Technical Memorandum

Phase 3 Chemical Data Gap Investigation Sampling Results Subarea 5B in Area IV Santa Susana Field Laboratory Ventura County, California

Prepared for:

U.S. Department of Energy
4100 Guardian Street
Suite 160
Simi Valley, California 93063

Prepared by:

CDM Federal Programs Corporation (CDM Smith)
555 17th Street, Suite 1100
Denver, Colorado 80202

Prepared under:

U.S. Department of Energy
EM Consolidated Business Center
Contract DE-EM0001128
CDM Smith Task Order DE-DT0003515

October 2013

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Prepared by: _____ Date
Mike Hoffman, P.G.
CDM Smith Geologist

REGISTERED GEOLOGIST
MICHAEL J. HOFFMAN
REGISTERED
GEOLOGIST
NO. 7735
STATE OF CALIFORNIA

Approved by: _____ 21 Oct 2013
John Wondolleck Date
CDM Smith Project Manager

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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
ASTM	American Society for Testing and Materials
bgs	below ground surface
CAS	chemical abstract number
CDM Smith	CDM Federal Programs Corporation
CoC	chain of custody
DOE	Department of Energy
DPT	direct push technology
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.
EPA	U.S. Environmental Protection Agency
ESA	environmentally sensitive area
FSDS	field sample data sheet
FSP	field sampling plan
FTL	field team leader
GIS	geographic information system
GRO	gasoline range organics
HSA	Historical Site Assessment
ICP	inductively coupled plasma
ICS	interference check sample
LCS	laboratory control sample
LCSD	laboratory control sample duplicate
LLI	Lancaster Laboratories, Inc.
MDL	method detection limit
mL	milliliter
MRL	method reporting limit
MS	matrix spike
MSD	matrix spike duplicate
MWH	MWH Americas, Inc.
NDMA	n-Nitrosodimethylamine
PAH	polycyclic aromatic hydrocarbon

PARCCS	precision, accuracy, representativeness, comparability, completeness and sensitivity
PCB	polychlorinated biphenyl
PCT	polychlorinated triphenyl
PE	performance evaluation
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
RTC	Resource Technology Corporation
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
VOC	volatile organic compound
WP	work plan
Master FSP	Master Field Sampling Plan

Section 1
Introduction

This Technical Memorandum (TM) presents the results of chemical analyses of surface and subsurface soil samples collected from Phase 3 soil borings within Subarea 5B at the Santa Susana Field Laboratory (SSFL) site in Ventura County, California. This work 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 Federal Programs Corporation [CDM Smith] 2012a) (Master Field Sampling Plan [FSP])
- *Addendum No. 2 to Master Field Sampling Plan for Chemical Data Gap Investigation, Phase 3 Soil Chemical Sampling at Area IV, Santa Susana Field Laboratory, Ventura County, California, Subarea 5B* (CDM Smith 2012b) (Addendum to the Master FSP)

The Master FSP is Appendix A of the *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).

The Addendum to the Master FSP includes several sample locations for trenches and test pits in Subarea 5B. All of the trenches and test pits that exist in the various Area IV subareas will be sampled at one time (during this Phase 3 sampling) and the associated analytical results will be reported in separate TMs for that subarea.

This TM also provides a description of the sampling activities and a discussion of the analytical data review findings for Phase 3 sampling in Subarea 5B. 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 chemical collocated sampling program (Phase 1 sampling) to support the Soil Remedial Action Implementation Plan for chemicals in soil in Area IV. The collocated sampling program was Phase 1 of 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 in Subarea 5B

The specific objective of sampling under the Chemical Data Gap Investigation is to identify the nature and extent (vertical and lateral) of soil contamination within Area IV for cleanup remedy evaluation.

The document *Subarea 5B Data Gap Analysis Technical Memorandum, Santa Susana Field Laboratory, Ventura County, California*, (SA 5B Data Gap Analysis TM) was prepared by MWH America's, Inc. (MWH) and included as an attachment to *Addendum No. 2 to Master Field Sampling Plan for Chemical Data Gap Investigation, Phase 3 Soil Chemical Sampling at Area IV, Santa Susana Field Laboratory,*

Ventura County, California, Subarea 5B (CDM Smith 2012b). The data gap analysis provides the rationale for selection of each sample location and the chemical sampling rationale.

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

- Staking 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, including but not limited to: sample collection; sample container preparation; sample handling; and documentation
- Sample management and shipment, laboratory coordination, and chemical analyses of the samples
- Data review and validation

1.2 Geology

Subarea 5B of Area IV is within the Chatsworth Formation, which is composed predominantly of sandstone interbedded with siltstone and shale. The overlying native soils encountered in Subarea 5B range from predominantly silty sands to sandy silts at shallow depths with increasing clay content to 10 feet below ground surface (bgs). Disturbed areas in Subarea 5B comprise fill soils of unknown origin and debris such as concrete, asphalt, and wood. The contact with lithified Chatsworth Formation at many soil boring locations occurs between 2 and 9 feet bgs. Additional information regarding the geology in Area IV 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 Phase 3 soil sampling in Subarea 5B
- **Section 2 - Field Sampling and Analytical Methods** – Provides details regarding field sampling procedures and laboratory analytical methods
- **Section 3 - Soil Sample Analytical Results** – Provides a summary of detected analytical results for each chemical; the appendices provide the overall results
- **Section 4 - Data Usability Assessment** – Discusses the results of the data review and validation processes
- **Section 5 – References** – Provides the documents used in this report

Section 2
Field Sampling and Analytical Methods

Surface and/or subsurface soil samples were collected from 288 Phase 3 locations in Subarea 5B between July 2 and September 12, 2012. Sample locations in the northern portion of Subarea 5B are shown on Figure 2-1 and the sample locations in the southern portion of Subarea 5B are shown on Figure 2-2. Exhibit 1 depicts all sampling locations for Subarea 5B.

Table 2-1 includes the data gap rationale for sampling at each Subarea 5B location, the location description, sample numbers, sample type, date of sample collection, depth of boring, analyses sampled for, description of any fill materials encountered, and reasons for not sampling some of the locations proposed in the Data Gap Analysis TM. Locations not sampled are highlighted in yellow.

All soil 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 (Field Equipment Decontamination) of the Master FSP. All samples, for both surface and subsurface, 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 SSFL SOP 7 (Field Measurement of Residual Radiation). For each sample collected, the site geologist also completed a field sample data sheet (FSDS) in accordance with SSFL SOP 8 (Field Data Collection Documents, Content and Control) and the completed form was reviewed for correctness in the field by the field sampler and by the sample coordinator during sample processing. A boring log was created in accordance with SSFL SOP 9 (Lithologic Logging) for each location and reviewed by a state certified Professional Geologist. The FSDS sheets and associated boring logs are presented in Appendix E.

2.1 Surface Sampling

Prior to the collection of the surface soil samples in Subarea 5B, the surface of each sample area was prepared by CDM Smith sampling personnel by removing leaves, grass, and any other surface debris. Surface samples were collected at 47 locations from the ground surface to 6 inches 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.

Surface samples were collected at 231 locations using the direct push technology (DPT) rig by transferring the soil from the acetate sampling sleeve into one or more glass jars, depending on the volume of sample material needed for the required analyses. This sampling procedure is the same as the subsurface soil sampling procedure. The collection of the samples directly from the acetate sleeves is a deviation from SSFL SOP 2 of the Master FSP for collection of surface soil samples (see Section 2.7). Ten of the 288 sampled locations did not require surface samples and were only sampled at subsurface depths.

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Legend

- Sample Location
- Area IV Subarea

Aerial Source: Imagery Web Map Services, (c) 2010 Microsoft and its data suppliers.

Subarea 5B Phase 3 Sample Locations North

0 22.5 45 90 135 180 Feet

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

CDM Smith

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N

Legend

- Sample Location
- Area IV Subarea

Aerial Source: Imagery Web Map Services, (c) 2010 Microsoft and its data suppliers.

Subarea 5B Phase 3 Sample Locations South

0 22.5 45 90 135 180 Feet

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

CDM Smith

C:_projects\SantaSusana\GIS\MXD\SSFL_Phase3_5B_Sampling_Locations_20131003.mxd 10/3/2013

Location ID	Location Description	Rationale/Comments	Total Boring Depth (ft bgs)	Fill Description	Sample Date	Sample Type	Sample Number	Normal or Field Duplicate	Laboratory Analyses
5B_DG-501A	Transformer 4719 North of Building 4019	Previous sample was a composite of four discrete samples with ND result. Transformers in Area IV with previous ND results are being resampled with discrete samples. Recollect samples at four former discrete locations and analyze each sample for PCBs; hold deep samples pending shallow results.		**Not Sampled-Active Transformer**					
5B_DG-501B	Transformer 4719 North of Building 4019	Previous sample was a composite of four discrete samples with ND result. Transformers in Area IV with previous ND results are being resampled with discrete samples. Recollect samples at four former discrete locations and analyze each sample for PCBs; hold deep samples pending shallow results.		**Not Sampled-Active Transformer**					
5B_DG-501C	Transformer 4719 North of Building 4019	Previous sample was a composite of four discrete samples with ND result. Transformers in Area IV with previous ND results are being resampled with discrete samples. Recollect samples at four former discrete locations and analyze each sample for PCBs; hold deep samples pending shallow results.		**Not Sampled-Active Transformer**					
5B_DG-501D	Transformer 4719 North of Building 4019	Previous sample was a composite of four discrete samples with ND result. Transformers in Area IV with previous ND results are being resampled with discrete samples. Recollect samples at four former discrete locations and analyze each sample for PCBs; hold deep samples pending shallow results.		**Not Sampled-Active Transformer**					
5B_DG-502	Waste Holdup Tank South of Building 4019	Targets waste holdup tank associated with B4019 sanitary sewer line (identified in EPA HSA). Analyze all samples due to potential release at depth; collect deepest sample just above bedrock and analyze for full suite plus VOCs (SM) to evaluate potential migration to groundwater.	10.1	0-0.7 ft bgs: fill described as asphalt and igneous/metamorphic gravel (road base).	7/12/2012	Subsurface	SL-502-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-502-SA5B-SB-4.5	N	TPH-GRO EPA 8015
							SL-502-SA5B-SB-9.0-10.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-502-SA5B-SB-9.5	N	TPH-GRO EPA 8015, VOC EPA 8260
						Surface	SL-502-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-505	Awning Northwest of Building 4013	Location targets canopy with unknown operations (1977 aerial). Analyze for formaldehyde based on detections in the area. Hold 10 foot sample pending shallow results.	10.3	0-0.5 ft bgs: fill described as clay with silt and sand with igneous/metamorphic gravel.	7/12/2012	Subsurface	SL-505-SA5B-SB-4.5	N	TPH-GRO EPA 8015
							SL-505-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-505-SA5B-SB-9.5	N	TPH-GRO EPA 8015
							SL-505-SA5B-SB-9.0-10.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
						Surface	SL-505-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-506	Northeast of Building 4019	Representative location for open storage and also targets the roll up door on the northern side of B4019. Analyze for formaldehyde based on detections in the area. Hold 10 foot sample pending shallow results.	1.7	0-0.6 ft bgs: fill described as 7" of concrete at the surface.	7/12/2012	Surface	SL-506-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-507	West of Building 4019	Representative of operational area adjacent to B4019 (HSA recommended additional characterization in area). Formaldehyde analyzed since detected in area. Hold 10 ft. sample pending shallow results since assessing potential surface release.	6.7	0-0.5 ft bgs: fill described as asphalt and igneous/metamorphic gravel.	9/6/2012	Subsurface	SL-507-SA5B-SB-6.0	N	TPH-GRO EPA 8015
							SL-507-SA5B-SB-5.5-6.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
						Surface	SL-507-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
						Surface (Duplicate)	SL-907-SA5B-SB-0.0-0.5	FD	Dioxins EPA 1613, Formaldehyde EPA 8315, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-508	East of Building 4019	Representative of operational area adjacent to B4019 (HSA recommended additional characterization in area). Also a stepout for TPH at SL-041-SA5B. Formaldehyde analyzed since detected in area. Hold 10 ft. sample pending shallow results since assessing potential surface release.	8.3	0-1.0 ft bgs: fill described as 3" of asphalt and sand with asphalt and igneous/metamorphic gravel.	7/12/2012	Subsurface	SL-508-SA5B-SB-4.0-5.0	N	Formaldehyde EPA 8315, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, TPH-EFH EPA 8015
							SL-508-SA5B-SB-8.0	N	TPH-GRO EPA 8015
							SL-508-SA5B-SB-7.5-8.5	N	Formaldehyde EPA 8315, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, TPH-EFH EPA 8015
							SL-508-SA5B-SB-4.5	N	TPH-GRO EPA 8015
						Surface	SL-508-SA5B-SB-0.0-0.5	N	Formaldehyde EPA 8315, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, TPH-EFH EPA 8015

Table 2-1
Soil Samples Designated to be Collected from Subarea 5B - Phase 3

Location ID	Location Description	Rationale/Comments	Total Boring Depth (ft bgs)	Fill Description	Sample Date	Sample Type	Sample Number	Normal or Field Duplicate	Laboratory Analyses
5B_DG-509	South of Building 4019	Stepout to delineate impact of PAHs and TPH in SL-044-SA5B and TPH in area of SL-043-SA5B to SL-041-SA5B. Analyze at depth based on elevated TPH (> 10x ISL) at depth in adjacent samples.	8	0-0.6 ft bgs: fill described as 4" of asphalt and sand with asphalt and igneous/metamorphic gravel (road base).	7/12/2012	Subsurface	SL-509-SA5B-SB-4.0-5.0	N	PAH EPA 8270 SIM, TPH-EFH EPA 8015
							SL-509-SA5B-SB-4.5	N	TPH-GRO EPA 8015
							SL-509-SA5B-SB-7.0-8.0	N	PAH EPA 8270 SIM, TPH-EFH EPA 8015
							SL-509-SA5B-SB-7.5	N	TPH-GRO EPA 8015
						Surface	SL-509-SA5B-SB-0.0-0.5	N	PAH EPA 8270 SIM, TPH-EFH EPA 8015
5B_DG-510	Sewer Line ExitWest Side of Building B4013	Targets sewer line exit from building; analyze 5 foot sample and hold 10 foot sample. Analyze for morpholine and formaldehyde to characterize area for potential releases from 25-gallon USTs that do not have documented locations in Sitewide Tank TM.	10.1	0-5.2 ft bgs: fill described as clay with sand with igneous/metamorphic gravel and red brick.	7/23/2012	Subsurface	SL-510-SA5B-SB-4.0-5.0	N	Formaldehyde EPA 8315, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-510-SA5B-SB-4.5	N	TPH-GRO EPA 8015
							SL-510-SA5B-SB-9.0-10.0	N	Formaldehyde EPA 8315, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-510-SA5B-SB-9.5	N	TPH-GRO EPA 8015
5B_DG-511	Tank Northwest of Building 4013	Targets open storage area near unknown tank. Hold 10' sample pending surface and 5 ' sample results. Analyze for formaldehyde based on detections in the area.	10	0-0.5 ft bgs: fill described as silty sand with concrete and igneous/metamorphic gravel.	7/2/2012	Surface	SL-511-SA5B-SB-0.0-0.5	N	Alcohols EPA 8015, Formaldehyde EPA 8315, Glycols EPA 8015, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
					7/19/2012	Subsurface	SL-511-SA5B-SB-4.0-5.0	N	Alcohols EPA 8015, Formaldehyde EPA 8315, Glycols EPA 8015, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-511-SA5B-SB-4.5	N	TPH-GRO EPA 8015
							SL-511-SA5B-SB-9.0-10.0	N	Alcohols EPA 8015, Formaldehyde EPA 8315, Glycols EPA 8015, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-511-SA5B-SB-9.5	N	TPH-GRO EPA 8015
						Subsurface (Duplicate)	SL-911-SA5B-SB-4.5	FD	TPH-GRO EPA 8015
							SL-911-SA5B-SB-4.0-5.0	FD	Alcohols EPA 8015, Formaldehyde EPA 8315, Glycols EPA 8015, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-515A	North of B4013	Previous sample was a composite of four discrete samples with ND result. Transformers in Area IV with previous ND results are being resampled with discrete samples. Recollect samples at four former discrete locations and analyze each sample for PCBs; hold deep samples pending shallow results.	1.2	0-1.2 ft bgs: fill described as sandy silt with concrete and igneous/metamorphic gravel.	7/2/2012	Surface	SL-515A-SA5B-SB-0.0-0.5	N	PCBs/PCTs EPA 8082
5B_DG-515B	North of B4013	Previous sample was a composite of four discrete samples with ND result. Transformers in Area IV with previous ND results are being resampled with discrete samples. Recollect samples at four former discrete locations and analyze each sample for PCBs; hold deep samples pending shallow results.	1	0-1.0 ft bgs: fill described as silt with sand and igneous/metamorphic gravel.	7/2/2012	Surface	SL-515B-SA5B-SB-0.0-0.5	N	PCBs/PCTs EPA 8082
5B_DG-515C	North of B4013	Previous sample was a composite of four discrete samples with ND result. Transformers in Area IV with previous ND results are being resampled with discrete samples. Recollect samples at four former discrete locations and analyze each sample for PCBs; hold deep samples pending shallow results.	0.9	0-0.9 ft bgs: fill described as silt with sand and igneous/metamorphic gravel.	7/2/2012	Surface	SL-515C-SA5B-SB-0.0-0.5	N	PCBs/PCTs EPA 8082
5B_DG-515D	North of B4013	Previous sample was a composite of four discrete samples with ND result. Transformers in Area IV with previous ND results are being resampled with discrete samples. Recollect samples at four former discrete locations and analyze each sample for PCBs; hold deep samples pending shallow results.	0.9	0-0.9 ft bgs: fill described as silt with sand with igneous/metamorphic gravel.	7/2/2012	Surface	SL-515D-SA5B-SB-0.0-0.5	N	PCBs/PCTs EPA 8082
5B_DG-516	West side of B4010	Collect sample at SL-306-SA5B to confirm previous perchlorate detection at 0.5 feet. Hold deeper samples pending shallow results.	4	0-4.0 ft bgs: fill described as sandy silt with asphalt, concrete, igneous/metamorphic gravel and red brick.	7/6/2012	Surface	SL-516-SA5B-SB-0.0-0.5	N	Perchlorate Confirmation EPA 6850/6860
					7/26/2012	Subsurface	SL-516-SA5B-SB-3.0-4.0	N	Perchlorate Confirmation EPA 6850/6860

