0142	0.02				pCi/g
SL-013-A3	2011-10-05	Normal	SO	308925018	Bi-212	0.808	pCi/g	0.107		0.0593		0.065	1	GAM30	6953489	0.0519	0.075				pCi/g
SL-013-A3	2011-10-05	Normal	SO	308925018	Ag-108m	0.00551	pCi/g	0.0133		0.00446	U	0.00464	1	GAM30	6953489	0.00646	0.0085				pCi/g
SL-013-A3	2011-10-05	Normal	SO	308925018	Np-239	0.037	pCi/g	0.115		0.0332	U	0.0343	1	GAM30	6953489	0.0566	0.075				pCi/g
SL-013-A3	2011-10-05	Normal	SO	308925018	Th-232	1.2	pCi/g	0.0496		0.081		0.0973	1	1045	78783	0.0176	0.25	0.919	1.25	0.2	pCi/g
SL-013-A3	2011-10-05	Normal	SO	308925018	Tc-99	0.251	pCi/g	1.35		0.402	U	0.402	1	LSCGREEN	7067404	0.654	1.5	0.95	1.25	0.2	pCi/g
SL-013-A3	2011-10-05	Normal	SO	308925018	Am-241	0.0135	pCi/g	0.00524		0.0058		0.00585	1	1229	87917	0	0.08	0.892	1.25	0.2	pCi/g
SL-013-A3	2011-10-05	Normal	SO	308925018	Cs-137	0.0373	pCi/g	0.0155		0.00774		0.00784	1	GAM30	6953489	0.00752	0.01				pCi/g
SL-013-A3	2011-10-05	Normal	SO	308925018	Na-22	-0.0031	pCi/g	0.0175		0.0053	UJ	0.00534	1	GAM30	6953489	0.00843	0.0085				pCi/g
SL-013-A3	2011-10-05	Normal	SO	308925018	Eu-155	0.089	pCi/g	0.0586		0.0246		0.0247	1	GAM30	6953489	0.0289	0.04				pCi/g
SL-013-A3	2011-10-05	Normal	SO	308925018	Ac-228	1.07	pCi/g	0.083		0.0416		0.0546	1	GAM30	6953489	0.04	0.05				pCi/g
SL-013-A3	2011-10-05	Normal	SO	308925018	Tm-171	0.595	pCi/g	11.4		3.82	U	3.82	1	GAM30	6953489	5.63	9				pCi/g
SL-013-A3	2011-10-05	Normal	SO	308925018	H-3	-0.382	pCi/g	5.81	0.999	1.61	U	1.61	1	LSCORANGE	DG06095168	2.68	10				pCi/g
SL-013-A3	2011-10-05	Normal	SO	308925018	Y-90	0.04	pCi/g	0.314		0.0896	U	0.0897	1	PIC6D	0525767	0.192	0.5	0.663	1.25	0.4	pCi/g
SL-013-A3	2011-10-05	Normal	SO	308925018	Sr-90	0.04	pCi/g	0.314		0.0896	U	0.0897	1	PIC6D	0525767	0.192	0.5	0.663	1.25	0.4	pCi/g
SL-013-A3	2011-10-05	Normal	SO	308925018	Th-234	1.4	pCi/g	0.259		0.14		0.147	1	GAM30	6953489	0.349	0.2				pCi/g
SL-013-A3	2011-10-05	Normal	SO	308925018	U-235/236	0.0564	pCi/g	0.0434		0.0226		0.0229	1	1012	80054	0.0134	0.25	0.733	1.25	0.2	pCi/g
SL-013-A3	2011-10-05	Normal	SO	308925018	U-238	0.613	pCi/g	0.0848		0.0622		0.0746	1	1012	80054	0.0377	0.25	0.733	1.25	0.2	pCi/g

Location Name	Date Collected	Sample Type	Matrix	Lab Sample ID	Analyte ID	Activity	Rpt Units	MDC	Gross CPM	Count Uncertainity	Lab Flag	Total Propagated Uncertainty	Sigma Value	Instrument ID	Detector ID	Critical Level Ref	Required MDC Ref	Chem Yield	Chem Yield Upper Limit	Chemical Yield Lower Limit	Chemical Yield Units
SL-013-A3	2011-10-05	Normal	SO	308925018	Tl-208	0.371	pCi/g	0.0155		0.0182		0.0219	1	GAM30	6953489	0.00752	0.01				pCi/g
SL-014-A3	2011-10-05	Normal	SO	308925015	Bi-212	0.844	pCi/g	0.121		0.0751		0.0801	1	GAM28	9624	0.0585	0.075				pCi/g
SL-014-A3	2011-10-05	Normal	SO	308925015	Eu-154	0.0155	pCi/g	0.087		0.0298	U	0.0301	1	GAM28	9624	0.042	0.045				pCi/g
SL-014-A3	2011-10-05	Normal	SO	308925015	Ni-63	0.0653	pCi/g	0.878		0.264	U	0.264	1	LSCYELLOW	4140127	0.433	2	0.649	1.25	0.4	pCi/g
SL-014-A3	2011-10-05	Normal	SO	308925015	Y-90	0.275	pCi/g	0.227		0.0786		0.0828	1	PIC12D	09115169	0.137	0.5	0.676	1.25	0.4	pCi/g
SL-014-A3	2011-10-05	Normal	SO	308925015	Ag-108m	0.00389	pCi/g	0.0138		0.00454	U	0.00463	1	GAM28	9624	0.00671	0.0085				pCi/g
SL-014-A3	2011-10-05	Normal	SO	308925015	Eu-152	-0.0261	pCi/g	0.0428		0.0143	U	0.0155	1	GAM28	9624	0.0209	0.03				pCi/g
SL-014-A3	2011-10-05	Normal	SO	308925015	Sr-90	0.275	pCi/g	0.227		0.0786		0.0828	1	PIC12D	09115169	0.137	0.5	0.676	1.25	0.4	pCi/g
SL-014-A3	2011-10-05	Normal	SO	308925015	H-3	2.32	pCi/g	5.82	1.35	1.74	U	1.75	1	LSCORANGE	DG06095168	2.68	10				pCi/g
SL-014-A3	2011-10-05	Normal	SO	308925015	Cs-137	0.0446	pCi/g	0.0157		0.00631		0.00648	1	GAM28	9624	0.00761	0.01				pCi/g
SL-014-A3	2011-10-05	Normal	SO	308925015	Pa-231	-0.336	pCi/g	0.74		0.232	U	0.244	1	GAM28	9624	0.363	0.45				pCi/g
SL-014-A3	2011-10-05	Normal	SO	308925015	Tl-208	0.391	pCi/g	0.0157		0.0186		0.0226	1	GAM28	9624	0.00765	0.01				pCi/g
SL-014-A3	2011-10-05	Normal	SO	308925015	Co-60	0.00822	pCi/g	0.0176		0.00494	U	0.0053	1	GAM28	9624	0.00845	0.0085				pCi/g
SL-014-A3	2011-10-05	Normal	SO	308925015	Cs-134	0.00511	pCi/g	0.0145		0.00477	U	0.00491	1	GAM28	9624	0.00707	0.0085				pCi/g
SL-014-A3	2011-10-05	Normal	SO	308925015	Ac-228	1.11	pCi/g	0.0875		0.0458		0.0587	1	GAM28	9624	0.0423	0.05				pCi/g
SL-014-A3	2011-10-05	Normal	SO	308925015	Th-230	0.798	pCi/g	0.0742		0.07		0.0787	1	1040	78773	0.0294	0.25	0.96	1.25	0.2	pCi/g
SL-014-A3	2011-10-05	Normal	SO	308925015	Cf-249	0.0169	pCi/g	0.0754		0.0351	U	0.0353	1	GAM28	9624	0.0369	0.05				pCi/g
SL-014-A3	2011-10-05	Normal	SO	308925015	Th-234	1.52	pCi/g	0.28		0.162		0.17	1	GAM28	9624	0.0909	0.2				pCi/g
SL-014-A3	2011-10-05	Normal	SO	308925015	U-238	0.795	pCi/g	0.053		0.0637		0.0823	1	1008	78788	0.0215	0.25	0.773	1.25	0.2	pCi/g
SL-014-A3	2011-10-05	Normal	SO	308925015	Pb-212	1.33	pCi/g	0.0309		0.0658		0.0791	1	GAM28	9624	0.0152	0.02				pCi/g
SL-014-A3	2011-10-05	Normal	SO	308925015	Bi-214	0.864	pCi/g	0.0311		0.0314		0.0424	1	GAM28	9624	0.0152	0.02				pCi/g
SL-014-A3	2011-10-05	Normal	SO	308925015	Na-22	0.000346	pCi/g	0.0198		0.00577	UJ	0.00578	1	GAM28	9624	0.00955	0.0085				pCi/g
SL-014-A3	2011-10-05	Normal	SO	308925015	Cd-113m	10.6	pCi/g	121		35.6	U	35.6	1	GAM28	9624	59.3	35				pCi/g
SL-014-A3	2011-10-05	Normal	SO	308925015	Pb-214	1.06	pCi/g	0.0323		0.0372		0.0511	1	GAM28	9624	0.0158	0.02				pCi/g
SL-014-A3	2011-10-05	Normal	SO	308925015	Ac-227	-0.0848	pCi/g	0.18		0.054	U	0.0575	1	GAM28	9624	0.0882	0.15				pCi/g
SL-014-A3	2011-10-05	Normal	SO	308925015	Np-239	0.0264	pCi/g	0.119		0.0349	U	0.0354	1	GAM28	9624	0.0588	0.075				pCi/g
SL-014-A3	2011-10-05	Normal	SO	308925015	Pu-238	-0.00204	pCi/g	0.0151		0.00354	U	0.00354	1	1216	87904	0.00476	0.08	0.877	1.25	0.2	pCi/g
SL-014-A3	2011-10-05	Normal	SO	308925015	I-129	-0.00634	pCi/g	0.161		0.0422	U	0.0422	1	XRAY5	488926	0.0646	0.5		1.25	0.25	pCi/g
SL-014-A3	2011-10-05	Normal	SO	308925015	Pm-147	0.506	pCi/g	6.71		1.97	U	1.97	1	LSCGOLD	7070506	3.22	10	0.897	1.25	0.4	pCi/g
SL-014-A3	2011-10-05	Normal	SO	308925015	Cm-243/244	0.00175	pCi/g	0.0129		0.00392	U	0.00392	1	1226	87914	0.00408	0.08	0.969	1.25	0.2	pCi/g
SL-014-A3	2011-10-05	Normal	SO	308925015	C-14	-0.225	pCi/g	0.682	11.2	0.2	U	0.2	1	LSCYELLOW	4140127	0.334	1				pCi/g
SL-014-A3	2011-10-05	Normal	SO	308925015	Th-229	0.0454	pCi/g	0.0417		0.0196		0.0197	1	1040	78773	0.0132	0.25	0.96	1.25	0.2	pCi/g
SL-014-A3	2011-10-05	Normal	SO	308925015	Ho-166m	-0.00367	pCi/g	0.024		0.00711	U	0.00716	1	GAM28	9624	0.0116	0.02				pCi/g
SL-014-A3	2011-10-05	Normal	SO	308925015	Am-241	0.00175	pCi/g	0.00473		0.00302		0.00303	1	1226	87914	0	0.08	0.969	1.25	0.2	pCi/g
SL-014-A3	2011-10-05	Normal	SO	308925015	Sn-126	0.00272	pCi/g	0.0158		0.00458	U	0.00463	1	GAM28	9624	0.00765	0.01				pCi/g
SL-014-A3	2011-10-05	Normal	SO	308925015	Th-232	1.1	pCi/g	0.0415		0.0796		0.0938	1	1040	78773	0.0131	0.25	0.96	1.25	0.2	pCi/g
SL-014-A3	2011-10-05	Normal	SO	308925015	Pu-239/240	0.00409	pCi/g	0.00554		0.00409		0.00409	1	1216	87904	0	0.08	0.877	1.25	0.2	pCi/g
SL-014-A3	2011-10-05	Normal	SO	308925015	Th-228	1.25	pCi/g	0.0968		0.0894		0.107	1	1040	78773	0.0405	0.25	0.96	1.25	0.2	pCi/g
SL-014-A3	2011-10-05	Normal	SO	308925015	Tc-99	0.201	pCi/g	1.09		0.325	U	0.325	1	LSCGREEN	7067404	0.528	1.5	0.945	1.25	0.2	pCi/g
SL-014-A3	2011-10-05	Normal	SO	308925015	U-235/236	0.0472	pCi/g	0.0545		0.0218		0.022	1	1008	78788	0.0206	0.25	0.773	1.25	0.2	pCi/g
SL-014-A3	2011-10-05	Normal	SO	308925015	Np-236	0.00858	pCi/g	0.0347		0.0105	U	0.0107	1	GAM28	9624	0.0171	0.025				pCi/g
SL-014-A3	2011-10-05	Normal	SO	308925015	K-40	20.1	pCi/g	0.11		0.869		1.09	1	GAM28	9624	0.0518	0.085				pCi/g
SL-014-A3	2011-10-05	Normal	SO	308925015	Nb-94	0.00236	pCi/g	0.0139		0.00404	U	0.00408	1	GAM28	9624	0.00674	0.0095				pCi/g
SL-014-A3	2011-10-05	Normal	SO	308925015	Ba-133	-0.00686	pCi/g	0.0189		0.00659	U	0.00678	1	GAM28	9624	0.00922	0.015				pCi/g
SL-014-A3	2011-10-05	Normal	SO	308925015	Tm-171	0.225	pCi/g	13.9		4.63	U	4.63	1	GAM28	9624	6.84	9				pCi/g
SL-014-A3	2011-10-05	Normal	SO	308925015	Eu-155	0.0511	pCi/g	0.0654		0.0197	J	0.023	1	GAM28	9624	0.0323	0.04				pCi/g
SL-014-A3	2011-10-05	Normal	SO	308925015	U-233/234	0.68	pCi/g	0.0729		0.0606		0.0758	1	1008	78788	0.0317	0.25	0.773	1.25	0.2	pCi/g
SL-014-A3	2011-10-05	Normal	SO	308925015	Am-243	0.00703	pCi/g	0.00635		0.00524		0.00526	1	1226	87914	0	0.08	0.969	1.25	0.2	pCi/g
SL-014-A3	2011-10-05	Normal	SO	308925015	Ni-59	-1.33	pCi/g	2.2		0.68	U	0.746	1	XRAY3	3984452	1.04	4	0.61	1.25	0.4	pCi/g
SL-014-A3	2011-10-05	Normal	SO	308925015	Sb-125	0.025	pCi/g	0.0425		0.0125	J	0.0138	1	GAM28	9624	0.0208	0.03				pCi/g
SL-015-A3	2011-10-05	Normal	SO	308925014	Eu-154	0.0432	pCi/g	0.0898		0.0296	U	0.0313	1	GAM27	04099570	0.0435	0.045				pCi/g
SL-015-A3	2011-10-05	Normal	SO	308925014	Co-60	0.00136	pCi/g	0.0163		0.00464	U	0.00465	1	GAM27	04099570	0.00782	0.0085				pCi/g
SL-015-A3	2011-10-05	Normal	SO	308925014	Eu-155	0.0108	pCi/g	0.0647		0.0191	U	0.0193	1	GAM27	04099570	0.032	0.04				pCi/g