Location ID	Location Description	Rationale/Comments	Total Boring Depth (ft bgs)	Fill Description	Sample Date	Sample Type	Sample Number	Normal or Field Duplicate	Laboratory Analyses
5B_DG-517	South of B4010	Collect sample at SL-009-SA5B to confirm previous perchlorate detection at 0.5 feet. Hold deeper samples pending shallow results.	6.9	0-6.2 ft bgs: fill described as clayey sand and silty sand with igneous/metamorphic gravel. Red brick and gravel at 3.0 feet and concrete at 6.2 feet bgs.	7/26/2012	Subsurface	SL-517-SA5B-SB-2.5-3.5	N	Perchlorate Confirmation EPA 6850/6860
							SL-517-SA5B-SB-6.0-7.0	N	Perchlorate Confirmation EPA 6850/6860
						Surface	SL-517-SA5B-SB-0.0-0.5	N	Perchlorate Confirmation EPA 6850/6860
5B_DG-519	Building 4013	Targets former building to complete representative sampling based on previous sample spacing, elevated TPH and PAHs, low level (< ISLs) PCBs. Analyze for morpholine and formaldehyde to characterize area for potential releases from 25-gallon USTs that do not have documented locations in Sitewide Tank TM.	10.2	0-6.0 ft bgs: fill described as sandy silt and clay with sand with igneous/metamorphic gravel. Red brick found at 1.4 and 6.0 ft bgs.	7/5/2012	Surface	SL-519-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Pesticides EPA 8081, PH EPA 9045, TPH-EFH EPA 8015
					7/19/2012	Subsurface	SL-519-SA5B-SB-4.5	N	TPH-GRO EPA 8015
							SL-519-SA5B-SB-9.0-10.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Pesticides EPA 8081, PH EPA 9045, TPH-EFH EPA 8015
							SL-519-SA5B-SB-9.5	N	TPH-GRO EPA 8015
							SL-519-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Pesticides EPA 8081, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-520	Building 4013	Same as 5B_DG-519.	10.2	0-5.6 ft bgs: fill described as silt with sand and silty sand with concrete, asphalt, and igneous/metamorphic gravel.	7/5/2012	Surface	SL-520-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Pesticides EPA 8081, PH EPA 9045, TPH-EFH EPA 8015
					7/18/2012	Subsurface	SL-520-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Pesticides EPA 8081, PH EPA 9045, TPH-EFH EPA 8015
							SL-520-SA5B-SB-4.5	N	TPH-GRO EPA 8015
							SL-520-SA5B-SB-9.0-10.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Pesticides EPA 8081, PH EPA 9045, TPH-EFH EPA 8015
							SL-520-SA5B-SB-9.5	N	TPH-GRO EPA 8015
						Subsurface (Duplicate)	SL-920-SA5B-SB-4.0-5.0	FD	Dioxins EPA 1613, Formaldehyde EPA 8315, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Pesticides EPA 8081, PH EPA 9045, TPH-EFH EPA 8015
							SL-920-SA5B-SB-4.5	FD	TPH-GRO EPA 8015
5B_DG-521	Southern Ramp on East Side of Building 4013	Location targets southern ramp along east side of B4013. Hold 10 foot sample pending shallow results.	10	0-1.0 ft bgs: fill described as sandy silt and concrete and igneous/metamorphic gravel.	7/5/2012	Surface	SL-521-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Pesticides EPA 8081, PH EPA 9045, TPH-EFH EPA 8015
					7/18/2012	Subsurface	SL-521-SA5B-SB-9.5	N	TPH-GRO EPA 8015
							SL-521-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Pesticides EPA 8081, PH EPA 9045, TPH-EFH EPA 8015
							SL-521-SA5B-SB-4.5	N	TPH-GRO EPA 8015
							SL-521-SA5B-SB-9.0-10.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Pesticides EPA 8081, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-522	South of Building 4013	Location targets an unknown AST described in the HSA 5B EPA Tech Memo. 10 foot sample on hold pending shallow results since addressing potential surface release.	4.8	0-3.0 ft bgs: fill described as silt with sand with asphalt and igneous/metamorphic gravel.	7/5/2012	Surface	SL-522-SA5B-SB-0.0-0.5	N	Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
					7/18/2012	Subsurface	SL-522-SA5B-SB-4.0-5.0	N	Formaldehyde EPA 8315, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-522-SA5B-SB-4.5	N	TPH-GRO EPA 8015
5B_DG-523	Northwest of Building 4356	One of eight representative locations provide overall characterization of fill material within deep excavation area around former Building 4356, based on previous sporadic elevated detects, fill material observed in borings to south, and geophysical anomalies (magnetic and terrain conductivity anomalies present). Location also targets secondary containment trench. Excavate exploratory trench in perpendicular direction to former trench alignment (southwest - northeast transect) and analyze for cooling tower suite since trench associated with SCTI water treatment. Target native soil or soil just above bedrock for vertical definition and potential impacts to groundwater (former samples collected at a maximum of 10 feet). Sample intervals at each location based on anticipated depth to bedrock per previous sampling.	8	0-2.0 ft bgs: fill described as silt with sand with igneous/metamorphic gravel.	7/18/2012	Subsurface	SL-523-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Glycols EPA 8015, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-523-SA5B-SB-4.5	N	TPH-GRO EPA 8015
							SL-523-SA5B-SB-7.0-8.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Glycols EPA 8015, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-523-SA5B-SB-7.5	N	TPH-GRO EPA 8015
						Subsurface (Duplicate)	SL-923-SA5B-SB-4.0-5.0	FD	Dioxins EPA 1613, Formaldehyde EPA 8315, Glycols EPA 8015, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-923-SA5B-SB-4.5	FD	TPH-GRO EPA 8015
						Surface	SL-523-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Glycols EPA 8015, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015

Table 2-1
Soil Samples Designated to be Collected from Subarea 5B - Phase 3

Location ID	Location Description	Rationale/Comments	Total Boring Depth (ft bgs)	Fill Description	Sample Date	Sample Type	Sample Number	Normal or Field Duplicate	Laboratory Analyses
5B_DG-524	Storage AreaNorth of Building 4012	Similar to 5B_DG-541 and 5B_DG-542; defines area between known fill. Location targets open storage area and provides stepout for PCBs at SL-024-SA5B. Hold 10' samples pending shallower results since evaluating potential surface release.	10.1	0-8.0 ft bgs: fill described as clayey sand and silt with igneous/metamorphic gravel. Wood chip found at 8 ft bgs.	7/2/2012	Surface	SL-524-SA5B-SB-0.0-0.5	N	Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
					7/18/2012	Subsurface	SL-524-SA5B-SB-9.0-10.0	N	Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-524-SA5B-SB-9.5	N	TPH-GRO EPA 8015
							SL-524-SA5B-SB-4.5	N	TPH-GRO EPA 8015
							SL-524-SA5B-SB-4.0-5.0	N	Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-525	Northwest Corner of Building 4012	Targets fuel storage area at B4102. Hold deep samples pending shallow results since characterizing potential surface release.	10	0-4.0 ft bgs: fill described as silt with sand and clayey sand with asphalt, concrete, and igneous/metamorphic gravel.	7/16/2012	Subsurface	SL-525-SA5B-SB-6.5-7.5	N	Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PH EPA 9045, TPH-EFH EPA 8015
							SL-525-SA5B-SB-7.0	N	1,4 Dioxane EPA 8260 SIM, TPH-GRO EPA 8015, VOC EPA 8260
							SL-525-SA5B-SB-9.0-10.0	N	Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PH EPA
							SL-525-SA5B-SB-9.5	N	TPH-GRO EPA 8015, VOC EPA 8260
						Surface	SL-525-SA5B-SB-0.0-0.5	N	Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-526	East of Building 4012	Provide overall characterization of fill material within deep excavation based on previous sporadic elevated detects, fill material observed in borings, former presence of tanks, and geophysical anomalies (magnetic and terrain conductivity anomalies present). Target native soil or soil just above bedrock for vertical definition and potential impacts to groundwater (former samples collected to maximum 10 feet). Analyze PAHs, dioxins, metals, TPH, and formaldehyde based on documented chemical storage and previous detects. PCBs not analyzed based on sporadic detects throughout fill below ISL. Analyze all depths based on mixed fill composition; deeper samples should target native soil beneath fill and/or deepest soil overlying bedrock.	15	0-12.0 ft bgs: fill described as silts, sands, and clays with igneous/metamorphic gravel. Red brick found at 4.0, 6.2, and 11 ft bgs.	7/16/2012	Subsurface	SL-526-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-526-SA5B-SB-14.5	N	1,4 Dioxane EPA 8260 SIM, TPH-GRO EPA 8015, VOC EPA 8260
							SL-526-SA5B-SB-14.0-15.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-526-SA5B-SB-4.5	N	TPH-GRO EPA 8015
							SL-526-SA5B-SB-9.0-10.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-526-SA5B-SB-9.5	N	TPH-GRO EPA 8015
						Subsurface (Duplicate)	SL-926-SA5B-SB-4.5	FD	TPH-GRO EPA 8015
							SL-926-SA5B-SB-4.0-5.0	FD	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
						Surface	SL-526-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-527	Tank Pit West of B4012	Excavate exploratory trench to characterize former tank pit identified in historical facility drawing in the EPA HSA. Determine sample locations with trench based on field observation (staining, debris, etc.). If fill is observed, collect on sample at the top of native and one sample just above bedrock to address migration pathway along bedrock.		**Not Sampled-Trench**					
5B_DG-528	South of Building 4012	Stepout to delineate fill and contamination to southwest. Analyze deep based on detects at depth in fill (e.g. nearby SL-021-SA5B). potential fill, potential leach field impacts, and soil movement/fill; 15 foot sample targets native soil beneath fill or deepest fill if overlying bedrock.	9.7	0-7.0 ft bgs: fill described as silts and sands with asphalt, concrete, igneous/metamorphic gravel, and red brick.	7/5/2012	Surface	SL-528-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
					7/19/2012	Subsurface	SL-528-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-528-SA5B-SB-4.5	N	TPH-GRO EPA 8015
							SL-528-SA5B-SB-8.5-9.5	N	Dioxins EPA 1613, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-528-SA5B-SB-9.0	N	TPH-GRO EPA 8015
5B_DG-529	South of B4012	Targets AST with unknown contents; also targets southern portion of fill and potential leach field location. Excavate exploratory trench perpendicular to leach field orientation to investigate leach field location (inspect for signs of fill, gravel, leach lines, etc.). Analyze for corrosion inhibitors due to cooling tower operations in area. Analyze at depth due to potential fill, potential leach field impacts, and soil movement/fill. 15 foot sample targets native soil just above bedrock; analyze for full suite plus VOCs (SM) to evaluate potential migration pathway to groundwater.		**Not Sampled-Trench**					

Location ID	Location Description	Rationale/Comments	Total Boring Depth (ft bgs)	Fill Description	Sample Date	Sample Type	Sample Number	Normal or Field Duplicate	Laboratory Analyses
5B_DG-530	Southwest of Building 4710	Similar to 5B_DG-541 and 5B_DG-542; defines area between known fill.	10	0-10.0 ft bgs: fill described as silts and sands with asphalt, concrete, igneous/metamorphic gravel and red brick fragments.	7/5/2012	Surface	SL-530-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
					7/17/2012	Subsurface	SL-530-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs
							SL-530-SA5B-SB-4.5	N	TPH-GRO EPA 8015
							SL-530-SA5B-SB-9.0-10.0	N	Dioxins EPA 1613, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs
							SL-530-SA5B-SB-9.5	N	TPH-GRO EPA 8015
5B_DG-531	B4012	Same as 5B_DG-526.	15	0-10.5 ft bgs: fill described as silts and clays with igneous/metamorphic gravel and pink/red chalk-like fragments at 4.5 ft bgs.	7/5/2012	Surface	SL-531-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
					7/16/2012	Subsurface	SL-531-SA5B-SB-9.0-10.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-531-SA5B-SB-14.5	N	TPH-GRO EPA 8015, VOC EPA 8260
							SL-531-SA5B-SB-9.5	N	TPH-GRO EPA 8015
							SL-531-SA5B-SB-4.5	N	TPH-GRO EPA 8015
							SL-531-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-531-SA5B-SB-14.0-15.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-532	Building 4012	Same as 5B DG-526.	15.2	0-10.5 ft bgs: fill described as sandy silts and clays with asphalt, concrete, igneous/metamorphic gravel and red brick fragments.	7/5/2012	Surface	SL-532-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PH EPA 9045, TPH-EFH EPA 8015
						Surface (Duplicate)	SL-932-SA5B-SB-0.0-0.5	FD	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PH EPA 9045, TPH-EFH EPA 8015
					7/17/2012	Subsurface	SL-532-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PH EPA 9045, TPH-EFH EPA 8015
							SL-532-SA5B-SB-4.5	N	TPH-GRO EPA 8015
							SL-532-SA5B-SB-9.5-10.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PH EPA 9045, TPH-EFH EPA 8015
							SL-532-SA5B-SB-10.0	N	1,4 Dioxane EPA 8260 SIM, TPH-GRO EPA 8015, VOC EPA 8260
							SL-532-SA5B-SB-14.0-15.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PH EPA 9045, TPH-EFH EPA 8015
							SL-532-SA5B-SB-14.5	N	TPH-GRO EPA 8015, VOC EPA 8260
5B_DG-533	B4012	Same as 5B DG-526.	15.2	0-12.0 ft bgs: fill described as sandy silts and clays with igneous/metamorphic gravel and red brick fragments.	7/17/2012	Subsurface	SL-533-SA5B-SB-9.5	N	TPH-GRO EPA 8015
							SL-533-SA5B-SB-14.0-15.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PH EPA 9045, TPH-EFH EPA 8015
							SL-533-SA5B-SB-14.5	N	TPH-GRO EPA 8015
							SL-533-SA5B-SB-4.5	N	TPH-GRO EPA 8015
							SL-533-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PH EPA 9045, TPH-EFH EPA 8015
							SL-533-SA5B-SB-9.0-10.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PH EPA 9045, TPH-EFH EPA 8015
						Surface	SL-533-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-534	East of Building 4012	Same as 5B_DG-526 defining fill/ potential contamination to northeast.	7.5	0-7.5 ft bgs: fill described as sandy silt with asphalt, concrete, igneous/metamorphic gravel and red brick.	7/6/2012	Surface	SL-534-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
					7/19/2012	Subsurface	SL-534-SA5B-SB-6.5-7.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-534-SA5B-SB-7.0	N	TPH-GRO EPA 8015
5B_DG-535	B4012	Same as 5B_DG-526. Also defines northern extent of fill/contamination.	8	0-8.0 ft bgs: fill described as silty sands and clay with igneous/metamorphic gravel. Concrete found at 7.8 ft bgs.	7/17/2012	Subsurface	SL-535-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-535-SA5B-SB-7.5	N	TPH-GRO EPA 8015
							SL-535-SA5B-SB-7.0-8.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-535-SA5B-SB-4.5	N	TPH-GRO EPA 8015
						Subsurface (Duplicate)	SL-935-SA5B-SB-4.5	FD	TPH-GRO EPA 8015
							SL-935-SA5B-SB-4.0-5.0	FD	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
						Surface	SL-535-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015

Table 2-1
Soil Samples Designated to be Collected from Subarea 5B - Phase 3

Location ID	Location Description	Rationale/Comments	Total Boring Depth (ft bgs)	Fill Description	Sample Date	Sample Type	Sample Number	Normal or Field Duplicate	Laboratory Analyses
5B_DG-536	Storage AreaNorth of Building 4012	Location targets open storage area and provides stepout for PCBs at SL-024-SA5B. Hold 10' samples pending shallower results since evaluating potential surface release.	5.4	0-5.4 ft bgs: fill described as clayey sand and sandy clay with igneous/metamorphic gravel.	7/17/2012	Subsurface	SL-536-SA5B-SB-5.0	N	TPH-GRO EPA 8015
							SL-536-SA5B-SB-4.5-5.5	N	Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
						Surface	SL-536-SA5B-SB-0.0-0.5	N	Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-537	Northeast of Building 4012	Location targets waste disposal area. Hold 10 foot sample pending shallow results since evaluating potential surface release. Formaldehyde and morpholine analyzed based on nearby formaldehyde detects and cooling tower operations (all Cr +6 < ISLs in B4010/B4710/B4012 area).	1.1	0-1.1 ft bgs: fill described as silt with sand with concrete and igneous/metamorphic gravel.	7/6/2012	Surface	SL-537-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-538	Unidentified Structures Northwest of Building 4710	Location targets unidentified structures observed in 1988, 1990, and 1995 aerial photographs. Hold 10 foot samples pending shallow results to assess potential surface release. Formaldehyde and morpholine analyzed based on nearby formaldehyde detects and cooling tower operations (all Cr +6 < ISLs in B4010/B4710/B4012 area).	1	0-1.0 ft bgs: fill described as silt with sand with concrete and igneous/metamorphic gravel.	7/16/2012	Surface	SL-538-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-539	Tank Northwest of Building 4710	Targets operations and possible storage near AST (hydrochloric acid). Hold 10 foot samples pending shallow results to assess potential surface release from AST/storage location. If evidence of fill encountered, analyze 10 foot sample. Formaldehyde and morpholine analyzed based on nearby formaldehyde detects and cooling tower operations (all Cr +6 < ISLs in B4010/B4710/B4012 area).	9.7	0-9.7 ft bgs: fill described as sands and silts with asphalt, concrete, igneous/metamorphic gravel, and red brick.	7/16/2012	Surface	SL-539-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
					7/19/2012	Subsurface	SL-539-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-539-SA5B-SB-4.5	N	TPH-GRO EPA 8015
							SL-539-SA5B-SB-9.0-10.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-539-SA5B-SB-9.5	N	TPH-GRO EPA 8015
5B_DG-540	Building 4710	Stepout to delineate identified contamination area for PAHs, PCBs, dioxins, metals, TPH and corrosion inhibitor suite. Analyze at depth due to detections in adjacent fill/contaminated area.	4.5	0-3.0 ft bgs: fill described as sandy silt with asphalt, concrete and igneous/metamorphic gravel.	7/6/2012	Surface	SL-540-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, Pesticides EPA 8081, PH EPA 9045, TPH-EFH EPA 8015
					7/26/2012	Subsurface	SL-540-SA5B-SB-3.0-4.0	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, Pesticides EPA 8081, PH EPA 9045, TPH-EFH EPA 8015
							SL-540-SA5B-SB-3.5	N	TPH-GRO EPA 8015
5B_DG-541	B4012	Stepout to delineate fill presence between two fill areas and detected dioxins, TPH and metals at SL-314-SA5B. PCBs analyzed due to detections above ISLs in eastern fill area, including 12 feet at SL-323-SA5B. Analyze at depth due to potential fill, potential soil movement and former presence of deep bldg. features; 15 foot sample targets native soil beneath fill or deepest fill if overlying bedrock.	6	0-6.0 ft bgs: fill described as sandy silt with asphalt, concrete, igneous/metamorphic gravel, and red brick.	7/6/2012	Surface	SL-541-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, Pesticides EPA 8081, PH EPA 9045, TPH-EFH EPA 8015
					7/26/2012	Subsurface	SL-541-SA5B-SB-5.0-6.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, Pesticides EPA 8081, PH EPA 9045, TPH-EFH EPA 8015
							SL-541-SA5B-SB-5.5	N	TPH-GRO EPA 8015
5B_DG-542	Building 4710	Stepout to delineate PAHs, PCBs, dioxins, metals, TPH at depth (SL-020-SA5B analyzed at 0.5 ft. only) and the western extent of the identified contamination area (evaluates fill presence and contamination between the two fill areas). Analyze at depth due to detections in adjacent samples along mapped septic line and potential for soil movement and former presence of deep features (e.g., vaults).	3.7	0-3.0 ft bgs: fill described as sandy silt with asphalt, concrete and igneous/metamorphic gravel and red brick.	7/6/2012	Surface	SL-542-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, Pesticides EPA 8081, PH EPA 9045, TPH-EFH EPA 8015
					7/26/2012	Subsurface	SL-542-SA5B-SB-2.5-3.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, Pesticides EPA 8081, PH EPA 9045, TPH-EFH EPA 8015
							SL-542-SA5B-SB-3.0	N	TPH-GRO EPA 8015
						Subsurface (Duplicate)	SL-942-SA5B-SB-2.5-3.5	FD	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, Pesticides EPA 8081, PH EPA 9045, TPH-EFH EPA 8015
							SL-942-SA5B-SB-3.0	FD	TPH-GRO EPA 8015
5B_DG-543	Building 4710	Stepdown to delineate depth of identified contamination. Targets below most elevated dioxin for full chemical suite; low level perchlorate analysis to confirm previous detection. 10-foot sample targets native soil beneath fill and fill/native soil above bedrock, to evaluate depth penetration and maximum impacts above bedrock.	5.1	0-2.0 ft bgs: fill described as sandy clay with igneous/metamorphic gravel and red brick. Asphalt encountered at 1.4 ft bgs.	7/26/2012	Subsurface	SL-543-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, Pesticides EPA 8081, PH EPA 9045, TPH-EFH EPA 8015
							SL-543-SA5B-SB-4.5	N	TPH-GRO EPA 8015
						Surface	SL-543-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, Pesticides EPA 8081, PH EPA 9045, TPH-EFH EPA 8015

Location ID	Location Description	Rationale/Comments	Total Boring Depth (ft bgs)	Fill Description	Sample Date	Sample Type	Sample Number	Normal or Field Duplicate	Laboratory Analyses
5B_DG-544	South of Building 4710	Stepout to delineate identified contamination area for PAHs, PCBs, dioxins, metals, TPH and corrosion inhibitor suite. Analyze at depth due to detections in adjacent fill/contaminated area.	3.8	0-1.0 ft bgs: fill described as sandy clay with igneous/metamorphic gravel and red brick.	7/26/2012	Subsurface	SL-544-SA5B-SB-3.0	N	TPH-GRO EPA 8015
							SL-544-SA5B-SB-2.5-3.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, Pesticides EPA 8081, PH EPA 9045, TPH-EFH EPA 8015
						Surface	SL-544-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, Pesticides EPA 8081, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-545	Southeast of Building 4710	Stepout to delineate identified contamination area for PAHs, PCBs, dioxins, metals, TPH and corrosion inhibitor suite. Analyze at depth due to detections in adjacent fill/contaminated area.	4	None indicated.	7/25/2012	Subsurface	SL-545-SA5B-SB-3.5	N	TPH-GRO EPA 8015
							SL-545-SA5B-SB-3.0-4.0	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, Pesticides EPA 8081, PH EPA 9045, TPH-EFH EPA 8015
						Surface	SL-545-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, Pesticides EPA 8081, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-546	Transformer southeast of Building 4710	Stepout to delineate identified contamination area for PAHs, PCBs, dioxins, metals, TPH and corrosion inhibitor suite. Analyze at depth due to detections in adjacent fill/contaminated area; 10 foot sample targets native soil beneath fill or fill/native above bedrock, whichever occurs (bedrock anticipated before 10 ft.). Also addresses previous ND result in transformer composite sample.	2.6	None indicated.	7/25/2012	Subsurface	SL-546-SA5B-SB-1.5-2.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-546-SA5B-SB-2.0	N	TPH-GRO EPA 8015
5B_DG-547	Transformer southeast of Building 4710	Addresses previous ND result in transformer composite sample. Recollect sample at former discrete location and analyze for PCBs; hold deep samples pending shallow results. Fill not anticipated based on nearby shallow refusal (1.5 ft. bgs).	3.1	None indicated.	7/25/2012	Subsurface	SL-547-SA5B-SB-2.0-3.0	N	PCBs/PCTs EPA 8082
						Surface	SL-547-SA5B-SB-0.0-0.5	N	PCBs/PCTs EPA 8082
5B_DG-548	Transformer southeast of Building 4710	Stepout for PCB detections > ISLs at SL-230-SA5B. Fill not anticipated based on nearby shallow refusal (1.5 ft. bgs).	3.5	0-2.2 ft bgs: fill described as silty sand with igneous/metamorphic gravel.	7/25/2012	Subsurface	SL-548-SA5B-SB-2.0-3.0	N	PCBs/PCTs EPA 8082
						Subsurface (Duplicate)	SL-948-SA5B-SB-2.0-3.0	FD	PCBs/PCTs EPA 8082
						Surface	SL-548-SA5B-SB-0.0-0.5	N	PCBs/PCTs EPA 8082
5B_DG-549	East Building 4710	Stepout to delineate identified contamination area for PAHs, PCBs, dioxins, metals, TPH and corrosion inhibitor suite. Analyze at depth due to detections in adjacent fill/contaminated area.	4.8	None indicated.	7/25/2012	Subsurface	SL-549-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, Pesticides EPA 8081, PH EPA 9045, TPH-EFH EPA 8015
							SL-549-SA5B-SB-4.5	N	TPH-GRO EPA 8015
						Surface	SL-549-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, Pesticides EPA 8081, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-550	Waste Holdup Tank East of B4010	Stepdown to delineate depth of identified contamination area. Specifically targets former Waste Holdup Tank; however, representative of deep impacts in excavation/fill area. 10 and 15 foot samples target native soil beneath fill and fill/native soil above bedrock, to evaluate depth penetration and maximum impacts above bedrock.	5.2	0-2.4 ft bgs: fill described as silty sand with asphalt, igneous/metamorphic gravel and red brick.	7/25/2012	Subsurface	SL-550-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, Pesticides EPA 8081, PH EPA 9045, TPH-EFH EPA 8015
							SL-550-SA5B-SB-4.5	N	TPH-GRO EPA 8015, VOC EPA 8260
						Surface	SL-550-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, Pesticides EPA 8081, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-551	Building 4710	Stepdown to delineate depth of identified contamination area. Specifically targets former UST; however, representative of deep impacts in excavation/fill area. 10 and 15 foot samples target native soil beneath fill and fill/native soil above bedrock, to evaluate depth penetration and maximum impacts above bedrock.	3.9	0-0.5 ft bgs: fill described igneous/metamorphic gravel (road base).	7/25/2012	Subsurface	SL-551-SA5B-SB-3.0-4.0	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, Pesticides EPA 8081, PH EPA 9045, TPH-EFH EPA 8015
							SL-551-SA5B-SB-3.5	N	TPH-GRO EPA 8015, VOC EPA 8260
						Surface	SL-551-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, Pesticides EPA 8081, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-552	East of Building 4710	Stepout to delineate identified contamination area for PAHs, PCBs, dioxins, metals, TPH and corrosion inhibitor suite. Analyze at depth due to detections in adjacent fill/contaminated area.	7.4	0-0.3 ft bgs: fill described as 3" asphalt.	7/25/2012	Subsurface	SL-552-SA5B-SB-6.5-7.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, Pesticides EPA 8081, PH EPA 9045, TPH-EFH EPA 8015
							SL-552-SA5B-SB-7.0	N	TPH-GRO EPA 8015
						Surface	SL-552-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, Pesticides EPA 8081, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-553	East Building 4710	Stepout to delineate identified contamination area for PAHs, PCBs, dioxins, metals, TPH and corrosion inhibitor suite. Analyze at depth due to detections in adjacent fill/contaminated area.	4.2	0-3.4 ft bgs: fill described as silt with sand with asphalt and igneous/metamorphic gravel.	7/25/2012	Subsurface	SL-553-SA5B-SB-3.0-4.0	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, Pesticides EPA 8081, PH EPA 9045, TPH-EFH EPA 8015
							SL-553-SA5B-SB-3.5	N	TPH-GRO EPA 8015
						Surface	SL-553-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, Pesticides EPA 8081, PH EPA 9045, TPH-EFH EPA 8015

Table 2-1
Soil Samples Designated to be Collected from Subarea 5B - Phase 3

Location ID	Location Description	Rationale/Comments	Total Boring Depth (ft bgs)	Fill Description	Sample Date	Sample Type	Sample Number	Normal or Field Duplicate	Laboratory Analyses
5B_DG-554	Rollup Door North of B4025	Targets doorway at B4052 and linear geophysical anomaly.	5.1	0-5.1 ft bgs: gravel encountered at 0-2.0 and 4.2-5.1 ft bgs.	8/28/2012	Subsurface	SL-554-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-554-SA5B-SB-4.5	N	TPH-GRO EPA 8015
						Subsurface (Duplicate)	SL-954-SA5B-SB-4.5	FD	TPH-GRO EPA 8015
							SL-954-SA5B-SB-4.0-5.0	FD	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
						Surface	SL-554-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-555	Yard North of Building 4025	Targets fenceline where open storage was observed in aerial photos. Hold 10 foot sample pending shallow results.	2	None indicated.	8/29/2012	Surface	SL-555-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-556	Yard North of Building 4025	Same as 5B_DG-555.	3.8	0-3.8 ft bgs: fill described as silty sand with gravel and concrete.	8/29/2012	Subsurface	SL-556-SA5B-SB-3.0-4.0	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-556-SA5B-SB-3.5	N	TPH-GRO EPA 8015
						Surface	SL-556-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-557	Building 4025	Targets doorway at B4052 and serves as stepout to delineate PAHs and dioxins in SL-228-SA5B. Hold 10 foot sample pending shallow results.	5.5	0-5.5 ft bgs: trace of gravel encountered at 0.7 to 5.5 ft bgs.	8/29/2012	Subsurface	SL-557-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-557-SA5B-SB-4.5	N	1,4 Dioxane EPA 8260 SIM, TPH-GRO EPA 8015, VOC EPA 8260
						Subsurface (Duplicate)	SL-957-SA5B-SB-4.0-5.0	FD	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-957-SA5B-SB-4.5	FD	1,4 Dioxane EPA 8260 SIM, TPH-GRO EPA 8015, VOC EPA 8260
						Surface	SL-557-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-558	Yard North of Building 4025	Stepout to delineate PAHs and dioxins at SL-228-SA5B and targets doorway to yard from B4025. Hold 10 foot sample pending shallow results.	5.5	0-5.2 ft bgs: fill described as sand with gravel to 0.1 ft bgs; gravel also encountered throughout borehole.	8/29/2012	Subsurface	SL-558-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-558-SA5B-SB-4.5	N	TPH-GRO EPA 8015
						Surface	SL-558-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-559	Building 4025	Stepout for SL-228-SA5B and addresses general operations within former B4025. Hold 10 foot sample pending shallow results.	4.9	0-3.9 ft bgs: gravel encountered.	8/29/2012	Subsurface	SL-559-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-559-SA5B-SB-4.5	N	TPH-GRO EPA 8015
						Surface	SL-559-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-560	UST atBuilding 4926	Location targets a 500-gallon diesel UST, a stepout for PAH and dioxin detects at SL-228-SA5B, and assesses building operations. Analyze all depths for TPH and hold 10' samples for other chemicals pending shallow results since evaluating potential surface release.	2.5	0-2.5 ft bgs: fill described as silty sand with gravel and fibrous fabric material.	8/30/2012	Surface	SL-560-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-561	Building 4025	Targets B4925 equipment pad and open storage identified in aerial photographs (1978, 1980, 1988, 1990). Hold 10 foot sample pending shallow results.	4	0-1.8 ft bgs: fill described as silt with asphalt with igneous/metamorphic gravel.	8/30/2012	Subsurface	SL-561-SA5B-SB-2.5-3.5	N	Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-561-SA5B-SB-3.0	N	TPH-GRO EPA 8015
						Subsurface (Duplicate)	SL-961-SA5B-SB-3.0	FD	TPH-GRO EPA 8015
							SL-961-SA5B-SB-2.5-3.5	FD	Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
						Surface	SL-561-SA5B-SB-0.0-0.5	N	Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-562	Southeast Building 4025	Stepout for Zn detection at U5BS1123. Hold 10 foot pending shallow results.	2.8	0-2.8 ft bgs: fill described as silt with sand with concrete and igneous/metamorphic gravel.	8/30/2012	Subsurface	SL-562-SA5B-SB-2.0-3.0	N	Mercury EPA 7471, Metals EPA 6020, PH EPA 9045
						Surface	SL-562-SA5B-SB-0.0-0.5	N	Mercury EPA 7471, Metals EPA 6020, PH EPA 9045
5B_DG-563	Drainage Swale Southof Building 4025	Targets catch basin along north side of B Street that receives surface water from RMHF catch basin, B4025 operations, and potential releases/dumping from south-side doorway. Hold 10 foot sample pending shallow results since addressing potential surface release.	6.2	0-0.25 ft bgs: fill described as 3" of asphalt at surface.	8/1/2012	Subsurface	SL-563-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-563-SA5B-SB-4.5	N	TPH-GRO EPA 8015
						Surface	SL-563-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015