Location Name	Date Collected	Sample Type	Matrix	Lab Sample ID	Analyte ID	Activity	Rpt Units	MDC	Gross CPM	Count Uncertainity	Lab Flag	Total Propagated Uncertainty	Sigma Value	Instrument ID	Detector ID	Critical Level Ref	Required MDC Ref	Chem Yield	Chem Yield Upper Limit	Chemical Yield Lower Limit	Chemical Yield Units
SL-015-A3	2011-10-05	Normal	SO	308925014	Sn-126	-0.00216	pCi/g	0.0157		0.00479	U	0.00481	1	GAM27	04099570	0.00763	0.01				pCi/g
SL-015-A3	2011-10-05	Normal	SO	308925014	K-40	21.2	pCi/g	0.126		0.91		1.15	1	GAM27	04099570	0.0598	0.085				pCi/g
SL-015-A3	2011-10-05	Normal	SO	308925014	Pu-238	-0.00212	pCi/g	0.0156		0.00366	U	0.00367	1	1215	87903	0.00492	0.08	0.909	1.25	0.2	pCi/g
SL-015-A3	2011-10-05	Normal	SO	308925014	Cd-113m	10.9	pCi/g	124		43.3	U	43.3	1	GAM27	04099570	60.8	35				pCi/g
SL-015-A3	2011-10-05	Normal	SO	308925014	Pu-239/240	0.00211	pCi/g	0.0156		0.00473	U	0.00473	1	1215	87903	0.00492	0.08	0.909	1.25	0.2	pCi/g
SL-015-A3	2011-10-05	Normal	SO	308925014	Cm-243/244	0.00957	pCi/g	0.0304		0.00918	U	0.00919	1	1225	87913	0.0126	0.08	0.879	1.25	0.2	pCi/g
SL-015-A3	2011-10-05	Normal	SO	308925014	Pm-147	-1.89	pCi/g	6.77		1.93	U	1.93	1	LSCGOLD	7070506	3.25	10	0.777	1.25	0.4	pCi/g
SL-015-A3	2011-10-05	Normal	SO	308925014	Ni-59	0.0887	pCi/g	0.956		0.228	U	0.229	1	XRAY6	10902649	0.412	4	0.596	1.25	0.4	pCi/g
SL-015-A3	2011-10-05	Normal	SO	308925014	Np-239	-0.0209	pCi/g	0.125		0.0383	U	0.0386	1	GAM27	04099570	0.0616	0.075				pCi/g
SL-015-A3	2011-10-05	Normal	SO	308925014	Th-230	0.704	pCi/g	0.118		0.0856		0.0931	1	1172	78772	0.0469	0.25	0.758	1.25	0.2	pCi/g
SL-015-A3	2011-10-05	Normal	SO	308925014	I-129	0.00849	pCi/g	0.142		0.0402	U	0.0402	1	GAM21	03068173	0.0655	0.5		1.25	0.25	pCi/g
SL-015-A3	2011-10-05	Normal	SO	308925014	Ac-227	-0.00166	pCi/g	0.185		0.0567	U	0.0567	1	GAM27	04099570	0.0912	0.15				pCi/g
SL-015-A3	2011-10-05	Normal	SO	308925014	Th-232	1.04	pCi/g	0.0662		0.0986		0.112	1	1172	78772	0.0209	0.25	0.758	1.25	0.2	pCi/g
SL-015-A3	2011-10-05	Normal	SO	308925014	Ni-63	-0.271	pCi/g	0.912		0.27	U	0.27	1	LSCYELLOW	4140127	0.449	2	0.615	1.25	0.4	pCi/g
SL-015-A3	2011-10-05	Normal	SO	308925014	Ho-166m	0.0057	pCi/g	0.0258		0.00772	U	0.00783	1	GAM27	04099570	0.0126	0.02				pCi/g
SL-015-A3	2011-10-05	Normal	SO	308925014	Ac-228	1.1	pCi/g	0.0924		0.0463		0.0589	1	GAM27	04099570	0.0448	0.05				pCi/g
SL-015-A3	2011-10-05	Normal	SO	308925014	Nb-94	0.0107	pCi/g	0.015		0.00437	J	0.00503	1	GAM27	04099570	0.00729	0.0095				pCi/g
SL-015-A3	2011-10-05	Normal	SO	308925014	Ba-133	-0.000915	pCi/g	0.0186		0.00627	U	0.00628	1	GAM27	04099570	0.0091	0.015				pCi/g
SL-015-A3	2011-10-05	Normal	SO	308925014	Pb-214	1.09	pCi/g	0.0324		0.0352		0.0503	1	GAM27	04099570	0.0159	0.02				pCi/g
SL-015-A3	2011-10-05	Normal	SO	308925014	Bi-214	0.989	pCi/g	0.0292		0.0339		0.047	1	GAM27	04099570	0.0142	0.02				pCi/g
SL-015-A3	2011-10-05	Normal	SO	308925014	Th-228	1.4	pCi/g	0.248		0.133		0.153	1	1172	78772	0.111	0.25	0.758	1.25	0.2	pCi/g
SL-015-A3	2011-10-05	Normal	SO	308925014	C-14	0.482	pCi/g	0.658	12.8	0.202		0.203	1	LSCYELLOW	4140127	0.322	1				pCi/g
SL-015-A3	2011-10-05	Normal	SO	308925014	Sb-125	-0.017	pCi/g	0.0416		0.0125	U	0.0131	1	GAM27	04099570	0.0203	0.03				pCi/g
SL-015-A3	2011-10-05	Normal	SO	308925014	Bi-212	0.699	pCi/g	0.125		0.0653		0.0693	1	GAM27	04099570	0.0608	0.075				pCi/g
SL-015-A3	2011-10-05	Normal	SO	308925014	Cs-137	0.0411	pCi/g	0.0153		0.00673		0.00686	1	GAM27	04099570	0.00742	0.01				pCi/g
SL-015-A3	2011-10-05	Normal	SO	308925014	Th-234	1.58	pCi/g	0.274		0.137		0.147	1	GAM27	04099570	0.377	0.2				pCi/g
SL-015-A3	2011-10-05	Normal	SO	308925014	Tl-208	0.398	pCi/g	0.0158		0.0193		0.0233	1	GAM27	04099570	0.00769	0.01				pCi/g
SL-015-A3	2011-10-05	Normal	SO	308925014	Y-90	-0.0296	pCi/g	0.206		0.0507	U	0.0507	1	PIC10A	311437	0.118	0.5	0.577	1.25	0.4	pCi/g
SL-015-A3	2011-10-05	Normal	SO	308925014	Ag-108m	-0.000625	pCi/g	0.0144		0.00501	U	0.00501	1	GAM27	04099570	0.00699	0.0085				pCi/g
SL-015-A3	2011-10-05	Normal	SO	308925014	Tm-171	-4.32	pCi/g	11		3.69	U	3.82	1	GAM27	04099570	5.46	9				pCi/g
SL-015-A3	2011-10-05	Normal	SO	308925014	Cf-249	0.0352	pCi/g	0.0815		0.0396	U	0.0405	1	GAM27	04099570	0.04	0.05				pCi/g
SL-015-A3	2011-10-05	Normal	SO	308925014	Cs-134	0.00263	pCi/g	0.014		0.00482	U	0.00485	1	GAM27	04099570	0.00683	0.0085				pCi/g
SL-015-A3	2011-10-05	Normal	SO	308925014	H-3	0.414	pCi/g	5.7	1.11	1.62	U	1.62	1	LSCORANGE	DG06095168	2.63	10				pCi/g
SL-015-A3	2011-10-05	Normal	SO	308925014	Tc-99	0.241	pCi/g	1.17		0.349	U	0.349	1	LSCGREEN	7067404	0.567	1.5	0.944	1.25	0.2	pCi/g
SL-015-A3	2011-10-05	Normal	SO	308925014	Np-236	-0.0177	pCi/g	0.0344		0.0103	U	0.0111	1	GAM27	04099570	0.017	0.025				pCi/g
SL-015-A3	2011-10-05	Normal	SO	308925014	Na-22	-0.0165	pCi/g	0.0196		0.00625	UJ	0.00733	1	GAM27	04099570	0.00947	0.0085				pCi/g
SL-015-A3	2011-10-05	Normal	SO	308925014	Eu-152	-0.0258	pCi/g	0.0455		0.0167	U	0.0178	1	GAM27	04099570	0.0223	0.03				pCi/g
SL-015-A3	2011-10-05	Normal	SO	308925014	Pb-212	1.3	pCi/g	0.032		0.0608		0.0744	1	GAM27	04099570	0.0158	0.02				pCi/g
SL-015-A3	2011-10-05	Normal	SO	308925014	Sr-90	-0.0296	pCi/g	0.206		0.0507	U	0.0507	1	PIC10A	311437	0.118	0.5	0.577	1.25	0.4	pCi/g
SL-015-A3	2011-10-05	Normal	SO	308925014	Th-229	-0.00905	pCi/g	0.119		0.03	UJ	0.03	1	1172	78772	0.0471	0.25	0.758	1.25	0.2	pCi/g
SL-015-A3	2011-10-05	Normal	SO	308925014	Am-243	0.00809	pCi/g	0.0265		0.00809	U	0.0081	1	1225	87913	0.0105	0.08	0.879	1.25	0.2	pCi/g
SL-015-A3	2011-10-05	Normal	SO	308925014	Pa-231	-0.188	pCi/g	0.767		0.238	U	0.242	1	GAM27	04099570	0.377	0.45				pCi/g
SL-015-A3	2011-10-05	Normal	SO	308925014	U-238	0.808	pCi/g	0.0542		0.0709		0.0897	1	1007	50-066Z1	0.0205	0.25	0.655	1.25	0.2	pCi/g
SL-015-A3	2011-10-05	Normal	SO	308925014	Am-241	0.00763	pCi/g	0.014		0.00539		0.00541	1	1225	87913	0.00443	0.08	0.879	1.25	0.2	pCi/g
SL-015-A3	2011-10-05	Normal	SO	308925014	U-235/236	0.0243	pCi/g	0.0472		0.0182		0.0183	1	1007	50-066Z1	0.0146	0.25	0.655	1.25	0.2	pCi/g
SL-015-A3	2011-10-05	Normal	SO	308925014	U-233/234	0.82	pCi/g	0.114		0.0764		0.0951	1	1007	50-066Z1	0.0522	0.25	0.655	1.25	0.2	pCi/g
SL-016-A3	2011-10-05	Normal	SO	308925012	Ba-133	0.0182	pCi/g	0.0258		0.00877	J	0.00974	1	GAM12	10017444	0.0127	0.015				pCi/g
SL-016-A3	2011-10-05	Normal	SO	308925012	Sr-90	0.817	pCi/g	0.156		0.0911		0.117	1	PIC8D	1213	0.0896	0.5	0.676	1.25	0.4	pCi/g
SL-016-A3	2011-10-05	Normal	SO	308925012	Th-228	1.43	pCi/g	0.23		0.126		0.145	1	1170	72549	0.104	0.25	0.84	1.25	0.2	pCi/g
SL-016-A3	2011-10-05	Normal	SO	308925012	Th-234	1.34	pCi/g	0.396		0.16		0.166	1	GAM12	10017444	0.122	0.2				pCi/g
SL-016-A3	2011-10-05	Normal	SO	308925012	Pa-231	-0.742	pCi/g	0.998		0.343	U	0.384	1	GAM12	10017444	0.491	0.45				pCi/g
SL-016-A3	2011-10-05	Normal	SO	308925012	Cf-249	0.0403	pCi/g	0.104		0.0536	U	0.0544	1	GAM12	10017444	0.0511	0.05				pCi/g
SL-016-A3	2011-10-05	Normal	SO	308925012	Bi-212	0.846	pCi/g	0.156		0.0892		0.0934	1	GAM12	10017444	0.0758	0.075				pCi/g