Location ID	Location Description	Rationale/Comments	Total Boring Depth (ft bgs)	Fill Description	Sample Date	Sample Type	Sample Number	Normal or Field Duplicate	Laboratory Analyses
5B_DG-564	North of Building 4615	Stepout in drainage to delineate PCBs, PAHs, metals, and dioxins at SL-138-SA5B and overall characterization of potential collection feature for nearby operations. Hold 10 foot samples pending shallow results.	7	None indicated.	8/1/2012	Subsurface	SL-564-SA5B-SB-6.5	N	TPH-GRO EPA 8015
							SL-564-SA5B-SB-6.0-7.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
						Surface	SL-564-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-565	East of Building 4478	Location targets open storage observed in aerial photos. Hold 10 foot sample pending shallow results since evaluating potential surface release.	4.9	0-0.2 ft bgs: fill described as 2.5" of asphalt at surface.	7/31/2012	Subsurface	SL-565-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-565-SA5B-SB-4.5	N	TPH-GRO EPA 8015
						Surface	SL-565-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-566	East of Building 4478	Location targets open storage observed in aerial photos; also serves as a stepout to delineate PAHs and dioxins in SL-067-SA5B. Hold 10 foot sample pending shallow results since evaluating potential surface release.	6.4	None indicated.	7/30/2012	Subsurface	SL-566-SA5B-SB-5.5-6.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-566-SA5B-SB-6.0	N	TPH-GRO EPA 8015
						Surface	SL-566-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-567	Southeast of Building 4478	Location targets EPA aerial photograph feature defined as "dark toned material" within general open storage area. Hold 10 foot sample pending shallow results since evaluating potential surface release.	7.9	None indicated.	7/30/2012	Subsurface	SL-567-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-567-SA5B-SB-7.5	N	TPH-GRO EPA 8015
							SL-567-SA5B-SB-7.0-8.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-567-SA5B-SB-4.5	N	TPH-GRO EPA 8015
						Surface	SL-567-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-568	Trench Southeast of Building 4478	Stepout for PAHs and dioxins at SL-067-SA5B and provide characterization in HMSA operations area. Hold 10 foot samples since evaluating potential surface release.	4.9	None indicated.	7/31/2012	Subsurface	SL-568-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-568-SA5B-SB-4.5	N	TPH-GRO EPA 8015
						Surface	SL-568-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-569	Northeast of Building 4357	Characterizes operational area and serves as stepout for metals and TPH at HSBS02. Cooling tower suite added based on operations. Analyze all depths since detections at HSBS02 at 6 feet.	2.8	None indicated.	8/1/2012	Subsurface	SL-569-SA5B-SB-2.5	N	TPH-GRO EPA 8015
							SL-569-SA5B-SB-2.0-3.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
						Surface	SL-569-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-570	Linear AnomalySouth of B4357	Targets linear terrain conductivity anomaly (note: continuation of anomaly is targeted by DG-123).	5.6	0-3.6 ft bgs: fill described as silt with sand with red brick found at 1 ft bgs.	8/6/2012	Subsurface	SL-570-SA5B-SB-4.5-5.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-570-SA5B-SB-5.0	N	TPH-GRO EPA 8015
5B_DG-571	Building 4357 Footprint	Location targets footprint of B4357. Cooling tower suite added to full suite based on SCTI operations. Hold 10 foot sample pending shallow results.	6	0-2.5 ft bgs: fill described as silt with sand with igneous/metamorphic gravel.	8/6/2012	Surface	SL-571-SA5B-SB-4.5-5.5	N	Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM,
							SL-571-SA5B-SB-5.0	N	TPH-GRO EPA 8015
							SL-571-SA5B-SB-0.0-0.5	N	Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-572	Building 4457 Sump 3	Same as 5B_DG-577. Analyze samples at 5 and 10 feet to address potential release beneath sump (approx. 4 feet).	8.5	0-8.0 ft bgs: gravel encountered.	8/1/2012	Subsurface	SL-572-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-572-SA5B-SB-4.5	N	TPH-GRO EPA 8015, VOC EPA 8260
							SL-572-SA5B-SB-7.5-8.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-572-SA5B-SB-8.0	N	TPH-GRO EPA 8015, VOC EPA 8260
5B_DG-573	Building 4457 Sump 2	Same as 5B_DG-577 (note trench depth approx. 14 feet based on previous sampling). Also stepout for SL-070-SA5B; analyze 0.5 feet due to shallow detects at that location.	15.3	0-13.5 ft bgs: gravel encountered.	7/30/2012	Subsurface	SL-573-SA5B-SB-14.0-15.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-573-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-573-SA5B-SB-14.5	N	TPH-GRO EPA 8015, VOC EPA 8260
							SL-573-SA5B-SB-4.5	N	TPH-GRO EPA 8015, VOC EPA 8260
							SL-573-SA5B-SB-9.5	N	TPH-GRO EPA 8015, VOC EPA 8260
							SL-573-SA5B-SB-9.0-10.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
						Surface	SL-573-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015

Table 2-1
Soil Samples Designated to be Collected from Subarea 5B - Phase 3

Location ID	Location Description	Rationale/Comments	Total Boring Depth (ft bgs)	Fill Description	Sample Date	Sample Type	Sample Number	Normal or Field Duplicate	Laboratory Analyses
5B_DG-574	Building 4478	Stepout for PAHs, perchlorate, and TPH in SL-070-SA5B. Based on refusal at 3.5' in SL-070-SA5B, collect sample just above bedrock and analyze to evaluate potential migration of perchlorate.	3.8	None indicated.	7/30/2012	Subsurface	SL-574-SA5B-SB-3.0-4.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, PH EPA 9045, TPH-EFH EPA 8015
							SL-574-SA5B-SB-3.5	N	TPH-GRO EPA 8015
						Surface	SL-574-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-575	Building 4457 Trench	Location targets sump 1 at B4457. Complete analytical suite; re-analyze PCBs due to elevated RLs, metals due to anomalous pH values and historical storage of acids and bases noted in HSA, and corrosion inhibitors due to operations at SCTI. Analyze 5 and 10 foot samples to evaluate potential release beneath trench (depth approx. 4 feet based on previous sampling).	10.2	0-10.2 ft bgs: gravel encountered.	8/2/2012	Subsurface	SL-575-SA5B-SB-9.0-10.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-575-SA5B-SB-9.5	N	TPH-GRO EPA 8015, VOC EPA 8260
							SL-575-SA5B-SB-4.5	N	TPH-GRO EPA 8015, VOC EPA 8260
							SL-575-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-576	Building 4457 Sump 1	Location targets sump 1 at B4457. Complete analytical suite; re-analyze PCBs due to elevated RLs, metals due to anomalous pH values and historical storage of acids and bases noted in HSA, and corrosion inhibitors due to operations at SCTI. Collect and analyze samples at 5, 10, and just above bedrock (approx. 13 feet based on previous sampling).	16.5	0-9.0 ft bgs: gravel encountered.	8/2/2012	Subsurface	SL-576-SA5B-SB-16.0	N	TPH-GRO EPA 8015, VOC EPA 8260
							SL-576-SA5B-SB-4.5	N	TPH-GRO EPA 8015, VOC EPA 8260
							SL-576-SA5B-SB-9.0-10.0	N	Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-576-SA5B-SB-9.5	N	TPH-GRO EPA 8015, VOC EPA 8260
							SL-576-SA5B-SB-15.5-16.5	N	Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-576-SA5B-SB-4.0-5.0	N	Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-577	Building 4457 Sump 1	Same as 5B_DG-576.	15.7	0-10.0 ft bgs: gravel encountered.	8/2/2012	Subsurface	SL-577-SA5B-SB-14.0-15.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-577-SA5B-SB-14.5	N	TPH-GRO EPA 8015, VOC EPA 8260
							SL-577-SA5B-SB-9.5	N	TPH-GRO EPA 8015, VOC EPA 8260
							SL-577-SA5B-SB-9.0-10.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-577-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-577-SA5B-SB-4.5	N	TPH-GRO EPA 8015, VOC EPA 8260
5B_DG-578	North of Building 4457	Stepout to delineate PAHs (B(a)P at 558 ppb) at SL-064-SA5B and TPH at SL-063-SA5B, and characterize operational area. Hold 10 foot sample pending shallow results. Note likely shallow refusal based on SL-64.	5.5	None indicated.	8/2/2012	Subsurface	SL-578-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-578-SA5B-SB-4.5	N	TPH-GRO EPA 8015
						Surface	SL-578-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-579	Northwest Building 4457	Stepout to delineate PAHs (B(a)P at 558 ppb) at SL-064-SA5B and TPH at SL-063-SA5B, and characterize operational area. Hold 10 foot sample pending shallow results. Note likely shallow refusal based on SL-64.	2.4	0-1.6 ft bgs: fill described as clay with igneous/metamorphic gravel.	8/6/2012	Surface	SL-579-SA5B-SB-0.0-0.5	N	Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
						Surface (Duplicate)	SL-979-SA5B-SB-0.0-0.5	FD	Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-580	Northeast of Building 4357	Location targets operational area north of B4357. Analyze complete plus cooling tower suite since documented use in operations at surrounding areas. Hold 10 foot sample pending shallow results.	2.1	0-1.3 ft bgs: fill described as silt with sand with igneous/metamorphic gravel.	8/6/2012	Surface	SL-580-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-581	Southwest of Building 4457	Stepout to delineate PAHs (B(a)P at 558 ppb) at SL-064-SA5B and TPH at SL-063-SA5B, and characterize operational area. Hold 10 foot sample pending shallow results. Note likely shallow refusal based on SL-64.	7.5	0-1.0 ft bgs: fill described as silt with sand with concrete and igneous/metamorphic gravel.	8/6/2012	Subsurface	SL-581-SA5B-SB-6.0-7.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-581-SA5B-SB-6.5	N	TPH-GRO EPA 8015
						Surface	SL-581-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-582	Transformer on NorthSide of Building 4355	Location targets transformer identified in HSA facility drawing; previously unsampled. Collect and analyze four discrete locations; hold deep samples pending shallow results.	3	0-1.0 ft bgs: fill described as clay with igneous/metamorphic gravel.	8/7/2012	Subsurface	SL-582-SA5B-SB-2.0-3.0	N	PCBs/PCTs EPA 8082
						Surface	SL-582-SA5B-SB-0.0-0.5	N	PCBs/PCTs EPA 8082

Location ID	Location Description	Rationale/Comments	Total Boring Depth (ft bgs)	Fill Description	Sample Date	Sample Type	Sample Number	Normal or Field Duplicate	Laboratory Analyses
5B_DG-583	Transformer on NorthSide of Building 4355	Location targets transformer identified in HSA facility drawing; previously unsampled. Collect and analyze four discrete locations; hold deep samples pending shallow results.	3	0-2.5 ft bgs: fill described as clay with igneous/metamorphic gravel.	8/7/2012	Subsurface	SL-583-SA5B-SB-2.0-3.0	N	PCBs/PCTs EPA 8082
						Surface	SL-583-SA5B-SB-0.0-0.5	N	PCBs/PCTs EPA 8082
5B_DG-584	Transformer on NorthSide of Building 4355	Location targets transformer identified in HSA facility drawing; previously unsampled. Collect and analyze four discrete locations; hold deep samples pending shallow results.	3	0-1.5 ft bgs: fill described as clay with concrete and igneous/metamorphic gravel.	8/7/2012	Subsurface	SL-584-SA5B-SB-2.0-3.0	N	PCBs/PCTs EPA 8082
						Surface	SL-584-SA5B-SB-0.0-0.5	N	PCBs/PCTs EPA 8082
5B_DG-585	Transformer on NorthSide of Building 4355	Location targets transformer identified in HSA facility drawing; previously unsampled. Collect and analyze four discrete locations; hold deep samples pending shallow results.	3	0-1.5 ft bgs: fill described as clay with sand with igneous/metamorphic gravel.	8/7/2012	Subsurface	SL-585-SA5B-SB-2.0-3.0	N	PCBs/PCTs EPA 8082
						Surface	SL-585-SA5B-SB-0.0-0.5	N	PCBs/PCTs EPA 8082
5B_DG-586	Catch Basin South of 4355	Same as 5B_DG-587; also targets linear terrain conductivity anomaly.	3.1	0-2.0 ft bgs: fill described as clay with sand with asphalt, concrete, and igneous/metamorphic gravel. Red brick found at 1.9 ft bgs.	8/7/2012	Subsurface	SL-586-SA5B-SB-2.0-3.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-586-SA5B-SB-2.5	N	TPH-GRO EPA 8015
						Surface	SL-586-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-587	Catch Basin South of 4355	One of three stepouts for PCBs, metals, dioxins, nitrate detected at SL-089-SA5B (Phase 1 catch basin sample); fourth position covered by SL-090. Analyze all depths based on potential for impacts along bedrock (SL-089 completed to 5 feet bgs - possible refusal). Stepouts delineate impacts and address any uncertainty with previous location. Note: consider evaluation of nitrate if background concentration is established by commencement of field work.	3.9	0-2.0 ft bgs: fill described as clay with sand with concrete and igneous/metamorphic gravel.	8/7/2012	Subsurface	SL-587-SA5B-SB-3.0-4.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-587-SA5B-SB-3.5	N	TPH-GRO EPA 8015
						Surface	SL-587-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-588	Sanitary Sewer Exit at Building 4355	Location targets sanitary sewer exit from the building. [Positioned between EPA and RFI sewer layers]	5.9	0-3.6 ft bgs: fill described as clay with concrete and igneous/metamorphic gravel.	8/7/2012	Subsurface	SL-588-SA5B-SB-5.0-6.0	N	Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-588-SA5B-SB-5.5	N	TPH-GRO EPA 8015
						Surface	SL-588-SA5B-SB-0.0-0.5	N	Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-589	East of Building 4457	Stepout to delineate PAHs (B(a)P at 558 ppb) at SL-064-SA5B and TPH at SL-063-SA5B, and characterize operational area. Hold 10 foot sample pending shallow results.	8.1	0-2.6 ft bgs: fill described as clay with asphalt and igneous/metamorphic gravel.	8/6/2012	Subsurface	SL-589-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-589-SA5B-SB-4.5	N	TPH-GRO EPA 8015
							SL-589-SA5B-SB-7.0-8.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-589-SA5B-SB-7.5	N	TPH-GRO EPA 8015
						Surface	SL-589-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-590A	Substation 4756(North of Building 4356)	Previous sample was a composite of four discrete samples with detect < ISL result. Recollect samples at four former discrete locations and analyze each sample for PCBs; hold deep samples pending shallow results. (Note: SL-233-SA5B serves as discrete location on north edge of pad) DG-69A also serves as one of eight representative locations in B4356 fill area. Analyze 0.5 and 3 foot samples at DG-69A for full suite to characterize fill area (see description for DG-68); analyze 10 foot sample if fill present. DG-69B defines northwest boundary of B4356 fill area; includes same depths and suite and DG-69A.	10.2	0-3.2 ft bgs: fill described as clay igneous/metamorphic gravel and red brick.	8/8/2012	Subsurface	SL-590A-SA5B-SB-2.0-3.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-590A-SA5B-SB-2.5	N	TPH-GRO EPA 8015
							SL-590A-SA5B-SB-9.0-10.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-590A-SA5B-SB-9.5	N	TPH-GRO EPA 8015
						Surface	SL-590A-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
						Surface (Duplicate)	SL-990A-SA5B-SB-0.0-0.5	FD	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015

Table 2-1
Soil Samples Designated to be Collected from Subarea 5B - Phase 3

Location ID	Location Description	Rationale/Comments	Total Boring Depth (ft bgs)	Fill Description	Sample Date	Sample Type	Sample Number	Normal or Field Duplicate	Laboratory Analyses
5B_DG-590B	North of Building 4356	Previous sample was a composite of four discrete samples with detect < ISL result. Recollect samples at four former discrete locations and analyze each sample for PCBs; hold deep samples pending shallow results. (Note: SL-233-SA5B serves as discrete location on north edge of pad) DG-69A also serves as one of eight representative locations in B4356 fill area. Analyze 0.5 and 3 foot samples at DG-69A for full suite to characterize fill area (see description for DG-68); analyze 10 foot sample if fill present. DG-69B defines northwest boundary of B4356 fill area; includes same depths and suite and DG-69A.	10.1	0-8.6 ft bgs: fill described as sandy clay with concrete and igneous/metamorphic gravel. Red brick found at surface.	8/8/2012	Subsurface	SL-590B-SA5B-SB-9.5	N	TPH-GRO EPA 8015
							SL-590B-SA5B-SB-9.0-10.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-590B-SA5B-SB-2.5	N	TPH-GRO EPA 8015
							SL-590B-SA5B-SB-2.0-3.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
						Surface	SL-590B-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-590C	North of Building 4356	Previous sample was a composite of four discrete samples with detect < ISL result. Recollect samples at four former discrete locations and analyze each sample for PCBs; hold deep samples pending shallow results. (Note: SL-233-SA5B serves as discrete location on north edge of pad) 5B_DG-595 also serves as one of eight representative locations in B4356 fill area. Analyze 0.5 and 3 foot samples at DG-595 for full suite to characterize fill area (see description for 5B_DG-523); analyze 10 foot sample if fill present. 5B_DG-591 defines northwest boundary of B4356 fill area; includes same depths and suite and 5B_DG-595.	3	0-3.2 ft bgs: fill described as clay with asphalt, concrete, igneous/metamorphic gravel and red brick.	8/8/2012	Subsurface	SL-590C-SA5B-SB-2.0-3.0	N	PCBs/PCTs EPA 8082
						Surface	SL-590C-SA5B-SB-0.0-0.5	N	PCBs/PCTs EPA 8082
5B_DG-591	South of Building 4478	Collect sample at SL-070-SA5B to confirm previous perchlorate detection at 3.5 feet. Hold 10 foot sample pending shallow results.	10.1	0-5.0 ft bgs: gravel encountered at 3.75 to 5.0 ft bgs.	7/30/2012	Subsurface	SL-591-SA5B-SB-2.5-3.5	N	Perchlorate Confirmation EPA 6850/6860
							SL-591-SA5B-SB-9.0-10.0	N	Perchlorate Confirmation EPA 6850/6860
						Surface	SL-591-SA5B-SB-0.0-0.5	N	Perchlorate Confirmation EPA 6850/6860
5B_DG-592	North of Building 4356	One of eight representative locations for B4356 fill area (see description for 5B_DG-611). Note: Collect deepest sample just above bedrock and analyze VOCs (SIM) to evaluate potential migration pathway to groundwater.	10.1	0-10.1 ft bgs: fill described as clay with asphalt and red brick. Concrete encountered at 2.0 and 3.2 ft bgs. Metal (nails and scrap metal) found at 3.5 and 10.1 ft bgs.	8/8/2012	Subsurface	SL-592-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Glycols EPA 8015, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-592-SA5B-SB-9.5	N	TPH-GRO EPA 8015, VOC EPA 8260
							SL-592-SA5B-SB-9.0-10.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Glycols EPA 8015, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-592-SA5B-SB-4.5	N	TPH-GRO EPA 8015
						Subsurface (Duplicate)	SL-992-SA5B-SB-9.5	FD	TPH-GRO EPA 8015, VOC EPA 8260
							SL-992-SA5B-SB-9.0-10.0	FD	Dioxins EPA 1613, Formaldehyde EPA 8315, Glycols EPA 8015, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
						Surface	SL-592-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Glycols EPA 8015, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-593	Building 4356	One of eight representative locations for B4356 fill area (see description for 5B_DG-611). Note: Collect deepest sample just above bedrock and analyze VOCs (SM) to evaluate potential migration pathway to groundwater.	19.8	0-19.5 ft bgs: fill described as clays and sands with gravel encountered at 8.0 ft bgs. Concrete found at 10.0 to 12.25 ft bgs, and wood chips found at 16.0 to 19.5 ft bgs.	8/13/2012	Subsurface	SL-593-SA5B-SB-14.5	N	TPH-GRO EPA 8015
							SL-593-SA5B-SB-9.0-10.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Glycols EPA 8015, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-593-SA5B-SB-19.0	N	TPH-GRO EPA 8015, VOC EPA 8260
							SL-593-SA5B-SB-18.5-19.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Glycols EPA 8015, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-593-SA5B-SB-9.5	N	TPH-GRO EPA 8015
							SL-593-SA5B-SB-4.5	N	TPH-GRO EPA 8015
							SL-593-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Glycols EPA 8015, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-593-SA5B-SB-14.0-15.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Glycols EPA 8015, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
						Surface	SL-593-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Glycols EPA 8015, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015

Location ID	Location Description	Rationale/Comments	Total Boring Depth (ft bgs)	Fill Description	Sample Date	Sample Type	Sample Number	Normal or Field Duplicate	Laboratory Analyses
5B_DG-594	Building 4356	One of eight representative locations for B4356 fill area (see description for 5B_DG-611). Note: Collect deepest sample just above bedrock and analyze VOCs (SM) to evaluate potential migration pathway to groundwater.	22.4	0-5.0 ft bgs: gravel encountered at 1.0 to 22.2 ft bgs.	8/14/2012	Subsurface	SL-594-SA5B-SB-9.5	N	TPH-GRO EPA 8015
							SL-594-SA5B-SB-21.0-22.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Glycols EPA 8015, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-594-SA5B-SB-14.0-15.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Glycols EPA 8015, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-594-SA5B-SB-9.0-10.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Glycols EPA 8015, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-594-SA5B-SB-4.5	N	TPH-GRO EPA 8015
							SL-594-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Glycols EPA 8015, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-594-SA5B-SB-21.5	N	TPH-GRO EPA 8015, VOC EPA 8260
							SL-594-SA5B-SB-14.5	N	TPH-GRO EPA 8015
						Surface	SL-594-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Glycols EPA 8015, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-596	Building 4356 Fill Area	One of eight representative locations for B4356 fill area (see description for 5B_DG-611). Note: Collect deepest sample just above bedrock and analyze VOCs (SM) to evaluate potential migration pathway to groundwater.	30.3	0-30.3 ft bgs: fill described as clays and sands with red brick and igneous/metamorphic gravel. Asphalt found at 10.0 ft, masonry fill found at 21.0 bgs, and concrete found at 27.0 ft bgs.	8/9/2012	Subsurface	SL-596-SA5B-SB-14.0-15.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Glycols EPA 8015, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-596-SA5B-SB-22.0	N	TPH-GRO EPA 8015, VOC EPA 8260
							SL-596-SA5B-SB-21.5-22.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Glycols EPA 8015, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-596-SA5B-SB-14.5	N	TPH-GRO EPA 8015
							SL-596-SA5B-SB-9.0-10.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Glycols EPA 8015, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-596-SA5B-SB-4.5	N	TPH-GRO EPA 8015
							SL-596-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Glycols EPA 8015, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-596-SA5B-SB-9.5	N	TPH-GRO EPA 8015
						Surface	SL-596-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Glycols EPA 8015, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
					8/13/2012	Subsurface	SL-596-SA5B-SB-26.5-28.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Glycols EPA 8015, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-596-SA5B-SB-27.5	N	TPH-GRO EPA 8015, VOC EPA 8260
5B_DG-597	Trench east of Building 4656	One of eight representative locations for B4356 fill area (see description for 5B_DG-523).		**Not Sampled-Trench**					
5B_DG-598	Trench east of Building 4656	Targets a secondary containment trench, provides characterization of operational area and adjacent tank containment pit (water with hydrazine). Excavate exploratory trench in perpendicular direction to former trench alignment (southwest - northeast transect) and analyze for cooling tower suite since trench associated with SCTI water treatment. Target native soil or soil just above bedrock for vertical definition and potential impacts to groundwater (former samples collected at a maximum of 10 feet). Sample intervals at each location based on anticipated depth to bedrock per previous sampling.		**Not Sampled-Trench**					
5B_DG-599	Southwest of B4356	Targets intersection of two linear terrain conductivity anomalies south of the SCTI Water Treatment Area. Analyze for general suite plus cooling towers/anti-corrosion suite. Adjust samples depths based on field observations (i.e., if fill observed target top of native and collected deepest sample just above bedrock if staining or impacts are observed).		**Not Sampled-Test Pit**					
5B_DG-600	Building 4361(Former Hazardous Materials Bldg.)	Targets former hazardous material storage building and linear terrain conductivity anomaly. Analyze for general suite plus cooling towers/anti-corrosion suite. Analyze all depths based on potential for significant chemical quantities.	2.9	0-2.9 ft bgs: fill described as silty sand with igneous/metamorphic gravel.	8/20/2012	Subsurface	SL-600-SA5B-SB-2.0-3.0	N	Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-600-SA5B-SB-2.5	N	TPH-GRO EPA 8015
						Surface	SL-600-SA5B-SB-0.0-0.5	N	Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015

Table 2-1
Soil Samples Designated to be Collected from Subarea 5B - Phase 3

Location ID	Location Description	Rationale/Comments	Total Boring Depth (ft bgs)	Fill Description	Sample Date	Sample Type	Sample Number	Normal or Field Duplicate	Laboratory Analyses
5B_DG-601	Building 4656	Same as 5B_DG-611.	9.9	0-9.9 ft bgs: fill described as fines and sands with igneous/metamorphic gravel.	7/24/2012	Subsurface	SL-601-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Glycols EPA 8015, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-601-SA5B-SB-9.5	N	TPH-GRO EPA 8015
							SL-601-SA5B-SB-9.0-10.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Glycols EPA 8015, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-601-SA5B-SB-4.5	N	TPH-GRO EPA 8015
						Surface	SL-601-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Glycols EPA 8015, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-602	North of Building 4656	Same as 5B_DG-603.	6.6	0-0.6 ft bgs: fill described as clay with sand and igneous/metamorphic gravel.	7/23/2012	Subsurface	SL-602-SA5B-SB-5.5-6.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Glycols EPA 8015, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-602-SA5B-SB-6.0	N	TPH-GRO EPA 8015
						Surface	SL-602-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Glycols EPA 8015, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-603	North of Cooling Tower Building 4656	Characterize operational area north of cooling tower; also serves as stepout to delineate dioxins at SL-235-SA5B. Hold 10 foot sample pending shallow results. Analyze full suite plus cooling tower suite.	1.8	0-0.6 ft bgs: fill described as clay with sand and igneous/metamorphic gravel.	7/23/2012	Surface	SL-603-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-604	Tank east of Building 4358	Location targets wastewater AST and serves as stepout for dioxins to east. Analytes address full suite for representation of operations area, plus cooling tower suite for adjacent operations. Analyze sample at 0.5 feet and 5 feet due to potential for surficial release from AST; hold 10 feet bgs pending shallow results. Note: refusal was encountered at 2 feet bgs at SL-235-SA5B; target just above bedrock for deepest sample.	2.6	0-0.8 ft bgs: fill described as clay with sand and igneous/metamorphic gravel.	7/23/2012	Surface	SL-604-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-605	Acid/Based Tanks north of Building 4656	Location targets an acid AST. Analyze sample at 0.5 feet and 5 feet due to potential for surficial release from AST; hold 10 foot samples pending shallow results.	3.9	0-1.0 ft bgs: fill described as clay with sand and igneous/metamorphic gravel.	7/23/2012	Subsurface	SL-605-SA5B-SB-3.0-4.0	N	Mercury EPA 7471, Metals EPA 6020, PH EPA 9045
						Surface	SL-605-SA5B-SB-0.0-0.5	N	Mercury EPA 7471, Metals EPA 6020, PH EPA 9045
5B_DG-606	Air-cooled Condenser East of Building 4360	Targets air-cooled condenser. Analyze for full suite plus cooling tower suite to address use of corrosion inhibitors. Hold 10 foot sample pending shallow results.	2.1	0-2.1 ft bgs: fill described as silty sand with igneous/metamorphic gravel.	7/23/2012	Surface	SL-606-SA5B-SB-0.0-0.5	N	Formaldehyde EPA 8315, Glycols EPA 8015, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-607	Air-cooled Condenser East of Building 4360	Same as 5B_DG-606.	2	0-2.0 ft bgs: fill described as silty sand with igneous/metamorphic gravel.	7/23/2012	Surface	SL-607-SA5B-SB-0.0-0.5	N	Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-608	Chemical StorageBuilding 4360	Location targets chemical storage area. Complete suite plus corrosion inhibitor suite since storage supported steam generation/ cooling tower operations. Hold 10 foot samples on pending shallow results.	1.6	0-1.6 ft bgs: fill described as sand with silt and igneous/metamorphic gravel.	7/23/2012	Surface	SL-608-SA5B-SB-0.0-0.5	N	Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-609	Chemical StorageBuilding 4360	Same as 5B_DG-608.	2.6	0-2.6 ft bgs: fill described as sand with silt and igneous/metamorphic gravel.	7/23/2012	Surface	SL-609-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-610		Location targets day tanks and operations under awning. Analytes address full suite plus cooling tower operations. Analyze sample at 0.5 feet and 5 feet due to potential for surficial releases; hold 10 feet bgs pending shallow results. Note: refusal was encountered at 2 feet bgs at SL-235-SA5B; target just above bedrock for deepest sample.	1.5	0-1.5 ft bgs: fill described as fines and sands with asphalt and igneous/metamorphic gravel.	7/23/2012	Surface	SL-610-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015

Location ID	Location Description	Rationale/Comments	Total Boring Depth (ft bgs)	Fill Description	Sample Date	Sample Type	Sample Number	Normal or Field Duplicate	Laboratory Analyses
5B_DG-611	Building 4656	One of eight representative locations provide overall characterization of fill material within deep excavation area around former Building 4356, based on previous sporadic elevated detects, fill material observed in borings to south, and geophysical anomalies (magnetic and terrain conductivity anomalies present). Samples in area analyzed for general suite and cooling tower suite based on operations (hydrazine, transmission fluids, oils, etc.). Analyze samples at all depths based on subsurface features and to characterize extent of fill.	5.9	None indicated.	7/24/2012	Subsurface	SL-611-SA5B-SB-5.0-6.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-611-SA5B-SB-5.5	N	TPH-GRO EPA 8015
						Surface	SL-611-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-612	Tank Southwest of SCTI water treatment facility cooling tower	Targets AST with unknown contents and provides characterization at base of cooling towers slope; completes suite of previous sample for general suite plus cooling tower suite and provides subsurface data. Hold 10 foot sample pending shallow results.	1.1	0-1.1 ft bgs: fill described as silty sand with igneous/metamorphic gravel.	7/24/2012	Surface	SL-612-SA5B-SB-0.0-0.5	N	Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-613	Storage Area north of Building 4335	Location targets unknown pad with no documented storage. Collect samples to screen operational area. Analyze for chemicals associated with cooling tower operations. Hold 10 foot sample pending shallow results since potential surface release.	2.4	0-2.4 ft bgs: fill described as silty sand with igneous/metamorphic gravel.	7/24/2012	Surface	SL-613-SA5B-SB-0.0-0.5	N	Alcohols EPA 8015, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-614	Concrete Pad south of Building 4656	Same as 5B_DG-613.	3.8	0-1.0 ft bgs: fill described as silty sand with igneous/metamorphic gravel.	8/20/2012	Subsurface	SL-614-SA5B-SB-3.0-4.0	N	Alcohols EPA 8015, Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-614-SA5B-SB-3.5	N	TPH-GRO EPA 8015
						Surface	SL-614-SA5B-SB-0.0-0.5	N	Alcohols EPA 8015, Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-615	Storage AreaNorth of B4335	Location targets operations area identified as "open storage" and linear terrain conductivity anomaly. Analyze for general and cooling tower suites. Hold 10 foot sample pending shallow results since potential surface or anomaly feature (pipeline) release.	2.9	0-2.9 ft bgs: fill described as fines and sand with igneous/metamorphic gravel.	8/20/2012	Subsurface	SL-615-SA5B-SB-2.0-3.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-615-SA5B-SB-2.5	N	TPH-GRO EPA 8015
						Surface	SL-615-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-616	South of B4226	Excavate exploratory trench in northwest-southeast alignment targeting intersection of two linear terrain conductivity anomalies. Adjust samples depths based on field observations (i.e., if fill observed target top of native and collected deepest sample just above bedrock if staining or impacts are observed).		**Not Sampled-Test Pit**					
5B_DG-617	Building 4392(Electrical Equipment Building)	Targets Building 4392 (Electrical Equipment Building). Hold 10 foot sample pending shallow results.	6.5	0-4.4 ft bgs: gravel encountered from 3.0 to 4.4 ft bgs.	8/14/2012	Subsurface	SL-617-SA5B-SB-5.5-6.5	N	Formaldehyde EPA 8315, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-617-SA5B-SB-6.0	N	TPH-GRO EPA 8015
						Surface	SL-617-SA5B-SB-0.0-0.5	N	Alcohols EPA 8015, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-618	Yard Southeast ofBuilding 4392	Targets potential surface releases associated with storage in fenced area adjacent to B4392 and unidentified feature to south; analyze for chemicals associated with cooling tower operations since associated with SCTI / Kalina Complex. Hold 10 foot sample pending shallow results.	5.6	0-3.2 ft bgs: gravel encountered from 0.0 to 3.2 ft bgs.	8/14/2012	Subsurface	SL-618-SA5B-SB-4.5-5.5	N	Formaldehyde EPA 8315, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-618-SA5B-SB-5.0	N	TPH-GRO EPA 8015
						Surface	SL-618-SA5B-SB-0.0-0.5	N	Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-619	Southwest of Building 4392	Representative sampling in operational area (RFI chemical use area); include chemicals associated with cooling tower operations. Also serves as stepout for PAHs and dioxins detects at SL-105-SA5B. Hold 10 foot samples pending shallow results.	2.6	None indicated.	8/21/2012	Surface	SL-619-SA5B-SB-0.0-0.5	N	Alcohols EPA 8015, Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015