Location Name	Date Collected	Sample Type	Matrix	Lab Sample ID	Analyte ID	Activity	Rpt Units	MDC	Gross CPM	Count Uncertainity	Lab Flag	Total Propagated Uncertainty	Sigma Value	Instrument ID	Detector ID	Critical Level Ref	Required MDC Ref	Chem Yield	Chem Yield Upper Limit	Chemical Yield Lower Limit	Chemical Yield Units
SL-016-A3	2011-10-05	Normal	SO	308925012	U-238	0.91	pCi/g	0.0445		0.0645		0.0873	1	1022	72530	0.0175	0.25	0.829	1.25	0.2	pCi/g
SL-016-A3	2011-10-05	Normal	SO	308925012	C-14	-0.122	pCi/g	0.687	11.6	0.203	U	0.203	1	LSCYELLOW	4140127	0.336	1				pCi/g
SL-016-A3	2011-10-05	Normal	SO	308925012	Nb-94	0.0068	pCi/g	0.0185		0.00536	U	0.00559	1	GAM12	10017444	0.00901	0.0095				pCi/g
SL-016-A3	2011-10-05	Normal	SO	308925012	Pb-214	1.21	pCi/g	0.042		0.0435		0.059	1	GAM12	10017444	0.0206	0.02				pCi/g
SL-016-A3	2011-10-05	Normal	SO	308925012	Pb-212	1.38	pCi/g	0.0403		0.0666		0.0807	1	GAM12	10017444	0.0199	0.02				pCi/g
SL-016-A3	2011-10-05	Normal	SO	308925012	Cm-243/244	0.00255	pCi/g	0.0274		0.00764	UJ	0.00764	1	1223	87911	0.0103	0.08	0.676	1.25	0.2	pCi/g
SL-016-A3	2011-10-05	Normal	SO	308925012	Cd-113m	-95.2	pCi/g	162		54.9	U	59.2	1	GAM12	10017444	79.6	35				pCi/g
SL-016-A3	2011-10-05	Normal	SO	308925012	Na-22	-0.00727	pCi/g	0.0247		0.00733	UJ	0.00752	1	GAM12	10017444	0.0119	0.0085				pCi/g
SL-016-A3	2011-10-05	Normal	SO	308925012	Co-60	-0.00796	pCi/g	0.0192		0.00576	U	0.00605	1	GAM12	10017444	0.00919	0.0085				pCi/g
SL-016-A3	2011-10-05	Normal	SO	308925012	U-235/236	0.032	pCi/g	0.0496		0.0182		0.0184	1	1022	72530	0.0187	0.25	0.829	1.25	0.2	pCi/g
SL-016-A3	2011-10-05	Normal	SO	308925012	Y-90	0.817	pCi/g	0.156		0.0911		0.117	1	PIC8D	1213	0.0896	0.5	0.676	1.25	0.4	pCi/g
SL-016-A3	2011-10-05	Normal	SO	308925012	Tm-171	-22.8	pCi/g	20.4		7.52	UJ	9.2	1	GAM12	10017444	10.1	9				pCi/g
SL-016-A3	2011-10-05	Normal	SO	308925012	I-129	-0.00109	pCi/g	0.123		0.0346	U	0.0346	1	GAM21	03068173	0.0556	0.5		1.25	0.25	pCi/g
SL-016-A3	2011-10-05	Normal	SO	308925012	Np-236	0.00907	pCi/g	0.0482		0.0155	U	0.0157	1	GAM12	10017444	0.0238	0.025				pCi/g
SL-016-A3	2011-10-05	Normal	SO	308925012	Eu-154	-0.0981	pCi/g	0.104		0.0338	UJ	0.0408	1	GAM12	10017444	0.0501	0.045				pCi/g
SL-016-A3	2011-10-05	Normal	SO	308925012	Eu-152	-0.0289	pCi/g	0.0592		0.0323	U	0.033	1	GAM12	10017444	0.0291	0.03				pCi/g
SL-016-A3	2011-10-05	Normal	SO	308925012	Th-229	0.0397	pCi/g	0.0584		0.0238		0.0239	1	1170	72549	0.0185	0.25	0.84	1.25	0.2	pCi/g
SL-016-A3	2011-10-05	Normal	SO	308925012	Tc-99	0.264	pCi/g	1.29		0.384	U	0.385	1	LSCGREEN	7067404	0.625	1.5	0.938	1.25	0.2	pCi/g
SL-016-A3	2011-10-05	Normal	SO	308925012	Ag-108m	0.00504	pCi/g	0.0184		0.00616	U	0.00627	1	GAM12	10017444	0.00895	0.0085				pCi/g
SL-016-A3	2011-10-05	Normal	SO	308925012	Ac-228	1.25	pCi/g	0.11		0.0516		0.066	1	GAM12	10017444	0.0533	0.05				pCi/g
SL-016-A3	2011-10-05	Normal	SO	308925012	H-3	-0.907	pCi/g	5.91	0.933	1.61	U	1.61	1	LSCORANGE	DG06095168	2.72	10				pCi/g
SL-016-A3	2011-10-05	Normal	SO	308925012	Am-243	0	pCi/g	0.0204		0.0054	UJ	0.0054	1	1223	87911	0.00822	0.08	0.676	1.25	0.2	pCi/g
SL-016-A3	2011-10-05	Normal	SO	308925012	Cs-137	0.0172	pCi/g	0.0212		0.0056		0.00563	1	GAM12	10017444	0.0104	0.01				pCi/g
SL-016-A3	2011-10-05	Normal	SO	308925012	U-233/234	0.917	pCi/g	0.0778		0.0671		0.0902	1	1022	72530	0.0351	0.25	0.829	1.25	0.2	pCi/g
SL-016-A3	2011-10-05	Normal	SO	308925012	Sb-125	0.0227	pCi/g	0.0554		0.0166	U	0.0174	1	GAM12	10017444	0.0271	0.03				pCi/g
SL-016-A3	2011-10-05	Normal	SO	308925012	Np-239	0.0197	pCi/g	0.161		0.0482	U	0.0484	1	GAM12	10017444	0.0795	0.075				pCi/g
SL-016-A3	2011-10-05	Normal	SO	308925012	Am-241	0	pCi/g	0.0187		0.00507	UJ	0.00507	1	1223	87911	0.0059	0.08	0.676	1.25	0.2	pCi/g
SL-016-A3	2011-10-05	Normal	SO	308925012	Cs-134	0.00785	pCi/g	0.0177		0.00585	U	0.00613	1	GAM12	10017444	0.0086	0.0085				pCi/g
SL-016-A3	2011-10-05	Normal	SO	308925012	Eu-155	0.0898	pCi/g	0.0879		0.0272		0.0273	1	GAM12	10017444	0.0435	0.04				pCi/g
SL-016-A3	2011-10-05	Normal	SO	308925012	Pm-147	-3.08	pCi/g	6.45		1.81	U	1.81	1	LSCGOLD	7070506	3.1	10	0.867	1.25	0.4	pCi/g
SL-016-A3	2011-10-05	Normal	SO	308925012	Th-230	1.13	pCi/g	0.119		0.0998		0.115	1	1170	72549	0.0487	0.25	0.84	1.25	0.2	pCi/g
SL-016-A3	2011-10-05	Normal	SO	308925012	Th-232	1.18	pCi/g	0.0214		0.0973		0.114	1	1170	72549	0	0.25	0.84	1.25	0.2	pCi/g
SL-016-A3	2011-10-05	Normal	SO	308925012	Bi-214	1.11	pCi/g	0.0363		0.0406		0.0547	1	GAM12	10017444	0.0177	0.02				pCi/g
SL-016-A3	2011-10-05	Normal	SO	308925012	Ni-59	0.03	pCi/g	2.33		0.667	U	0.667	1	XRAY3	3984452	1.1	4	0.641	1.25	0.4	pCi/g
SL-016-A3	2011-10-05	Normal	SO	308925012	Pu-239/240	0.00201	pCi/g	0.00544		0.00347		0.00348	1	1213	87901	0	0.08	0.893	1.25	0.2	pCi/g
SL-016-A3	2011-10-05	Normal	SO	308925012	Ho-166m	-0.000455	pCi/g	0.031		0.00914	U	0.00914	1	GAM12	10017444	0.0151	0.02				pCi/g
SL-016-A3	2011-10-05	Normal	SO	308925012	Ac-227	0.0377	pCi/g	0.241		0.0722	U	0.0727	1	GAM12	10017444	0.119	0.15				pCi/g
SL-016-A3	2011-10-05	Normal	SO	308925012	Sn-126	-0.00766	pCi/g	0.0196		0.00591	U	0.00617	1	GAM12	10017444	0.00952	0.01				pCi/g
SL-016-A3	2011-10-05	Normal	SO	308925012	Pu-238	0	pCi/g	0.00544		0.00284		0.00284	1	1213	87901	0	0.08	0.893	1.25	0.2	pCi/g
SL-016-A3	2011-10-05	Normal	SO	308925012	K-40	23.3	pCi/g	0.151		1.01		1.27	1	GAM12	10017444	0.0714	0.085				pCi/g
SL-016-A3	2011-10-05	Normal	SO	308925012	Tl-208	0.414	pCi/g	0.0189		0.0213		0.0253	1	GAM12	10017444	0.00921	0.01				pCi/g
SL-016-A3	2011-10-05	Normal	SO	308925012	Ni-63	-0.189	pCi/g	0.993		0.293	U	0.293	1	LSCYELLOW	4140127	0.486	2	0.717	1.25	0.4	pCi/g
SL-017-A3	2011-10-05	Normal	SO	308925011	Cm-243/244	0.0192	pCi/g	0.0178		0.00767		0.00774	1	1222	87910	0.00631	0.08	0.905	1.25	0.2	pCi/g
SL-017-A3	2011-10-05	Normal	SO	308925011	Sb-125	0.00113	pCi/g	0.0456		0.0135	U	0.0135	1	GAM30	6953489	0.0222	0.03				pCi/g
SL-017-A3	2011-10-05	Normal	SO	308925011	Sr-90	-0.0879	pCi/g	0.214		0.0509	U	0.0509	1	PIC8A	1210	0.127	0.5	0.725	1.25	0.4	pCi/g
SL-017-A3	2011-10-05	Normal	SO	308925011	Pa-231	-0.18	pCi/g	0.787		0.233	U	0.237	1	GAM30	6953489	0.386	0.45				pCi/g
SL-017-A3	2011-10-05	Normal	SO	308925011	Ba-133	-0.00121	pCi/g	0.0202		0.00682	U	0.00683	1	GAM30	6953489	0.00987	0.015				pCi/g
SL-017-A3	2011-10-05	Normal	SO	308925011	Bi-214	1.1	pCi/g	0.0312		0.0373		0.0521	1	GAM30	6953489	0.0151	0.02				pCi/g
SL-017-A3	2011-10-05	Normal	SO	308925011	Pu-239/240	0	pCi/g	0.014		0.00381	U	0.00381	1	1212	87900	0.00443	0.08	0.903	1.25	0.2	pCi/g
SL-017-A3	2011-10-05	Normal	SO	308925011	Tm-171	-4.85	pCi/g	12.8		4.33	U	4.48	1	GAM30	6953489	6.3	9				pCi/g
SL-017-A3	2011-10-05	Normal	SO	308925011	Bi-212	0.914	pCi/g	0.13		0.0686		0.0749	1	GAM30	6953489	0.063	0.075				pCi/g
SL-017-A3	2011-10-05	Normal	SO	308925011	Sn-126	0.00704	pCi/g	0.0173		0.00484	U	0.00511	1	GAM30	6953489	0.00835	0.01				pCi/g
SL-017-A3	2011-10-05	Normal	SO	308925011	Tl-208	0.447	pCi/g	0.0165		0.0208		0.0255	1	GAM30	6953489	0.00798	0.01				pCi/g