Table 2-1
Soil Samples Designated to be Collected from Subarea 5B - Phase 3

Location ID	Location Description	Rationale/Comments	Total Boring Depth (ft bgs)	Fill Description	Sample Date	Sample Type	Sample Number	Normal or Field Duplicate	Laboratory Analyses
5B_DG-620	Storage Area North of B4335	Same as 5B_DG-615; also targets alcohol tanks.	6.9	0-6.9 ft bgs: fill described as silty sand with igneous/metamorphic gravel.	8/20/2012	Subsurface	SL-620-SA5B-SB-6.5	N	TPH-GRO EPA 8015
							SL-620-SA5B-SB-6.0-7.0	N	Alcohols EPA 8015, Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
						Surface	SL-620-SA5B-SB-0.0-0.5	N	Alcohols EPA 8015, Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-621	South of Building 4335	Same as 5B_DG-622 and within RFI chemical use area.	7.2	0-5.75 ft bgs: fill described as silty/clayey sand with igneous/metamorphic gravel.	8/20/2012	Subsurface	SL-621-SA5B-SB-6.5	N	TPH-GRO EPA 8015
							SL-621-SA5B-SB-6.0-7.0	N	Alcohols EPA 8015, Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
						Surface	SL-621-SA5B-SB-0.0-0.5	N	Alcohols EPA 8015, Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-622	Southwest of Building 4335	Stepout of PAHs and dioxins in SL-054-SA5B, delineates southern extent of storage area, and characterization of operational area. Hold 10 foot sample pending shallow results.	7.1	None indicated.	8/20/2012	Subsurface	SL-622-SA5B-SB-6.0-7.0	N	Alcohols EPA 8015, Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-622-SA5B-SB-6.5	N	TPH-GRO EPA 8015
						Surface	SL-622-SA5B-SB-0.0-0.5	N	Alcohols EPA 8015, Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-623	Tank South of Building 4335	Location addresses general area operations (within RFI chemical use area) and is adjacent to ammonia tank. Hold 10 foot sample pending shallow results.	9	None indicated.	8/21/2012	Subsurface	SL-623-SA5B-SB-4.0-5.0	N	Alcohols EPA 8015, Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-623-SA5B-SB-8.5	N	TPH-GRO EPA 8015
							SL-623-SA5B-SB-4.5	N	TPH-GRO EPA 8015
							SL-623-SA5B-SB-8.0-9.0	N	Alcohols EPA 8015, Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
						Surface	SL-623-SA5B-SB-0.0-0.5	N	Alcohols EPA 8015, Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-624	Southwest of Building 4334	Representative sampling of operational area and stepout for dioxins at SL-240-SA5B; analyze for general suite and cooling tower chemicals. Hold 10 foot sample pending shallow results since addressing potential for surface release.	7.5	0-0.25 ft bgs: fill described as silty sand with igneous/metamorphic gravel.	8/22/2012	Subsurface	SL-624-SA5B-SB-6.5-7.5	N	Alcohols EPA 8015, Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-624-SA5B-SB-7.0	N	TPH-GRO EPA 8015
						Surface	SL-624-SA5B-SB-0.0-0.5	N	Alcohols EPA 8015, Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-625	Southwest of Building 4334	Same as 5B_DG-624.	6.2	0-4.0 ft bgs: fill described as clay with sand and igneous/metamorphic gravel from 2.5 to 4.0 ft bgs.	8/22/2012	Subsurface	SL-625-SA5B-SB-5.5	N	TPH-GRO EPA 8015
							SL-625-SA5B-SB-5.0-6.0	N	Alcohols EPA 8015, Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
						Surface	SL-625-SA5B-SB-0.0-0.5	N	Alcohols EPA 8015, Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-626	Southwest of Building 4334	Same as 5B_DG-624 and within RFI chemical use area.	7.7	0-5.5 ft bgs: fill described as silty sand with igneous/metamorphic gravel.	8/20/2012	Subsurface	SL-626-SA5B-SB-7.0	N	TPH-GRO EPA 8015
							SL-626-SA5B-SB-6.5-7.5	N	Alcohols EPA 8015, Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-626-SA5B-SB-4.5	N	TPH-GRO EPA 8015
							SL-626-SA5B-SB-4.0-5.0	N	Alcohols EPA 8015, Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
						Surface	SL-626-SA5B-SB-0.0-0.5	N	Alcohols EPA 8015, Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-627	Lube Oil Tankwithin Building 4334	Location targets an 870-gallon AST containing TG Lube Oil (removed). Analyze sample at 0.5 and 5 feet due to potential for substantial surficial release; hold 10 foot sample pending shallow results.	8.1	0-2.25 ft bgs: fill described as silty sand with concrete and igneous/metamorphic gravel.	8/21/2012	Subsurface	SL-627-SA5B-SB-4.0-5.0	N	Alcohols EPA 8015, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PH EPA 9045, TPH-EFH EPA 8015
							SL-627-SA5B-SB-7.5	N	TPH-GRO EPA 8015
							SL-627-SA5B-SB-7.0-8.0	N	Alcohols EPA 8015, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PH EPA 9045, TPH-EFH EPA 8015
							SL-627-SA5B-SB-4.5	N	TPH-GRO EPA 8015
						Surface	SL-627-SA5B-SB-0.0-0.5	N	Alcohols EPA 8015, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-628	Building 4334	Representative characterization of operational area (RFI chemical use area) and area of geophysical anomalies. Excavate test pit to investigate geophysical anomalies (signs of fill, piping, etc.). Analyze for general and cooling tower suites. Hold 10 foot sample pending shallow results since addressing potential surface releases.		**Not Sampled-Test Pit**					

Location ID	Location Description	Rationale/Comments	Total Boring Depth (ft bgs)	Fill Description	Sample Date	Sample Type	Sample Number	Normal or Field Duplicate	Laboratory Analyses
5B_DG-629	Building 4334	Representative characterization of operational area (RFI chemical use area). Analyze for general and cooling tower suites. Hold 10 foot sample pending shallow results since addressing potential surface releases.	3.6	0-0.17 ft bgs: fill described as silty sand with igneous/metamorphic gravel.	8/21/2012	Subsurface	SL-629-SA5B-SB-2.5-3.5	N	Alcohols EPA 8015, Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-629-SA5B-SB-3.0	N	TPH-GRO EPA 8015
						Subsurface (Duplicate)	SL-1029-SA5B-SB-2.5-3.5	FD	Alcohols EPA 8015, Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-1029-SA5B-SB-3.0	FD	TPH-GRO EPA 8015
						Surface	SL-629-SA5B-SB-0.0-0.5	N	Alcohols EPA 8015, Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-630	Building 4334	Same as 5B_DG-629.	3.3	0-0.4 ft bgs: fill described as clayey sand with igneous/metamorphic gravel.	8/21/2012	Subsurface	SL-630-SA5B-SB-2.0-3.0	N	Alcohols EPA 8015, Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-630-SA5B-SB-2.5	N	TPH-GRO EPA 8015
						Surface	SL-630-SA5B-SB-0.0-0.5	N	Alcohols EPA 8015, Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-631	Tank Southeast of Building 4392	Targets unknown AST and linear terrain conductivity anomaly. Hold 10 foot sample pending shallow results.	5.2	None indicated.	8/23/2012	Subsurface	SL-631-SA5B-SB-4.5-5.5	N	Alcohols EPA 8015, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-631-SA5B-SB-5.0	N	TPH-GRO EPA 8015
						Surface	SL-631-SA5B-SB-0.0-0.5	N	Alcohols EPA 8015, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-632	South of B4226	Soil boring targets intersection of two linear terrain conductivity anomalies. Hold 10 foot sample pending shallow results. Excavate trench approximately 20 feet to the northeast to investigate potential sump location. Collect sample if fill, staining, or other impacts observed.		**Not Sampled-Test Pit**					
5B_DG-633	Yard East of Building 4392	Targets potential surface releases associated with storage in fenced area east of B4392; analyze for chemicals associated with cooling tower operations since associated with SCTI / Kalina Complex. Hold 10 foot sample pending shallow results.	4.2	0-3.2 ft bgs: fill described as clay with asphalt, concrete, igneous/metamorphic gravel and red brick.	8/13/2012	Subsurface	SL-633-SA5B-SB-3.0-4.0RS	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-633-SA5B-SB-3.5RS	N	TPH-GRO EPA 8015
						Surface	SL-633-SA5B-SB-0.0-0.5RS	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-634	Building 4356	One of eight representative locations for B4356 fill area (see description for 5B_DG-611).	3.5	0-3.2 ft bgs: fill described as clay with igneous/metamorphic gravel. Asphalt encountered in silty sand at 2.5 ft bgs.	8/9/2012	Subsurface	SL-634-SA5B-SB-3.0	N	TPH-GRO EPA 8015
							SL-634-SA5B-SB-2.5-3.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
						Surface	SL-634-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-635	South End of Building 4356 Operations Area	Targets operational area south of B4356; include corrosion inhibitors based on SCTI cooling tower operations. Hold 10 foot sample pending shallow results.	2.7	0-2.7 ft bgs: fill described as clay with igneous/metamorphic gravel.	8/9/2012	Surface	SL-635-SA5B-SB-0.0-0.5	N	Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-636	North of Building 4226	Targets potential sump on north side of B4226. EPA HSA indicates sump on south side of B4226; however, facility drawing indicates sump on north side. Trenching proposed on south side to address uncertainty. Location also targets storage visible in 1980 aerial photo and serves as stepout for PCBs at SL-087-SA5B. Hold 10 foot sample pending shallow results.	8.2	0-6.8 ft bgs: fill described as clay with wood and igneous/metamorphic gravel. Asphalt encountered at 3.8 ft and hard, orange plastic and concrete encountered at 6 ft bgs.	8/9/2012	Subsurface	SL-636-SA5B-SB-5.5-6.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-636-SA5B-SB-6.0	N	TPH-GRO EPA 8015
						Surface	SL-636-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-637	South of Building 4026	Representative sample in operational area with potential storage visible in 1980 aerial photo; also serves as stepout for PCBs and metals at SL-085-SA5B and PCBs at SL-087-SA5B. Hold 10 foot sample pending shallow results.	3	0-1.5 ft bgs: fill described as silty sand with igneous/metamorphic gravel.	8/23/2012	Subsurface	SL-637-SA5B-SB-2.0-3.0	N	Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-637-SA5B-SB-2.5	N	TPH-GRO EPA 8015
						Surface	SL-637-SA5B-SB-0.0-0.5	N	Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015

Table 2-1
Soil Samples Designated to be Collected from Subarea 5B - Phase 3

Location ID	Location Description	Rationale/Comments	Total Boring Depth (ft bgs)	Fill Description	Sample Date	Sample Type	Sample Number	Normal or Field Duplicate	Laboratory Analyses
5B_DG-638	South of B4026	Stepout for dioxins in area with "Possible Saturated Material" identified in EPA HSA; also provides additional characterization in area. Since potential surface water collection area, analyze all depths and target just above bedrock for potential migration along bedrock surface. Shallow bedrock likely; therefore distribute samples accordingly (likely one surface, one just above bedrock).	1.8	None indicated.	8/15/2012	Surface	SL-638-SA5B-SB-0.0-0.5RS	N	Dioxins EPA 1613, Herbicides EPA 8151, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Pesticides EPA 8081, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-639A	Transformer West of Building 4826	Previous sample was a composite of four discrete samples with ND result. Transformers in Area IV with previous ND results are being resampled with discrete samples. Recollect samples at four (including 5B_DG-640) former discrete locations and analyze each sample for PCBs; hold deep samples pending shallow results. 5B_DG-639B also serves as characterization for operational area and targets subsurface linear terrain conductivity anomaly. (Note: 5B_DG-640 serves as fourth discrete sample location characterizing transformer.) Samples also serve as stepouts for PCBs at SL-087-SA5B and SL-087-SA5B.	3	0-0.5 ft bgs: fill described as clay with sand and red brick.	8/10/2012	Subsurface	SL-639A-SA5B-SB-2.0-3.0	N	PCBs/PCTs EPA 8082
						Surface	SL-639A-SA5B-SB-0.0-0.5	N	PCBs/PCTs EPA 8082
5B_DG-639B	Transformer West of Building 4826 & Ops Area	Previous sample was a composite of four discrete samples with ND result. Transformers in Area IV with previous ND results are being resampled with discrete samples. Recollect samples at four (including 5B_DG-640) former discrete locations and analyze each sample for PCBs; hold deep samples pending shallow results. 5B_DG-639B also serves as characterization for operational area and targets subsurface linear terrain conductivity anomaly. (Note: 5B_DG-640 serves as fourth discrete sample location characterizing transformer.) Samples also serve as stepouts for PCBs at SL-087-SA5B and SL-087-SA5B.	3.4	0-3.4 ft bgs: fill described as sandy silt with red brick fragments.	8/15/2012	Subsurface	SL-639B-SA5B-SB-2.5-3.5RS	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-639B-SA5B-SB-3.0RS	N	TPH-GRO EPA 8015
						Surface	SL-639B-SA5B-SB-0.0-0.5RS	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-639C	Transformer West of Building 4826	Previous sample was a composite of four discrete samples with ND result. Transformers in Area IV with previous ND results are being resampled with discrete samples. Recollect samples at four (including 5B_DG-640) former discrete locations and analyze each sample for PCBs; hold deep samples pending shallow results. 5B_DG-639B also serves as characterization for operational area and targets subsurface linear terrain conductivity anomaly. (Note: 5B_DG-640 serves as fourth discrete sample location characterizing transformer.) Samples also serve as stepouts for PCBs at SL-087-SA5B and SL-087-SA5B.	3	0-2.8 ft bgs: fill described as clay with sand and red brick.	8/10/2012	Subsurface	SL-639C-SA5B-SB-2.0-3.0	N	PCBs/PCTs EPA 8082
						Surface	SL-639C-SA5B-SB-0.0-0.5	N	PCBs/PCTs EPA 8082

Location ID	Location Description	Rationale/Comments	Total Boring Depth (ft bgs)	Fill Description	Sample Date	Sample Type	Sample Number	Normal or Field Duplicate	Laboratory Analyses
5B_DG-639D	Transformer West of Building 4826	Previous sample was a composite of four discrete samples with ND result. Transformers in Area IV with previous ND results are being resampled with discrete samples. Recollect samples at four (including 5B_DG-640) former discrete locations and analyze each sample for PCBs; hold deep samples pending shallow results. 5B_DG-639B also serves as characterization for operational area and targets subsurface linear terrain conductivity anomaly. (Note: 5B_DG-640 serves as fourth discrete sample location characterizing transformer.) Samples also serve as stepouts for PCBs at SL-087-SA5B and SL-087-SA5B.	3	0-3.0 ft bgs: fill described as clay with sand and concrete and red brick.	8/15/2012	Subsurface	SL-639D-SA5B-SB-2.0-3.0RS	N	PCBs/PCTs EPA 8082
						Surface	SL-639D-SA5B-SB-0.0-0.5RS	N	PCBs/PCTs EPA 8082
5B_DG-640	Building 4026	Collect sample at SL-086-SA5B to confirm previous perchlorate detection at 0.5 feet. Hold deeper samples pending shallow results.	5.8	0-2.0 ft bgs: gravel encountered from 1.0 to 2.0 ft bgs.	8/15/2012	Subsurface	SL-640-SA5B-SB-4.5-5.5	N	Perchlorate Confirmation EPA 6850/6860
						Surface	SL-640-SA5B-SB-0.0-0.5	N	Perchlorate Confirmation EPA 6850/6860
5B_DG-643	Building 4026	Targets Building 4026 adjacent to motor generator room; include corrosion inhibitors since cooling tower operations. Hold 10 foot sample pending shallow results.	3.6	None indicated.	8/15/2012	Subsurface	SL-643-SA5B-SB-2.5-3.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-643-SA5B-SB-3.0	N	TPH-GRO EPA 8015
						Surface	SL-643-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-644	West of Building 4026	Representative sample in operational area with potential storage visible in 1980 aerial photo; also serves as stepout for PCBs at SL-087-SA5B. Hold 10 foot sample pending shallow results.	4	None indicated.	8/15/2012	Subsurface	SL-644-SA5B-SB-3.0-4.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-644-SA5B-SB-3.5	N	TPH-GRO EPA 8015
						Surface	SL-644-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-645	Building 4026	Targets operational area at SCTL (B4026). Analyze all depths if available soil as previous locations limited to 5 feet bgs; target just above bedrock with deepest sample. No cooling tower operations documented at facility; therefore chemical suite for CTs not included.	6.3	0-2.0 ft bgs: fill described as silt with igneous/metamorphic gravel. Gravel also encountered at 2.0 to 6.3 ft bgs.	8/15/2012	Subsurface	SL-645-SA5B-SB-5.0-6.0	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-645-SA5B-SB-5.5	N	TPH-GRO EPA 8015
						Surface	SL-645-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-646	Catch Basin South of 4355	Same as 5B_DG-587.	3.2	0-1.2 ft bgs: fill described as silt with igneous/metamorphic gravel.	8/15/2012	Subsurface	SL-646-SA5B-SB-2.0-3.0	N	Dioxins EPA 1613, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-646-SA5B-SB-2.5	N	TPH-GRO EPA 8015
						Surface	SL-646-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-647	North of Building 4026	Representative location in operational area between B4026 and B4357; also serves as stepout for PCBs and dioxins at SL-236-SA5B. Analyze for 5B suite plus corrosion inhibitors based on proximity to cooling tower operations. Hold 10 foot sample pending shallow results since evaluating potential surface release.	5.4	0-3.0 ft bgs: fill described as clay with sand and asphalt, concrete, igneous/metamorphic gravel, and red brick fragments.	8/7/2012	Subsurface	SL-647-SA5B-SB-4.5-5.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-647-SA5B-SB-5.0	N	TPH-GRO EPA 8015
						Surface	SL-647-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-648	Building 4026	Same as 5B_DG-645.	5.9	0-3.0 ft bgs: fill described as clay with sand and igneous/metamorphic gravel. Red brick fragments encountered at 2.0 ft bgs.	8/7/2012	Subsurface	SL-648-SA5B-SB-5.5	N	TPH-GRO EPA 8015
							SL-648-SA5B-SB-5.0-6.0	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
						Surface	SL-648-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015