Location Name	Date Collected	Sample Type	Matrix	Lab Sample ID	Analyte ID	Activity	Rpt Units	MDC	Gross CPM	Count Uncertainity	Lab Flag	Total Propagated Uncertainty	Sigma Value	Instrument ID	Detector ID	Critical Level Ref	Required MDC Ref	Chem Yield	Chem Yield Upper Limit	Chemical Yield Lower Limit	Chemical Yield Units
SL-017-A3	2011-10-05	Normal	SO	308925011	Y-90	-0.0879	pCi/g	0.214		0.0509	U	0.0509	1	PIC8A	1210	0.127	0.5	0.725	1.25	0.4	pCi/g
SL-017-A3	2011-10-05	Normal	SO	308925011	Am-243	0.00159	pCi/g	0.0224		0.00615	U	0.00615	1	1222	87910	0.00904	0.08	0.905	1.25	0.2	pCi/g
SL-017-A3	2011-10-05	Normal	SO	308925011	Pu-238	0.0019	pCi/g	0.014		0.00426	U	0.00426	1	1212	87900	0.00443	0.08	0.903	1.25	0.2	pCi/g
SL-017-A3	2011-10-05	Normal	SO	308925011	Th-230	0.922	pCi/g	0.0985		0.102		0.114	1	1169	72548	0.0349	0.25	0.626	1.25	0.2	pCi/g
SL-017-A3	2011-10-05	Normal	SO	308925011	Ac-228	1.26	pCi/g	0.088		0.0487		0.064	1	GAM30	6953489	0.0422	0.05				pCi/g
SL-017-A3	2011-10-05	Normal	SO	308925011	Eu-155	0.0502	pCi/g	0.0666		0.0248		0.0248	1	GAM30	6953489	0.0328	0.04				pCi/g
SL-017-A3	2011-10-05	Normal	SO	308925011	Ho-166m	-0.000668	pCi/g	0.0268		0.00772	U	0.00773	1	GAM30	6953489	0.013	0.02				pCi/g
SL-017-A3	2011-10-05	Normal	SO	308925011	K-40	19.1	pCi/g	0.123		0.829		1.04	1	GAM30	6953489	0.0573	0.085				pCi/g
SL-017-A3	2011-10-05	Normal	SO	308925011	Ac-227	-0.0102	pCi/g	0.194		0.0568	U	0.0569	1	GAM30	6953489	0.0953	0.15				pCi/g
SL-017-A3	2011-10-05	Normal	SO	308925011	Nb-94	0.0104	pCi/g	0.0164		0.00457	J	0.00517	1	GAM30	6953489	0.00795	0.0095				pCi/g
SL-017-A3	2011-10-05	Normal	SO	308925011	Np-236	-0.0192	pCi/g	0.0359		0.0112	U	0.012	1	GAM30	6953489	0.0177	0.025				pCi/g
SL-017-A3	2011-10-05	Normal	SO	308925011	Th-232	1.31	pCi/g	0.0778		0.12		0.139	1	1169	72548	0.0246	0.25	0.626	1.25	0.2	pCi/g
SL-017-A3	2011-10-05	Normal	SO	308925011	U-233/234	0.655	pCi/g	0.0762		0.0651		0.0791	1	1021	79515	0.032	0.25	0.743	1.25	0.2	pCi/g
SL-017-A3	2011-10-05	Normal	SO	308925011	U-238	0.805	pCi/g	0.0532		0.0701		0.0885	1	1021	79515	0.0201	0.25	0.743	1.25	0.2	pCi/g
SL-017-A3	2011-10-05	Normal	SO	308925011	Eu-154	-0.0365	pCi/g	0.0972		0.0294	U	0.0306	1	GAM30	6953489	0.0468	0.045				pCi/g
SL-017-A3	2011-10-05	Normal	SO	308925011	H-3	2.48	pCi/g	5.92	1.38	1.78	U	1.78	1	LSCORANGE	DG06095168	2.73	10				pCi/g
SL-017-A3	2011-10-05	Normal	SO	308925011	Co-60	0.0104	pCi/g	0.0178		0.00496	J	0.00552	1	GAM30	6953489	0.00849	0.0085				pCi/g
SL-017-A3	2011-10-05	Normal	SO	308925011	Eu-152	-0.00863	pCi/g	0.0476		0.0147	U	0.0148	1	GAM30	6953489	0.0232	0.03				pCi/g
SL-017-A3	2011-10-05	Normal	SO	308925011	Ag-108m	0.000585	pCi/g	0.0156		0.00538	U	0.00538	1	GAM30	6953489	0.00755	0.0085				pCi/g
SL-017-A3	2011-10-05	Normal	SO	308925011	Th-229	0.0637	pCi/g	0.128		0.0425		0.0426	1	1169	72548	0.0494	0.25	0.626	1.25	0.2	pCi/g
SL-017-A3	2011-10-05	Normal	SO	308925011	Am-241	0.0115	pCi/g	0.00518		0.0054		0.00544	1	1222	87910	0	0.08	0.905	1.25	0.2	pCi/g
SL-017-A3	2011-10-05	Normal	SO	308925011	Cs-137	0.163	pCi/g	0.017		0.0105		0.0118	1	GAM30	6953489	0.00821	0.01				pCi/g
SL-017-A3	2011-10-05	Normal	SO	308925011	Np-239	0.0233	pCi/g	0.13		0.0375	U	0.0379	1	GAM30	6953489	0.0637	0.075				pCi/g
SL-017-A3	2011-10-05	Normal	SO	308925011	Tc-99	0.202	pCi/g	1.34		0.4	U	0.4	1	LSCGREEN	7067404	0.652	1.5	0.947	1.25	0.2	pCi/g
SL-017-A3	2011-10-05	Normal	SO	308925011	Pb-214	1.25	pCi/g	0.0341		0.0411		0.0583	1	GAM30	6953489	0.0167	0.02				pCi/g
SL-017-A3	2011-10-05	Normal	SO	308925011	Na-22	0.00808	pCi/g	0.0207		0.00595	UJ	0.00624	1	GAM30	6953489	0.00994	0.0085				pCi/g
SL-017-A3	2011-10-05	Normal	SO	308925011	Ni-63	-0.408	pCi/g	0.757		0.223	U	0.223	1	LSCYELLOW	4140127	0.373	2	0.758	1.25	0.4	pCi/g
SL-017-A3	2011-10-05	Normal	SO	308925011	C-14	0.439	pCi/g	0.67	12.6	0.205		0.206	1	LSCYELLOW	4140127	0.328	1				pCi/g
SL-017-A3	2011-10-05	Normal	SO	308925011	Th-228	1.33	pCi/g	0.299		0.147		0.165	1	1169	72548	0.135	0.25	0.626	1.25	0.2	pCi/g
SL-017-A3	2011-10-05	Normal	SO	308925011	Cd-113m	1.64	pCi/g	129		40.6	U	40.6	1	GAM30	6953489	63.3	35				pCi/g
SL-017-A3	2011-10-05	Normal	SO	308925011	Pb-212	1.5	pCi/g	0.0322		0.0687		0.0846	1	GAM30	6953489	0.0158	0.02				pCi/g
SL-017-A3	2011-10-05	Normal	SO	308925011	U-235/236	0.0404	pCi/g	0.0573		0.0225		0.0226	1	1021	79515	0.0203	0.25	0.743	1.25	0.2	pCi/g
SL-017-A3	2011-10-05	Normal	SO	308925011	Cf-249	-0.0511	pCi/g	0.0815		0.0338	U	0.0358	1	GAM30	6953489	0.0398	0.05				pCi/g
SL-017-A3	2011-10-05	Normal	SO	308925011	Cs-134	0.00924	pCi/g	0.0154		0.00508	J	0.00552	1	GAM30	6953489	0.00747	0.0085				pCi/g
SL-017-A3	2011-10-05	Normal	SO	308925011	Th-234	1.86	pCi/g	0.287		0.157		0.169	1	GAM30	6953489	0.385	0.2				pCi/g
SL-017-A3	2011-10-05	Normal	SO	308925011	I-129	0.0358	pCi/g	0.198		0.0479	U	0.0486	1	XRAY5	488926	0.0831	0.5		1.25	0.25	pCi/g
SL-017-A3	2011-10-05	Normal	SO	308925011	Pm-147	-0.327	pCi/g	7.49		2.18	U	2.18	1	LSCGOLD	7070506	3.6	10	0.837	1.25	0.4	pCi/g
SL-017-A3	2011-10-05	Normal	SO	308925011	Ni-59	-0.204	pCi/g	1.88		0.546	U	0.548	1	XRAY3	3984452	0.887	4	0.682	1.25	0.4	pCi/g
SL-316-A3	2011-10-05	Normal	SO	308925013	Y-90	-0.0514	pCi/g	0.24		0.063	U	0.063	1	PIC9C	311438	0.146	0.5	0.725	1.25	0.4	pCi/g
SL-316-A3	2011-10-05	Normal	SO	308925013	Eu-154	-0.0781	pCi/g	0.098		0.0311	UJ	0.036	1	GAM24	04099544	0.0474	0.045				pCi/g
SL-316-A3	2011-10-05	Normal	SO	308925013	K-40	22.8	pCi/g	0.138		0.99		1.24	1	GAM24	04099544	0.0656	0.085				pCi/g
SL-316-A3	2011-10-05	Normal	SO	308925013	Tm-171	-0.334	pCi/g	10.6		3.57	U	3.57	1	GAM24	04099544	5.25	9				pCi/g
SL-316-A3	2011-10-05	Normal	SO	308925013	H-3	2.29	pCi/g	5.7	1.38	1.71	U	1.71	1	LSCORANGE	DG06095168	2.63	10				pCi/g
SL-316-A3	2011-10-05	Normal	SO	308925013	Am-241	0	pCi/g	0.0184		0.00486	U	0.00486	1	1224	87912	0.00652	0.08	0.84	1.25	0.2	pCi/g
SL-316-A3	2011-10-05	Normal	SO	308925013	Am-243	0.00286	pCi/g	0.0201		0.00571	U	0.00571	1	1224	87912	0.00813	0.08	0.84	1.25	0.2	pCi/g
SL-316-A3	2011-10-05	Normal	SO	308925013	Eu-152	-0.0332	pCi/g	0.0451		0.0139	UJ	0.0159	1	GAM24	04099544	0.0221	0.03				pCi/g
SL-316-A3	2011-10-05	Normal	SO	308925013	Ni-63	0.0492	pCi/g	1.18		0.351	U	0.351	1	LSCYELLOW	4140127	0.577	2	0.69	1.25	0.4	pCi/g
SL-316-A3	2011-10-05	Normal	SO	308925013	U-235/236	0.0303	pCi/g	0.043		0.0168		0.017	1	1024	76542	0.0152	0.25	0.807	1.25	0.2	pCi/g
SL-316-A3	2011-10-05	Normal	SO	308925013	Np-236	-0.00834	pCi/g	0.0344		0.0106	U	0.0108	1	GAM24	04099544	0.017	0.025				pCi/g
SL-316-A3	2011-10-05	Normal	SO	308925013	Ba-133	-0.00534	pCi/g	0.0191		0.00656	U	0.00668	1	GAM24	04099544	0.00933	0.015				pCi/g
SL-316-A3	2011-10-05	Normal	SO	308925013	Th-228	1.54	pCi/g	0.273		0.152	J	0.175	1	1171	78260	0.121	0.25	0.615	1.25	0.2	pCi/g
SL-316-A3	2011-10-05	Normal	SO	308925013	Ni-59	-0.357	pCi/g	0.673		0.193	U	0.21	1	XRAY6	10902649	0.27	4	0.592	1.25	0.4	pCi/g
SL-316-A3	2011-10-05	Normal	SO	308925013	Np-239	-0.00171	pCi/g	0.126		0.037	U	0.037	1	GAM24	04099544	0.0622	0.075				pCi/g

USEPA Radionuclide Master Database Table - Phase 3 Area III Sediment Drainage Samples

Location Name	Date Collected	Sample Type	Matrix	Lab Sample ID	Analyte ID	Activity	Rpt Units	MDC	Gross CPM	Count Uncertainity	Lab Flag	Total Propagated Uncertainty	Sigma Value	Instrument ID	Detector ID	Critical Level Ref	Required MDC Ref	Chem Yield	Chem Yield Upper Limit	Chemical Yield Lower Limit	Chemical Yield Units
SL-316-A3	2011-10-05	Normal	SO	308925013	Bi-212	0.931	pCi/g	0.127		0.0676		0.0743	1	GAM24	04099544	0.0615	0.075				pCi/g
SL-316-A3	2011-10-05	Normal	SO	308925013	Pu-239/240	0.0116	pCi/g	0.0142		0.0061		0.00612	1	1214	87902	0.00449	0.08	0.879	1.25	0.2	pCi/g
SL-316-A3	2011-10-05	Normal	SO	308925013	Nb-94	0.00131	pCi/g	0.0156		0.0045	U	0.00451	1	GAM24	04099544	0.00756	0.0095				pCi/g
SL-316-A3	2011-10-05	Normal	SO	308925013	Co-60	0.00348	pCi/g	0.0176		0.00495	U	0.00502	1	GAM24	04099544	0.00843	0.0085				pCi/g
SL-316-A3	2011-10-05	Normal	SO	308925013	Pa-231	-0.239	pCi/g	0.773		0.249	U	0.255	1	GAM24	04099544	0.379	0.45				pCi/g
SL-316-A3	2011-10-05	Normal	SO	308925013	Cf-249	-0.0278	pCi/g	0.0815		0.0333	U	0.034	1	GAM24	04099544	0.0399	0.05				pCi/g
SL-316-A3	2011-10-05	Normal	SO	308925013	C-14	-0.0439	pCi/g	0.67	11.9	0.199	U	0.199	1	LSCYELLOW	4140127	0.328	1				pCi/g
SL-316-A3	2011-10-05	Normal	SO	308925013	Pb-212	1.46	pCi/g	0.0322		0.0626		0.079	1	GAM24	04099544	0.0159	0.02				pCi/g
SL-316-A3	2011-10-05	Normal	SO	308925013	Na-22	0.000472	pCi/g	0.0206		0.0059	UJ	0.0059	1	GAM24	04099544	0.00993	0.0085				pCi/g
SL-316-A3	2011-10-05	Normal	SO	308925013	Cd-113m	-7.94	pCi/g	126		38.4	U	38.4	1	GAM24	04099544	62	35				pCi/g
SL-316-A3	2011-10-05	Normal	SO	308925013	U-238	0.975	pCi/g	0.0281		0.066		0.0912	1	1024	76542	0.0087	0.25	0.807	1.25	0.2	pCi/g
SL-316-A3	2011-10-05	Normal	SO	308925013	Pb-214	1.31	pCi/g	0.0326		0.0402		0.0591	1	GAM24	04099544	0.0159	0.02				pCi/g
SL-316-A3	2011-10-05	Normal	SO	308925013	Th-232	1.28	pCi/g	0.0806		0.12		0.139	1	1171	78260	0.0255	0.25	0.615	1.25	0.2	pCi/g
SL-316-A3	2011-10-05	Normal	SO	308925013	I-129	0.00898	pCi/g	0.203		0.0531	U	0.0531	1	XRAY5	488926	0.0852	0.5		1.25	0.25	pCi/g
SL-316-A3	2011-10-05	Normal	SO	308925013	Sr-90	-0.0514	pCi/g	0.24		0.063	U	0.063	1	PIC9C	311438	0.146	0.5	0.725	1.25	0.4	pCi/g
SL-316-A3	2011-10-05	Normal	SO	308925013	Cm-243/244	0.0119	pCi/g	0.00539		0.00563		0.00567	1	1224	87912	0	0.08	0.84	1.25	0.2	pCi/g
SL-316-A3	2011-10-05	Normal	SO	308925013	Pm-147	-1.79	pCi/g	6.51		1.86	U	1.86	1	LSCGOLD	7070506	3.13	10	0.934	1.25	0.4	pCi/g
SL-316-A3	2011-10-05	Normal	SO	308925013	Tc-99	0.958	pCi/g	1.33		0.411		0.414	1	LSCGREEN	7067404	0.649	1.5	0.976	1.25	0.2	pCi/g
SL-316-A3	2011-10-05	Normal	SO	308925013	Th-234	1.81	pCi/g	0.26		0.144		0.156	1	GAM24	04099544	0.379	0.2				pCi/g
SL-316-A3	2011-10-05	Normal	SO	308925013	Sb-125	-0.00264	pCi/g	0.0442		0.0133	U	0.0133	1	GAM24	04099544	0.0216	0.03				pCi/g
SL-316-A3	2011-10-05	Normal	SO	308925013	Cs-137	0.0403	pCi/g	0.0168		0.00696		0.00709	1	GAM24	04099544	0.00817	0.01				pCi/g
SL-316-A3	2011-10-05	Normal	SO	308925013	Ag-108m	-0.00638	pCi/g	0.0147		0.00503	U	0.00524	1	GAM24	04099544	0.00715	0.0085				pCi/g
SL-316-A3	2011-10-05	Normal	SO	308925013	Cs-134	0.006	pCi/g	0.0154		0.00497	U	0.00516	1	GAM24	04099544	0.00749	0.0085				pCi/g
SL-316-A3	2011-10-05	Normal	SO	308925013	Th-229	0.044	pCi/g	0.144		0.044	UJ	0.0441	1	1171	78260	0.0573	0.25	0.615	1.25	0.2	pCi/g
SL-316-A3	2011-10-05	Normal	SO	308925013	Bi-214	1.16	pCi/g	0.0304		0.0394		0.055	1	GAM24	04099544	0.0148	0.02				pCi/g
SL-316-A3	2011-10-05	Normal	SO	308925013	Ac-228	1.32	pCi/g	0.0931		0.0489		0.0654	1	GAM24	04099544	0.045	0.05				pCi/g
SL-316-A3	2011-10-05	Normal	SO	308925013	Ho-166m	0.000211	pCi/g	0.0266		0.00772	U	0.00772	1	GAM24	04099544	0.0129	0.02				pCi/g
SL-316-A3	2011-10-05	Normal	SO	308925013	Eu-155	0.0585	pCi/g	0.0631		0.0234		0.0235	1	GAM24	04099544	0.0311	0.04				pCi/g
SL-316-A3	2011-10-05	Normal	SO	308925013	Pu-238	0.00386	pCi/g	0.0179		0.00546	U	0.00546	1	1214	87902	0.00635	0.08	0.879	1.25	0.2	pCi/g
SL-316-A3	2011-10-05	Normal	SO	308925013	Sn-126	-0.00808	pCi/g	0.0166		0.00496	U	0.00531	1	GAM24	04099544	0.00805	0.01				pCi/g
SL-316-A3	2011-10-05	Normal	SO	308925013	Tl-208	0.435	pCi/g	0.0164		0.0208		0.0253	1	GAM24	04099544	0.00797	0.01				pCi/g
SL-316-A3	2011-10-05	Normal	SO	308925013	Ac-227	-0.0776	pCi/g	0.184		0.0548	U	0.0576	1	GAM24	04099544	0.0902	0.15				pCi/g
SL-316-A3	2011-10-05	Normal	SO	308925013	U-233/234	0.881	pCi/g	0.0774		0.0656		0.0875	1	1024	76542	0.0349	0.25	0.807	1.25	0.2	pCi/g
SL-316-A3	2011-10-05	Normal	SO	308925013	Th-230	1.25	pCi/g	0.118		0.121		0.139	1	1171	78260	0.0443	0.25	0.615	1.25	0.2	pCi/g