Table 2-1
Soil Samples Designated to be Collected from Subarea 5B - Phase 3

Location ID	Location Description	Rationale/Comments	Total Boring Depth (ft bgs)	Fill Description	Sample Date	Sample Type	Sample Number	Normal or Field Duplicate	Laboratory Analyses
5B_DG-649	Building 4026	Targets fuel oil AST; adequate representative sampling nearby; therefore limited suite for TPH/PAHs. Analyze 0.5 ft. and 5 ft. since top several feet of soil were disturbed during building demolition; hold 10 foot sample pending shallow results (nearby samples suggest refusal just over 5 feet bgs).	5.5	0-5.5 ft bgs: fill described as sand with igneous/metamorphic gravel.	8/15/2012	Subsurface	SL-649-SA5B-SB-5.0	N	TPH-GRO EPA 8015
							SL-649-SA5B-SB-4.5-5.5	N	Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
						Surface	SL-649-SA5B-SB-0.0-0.5	N	Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-650	Building 4826	Stepdown for previous location targeting former sodium tank pit with fill observed to 10 feet and no refusal encountered. TPH > 10x ISL detected at depth. Depths indicated are estimated; target native soil below fill and just above bedrock.	12.5	0-12.5 ft bgs: fill described as fines and sands. Red brick encountered at 6.0 ft, concrete found at 11.9 ft, and igneous/metamorphic gravel at 12.0 to 12.5 ft bgs.	9/5/2012	Subsurface	SL-650-SA5B-SB-11.5	N	TPH-GRO EPA 8015
							SL-650-SA5B-SB-11.0-12.0	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-651	South of Building 4826	Representative location in operational area between B4026 and B4354. Also targets linear terrain conductivity anomaly. Include corrosion inhibitors since cooling tower operations at B4006. Hold 10 foot sample pending shallow results.	1.7	None indicated.	8/15/2012	Surface	SL-651-SA5B-SB-0.0-0.5RS	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-652	West of Building 4354(South of Building 4826)	Targets potential storage observed in aerial photograph (see 1980 aerial photo). Hold 10 foot sample pending shallow results.	3	0-1.6 ft bgs: fill described as concrete to 0.4 ft bgs at surface and silt with sand and igneous/metamorphic gravel.	8/17/2012	Subsurface	SL-652-SA5B-SB-2.5	N	TPH-GRO EPA 8015
						Surface	SL-652-SA5B-SB-2.0-3.0	N	Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-652-SA5B-SB-0.0-0.5	N	Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-653	West of Building 4354(South of Building 4826)	Same as 5B_DG-652.	6	0-1.6 ft bgs: fill described as silt with igneous/metamorphic gravel.	8/17/2012	Subsurface	SL-653-SA5B-SB-5.5	N	TPH-GRO EPA 8015
							SL-653-SA5B-SB-5.0-6.0	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
						Surface	SL-653-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-654	Building 4714	Same as 5B_DG-680.	6.7	0-6.7 ft bgs: fill described as silts and sand with igneous/metamorphic gravel.	8/17/2012	Subsurface	SL-654-SA5B-SB-6.0	N	TPH-GRO EPA 8015
							SL-654-SA5B-SB-5.5-6.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
						Surface	SL-654-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-655	Building 4714	Similar to 5B_DG-680, targets B714 identified as the PowerPak Interconnecting Facility. Analyze 5 foot sample to provide representative depth coverage for operational area.	4	0-3.0 ft bgs: fill described as silt with igneous/metamorphic gravel.	8/16/2012	Subsurface	SL-655-SA5B-SB-3.5	N	TPH-GRO EPA 8015
							SL-655-SA5B-SB-3.0-4.0	N	Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
						Surface	SL-655-SA5B-SB-0.0-0.5	N	Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-656	Building 4354(South of Building 4826)	Targets structure observed in aerial photographs (see 1980 aerial photo) and operational area southeast of B4026 - potentially B4354 (Control Element Test Structure). No cooling tower operations documented in area. Hold 10 foot sample pending shallow results.	6	0-1.0 ft bgs: fill described as silt with igneous/metamorphic gravel.	8/17/2012	Subsurface	SL-656-SA5B-SB-5.0-6.0	N	Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-656-SA5B-SB-5.5	N	TPH-GRO EPA 8015
						Surface	SL-656-SA5B-SB-0.0-0.5	N	Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-657	Building 4354(South of Building 4826)	Same as 5B_DG-656.	5.5	0-1.2 ft bgs: fill described as concrete to 0.2 ft bgs at surface and silt with sand and igneous/metamorphic gravel.	8/17/2012	Subsurface	SL-657-SA5B-SB-4.5-5.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-657-SA5B-SB-5.0	N	TPH-GRO EPA 8015
						Surface	SL-657-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015

Location ID	Location Description	Rationale/Comments	Total Boring Depth (ft bgs)	Fill Description	Sample Date	Sample Type	Sample Number	Normal or Field Duplicate	Laboratory Analyses
5B_DG-658	South of Building 4826	Same as 5B_DG-651.	3.1	None indicated.	8/10/2012	Subsurface	SL-658-SA5B-SB-2.0-3.0	N	Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-658-SA5B-SB-2.5	N	TPH-GRO EPA 8015
						Surface	SL-658-SA5B-SB-0.0-0.5	N	Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-659	South of Building 4826	Same as 5B_DG-651.	2.8	0-2.0 ft bgs: fill described as copper wire encountered at 2.0 ft bgs.	8/16/2012	Subsurface	SL-659-SA5B-SB-2.0-3.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-659-SA5B-SB-2.5	N	TPH-GRO EPA 8015
						Surface	SL-659-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-660	Building 4826	Same as 5B_DG-650.	10.4	None indicated. **Not Sampled-Stepdown location not sampled due to shallow refusal at 10.4 ft bgs.**					
5B_DG-661	North of Building 4026	Same as 5B_DG-647.	10.4	None indicated.	8/1/2012	Subsurface	SL-661-SA5B-SB-9.0-10.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-661-SA5B-SB-9.5	N	TPH-GRO EPA 8015
							SL-661-SA5B-SB-4.5	N	TPH-GRO EPA 8015
							SL-661-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
						Surface	SL-661-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-662	North of Building 4615	One of four representative samples in the operational area at B4615 (Combustion Test Facility); also serves as stepout for TPH at PUBS1002. Analyze for 5B suite plus corrosion inhibitors since cooling tower operations at adjacent B4006. Hold 10 foot sample pending shallow results since evaluating surface release (no subsurface features were documented).	7.1	None indicated.	7/31/2012	Subsurface	SL-662-SA5B-SB-6.0-7.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-662-SA5B-SB-6.5	N	TPH-GRO EPA 8015
						Surface	SL-662-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-663	Building 4615	Same as 5B_DG-662.	7.9	None indicated.	7/31/2012	Subsurface	SL-663-SA5B-SB-4.0-5.0	N	Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-663-SA5B-SB-4.5	N	TPH-GRO EPA 8015
							SL-663-SA5B-SB-7.0-8.0	N	Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-663-SA5B-SB-7.5	N	TPH-GRO EPA 8015
						Surface	SL-663-SA5B-SB-0.0-0.5	N	Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-664	South of Building 4615	Same as 5B_DG-662.	7.1	None indicated.	7/31/2012	Subsurface	SL-664-SA5B-SB-6.0-7.0	N	Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-664-SA5B-SB-6.5	N	TPH-GRO EPA 8015
						Surface	SL-664-SA5B-SB-0.0-0.5	N	Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-665	Building 4615	Same as 5B_DG-662.	7.6	None indicated.	7/31/2012	Subsurface	SL-665-SA5B-SB-6.5-7.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-665-SA5B-SB-7.0	N	TPH-GRO EPA 8015
						Surface	SL-665-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-667	East of Building 4026	Representative location in operational area between B4026 and B4006; also serves as stepout for PCBs and dioxins at SL-236-SA5B. Analyze for 5B suite plus corrosion inhibitors based on proximity to cooling tower operations. Hold 10 foot sample pending shallow results since evaluating potential surface release.	7	0-0.2 ft bgs: fill described asphalt to 0.2 ft bgs at surface.	8/21/2012	Subsurface	SL-667-SA5B-SB-6.0-7.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-667-SA5B-SB-6.5	N	TPH-GRO EPA 8015
						Subsurface (Duplicate)	SL-1067-SA5B-SB-6.5	FD	TPH-GRO EPA 8015
							SL-1067-SA5B-SB-6.0-7.0	FD	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
						Surface	SL-667-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015

Table 2-1
Soil Samples Designated to be Collected from Subarea 5B - Phase 3

Location ID	Location Description	Rationale/Comments	Total Boring Depth (ft bgs)	Fill Description	Sample Date	Sample Type	Sample Number	Normal or Field Duplicate	Laboratory Analyses
5B_DG-668	East of Building 4026	Same as 5B_DG-667.	7.3	None indicated.	8/16/2012	Subsurface	SL-668-SA5B-SB-7.0	N	TPH-GRO EPA 8015
							SL-668-SA5B-SB-6.5-7.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
						Subsurface (Duplicate)	SL-1068-SA5B-SB-7.0	FD	TPH-GRO EPA 8015
							SL-1068-SA5B-SB-6.5-7.5	FD	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
						Surface	SL-668-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-669	East of Building 4026	Same as 5B_DG-667; also serves as stepout for TPH detects at SL-082-SA5B.	10	None indicated.	8/16/2012	Subsurface	SL-669-SA5B-SB-9.0-10.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-669-SA5B-SB-9.5	N	TPH-GRO EPA 8015
							SL-669-SA5B-SB-4.5	N	TPH-GRO EPA 8015
							SL-669-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
						Surface	SL-669-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-670	Presumed Sump West of Building 4006	Stepout for TPH, dioxins and metals at presumed sump; also representative location in operation area. Analyze all samples for TPH and metals based on detections at depth in SL-081-SA5B, SL-082-SA5B, and PUBS1066, and remaining chemicals based on potential migration from sump along bedrock.	8.2	0-0.6 ft bgs: Gravel encountered to 0.6 ft bgs.	8/21/2012	Subsurface	SL-670-SA5B-SB-6.0-7.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-670-SA5B-SB-6.5	N	TPH-GRO EPA 8015
						Surface	SL-670-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-671	"Presumed Sump" West of Building 4006	Stepdown for TPH and metals at depth in SL-082-SA5B based on previous detection at 8 feet. Collect and analyze sample at 10 feet; 15 foot sample targets just above bedrock.	7.4	0-1.2 ft bgs: fill described asphalt to 0.2 ft bgs at surface. Gravel encountered from 0.2 to 1.2 ft bgs. **Not Sampled-Stepdown location not sampled due to shallow refusal below 10 ft bgs.**					
5B_DG-672	Sewer Exit from SWBuilding 4006	Targets sewer line exit from building; analyze 5 foot sample and hold 10 foot sample	9.2	0-9.2 ft bgs: fill described as concrete core to 0.7 ft bgs and gravel encountered to 9.2 ft bgs.	8/21/2012	Subsurface	SL-672-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-672-SA5B-SB-4.5	N	TPH-GRO EPA 8015
							SL-672-SA5B-SB-8.0-9.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-672-SA5B-SB-8.5	N	TPH-GRO EPA 8015
5B_DG-673A	Substation 4067	Previous sample was a composite of four discrete samples with detect > ISLs. Resample with discrete samples; recollect samples at four former discrete locations and analyze each sample for PCBs; hold deep samples pending shallow results. 5B_DG-673 also serves as a stepout for TPH and metals at PUBS1066. Analyze 3 foot sample at this location. 5B_DG-676 also serves as a stepout for metals and dioxins at SL-083-SA5B. Analyze 3 foot sample at this location.	3.2	0-2.4 ft bgs: Gravel encountered from 1.2 to 2.4 ft bgs.	8/22/2012	Subsurface	SL-673A-SA5B-SB-2.0-3.0	N	Mercury EPA 7471, Metals EPA 6020, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-673A-SA5B-SB-2.5	N	TPH-GRO EPA 8015
						Surface	SL-673A-SA5B-SB-0.0-0.5	N	Mercury EPA 7471, Metals EPA 6020, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015

Location ID	Location Description	Rationale/Comments	Total Boring Depth (ft bgs)	Fill Description	Sample Date	Sample Type	Sample Number	Normal or Field Duplicate	Laboratory Analyses
5B_DG-673B	Substation 4067	Previous sample was a composite of four discrete samples with detect > ISLs. Resample with discrete samples; recollect samples at four former discrete locations and analyze each sample for PCBs; hold deep samples pending shallow results. 5B_DG-673 also serves as a stepout for TPH and metals at PUBS1066. Analyze 3 foot sample at this location. 5B_DG-676 also serves as a stepout for metals and dioxins at SL-083-SA5B. Analyze 3 foot sample at this location.	4	0-1.8 ft bgs: fill described as silt with igneous/metamorphic gravel.	8/21/2012	Subsurface	SL-673B-SA5B-SB-2.0-3.0	N	PCBs/PCTs EPA 8082
						Surface	SL-673B-SA5B-SB-0.0-0.5	N	PCBs/PCTs EPA 8082
5B_DG-673C	Substation 4067	Previous sample was a composite of four discrete samples with detect > ISLs. Resample with discrete samples; recollect samples at four former discrete locations and analyze each sample for PCBs; hold deep samples pending shallow results. 5B_DG-673 also serves as a stepout for TPH and metals at PUBS1066. Analyze 3 foot sample at this location. 5B_DG-676 also serves as a stepout for metals and dioxins at SL-083-SA5B. Analyze 3 foot sample at this location.	3.2	0-0.6 ft bgs: fill described as silt with igneous/metamorphic gravel.	8/17/2012	Subsurface	SL-673C-SA5B-SB-2.0-3.0	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PCBs/PCTs EPA 8082, PH EPA 9045
						Surface	SL-673C-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PCBs/PCTs EPA 8082, PH EPA 9045
5B_DG-673D	Substation 4067	Previous sample was a composite of four discrete samples with detect > ISLs. Resample with discrete samples; recollect samples at four former discrete locations and analyze each sample for PCBs; hold deep samples pending shallow results. 5B_DG-673 also serves as a stepout for TPH and metals at PUBS1066. Analyze 3 foot sample at this location. 5B_DG-676 also serves as a stepout for metals and dioxins at SL-083-SA5B. Analyze 3 foot sample at this location.	3	None indicated.	8/22/2012	Subsurface	SL-673D-SA5B-SB-2.0-3.0	N	PCBs/PCTs EPA 8082
						Surface	SL-673D-SA5B-SB-0.0-0.5	N	PCBs/PCTs EPA 8082
5B_DG-677	West of Building 4816	Stepout PCBs, dioxins, PAHs, and metals at SL-083-SA5B. Also representative of operational area. Hold 10 foot sample pending shallow results.	7.1	None indicated.	8/22/2012	Subsurface	SL-677-SA5B-SB-6.5-7.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-677-SA5B-SB-7.0	N	TPH-GRO EPA 8015
						Surface	SL-677-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-678	West of Building 4816	Stepout PCBs, dioxins, PAHs, and metals at SL-083-SA5B. Hold deep samples pending shallow results since no detects at depth above ISLs in adjacent samples.	5.9	None indicated.	8/22/2012	Subsurface	SL-678-SA5B-SB-5.0	N	TPH-GRO EPA 8015
							SL-678-SA5B-SB-4.5-5.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
						Surface	SL-678-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-679	West of Building 4816	Stepout for mercury in PUBS1029, and PCBs, PAHs, metals, and dioxins in SL-083-SA5B; also targets former cooling tower. Hold deep samples pending shallow results since no detects above ISL at depth in adjacent samples.	3	0-1.0 ft bgs: Gravel encountered to 1.0 ft bgs.	8/22/2012	Subsurface	SL-679-SA5B-SB-2.5	N	TPH-GRO EPA 8015
							SL-679-SA5B-SB-2.0-3.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
						Surface	SL-679-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015

Table 2-1
Soil Samples Designated to be Collected from Subarea 5B - Phase 3

Location ID	Location Description	Rationale/Comments	Total Boring Depth (ft bgs)	Fill Description	Sample Date	Sample Type	Sample Number	Normal or Field Duplicate	Laboratory Analyses
5B_DG-680	Building 4714	Targets B714 identified as the PowerPak Interconnecting Facility. Also stepout for PUBS1029. Analyze for corrosion inhibitors since associated with cooling tower operations. Hold deep pending shallow results to evaluate potential for surface release. [Note: Feature was identified during sitewide aerial photograph review as a transformer chemical use area; however aerial photos are not conclusive. PCBs included in analyses to address uncertainty.]		**Not Sampled-Test Pit**					
5B_DG-681	Building 4616	Stepout to delineate dioxins in SL-084-SA5B; also targets former cooling tower and representative of general operation area. Hold 10 foot sample pending shallow results.	3	0-0.4 ft bgs: fill described as sand with igneous/metamorphic gravel.	8/22/2012	Subsurface	SL-681-SA5B-SB-2.0-3.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-681-SA5B-SB-2.5	N	TPH-GRO EPA 8015
						Surface	SL-681-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-682	Building 4402	Targets B4402 (MHD Experiment Building). Cooling tower suite added based on surrounding operations.	3.1	0-1.8 ft bgs: fill described as sand with igneous/metamorphic gravel.	8/22/2012	Subsurface	SL-682-SA5B-SB-2.0-3.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-682-SA5B-SB-2.5	N	TPH-GRO EPA 8015
						Surface	SL-682-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-683	Building 4607South of Building 4816	Targets B4607 which was also identified as "Sodium Lab Instrument Building" and later used for storage; location also addresses potential storage tank identified during EPA HSA as well as general operations in yard. Cooling tower suite added based on surrounding operations.	2.7	0-1.0 ft bgs: Gravel encountered to 1.0 ft bgs.	8/22/2012	Surface	SL-683-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-684	Operational Area East of B4816(South of Building 4006)	Same as 5B_DG-685. Location also targets stain identified in EPA HSA.	8.7	None indicated.	8/23/2012	Subsurface	SL-684-SA5B-SB-8.0	N	TPH-GRO EPA 8015
							SL-684-SA5B-SB-7.5-8.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-684-SA5B-SB-4.5	N	TPH-GRO EPA 8015
							SL-684-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
						Surface	SL-684-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-685	Operational Area East of B4816(South of Building 4006)	One of four representative samples in operational area east of B4816; also serves as stepout for metals at PUBS1404. Cooling tower (corrosion inhibitor) suite added based on surrounding operations. Hold 10 foot samples pending shallow results.	10.3	0-1.0 ft bgs: Gravel encountered to 0.4 ft bgs and at 5.2 to 6.2 ft bgs.	8/23/2012	Subsurface	SL-685-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-685-SA5B-SB-4.5	N	TPH-GRO EPA 8015
							SL-685-SA5B-SB-9.0-10.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-685-SA5B-SB-9.5	N	TPH-GRO EPA 8015
						Surface	SL-685-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-686	East of Building 4006	Location targets a 1,000-gallon diesel UST and provides representative characterization at surface. Collect samples to bedrock due to tank size; hold samples deeper than 10 feet pending shallow results or analyze if impacts noted above bedrock.	6.8	None indicated.	8/23/2012	Subsurface	SL-686-SA5B-SB-5.5-6.5	N	Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-686-SA5B-SB-6.0	N	TPH-GRO EPA 8015
						Surface	SL-686-SA5B-SB-0.0-0.5	N	Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-687	Operational Area East of B4816(South of Building 4006)	Same as 5B_DG-685.	7.6	None indicated.	8/23/2012	Subsurface	SL-687-SA5B-SB-6.0-7.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-687-SA5B-SB-6.5	N	TPH-GRO EPA 8015
						Surface	SL-687-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-688	Operational Area East of B4816(South of Building 4006)	Same as 5B_DG-685; also delineates northwestern extent of identified contamination area at 17th Street Drainage.	7.5	0-2.0 ft bgs: Gravel encountered to 2.0 ft bgs.	8/23/2012	Subsurface	SL-688-SA5B-SB-6.5-7.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-688-SA5B-SB-7.0	N	TPH-GRO EPA 8015
						Surface	SL-688-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015