Appendix H
Field Sample Data Sheets and Boring Logs

Location ID:	Subarea:	Date Started:	Date Completed:
DG-1 (sediment	A3	7.18.12	7.18.12

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth: 0.5' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS:	Drill Method: NA	Depth Drilled into Bedrock: NA
Radiological Background: 15 µR, 90 cpm	Borehole diameter: 2.25"	
PID Background: 0.0 ppm	Depth to GW: NA	Sampling Method: slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:	Geologist: N. Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cm)	Sample Name	Sample Time	USCS	Description of Materials
0.5	0.5/0.5	0.0 / 0.0	15/87 / 12/87	SL-001-A3-SB-0.0-0.5	0810	SM	SILTY SAND: olive brown (2.5Y 4/3); 70% sand, pg f-m; 30% silt, non-plastic, soft (very soft); roots, leafs, wood; T. gravel, pg, R, max ϕ = 0.25"; dry, no odor. (in drainage). 0.5

Total depth of borehole to 0.5 ft. bgs. No GW encountered.

Mike Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace
c: coarse	lt: light	rnd: rounded	v: very
dk: dark	m: medium	sa: subangular	wg: well graded
f: fine	mod: moderate	sr: subrounded	ϕ: diameter

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Stephen Mupel

Sample ID SL-001-A3-SB-0.0-0.5 Date/Time 07/18/2012 0810

Matrix (circle one): Soil (Sediment) Water — SM 8/8/12

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID NA

Field Geologist Nacolynn Begay

Sampler John Halseth

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	X
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		(SM)	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. Is Fill Material Present: Yes (No)

2. Percentage Fill (%): 0

3. Fill Description (circle all that apply)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present: Yes (No)

Color: 2.5Y 4/3

Odor

1. Odor Strength (circle one)

None Slight Strong

2. Odor Description (circle one)

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

PG Signature: Nicole Hoffman **PG Registration #:** 7735

Additional Comments: NONE

NA – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
DO-2 (sediment)	A3	7.18.17	7.18.12

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth: 0.5 ' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS:	Drill Method: NA	Depth Drilled into Bedrock: NA
Radiological Background: 14uR, 83cpm	Borehole diameter: 2.25"	
PID Background: 0.0 ppm	Depth to GW: NA	Sampling Method: slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:	Geologist: N. Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0	0.5	0.0	14/90	SL-002-A3-SB-0.0-0.5	0730	SM	SILTY SAND: dgb (10YR 4/2); 85% sand, pg, m-c, sa-sr, mostly m; 15% silt, non-plastic, soft; roots, wood (in drainage). t. gravel (lithics), f, pg, max ϕ = 0.25"; dry, no odor.
0.5	0.5	0.0	14/90				Total depth of borehole to 0.5 ft. bgs. NO GW encountered.

Mike Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace
c: coarse	lt: light	rnd: rounded	v: very
dk: dark	m: medium	sa: subangular	wg: well graded
f: fine	mod: moderate	sr: subrounded	ϕ: diameter

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Nathalie Pham

Sample ID SL-002-A3-SB-0.0-0.5 Date/Time 07/18/2012 0730

Matrix (circle one): Soil (Sediment) Water — sneeha

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID NA

Field Geologist Nacolynn Begay

Sampler John Halseth

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	X
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		(SM)	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. Is Fill Material Present: Yes (No)
2. Percentage Fill (%): 0
3. Fill Description (circle all that apply)

Asphalt	Metal	Plastic
Concrete	Wood	Glass
Igneous/Metamorphic Gravel		(N/A)
Other _____		

Is Staining Present Yes (No)

Color 10YR 4/2

Odor

1. Odor Strength (circle one): (None) Slight Strong
2. Odor Description (circle one): Organic Petroleum Chemical (N/A) Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

PG Signature [signature] **PG Registration #** 7735

Additional Comments NONE

NA – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
D6-3	A3	7.18.12	7.18.12

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth: 0.5 ft. bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS:	Drill Method: NA	Depth Drilled into Bedrock: NA
Radiological Background: 14 µR/hr 78 cpm	Borehole diameter: 2.25"	
PID Background: 0.0 ppm	Depth to GW: NA	Sampling Method: slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:	Geologist: N. Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0	0.5	0.0	15/80	SL-003-A3-SB-0.0-0.5	0915	ML	SILT: olive brown (2.5Y 4/3); 90% silt, no plasticity, very soft; 10% sand, pg, f; dry, no odor; wood, leafs, & roots.
0.5	0.5	0.0	13/48				0.5
							Total depth to 0.5 ft. bgs. No GW encountered.

Mike Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace
c: coarse	lt: light	rnd: rounded	v: very
dk: dark	m: medium	sa: subangular	wg: well graded
f: fine	mod: moderate	sr: subrounded	ϕ: diameter

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Stephen Mysel

Sample ID SL-003-A3-SB-0.0-0.5 Date/Time 07/18/2012 0915

Matrix (circle one): Soil (Sediment) Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID NA

Field Geologist Nacolyn Bagus

Sampler John Halseth

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	X
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. Is Fill Material Present: Yes (No)

2. Percentage Fill (%): 0

3. Fill Description (circle all that apply)

Asphalt	Metal	Plastic
Concrete	Wood	Glass
Igneous/Metamorphic Gravel	N/A	
Other _____		

Is Staining Present Yes (No)

Color 2.5Y 4/3

Odor

1. Odor Strength (circle one): (None) Slight Strong

2. Odor Description (circle one): Organic Petroleum Chemical (N/A) Other _____

Moisture Condition (circle one): (Dry) Moist Wet

PG Signature Mike Hoffman **PG Registration #** 7735

Additional Comments NONE

NA – Not Applicable

Location ID: DG-A3-004	Subarea: A3	Date Started: 07/24/12	Date Completed: 7/24/12
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 0.5'
Company Name: CDM SMITH	Drill Contractor/Driller: NA		
GPS:	Drill Method: Ponar Dredge		Depth Drilled into Bedrock: NA
Radiological Background: NA	Borehole diameter: NA		
PID Background: NA	Depth to GW: NA		Sampling Method: Ponar Dredge
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:		Geologist: John Halsor

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cm)	Sample Name	Sample Time	USCS	Description of Materials
0.5	0.5 / 0.5	NA	NA	SL-004-A3-SB-0.0-0.5	0945	OL	ORGANIC SILT (OL), black (10YR 2/1); 95% Silt, low plasticity, ~~sof~~ NA 5% Sand, Poorly graded, fine to medium grained; Soft, unconsolidated, wet, organic odor.
							Total depth of dredge to 0.5'

Mike Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace
c: coarse	lt: light	rnd: rounded	v: very
dk: dark	m: medium	sa: subangular	wg: well graded
f: fine	mod: moderate	sr: subrounded	ϕ: diameter

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By JW

Sample ID SL-004-A3-SB-0.0-0.5 Date/Time 072412 0945

Matrix (circle one): ~~Soil~~ Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): DPT Slide Hammer Hand Auger/Slide Hammer Trenching Sediment

Ponar Dredge

QC Type (circle one): (N) FD FB RB

Parent Sample ID

Field Geologist John Halseth

Sampler Nathalie Pham

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	X
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. Is Fill Material Present: Yes (No)

2. Percentage Fill (%): 0

3. Fill Description (circle all that apply)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color black 10YR 2/1

Odor

1. Odor Strength (circle one)

None Slight (Strong)

2. Odor Description (circle one)

(Organic) Petroleum Chemical

N/A Other _____

Moisture Condition (circle one)

Dry Moist (Wet)

PG Signature Mike Hoffman **PG Registration #** 7735

Additional Comments Depth to water = 3.2 ft

NA – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
DG-A3-005	A3	07/24/17	7/24/17

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth: 0.5
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS:	Drill Method: ponar dredge	Depth Drilled into Bedrock: NA
Radiological Background: NA	Borehole diameter: NA	
PID Background: NA	Depth to GW: NA	Sampling Method: Ponar dredge
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:	Geologist: John Halseth

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.5/0.5	0.5/0.5	NA	NA	SL-005 A3-SB-0.0-0.5	1015	OL	ORGANIC SILT (OL), black (10YR 2/1); 95% Silt, low plasticity, 5% Sand, Poorly graded, fine-grained, soft, unconsolidated, wet, organic odor.
							Total depth of dredge to 0.5'

Nicole Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace
c: coarse	lt: light	rnd: rounded	v: very
dk: dark	m: medium	sa: subangular	wg: well graded
f: fine	mod: moderate	sr: subrounded	ϕ: diameter

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SL-005-A3-SD-0.0-0.5 Date/Time 072412 1015

Matrix (circle one): (Soil) (Sediment) Water

sm8812

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): DPT Slide Hammer Hand Auger/Slide Hammer Trenching (Sediment)

Ponar Dredge

QC Type (circle one): (N) FD FB RB

Parent Sample ID _____

Field Geologist John Hudseth

Sampler Nathalie Pham

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	X
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH ≤ 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH ≤ 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. Is Fill Material Present: Yes / No (No)

2. Percentage Fill (%): 0

3. Fill Description (circle all that apply)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel N/A

Other _____

03/24/12

Is Staining Present Yes / No (No)

Color black 10YR 2/1

Odor

1. Odor Strength (circle one)

pH 7.47

None Slight Strong

2. Odor Description (circle one)

Organic Petroleum Chemical

N/A Other _____

Moisture Condition (circle one)

Dry Moist Wet

PG Signature _____ **PG Registration #** 7735

Additional Comments Depth to water = 3.6 ft

NA – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
DG-A3-006	A3	07/24/12	7/24/12

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth: 0.5
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS:	Drill Method: Power Dredge	Depth Drilled into Bedrock: NA
Radiological Background: NA	Borehole diameter: NA	
PID Background: NA	Depth to GW: NA	Sampling Method: Power Dredge
Radiological Equipment Used: [✓] MicroR [✓] Alpha/Beta [✓] Pancake	PG Review & No.:	Geologist: John Hankin

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.5	0.5/0.5	NA	NA	SL-006-A3-SB-0.0-0.5	0835	OL	ORGANIC SILT (OL), black (10YR 2/1); 95% Silt, low plasticity, 5% Sand, Poorly graded, fine grained; soft, unconsolidated, wet, organic odor.
							Total depth of dredge to 0.5'
							Mike Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace
c: coarse	lt: light	rnd: rounded	v: very
dk: dark	m: medium	sa: subangular	wg: well graded
f: fine	mod: moderate	sr: subrounded	ϕ: diameter

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SL-006-A3-SB-0.0-0.5 Date/Time 07 24 12 0835 ~~0945~~ PH 72412

Matrix (circle one): ~~Soil~~ Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches Feet

Check if Composite ☐

Collection Method (circle one): DPT Slide Hammer Hand Auger/Slide Hammer Trenching Sediment

Ponar dredge

QC Type (circle one): N FD FB RB

Parent Sample ID

Field Geologist John Halseth

Sampler Nathalie Pham

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	X
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

07/24/12

Fill Material

1. Is Fill Material Present: Yes (No)

2. Percentage Fill (%): 0

3. Fill Description (circle all that apply)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color black (10YR 2/1)

Odor

1. Odor Strength (circle one)

None Slight (Strong)

2. Odor Description (circle one)

(Organic) Petroleum Chemical

N/A Other _____

Moisture Condition (circle one)

Dry Moist (Wet)

PG Signature Mike Hoffman **PG Registration #** 7735

Additional Comments Depth of water = 4.8 ft

NA – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
DG-A3-007	A3	07/24/12	07/24/12

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth: 0.5
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS:	Drill Method: Ponar Dredge	Depth Drilled into Bedrock: NA
Radiological Background: NA	Borehole diameter: NA	
PID Background: NA	Depth to GW: NA	Sampling Method: Ponar Dredge
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:	Geologist: John Hulsey

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.5	0.5/0.5	NA	NA	SL-007-A3-SB-00-05	0800	OL	ORGANIC SILT (OL), black (10 YR 2/1); 95% Silt, low plasticity; 5% Sand, poorly graded, fine grained; soft, wet, organic odor.
							Total depth of dredge to 0.5'

Tuler Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:			
amt: amount	gr: grained	pg: poorly graded	t: trace
c: coarse	lt: light	rnd: rounded	v: very
dk: dark	m: medium	sa: subangular	wg: well graded
f: fine	mod: moderate	sr: subrounded	ϕ: diameter

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SL-007-A3-SB-0.0-0.5 Date/Time 072412 0800

Matrix (circle one): Soil (Sediment) Water — Sediment 8812

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment — Piston direct push

QC Type (circle one): (N) FD FB RB

Parent Sample ID _____

Field Geologist John Halseth

Sampler Nathalie Pham

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	X
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

07/24/12

Fill Material

1. Is Fill Material Present: Yes (No)

2. Percentage Fill (%): 0

3. Fill Description (circle all that apply)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present: Yes (No)

Color: black (10YR 2/1)

Odor

1. Odor Strength (circle one)

None Slight (Strong)

2. Odor Description (circle one)

(Organic) Petroleum Chemical

N/A Other _____

Moisture Condition (circle one)

Dry Moist (Wet)

PG Signature: Mike Hoffman **PG Registration #:** 7735

Additional Comments: Depth of water 5.3 ft

NA – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
DB-008	A3	7.18.12	7.18.12

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth: 0.5' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS:	Drill Method: NA	Depth Drilled into Bedrock: NA
Radiological Background: 13 µR, 67 cpm	Borehole diameter: 2.25"	
PID Background: 0.0 ppm	Depth to GW: NA	Sampling Method: slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:	Geologist: N. Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.5	0.5/0.5	0.0 / 0.0	14/97 / 14/92	SL-008-A3-SB-0.0-0.5 MS	1210	ML	SILT WITH SAND: brown (10YR 5/3); 85%. silt, no plasticity, ~~non~~ 7.18.12 firm-soft; 15%. sand, pg, f; ~~f. gravel~~ 7.18.12; dry, no oder. 0.5 Total depth of borehole to 0.5 ft. bgs. No GW encountered.

Julie Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace
c: coarse	lt: light	rnd: rounded	v: very
dk: dark	m: medium	sa: subangular	wg: well graded
f: fine	mod: moderate	sr: subrounded	ϕ: diameter

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Nathalie Tham

Sample ID SL-008-A3-SB-0.0-0.5 MS Date/Time 07/18/2012 1210

Matrix (circle one): Soil (Sediment) Water — Sediment

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID NA

Field Geologist Nacolynn Begay

Sampler John Halseth

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	X
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		(ML)	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. Is Fill Material Present Yes (No)

2. Percentage Fill (%) (0)

3. Fill Description (circle all that apply)

Asphalt	Metal	Plastic
Concrete	Wood	Glass
Igneous/Metamorphic Gravel		(N/A)
Other _____		

Is Staining Present Yes (No)

Color 10YR 5/3

Odor

1. Odor Strength (circle one)

None (Slight) Strong

2. Odor Description (circle one)

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

PG Signature Julia Hoffman **PG Registration #** 7735

Additional Comments NONE

NA – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
D6-9	A3	7.18.12	7.18.12

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth: 0.5 ft. bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA	Depth Drilled into Bedrock: NA
GPS:	Drill Method: NA	Sampling Method: slide hammer
Radiological Background: 11μR/83cpm	Borehole diameter: 2.25"	Geologist: N. Begay
PID Background: 0.0 ppm	Depth to GW: NA	
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:	

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (μR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.5	0.5/0.6	0.0 / 0.0	14/73 / 13/64	SL-009-A3-SB-0.0-0.5	1305	OL	ORGANIC dark grayish brown (10YR 4/2); 90%. SOIL: organic soil, 10% sand, pg, f; dry, SILT low plasticity. Appears potting soil / peat-like in consistency. ~~organic~~ odor. ~~organic~~ odor. 0.5
							Total depth of borehole to 0.5 ft. bgs. No GW encountered.

Mike Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace
c: coarse	lt: light	rnd: rounded	v: very
dk: dark	m: medium	sa: subangular	wg: well graded
f: fine	mod: moderate	sr: subrounded	ϕ: diameter

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Nathalie Phan

Sample ID SL-009-A3-SB-0.0-0.5 Date/Time 07/18/2012 1305

Matrix (circle one): Soil (smear) / Sediment / Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches / Feet

Check if Composite ☐

Collection Method (circle one): DPT / Slide Hammer / Hand Auger/Slide Hammer / Trenching / Sediment

QC Type (circle one): N / FD / FB / RB

Parent Sample ID NA

Field Geologist Nacolynn Begay

Sampler John Halseth

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	X
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	X
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)

2. **Percentage Fill (%)** 0

3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 4/2

Odor

1. **Odor Strength (circle one)**

None Slight Strong

2. **Odor Description (circle one)**

(Organic) Petroleum Chemical

N/A Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

PG Signature _____ **PG Registration #** 7735

Additional Comments NONE

NA – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
DG-10	A3	7.18.12 Wed.	7.18.12

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth: 0.5 ' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS:	Drill Method: NA	Depth Drilled into Bedrock: NA
Radiological Background: 15 µR, 42 cpm	Borehole diameter: 2.25"	
PID Background: 0.0 ppm	Depth to GW: NA	Sampling Method: slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:	Geologist: N. Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cm)	Sample Name	Sample Time	USCS	Description of Materials
0.5	0.5/0.5	0.0 / 0.0	15/85 / 13/85	SL-010-A3-SB-0.0-0.5	1340	ML	SILT WITH SAND: brown (10YR 5/3); 75% silt, no plasticity, very soft - firm; 25% sand, pg, f; roots, wood, leafs; dry, no odor. 0.5 Total depth of bore hole to 0.5 ' bgs. No GW encountered.

Mike Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace
c: coarse	lt: light	rnd: rounded	v: very
dk: dark	m: medium	sa: subangular	wg: well graded
f: fine	mod: moderate	sr: subrounded	ϕ: diameter

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By NPP Nathalie Pham

Sample ID SL-010-A3-SB-0.0-0.5 Date/Time 07/18/2012 1340

Matrix (circle one): Soil (Sediment) Water — Sediment

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID NA

Field Geologist Nacolynn Begay

Sampler John Halseth

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	X
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	X
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH ≤ 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH ≤ 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)

2. **Percentage Fill (%)** (0)

3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 5/3

Odor

1. **Odor Strength (circle one)**

None Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

PG Signature Mike Hoffman **PG Registration #** 7735

Additional Comments NONE

NA – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
D6-11	A3	7.17.12 Tuesday	→

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth: 0.5' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS:	Drill Method: NA	Depth Drilled into Bedrock: NA
Radiological Background: 14uR, 94cpm	Borehole diameter: 2.25"	
PID Background: 0.0ppm	Depth to GW: NA	Sampling Method: slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:	Geologist: NB

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cm)	Sample Name	Sample Time	USCS	Description of Materials
		0.0	14/94	SL-011-A3-SB-0.0-0.5	1235	ML	SILT: brown (10YR 5/3); 90%. silt, non-plastic, soft-firm; 10%. sand, pg, f; T. leafs, stick (in drainage); DRY, no odor.
0.5		0.0	14/78				0.5
							Total depth of borehole to 0.5-ft. bgs. No GW encountered.
							Mike Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:			
amt: amount	gr: grained	pg: poorly graded	t: trace
c: coarse	lt: light	rnd: rounded	v: very
dk: dark	m: medium	sa: subangular	wg: well graded
f: fine	mod: moderate	sr: subrounded	ϕ: diameter

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Mark Nathalie Tham

Sample ID SL-011-A3-SB-0.0-0.5 Date/Time 07/17/2012 1235

Matrix (circle one): Soil (Sediment) Water — SM8812

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID NA

Field Geologist Nardynn Begay

Sampler John Halseth

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	X
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	X
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)

2. **Percentage Fill (%)** (0)

3. **Fill Description (circle all that apply)**

Asphalt	Metal	Plastic
Concrete	Wood	Glass
Igneous/Metamorphic Gravel	(N/A)	
Other _____		

Is Staining Present Yes (No)

Color 10 YR 5/3

Odor

1. **Odor Strength (circle one)**
   None (Slight) Strong

2. **Odor Description (circle one)**
   Organic Petroleum Chemical
   (N/A) Other _____

Moisture Condition (circle one)
(Dry) Moist Wet

PG Signature Mike Hoffman **PG Registration #** 7735

Additional Comments NONE

NA – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
DG-12	A3	7.17.12	7.17.12

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth: 0.5 ft. bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS:	Drill Method: NA	Depth Drilled into Bedrock: NA
Radiological Background: 15uR, 111cpm	Borehole diameter: 2.25"	
PID Background: 0 ppm	Depth to GW: NA	Sampling Method: slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:	Geologist: N. Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.5	0.5 / 0.5	0.0	13/83	SL-012-A3-SB-0.0-0.5	1320	ML	SILT WITH SAND) brown (10YR 5/3); 75% silt, non-plastic, firm; 25% sand, pg, f-m, T. coarse, sa-sr; T. gravel (igneous); pg, f, a-sa, max ϕ = 1.25" dry, no odor. 0.5 Total depth of borehole to 0.5 ft. bgs. No GW encountered.

Mike Gilligan #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace
c: coarse	lt: light	rnd: rounded	v: very
dk: dark	m: medium	sa: subangular	wg: well graded
f: fine	mod: moderate	sr: subrounded	ϕ: diameter

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Nathalie Tham

Sample ID SL-012-A3-SB-0.0-0.5 Date/Time 07/17/2012 1320

Matrix (circle one): Soil, Sediment, Water — Sm8012

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches, Feet

Check if Composite ☐

Collection Method (circle one): DPT, Slide Hammer, Hand Auger/Slide Hammer, Trenching, Sediment

QC Type (circle one): N, FD, FB, RB

Parent Sample ID NA

Field Geologist Nacolynn Begay

Sampler John Halseth

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	X
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	X
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML (circled)	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** (Yes) No

2. **Percentage Fill (%)** 25

3. **Fill Description (circle all that apply)**

Asphalt	Metal	Plastic
Concrete	Wood	Glass
(Igneous/Metamorphic Gravel)		N/A
Other _____		

Is Staining Present Yes (No)

Color 10YR 5/3

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

PG Signature Mike Hoffman **PG Registration #** 7735

Additional Comments NONE

NA – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
DG-13	A3	7.17.12 - Tuesday	7.17.12

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth: 0.5' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS:	Drill Method: NA	Depth Drilled into Bedrock: NA
Radiological Background: 12uR, 84cpm	Borehole diameter: 2.25"	
PID Background: 0.0 ppm	Depth to GW: NA	Sampling Method: slide hammer
Radiological Equipment Used: [✓] MicroR [✓] Alpha/Beta [✓] Pancake	PG Review & No.:	Geologist: NB

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.5	0.5/0.5	0.0	14/90	SL-013-A3-SB-0.0-0.5	1405	ML	SILT: brown (10YR 4/3); 90% silt, non-plastic, firm; 10% sand, pg, f,t.m; dry, no oder.
							Total depth of borehole to 0.5 ft. bgs. No GW encountered.

Mike Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace
c: coarse	lt: light	rnd: rounded	v: very
dk: dark	m: medium	sa: subangular	wg: well graded
f: fine	mod: moderate	sr: subrounded	ϕ: diameter

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Nathalie Pham

Sample ID SL-013-A3-SB-0.0-0.5 Date/Time 07/17/2012 1405

Matrix (circle one): Soil (SmBld) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches Feet

Check if Composite ☐

Collection Method (circle one): DPT Slide Hammer Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): N FD FB RB

Parent Sample ID NA

Field Geologist Nacohynn Begay

Sampler John Halseth

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	X
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	X
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		(ML)	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)

2. **Percentage Fill (%)** Ø

3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 4/3

Odor

1. **Odor Strength (circle one)**

None Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

PG Signature Mike D Hoffman **PG Registration #** 7735

Additional Comments NONE

NA – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
DG-14	A3	7.17.12 →	→

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth: 0.5' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS:	Drill Method: NA	Depth Drilled into Bedrock: NA
Radiological Background: 14 µR, 72 cpm	Borehole diameter: 2.25"	
PID Background: 0.0 ppm	Depth to GW: NA	Sampling Method: slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.: ↓	Geologist: NB

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
	0.5 / 0.5	0.0	15187	SL-014-A3-SB-0.0-0.5	1055	CL	CLAY: brown (10YR 5/3); 90% clay, low plas, soft-firm; 10% sand, pg, f-m; T. gravel (igneous) at surface, pg, f, max ϕ=1", sa-sr; dry, no odor. Wood pieces
0.5		0.0	13148				0.5
							Total depth of borehole to 0.5' bgs. No GW encountered.

Mike Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace
c: coarse	lt: light	rnd: rounded	v: very
dk: dark	m: medium	sa: subangular	wg: well graded
f: fine	mod: moderate	sr: subrounded	ϕ: diameter

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SL-014-A3-SB-0.0-0.5 Date/Time 07/17/2012 1035

Matrix (circle one): Soil (Sediment) Water — SM8/18

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): (DPT) Slide Hammer Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID NA

Field Geologist Nacolynn Begay

Sampler John Halseth

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	X
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	X
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. Is Fill Material Present (Yes) No

2. Percentage Fill (%) 100

3. Fill Description (circle all that apply)

Asphalt Metal Plastic

Concrete (Wood) Glass

(Igneous/Metamorphic Gravel) N/A

Other _____

Is Staining Present Yes (No)

Color 10YR 5/3

Odor

1. Odor Strength (circle one)

(None) Slight Strong

2. Odor Description (circle one)

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

PG Signature Miles Hoffman **PG Registration #** 7735

Additional Comments NONE

NA – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
DG-15	A3	7.17.12	7.12.12

Client: DOE — Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 0.5' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS:	Drill Method: NA	Depth Drilled into Bedrock: NA
Radiological Background: 12uR, 60 cpm	Borehole diameter: 2.25"	
PID Background: 0.0 ppm	Depth to GW: NA	Sample Method: slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: ↓	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
		0.0	H/12b	SL-015-A3-SB-0.0-0.5	0955	CL	CLAY: brown (10YR 7/5); 90% clay, low plas, soft-firm; 10% sand, pg, f; T. igneous gravel at surface, pg f, max ϕ = 1.25"; DRY, no odor. (FILL)
0.5		0.0	12/48				0.5
							Total depth of borehole to 0.5' bgs. No GW encountered.

Mike Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SL-015-A3-SB-00-0.5 Date/Time 07/17/2012 0955

Matrix (circle one): Soil (Sediment) Water — Smear12

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID NA

Field Geologist Nacolynn Begay

Sampler John Halseth

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	X
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	X
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH ≤ 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH ≤ 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				(CL)	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** (Yes) No

2. **Percentage Fill (%)** 100

3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel) N/A

Other _____

Is Staining Present Yes (No)

Color 10YR 3/5

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

PG Signature Nate Hoffman 7.17.12 **PG Registration #** 7735

Additional Comments NONE

NA – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
DG-16 Sediment	A3	7.17.12	7.17.12

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth: 0.5' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS:	Drill Method: slide hammer	Depth Drilled into Bedrock: NA
Radiological Background: 15uR, 94cpm	Borehole diameter: 2.25"	
PID Background: 0.0 ppm	Depth to GW: NA	Sample Method: slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: ↓	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
	0.5/0.5	0.0	14/84	SL-16-A3-SB-0.0-0.5 MS	0855	ML	SILT: brown (10YR 5/3); 90% silt, no plasticity, soft to firm; 10% sand, pg, f; dry, no odor.
0.5		0.0	13/42	SL-16-A3-SB-0.0-0.5	0900		0.5 Total depth of borehole to 0.5 ft. bgs. No GW encountered.

Mike Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Nathalie Pham

Sample ID SL-016-A3-SB-0.0-0.5MS Date/Time 07/17/2012 0855

Matrix (circle one): Soil (Sediment) Water — Sm9812

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID NA

Field Geologist Nacolynn Begay

Sampler John Halseth

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	X
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)

2. **Percentage Fill (%)** Ø

3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 5/3

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

PG Signature Mike Hoffman **PG Registration #** 7735

Additional Comments NONE

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Natalie Pham

Sample ID SL-316-A3-SB-0.0-0.5 Date/Time 07/17/2012 0900

Matrix (circle one): Soil (Sediment) Water — Sm8812

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): N (FD) FB RB

Parent Sample ID SL-016-A3-SB-0.0-0.5 MS

Field Geologist Nacolynn Begay

Sampler John Halseth

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	X
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH ≤ 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH ≤ 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)

2. **Percentage Fill (%)** 0

3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10 YR 5/3

Odor

1. **Odor Strength (circle one)**

None Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

PG Signature Mike Hoffman **PG Registration #** 7735

Additional Comments NONE

NA – Not Applicable

Location ID: DG-17 (Sediment)	Subarea: A3	Date Started: 7.17.12	Date Completed: 7.12.12
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 0.6
Company Name: CDM SMITH	Drill Contractor/Driller: NA		
GPS:	Drill Method: slide hammer		Depth Drilled into Bedrock: NA
Radiological Background: 15μR, 85cpm	Borehole diameter:		
PID Background: 1.0 ppm	Depth to GW: NA		Sample Method: slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: ↓		Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (μR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.0	0.5 / 0.5	0.0	15/66	SL-17-A3-SB-0.0-0.5	0755	ML	SILT WITH SAND: Brown (10YR 4/3); 90%, non-plastic, firm to soft; 15% sand, 85 pg, f; dry, no odor. T. Ss, max ϕ = 1" 7.17.12
0.5		0.0	15/85				0.5
							Total depth of borehole to 0.5 ft. bgs. No GW encountered.
							Mike Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Nathalie Pham

Sample ID SL-17-A3-SB-0.0-0.5 Date/Time 07/17/2012 0750

Matrix (circle one): Soil (Smeared) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches Feet

Check if Composite ☐

7.17.12 JB

Collection Method (circle one): DPT Slide Hammer Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): N FD FB RB

Parent Sample ID NA

Field Geologist Nacolynn Begay

Sampler John Halseth

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	X
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML (circled)	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)

2. **Percentage Fill (%)** 0

3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 4/3

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

PG Signature Mike Hoffman **PG Registration #** 7735

Additional Comments NONE

NA – Not Applicable

Appendix I
Chain of Custodies

SAMPLE DELIVERY GROUP

12G123

Analysis Request/ Environmental Services Chain of Custody

Lancaster Laboratories

EMAX
1835 W 205th St
Torrance CA 90501

For Lancaster Laboratories use only 12GT123

Acct. # _____ Group# _____ Sample # _____

COC # 213689

Please print. Instructions on reverse side correspond with circled numbers.

(1) Client: CDM Smith Acct. #: _____

Project Name/#: SSFL PWSID #: _____

Project Manager: John Wondolleck P.O.#: _____

Sampler: Nacalynn Beegay Quote #: _____

Name of state where samples were collected: CA

For Lab Use Only
FSC: _____
SCR#: _____

Preservation Codes
H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

(6) Preservation Codes (Preservation of each container)

(2) Sample Identification	Date Collected	Time Collected	(3) Grab	Composite	(4) Matrix: Soil	Water	Other	Total # of Containers	(5) Analyses Requested: Preservation Codes — PAH 8270	PCB IPCT 8082	Metals 6010+6020+7174	TPH-EFH 8015	Terphenyls 8015	Perchlorate 6850/6860	Remarks
1	SL-016-A3-SB-0.0-0.5ms	7/17/12	0855	X		X			1	X	X	X	X	X		MS/MSD
2	SL-017-A3-SB-0.0-0.5		0750	X		X			1	X	X	X	X	X		
3	SL-316-A3-SB-0.0-0.5		0900	X		X			1	X	X	X	X	X		
4	SL-014-A3-SB-0.0-0.5		1035	X		X			1	X	X	X	X	X	X	
5	SL-015-A3-SB-0.0-0.5		0955	X		X			1	X	X	X	X	X	X	
6	SL-011-A3-SB-0.0-0.5		1235	X		X			1	X	X	X	X	X	X	
7	SL-012-A3-SB-0.0-0.5		1320	X		X			1	X	X	X	X	X	X	
8	SL-013-A3-SB-0.0-0.5		1405	X		X			1	X	X	X	X	X	X	
																T=5.0°C

(7) **Turnaround Time Requested** (TAT) (please circle): (Normal) Rush

(Rush TAT is subject to Lancaster Laboratories approval and surcharge.) (10day)

Date results are needed: _____

Rush results requested by (please circle): Phone Fax E-mail

Phone #: _____ Fax #: _____

E-mail address: _____

(8) **Data Package Options** (please circle if required)

Type I (validation/NJ Reg)
Type II (Tier II)
Type III (Reduced NJ)
Type IV (CLP SOW)
Type VI (Raw Data Only)

TX TRRP-13
MA MCP CT RCP

SDG Complete? Yes No

Site-specific QC (MS/MSD/Dup)? Yes No
(If yes, indicate QC sample and submit triplicate volume.)

Internal COC Required? Yes / No _____

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	7/17/12	1630	[signature]	7-17-12	1705
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time

(9)

SAMPLE DELIVERY GROUP

12G140

Analysis Request/ Environmental Services Chain of Custody

PA 7/18/12

Lancaster Laboratories EMAX

For Lancaster Laboratories use only

Acct. # _____ Group# _____ Sample # _____

COC # 213691

126140

Please print. Instructions on reverse side correspond with circled numbers.

(1) Client: CDM Smith Acct. #: _____

Project Name/#: SSFL PWSID #: _____

Project Manager: John Windolleck P.O.#: _____

Sampler: John Halseth Quote #: _____

Name of state where samples were collected: _____

For Lab Use Only

FSC: _____

SCR#: _____

Preservation Codes

H=HCl T=Thiosulfate

N=HNO_3 B=NaOH

S=H_2SO_4 O=Other

(6) Comments/ Special Requirements

(2) Sample Identification	Date Collected	Time Collected	(3) Grab	Composite	Matrix: Soil	Matrix: Water	Matrix: Other	(4) Lab # Containers	(5) Analyses Requested: Metals+Hg 6010 7471 6020	PAHs 8270 sim	RBIPCTs 8082	TPH-EFH 8015	Perchlorate 6850/ 6860	pH 9040	Remarks
1 SL-001-A3-SB-0.0-0.5	7/18/12	0810	X		X			1	X	X	X	X			
2 SL-002-A3-SB-0.0-0.5		0730	X		X			1	X	X	X	X			
3 SL-003-A3-SB-0.0-0.5		0915	X		X			1	X	X	X	X			
4 EB-071812		1500				X		7		X	X	X			1L Ambers
EB-071812		1500				X		1					X	X	500mL Poly
EB-071812		1500				X		1	X						250mL Poly HNO_3
5 SL-008-A3-SB-0.0-0.5MS		1210			X			2	X	X	X	X			MS/MSD
6 SL-010-A3-SB-0.0-0.5		1340			X			1	X	X	X	X	X		
7 SL-009-A3-SB-0.0-0.5	↓	1305	↓		X			1	X	X	X	X	X		

(7) **Turnaround Time Requested** (TAT) (please circle): (Normal) Rush

(Rush TAT is subject to Lancaster Laboratories approval and surcharge.) 10 day

Date results are needed: _____

Rush results requested by (please circle): Phone Fax E-mail

Phone #: _____ Fax #: _____

E-mail address: _____

(8) **Data Package Options** (please circle if required)

Type I (validation/NJ Reg)

Type II (Tier II)

Type III (Reduced NJ)

Type IV (CLP SOW)

Type VI (Raw Data Only)

TX TRRP-13

MA MCP CT RCP

SDG Complete? Yes No

Site-specific QC (MS/MSD/Dup)? Yes No

(If yes, indicate QC sample and submit triplicate volume.)

Internal COC Required? Yes / No _____

Relinquished by:	Date	Time	Received by:	Date	Time
Pamela Hartman	7/18/12	1600		7/18/12	17:00
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time

(9)

Lancaster Laboratories, Inc., 2425 New Holland Pike, Lancaster, PA 17601 (717) 656-2300 Fax: (717) 656-6766

Copies: White and yellow should accompany samples to Lancaster Laboratories. The pink copy should be retained by the client.

1) 4.3°C

2) 5.2°C

EMAX

2102.03

SAMPLE DELIVERY GROUP

12G198

A3 E

SSFL Phase 3 Chain of Custody

126198

CDM Smith

DateShipped: 7/24/2012

CarrierName:

AirbillNo:

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

No: 20120724-05

Cooler #:

Lab: EMAX LABORATORIES

Lab Phone: 310-618-8889 x121

	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-ERH 8015	Glycols 8015	Alcohols 8015	Terpenoids 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
1	SL-004-A3-SB-0.0-0.5	7/24/12 09:45	SO	None	3 - 16 oz glass	10 day	X	X					X			X											X										
2	SL-005-A3-SB-0.0-0.5	7/24/12 10:15	SO	None	3 - 16 oz glass	10 day	X	X					X			X											X										
3	SL-006-A3-SB-0.0-0.5	7/24/12 08:35	SO	None	3 - 16 oz glass	10 day	X	X					X			X											X										
4	SL-007-A3-SB-0.0-0.5	7/24/12 08:00	SO	None	3 - 16 oz glass	10 day	X	X					X			X											X										
5	EB-072412	7/24/12 14:00	WQ	None	7 - 1 L Amber	10 day							X			X											X										For Area 3 Pond
	EB-072412	7/24/12 14:00	WQ	HNO3 pH<2	1 - 250 mL Poly	10 day	X		X																												For Area 3 Pond

Special Instructions:

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
	Stephanie Mupdi	07/24/2012	Candice Cole	7/24/12	16:45						

1) T = 4.8 °C

2) T = 5.3 °C

(1)

SAMPLE DELIVERY GROUP

PH020

Analysis Request/ Environmental Services Chain of Custody

Lancaster Laboratories

For Lancaster Laboratories use only

Acct. # 13013 Group# 132851 Sample # 6724180-89

COC # 213688

Please print. Instructions on reverse side correspond with circled numbers.

For Lab Use Only PH020

FSC: _____

SCR#: _____

(1) Client: COM Smith Acct. #: _____

Project Name/#: SSFL PWSID #: _____

Project Manager: John Wondolleck P.O.#: _____

Sampler: Nacalynn Beegay Quote #: _____

Name of state where samples were collected: _____

(4) Matrix

(5) Analyses Requested — Preservation Codes

Preservation Codes
H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

(6)

(2) Sample Identification	Date Collected	Time Collected	(3) Grab	Comp	Soil	Water	Other	# of Containers	Dioxins 1613	Remarks
SL-016-A3-SB-0.0-0.5 MS	7/17/12	0855	X		X			1	X	MS/MSD
SL-017-A3-SB-0.0-0.5		0750	X		X			1	X	
SL-316-A3-SB-0.0-0.5		0900	X		X			1	X	
SL-014-A3-SB-0.0-0.5		1035	X		X			1	X	
SL-015-A3-SB-0.0-0.5		0955	X		X			1	X	
SL-011-A3-SB-0.0-0.5		1235	X		X			1	X	
SL-012-A3-SB-0.0-0.5		1320	X		X			1	X	
SL-013-A3-SB-0.0-0.5		1405	X		X			1	X	

(7) **Turnaround Time Requested** (TAT) (please circle): (Normal) Rush

(Rush TAT is subject to Lancaster Laboratories approval and surcharge.) (10 day)

Date results are needed: _____

Rush results requested by (please circle): Phone Fax E-mail

Phone #: _____ Fax #: _____

E-mail address: _____

(8) **Data Package Options** (please circle if required)

Type I (validation/NJ Reg)
Type II (Tier II)
Type III (Reduced NJ)
Type IV (CLP SOW)
Type VI (Raw Data Only)

TX TRRP-13
MA MCP CT RCP

SDG Complete? Yes No

Site-specific QC (MS/MSD/Dup)? Yes No
(If yes, indicate QC sample and submit triplicate volume.)

Internal COC Required? Yes / No

(9)

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	7/17/12	1630			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by: Deborah Nesh	7/18/12	0920

SAMPLE DELIVERY GROUP

PH024

Analysis Request/ Environmental Services Chain of Custody

Lancaster Laboratories

For Lancaster Laboratories use only

Acct. # 13013 Group# 1323175 Sample # 6726246-54

COC # 213690 PH024

Please print. Instructions on reverse side correspond with circled numbers.

For Lab Use Only
FSC:
SCR#:

(1) Client: CDM Smith Acct. #:
Project Name/#: SSFL PWSID #:
Project Manager: John Wondolleck P.O.#:
Sampler: John Halseth Quote #:
Name of state where samples were collected: CA

(4) Matrix: SL = Soil, WP = Wipe, DW = Drinking Water, GW = Groundwater, WW = Wastewater, O = Other

(5) Analyses Requested — Preservation Codes

(6) Preservation Codes: H=HCl, T=Thiosulfate, N=HNO_3, B=NaOH, S=H_2SO_4, O=Other

(2) Sample Identification	Date Collected	Time Collected	(3) # of containers	Matrix (4)	Dioxin 1613	Terphenyls 8015	Remarks
SL-001-A3-SB-0.0-0.5	7/18/12	0810	X	X	X	X	(1 sleeve)
SL-002-A3-SB-0.0-0.5		0730	X	X	X	X	(1 sleeve)
SL-003-A3-SB-0.0-0.5		0915	X	X	1	X	X
EB-071812		1500		X	3	X	X 3 1L Ambers
SL-008-A3-SB-0.0-0.5MS		1210	X	X	2	X	X MS/MSD
SL-010-A3-SB-0.0-0.5		1340	X	X	1	X	X
SL-009-A3-SB-0.0-0.5		1305	X	X	1	X	X

(7) **Turnaround Time Requested** (TAT) (please circle): (Normal) Rush
(Rush TAT is subject to Lancaster Laboratories approval and surcharge.) 10 days
Date results are needed:
Rush results requested by (please circle): Phone Fax E-mail
Phone #: Fax #:
E-mail address:

(8) **Data Package Options** (please circle if required)
Type I (validation/NJ Reg)
Type II (Tier II)
Type III (Reduced NJ)
Type IV (CLP SOW)
Type VI (Raw Data Only)
TX TRRP-13
MA MCP CT RCP
SDG Complete? Yes No
Site-specific QC (MS/MSD/Dup)? Yes No
(If yes, indicate QC sample and submit triplicate volume.)
Internal COC Required? Yes / No

(9)

Relinquished by:	Date	Time	Received by:	Date	Time
Pamela Hartman	7/18/12	1600			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by: Amelia H. Owen	7/19/12	0925

A3L acct#13013 Lap# 1324385 Sample# 6732506-10

SSFL Phase 3 Chain of Custody

PH024

CDM Smith

DateShipped: 7/24/2012

CarrierName: FedEx

AirbillNo: 793825487299

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

No: 20120724-06

Cooler #:

Lab: Lancaster

Lab Phone: 717-556-7259

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 9040 (Water)	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-004-A3-SB-0.0-0.5	7/24/12 09:45	SO	None	1 - 16 oz glass	10 day										X														X								
SL-005-A3-SB-0.0-0.5	7/24/12 10:15	SO	None	1 - 16 oz glass	10 day										X														X								
SL-006-A3-SB-0.0-0.5	7/24/12 08:35	SO	None	1 - 16 oz glass	10 day										X														X								
SL-007-A3-SB-0.0-0.5	7/24/12 08:00	SO	None	1 - 16 oz glass	10 day										X														X								
EB-072412	7/24/12 14:00	WQ	None	3 - 1 L Amber	10 day										X														X								For Area 3 Pond

Special Instructions:

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
		07/24/2012									
										7/25/12	920

SAMPLE DELIVERY GROUP

PTO22

Analysis Request/ Environmental Services Chain of Custody

Lancaster Laboratories

For Lancaster Laboratories use only
Acct. # 13013 Group# 1322850 Sample # 6724170-79

COC # 213688

Please print. Instructions on reverse side correspond with circled numbers.

For Lab Use Only PT022
FSC:
SCR#:

(1) Client: COM Smith Acct. #:
Project Name/#: SSFL PWSID #:
Project Manager: John Wandelleck P.O.#:
Sampler: Maralyn Bergey Quote #:
Name of state where samples were collected:

(2) Sample Identification	Date Collected	Time Collected	(3) Grab	Composite	(4) Matrix: Soil	Water	Other	Potable Check if: NPDES Applicable	Total # of Containers	(5) Analyses Requested: Preservation Codes: Alexis 1613	Remarks
SL-016-A3-SB-0.0-0.5MS	7/17/12	0855	X		X				1	X	MS/MSD
SL-017-A3-SB-0.0-0.5		0750	X		X				1	X	
SL-316-A3-SB-0.0-0.5		0900	X		X				1	X	
SL-014-A3-SB-0.0-0.5		1035	X		X				1	X	
SL-015-A3-SB-0.0-0.5		0955	X		X				1	X	
SL-011-A3-SB-0.0-0.5		1235	X		X				1	X	
SL-012-A3-SB-0.0-0.5		1320	X		X				1	X	
SL-013-A3-SB-0.0-0.5		1405	X		X				1	X	

Preservation Codes
H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

(6) Temperature of samples upon receipt (if required)

(7) **Turnaround Time Requested** (TAT) (please circle): Normal Rush (10 day)
(Rush TAT is subject to Lancaster Laboratories approval and surcharge.)
Date results are needed:
Rush results requested by (please circle): Phone Fax E-mail
Phone #: Fax #:
E-mail address:

(8) **Data Package Options** (please circle if required)
Type I (validation/NJ Reg)
Type II (Tier II)
Type III (Reduced NJ)
Type IV (CLP SOW)
Type VI (Raw Data Only)
TX TRRP-13
MA MCP CT RCP
SDG Complete? Yes No
Site-specific QC (MS/MSD/Dup)? Yes No
(If yes, indicate QC sample and submit triplicate volume.)
Internal COC Required? Yes / No

(9)

Relinquished by:	Date	Time	Received by:	Date	Time
	7/17/12	1630			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by: Deborah Veal	7/18/12	0920

Analysis Request/ Environmental Services Chain of Custody

Lancaster Laboratories

For Lancaster Laboratories use only
Acct. # 1301B Group# 1322850 Sample # 6724170-79

COC # 213688

Please print. Instructions on reverse side correspond with circled numbers.

For Lab Use Only PT022
FSC:
SCR#:

(1) Client: CVM Smith Acct. #:
Project Name/#: SSTL PWSID #:
Project Manager: John Wendelbeck P.O.#:
Sampler: Naralynn Bogay Quote #:
Name of state where samples were collected:

(3) (4) (5) Preservation Codes

(2)																				
SL-016-A3-SB-0.0-0.5 MS	9/13/12	0855	X		X					1	X	X								MS/MSD
SL-017-A3-SB-0.0-0.5		0950	X		X					1	X	X								
SL-016-A3-SB-0.0-0.5		0910	X		X					1	X	X								Terphenyls were added per PM. NM 9/14/12
SL-014-A3-SB-0.0-0.5		1035	X		X					1	X	X								
SL-015-A3-SB-0.0-0.5		0955	X		X					1	X	X								
SL-011-A3-SB-0.0-0.5		1235	X		X					1	X	X								
SL-012-A3-SB-0.0-0.5		1320	X		X					1	X	X								
SL-013-A3-SB-0.0-0.5		1405	X		X					1	X	X								

Dioxins 1613 | Terphenyls

Preservation Codes (6)
H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

Remarks

(7) **Turnaround Time Requested (TAT)** (please circle): (Normal) Rush 10 day
(Rush TAT is subject to Lancaster Laboratories approval and surcharge.)
Date results are needed:
Rush results requested by (please circle): Phone Fax E-mail
Phone #: Fax #:
E-mail address:

(8) **Data Package Options** (please circle if required)
Type I (validation/NJ Reg)
Type II (Tier II)
Type III (Reduced NJ)
Type IV (CLP SOW)
Type VI (Raw Data Only)
TX TRRP-13
MA MCP CT RCP
SDG Complete? Yes No
Site-specific QC (MS/MSD/Dup)? Yes No
(If yes, indicate QC sample and submit triplicate volume.)
Internal COC Required? Yes / No

(9)

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	9/13/12	1630			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time

SAMPLE DELIVERY GROUP

PTO24

Analysis Request/ Environmental Services Chain of Custody

Lancaster Laboratories

For Lancaster Laboratories use only

Acct. # 13013 Group# 1323172 Sample # 6726224-32

COC # 213690 PT024

Please print. Instructions on reverse side correspond with circled numbers.

(1) Client: CDM Smith Acct. #:

Project Name/#: SSFL PWSID #:

Project Manager: John Niendorf P.O.#:

Sampler: John Hazlett Quote #:

Name of state where samples were collected: CA

For Lab Use Only
FSC:
SCR#:

Preservation Codes
H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

(6) Temperature of Samples Received (°C)

(2) Sample Identification	Date Collected	Time Collected	(3) Grab	Composite	(4) Matrix: Soil	Surface Water	Ground Water	Other	Total # of Containers	(5) Analyses Requested: Preservation Codes: Dioxin 1613	Terphenyls 8015	Remarks
SL-001-A3-SB-0.0-0.5	7/18/12	0810	X		X				X	X	X	(1 sleeve)
SL-002-A3-SB-0.0-0.5		0730	X		X				X	X	X	(1 sleeve)
SL-003-A3-SB-0.0-0.5		0915	X		X				1	X	X	
EB-071812		1500				X			3	X	X	3 1L Ambers
SL-003-A3-SB-0.0-0.5MS		1210	X		X				2	X	X	MS/MSD
SL-010-A3-SB-0.0-0.5		1340	X		X				1	X	X	
SL-009-A3-SB-0.0-0.5		1305	X		X				1	X	X	

(7) **Turnaround Time Requested** (TAT) (please circle): (Normal) Rush
(Rush TAT is subject to Lancaster Laboratories approval and surcharge.) 10 day
Date results are needed:
Rush results requested by (please circle): Phone Fax E-mail
Phone #: Fax #:
E-mail address:

(8) **Data Package Options** (please circle if required)
Type I (validation/NJ Reg)
Type II (Tier II)
Type III (Reduced NJ)
Type IV (CLP SOW)
Type VI (Raw Data Only)
TX TRRP-13
MA MCP CT RCP
Site-specific QC (MS/MSD/Dup)? Yes No
(If yes, indicate QC sample and submit triplicate volume.)
Internal COC Required? Yes / No

SDG Complete? Yes No

(9) Relinquished by:	Date	Time	Received by:	Date	Time
Pamela Hartman	7/18/12	1600			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by: Anneliese H. Owens	Date 7/19/12	Time 0925

Lancaster Laboratories, Inc., 2425 New Holland Pike, Lancaster, PA 17601 (717) 656-2300 Fax: (717) 656-6766
Copies: White and yellow should accompany samples to Lancaster Laboratories. The pink copy should be retained by the client.

2102.03

Lancaster

SAMPLE DELIVERY GROUP

PTO29

A3L acct#13013 Ap#1324384 Sample# 6732501-05

SSFL Phase 3 Chain of Custody

PT029

CDM Smith
DateShipped: 7/24/2012
CarrierName: FedEx
AirbillNo: 793825487299

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

No: 20120724-06
Cooler #:
Lab: Lancaster
Lab Phone: 717-556-7259

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	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-004-A3-SB-0.0-0.5	7/24/12 09:45	SO	None	1 - 16 oz glass	10 day									X														X								
SL-005-A3-SB-0.0-0.5	7/24/12 10:15	SO	None	1 - 16 oz glass	10 day									X														X								
SL-006-A3-SB-0.0-0.5	7/24/12 08:35	SO	None	1 - 16 oz glass	10 day									X														X								
SL-007-A3-SB-0.0-0.5	7/24/12 08:00	SO	None	1 - 16 oz glass	10 day									X														X								
EB-072412	7/24/12 14:00	WQ	None	3 - 1 L Amber	10 day									X														X								For Area 3 Pond

Special Instructions:

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
	Stacy Mapel	07/24/2012									
										7/25/12	920