Location ID	Location Description	Rationale/Comments	Total Boring Depth (ft bgs)	Fill Description	Sample Date	Sample Type	Sample Number	Normal or Field Duplicate	Laboratory Analyses
5B_DG-689	17th Street Drainage	Stepdown to characterize drainage at depth (previous samples shallow).	7.5	None indicated.	8/29/2012	Subsurface	SL-689-SA5B-SB-6.0-7.0	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-689-SA5B-SB-6.5	N	TPH-GRO EPA 8015
						Surface	SL-689-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-690	South of B4357	Exploratory test pit targets linear terrain conductivity anomaly; adjust sample depths based on field observations.		**Not Sampled-Test Pit**					
5B_DG-691	Open Area South of SCTL PowerPak Interconnecting Facility	Same as 5B_DG-743.	3.5	None indicated.	8/23/2012	Subsurface	SL-691-SA5B-SB-2.0-3.0	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Pesticides EPA 8081, PH EPA 9045, TPH-EFH EPA 8015
							SL-691-SA5B-SB-2.5	N	TPH-GRO EPA 8015
						Surface	SL-691-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Pesticides EPA 8081, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-692	South of B4026	Same as 5B_DG-638.	5.1	None indicated.	8/23/2012	Subsurface	SL-692-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Herbicides EPA 8151, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Pesticides EPA 8081, PH EPA 9045, TPH-EFH EPA 8015
							SL-692-SA5B-SB-4.5	N	TPH-GRO EPA 8015
						Surface	SL-692-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Herbicides EPA 8151, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Pesticides EPA 8081, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-693	East of B4005/B4006 Leach Field	Conduct geophysical survey and excavate trench targeting leach line, linear geophysical anomaly, and northern terminus of above ground fuel line. Extend trench approximately 20 feet eastward to investigate the northern terminus of the fuel line (i.e., determine if the pipeline goes underground at this location and has been removed). Collect an additional sample if the terminus of the pipeline is identified or soil staining observed. Adjust 5 foot boring sample to target beneath piping or below fill in top of native if observed. Analyze for PAHs and TPH.		**Not Sampled-Test Pit**					
5B_DG-694	South of Kalina Complex	Same as 5B_DG-638.	10.2	0-2.5 ft bgs: fill described as silty sand with igneous/metamorphic gravel.	8/23/2012	Subsurface	SL-694-SA5B-SB-9.0-10.0	N	Dioxins EPA 1613, Herbicides EPA 8151, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Pesticides EPA 8081, PH EPA 9045, TPH-EFH EPA 8015
							SL-694-SA5B-SB-4.5	N	TPH-GRO EPA 8015
							SL-694-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Herbicides EPA 8151, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Pesticides EPA 8081, PH EPA 9045, TPH-EFH EPA 8015
							SL-694-SA5B-SB-9.5	N	TPH-GRO EPA 8015, VOC EPA 8260
						Surface	SL-694-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Herbicides EPA 8151, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Pesticides EPA 8081, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-695	East of B4005/B4006 Leach Field	Stepout for dioxins and metals and characterization in open area. Shallow bedrock observed in surrounding samples. Collect and analyze sample just above bedrock. Conduct adjacent test pit for linear geophysical anomaly and adjust 5 foot boring sample to target (or sample pit as appropriate).		**Not Sampled-Test Pit**					
5B_DG-697	Southwest of B4005/B4006 Leach Field	Same as 5B_DG-638.	6.9	None indicated.	8/22/2012	Subsurface	SL-697-SA5B-SB-6.0-7.0	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Pesticides EPA 8081, PH EPA 9045, TPH-EFH EPA 8015
							SL-697-SA5B-SB-6.5	N	TPH-GRO EPA 8015
						Surface	SL-697-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Pesticides EPA 8081, PH EPA 9045, TPH-EFH EPA 8015

Table 2-1
Soil Samples Designated to be Collected from Subarea 5B - Phase 3

Location ID	Location Description	Rationale/Comments	Total Boring Depth (ft bgs)	Fill Description	Sample Date	Sample Type	Sample Number	Normal or Field Duplicate	Laboratory Analyses
5B_DG-698	Parking Area Southwest of B4005/B4006 Leach Field	One of 8 representative locations in former parking area with historical disturbed soil and unpaved roads observed in aerial photos. Location also targets geophysical anomaly (potential leachate signature) south of B4005/B4006 leach field . Refusal on bedrock ranges between 2 and 5 feet in previous borings; therefore bedrock anticipated to be 5 feet bgs. Collect samples at 5-foot intervals to bedrock and target deepest sample just above bedrock. Analyze surface and top-of-bedrock sampl; hold intermediate sample depths pending results.	3.5	None indicated.	8/22/2012	Subsurface	SL-698-SA5B-SB-2.5-3.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA
							SL-698-SA5B-SB-3.0	N	TPH-GRO EPA 8015
						Surface	SL-698-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-699	Open Area South of SCTL PowerPak Interconnecting Facility	Same as 5B_DG-744; conduct focused geophysical survey and adjacent test pit for linear geophysical anomaly (fuel pipeline?) and adjust 5 foot boring sample to target (or sample pit as appropriate).		**Not Sampled-Test Pit**					
5B_DG-700	South of B4005/B4006Leach Field	Same as 5B_DG-698.	3.9	None indicated.	8/22/2012	Subsurface	SL-700-SA5B-SB-2.5-3.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-700-SA5B-SB-3.0	N	TPH-GRO EPA 8015
						Surface	SL-700-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-701	Parking Area northwest of Building 4011	Same as 5B_DG-705.	9.5	None indicated.	8/22/2012	Subsurface	SL-701-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-701-SA5B-SB-8.5	N	TPH-GRO EPA 8015
							SL-701-SA5B-SB-4.5	N	TPH-GRO EPA 8015
							SL-701-SA5B-SB-8.0-9.0	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
						Surface	SL-701-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-702	Drainage along 20th Street, east of parking area	Same as 5B_DG-589.	7	0-0.5 ft bgs: fill described as 3" asphalt concrete and 3" aggregate base at surface.	8/22/2012	Subsurface	SL-702-SA5B-SB-6.0-7.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-702-SA5B-SB-6.5	N	TPH-GRO EPA 8015
						Surface	SL-702-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-703	Parking Area northwest of Building 4011	Same as 5B_DG-705.	9.8	None indicated.	8/23/2012	Subsurface	SL-703-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-703-SA5B-SB-4.5	N	TPH-GRO EPA 8015
							SL-703-SA5B-SB-8.5-9.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-703-SA5B-SB-9.0	N	TPH-GRO EPA 8015
						Surface	SL-703-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-704	Parking Area northwest of Building 4011	Same as 5B_DG-705. Location at previously collected U5BS1014 analyzed for PAHs; complete analytical suite.		**Not Sampled-Environmentally Sensitive Area**					
5B_DG-705	Parking Area northwest of Building 4011	One of 8 representative locations in former parking area with historical disturbed soil and unpaved roads observed in aerial photos. Refusal on bedrock ranges between 2 and 5 feet in previous borings; collect samples at 5-foot intervals to bedrock and target deepest sample just above bedrock. Analyze surface and top-of-bedrock sample, and hold intermediate sample depths pending results.	10	0-0.25 ft bgs: fill described as concrete fragments encountered at 0.25 ft bgs.	8/24/2012	Subsurface	SL-705-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-705-SA5B-SB-9.5	N	TPH-GRO EPA 8015
							SL-705-SA5B-SB-4.5	N	TPH-GRO EPA 8015
							SL-705-SA5B-SB-9.0-10.0	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
						Surface	SL-705-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015

Location ID	Location Description	Rationale/Comments	Total Boring Depth (ft bgs)	Fill Description	Sample Date	Sample Type	Sample Number	Normal or Field Duplicate	Laboratory Analyses
5B_DG-707	Former aboveground tank T-735	Stepout for TPH detections to the south and dioxins/pesticides to the north; also provides additional characterization in open area and targets fuel pipeline. Conduct geophysical survey and test pit/trenching to characterize potential impacts from pipeline. Collect and analyze samples per 5B_DG-695.		**Not Sampled-Test Pit**					
5B_DG-708	Drainage along 20th Street, east of parking area	Same as 5B_DG-589.	7	0-3.0 ft bgs: fill described as 4" asphalt concrete and 2" aggregate base at surface. Asphalt encountered at 3 ft bgs.	8/24/2012	Subsurface	SL-708-SA5B-SB-6.0-7.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-708-SA5B-SB-6.5	N	TPH-GRO EPA 8015
						Surface	SL-708-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-709	Parking Area northwest of Building 4011	Same as 5B_DG-705.	4	None indicated.	8/24/2012	Subsurface	SL-709-SA5B-SB-3.0-4.0	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-709-SA5B-SB-3.5	N	TPH-GRO EPA 8015
						Surface	SL-709-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-710	Northwest of B4011	Co-locate with sample U5BS1013 with representative sampling suite to identify potential impacts associated with unidentified object and parking area identified in 1988 aerial photo. Analyze same as 5B_DG-711; however, refusal on bedrock at 2 feet in boring U5BS1013.	2.5	None indicated.	8/24/2012	Surface	SL-710-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
						Surface (Duplicate)	SL-1110-SA5B-SB-0.0-0.5	FD	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-711	Northwest of B4011	Location targets undefined feature identified in 1988 aerial photo. Also serves as representative sample for parking area ID'd in 5B_DG-705 and stepout for dioxins in drainage sample SL-131-SA5B. Analyze surface and 5 foot samples; hold 10 foot if collected pending shallow results. Refusal on bedrock at 2' in boring U5BS1013 suggests shallow soils.	3.8	None indicated.	8/24/2012	Subsurface	SL-711-SA5B-SB-3.5	N	TPH-GRO EPA 8015
							SL-711-SA5B-SB-3.0-4.0	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
						Surface	SL-711-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-712	F Street Drainage Ditch	Stepdown at SL-131-SA5B for contamination identified in F Street drainage ditch (all previous data collected at surface). Shallow bedrock anticipated; collect sample just above bedrock.	5	0-0.2 ft bgs: fill described as asphalt and silty sand.	9/5/2012	Subsurface	SL-712-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-712-SA5B-SB-4.5	N	TPH-GRO EPA 8015
5B_DG-713	North of F Street Drainage(Identified Contamination Area)	Stepout in flat area from drainage to assess potential overflow. Also targets soil disturbance area observed in 1960 aerial photo. Shallow soils likely based on samples in general area.	10	0-2.4 ft bgs: fill described as silty sand with igneous/metamorphic gravel.	8/24/2012	Subsurface	SL-713-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Pesticides EPA 8081, PH EPA 9045, TPH-EFH EPA 8015
							SL-713-SA5B-SB-4.5	N	TPH-GRO EPA 8015
							SL-713-SA5B-SB-9.0-10.0	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Pesticides EPA 8081, PH EPA 9045, TPH-EFH EPA 8015
							SL-713-SA5B-SB-9.5	N	TPH-GRO EPA 8015
						Surface	SL-713-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Pesticides EPA 8081, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-714	F Street Drainage Ditch	Same as 5B_DG-712 at SL-133-SA5B.	4.9	0-0.2 ft bgs: fill described as asphalt.	9/5/2012	Subsurface	SL-714-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-714-SA5B-SB-4.5	N	TPH-GRO EPA 8015
5B_DG-715	North of Building 4011	Located in operational area north of B4011; also serves as stepout for detections in drainage (identified contamination area) to the north. Hold deeper samples pending shallow results (note: previous samples in surrounding areas were surface only so depth to bedrock unknown; shallow bedrock anticipated).	2	None indicated.	8/28/2012	Surface	SL-715-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
						Surface (Duplicate)	SL-1115-SA5B-SB-0.0-0.5	FD	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-716	North of Building 4011	Same as 5B_DG-715.	1	None indicated.	9/5/2012	Surface	SL-716-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015

Table 2-1
Soil Samples Designated to be Collected from Subarea 5B - Phase 3

Location ID	Location Description	Rationale/Comments	Total Boring Depth (ft bgs)	Fill Description	Sample Date	Sample Type	Sample Number	Normal or Field Duplicate	Laboratory Analyses
5B_DG-717A	Transformer northwest of B4011	Transformers in Area IV are being resampled with analysis of all discrete samples. Recollect samples at four former discrete locations and analyze each sample for PCBs; hold deep samples pending shallow results.		**Not Sampled-Active Transformer**					
5B_DG-717B	Transformer northwest of B4011	Transformers in Area IV are being resampled with analysis of all discrete samples. Recollect samples at four former discrete locations and analyze each sample for PCBs; hold deep samples pending shallow results.		**Not Sampled-Active Transformer**					
5B_DG-717C	Transformer northwest of B4011	Transformers in Area IV are being resampled with analysis of all discrete samples. Recollect samples at four former discrete locations and analyze each sample for PCBs; hold deep samples pending shallow results.		**Not Sampled-Active Transformer**					
5B_DG-717D	Transformer northwest of B4011	Transformers in Area IV are being resampled with analysis of all discrete samples. Recollect samples at four former discrete locations and analyze each sample for PCBs; hold deep samples pending shallow results.		**Not Sampled-Active Transformer**					
5B_DG-721	B4011 Septic Tank	Stepout from TPH detected at 5 feet (and some elevated metals; silver @ 1.5 mg/kg) based on former septic tank location and potential uncertainty associated with previous sample locations relative to tank. Also addresses area of open storage. Analyze all depths and target deepest sample just above bedrock.	8	0-0.3 ft bgs: fill described as asphalt at surface with silts and sands and igneous/metamorphic gravel encountered from 5.0 to 8.0 ft bgs.	8/28/2012	Subsurface	SL-721-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-721-SA5B-SB-4.5	N	TPH-GRO EPA 8015
						Surface	SL-721-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-722	Building 4172	Location targets sanitary/leach line exit from B4011 and an AST AT-L2-6 (unknown contents) at B4172. Field place sample location at north edge of existing asphalt patch (patch indicates north boundary of existing slurry backfilled septic tank). Analyze all samples based on potential for subsurface release from sewer/leach line. Target soil just above bedrock in deepest sample.	7.3	0-0.6 ft bgs: fill described as silty sand with plastic scrap.	8/28/2012	Subsurface	SL-722-SA5B-SB-6.5-7.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-722-SA5B-SB-7.0	N	1,4 Dioxane EPA 8260 SIM, TPH-GRO EPA 8015, VOC EPA 8260
							SL-722-SA5B-SB-4.5	N	1,4 Dioxane EPA 8260 SIM, TPH-GRO EPA 8015, VOC EPA 8260
							SL-722-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
						Surface	SL-722-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-723	Open Storage West of B4011	Sample targets open storage in yard adjacent to B4011. Analyze all depths since staining observed at 3 feet and 8.5 feet in previous sampling in surrounding area.	7.7	0-0.5 ft bgs: fill described as silty sand.	8/28/2012	Subsurface	SL-723-SA5B-SB-7.0	N	1,4 Dioxane EPA 8260 SIM, TPH-GRO EPA 8015, VOC EPA 8260
							SL-723-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-723-SA5B-SB-4.5	N	1,4 Dioxane EPA 8260 SIM, TPH-GRO EPA 8015, VOC EPA 8260
							SL-723-SA5B-SB-6.5-7.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
						Surface	SL-723-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-724	Open Storage West of B4011	Stepout in open storage area based on TPH SL-145-SA5B. Sample also targets feature observed in aerial photo (1959 ['1962-63_1']) but not identified in GIS. Target deepest sample just above bedrock; analyze all depths since TPH detected at depth and for potential migration along bedrock from nearby septic tank.	6.3	0-2.5 ft bgs: fill described as asphalt to 0.3 ft bgs and silty sand. Gravel encountered at 1.9 ft and brick fragments at 2.3 ft bgs.	8/28/2012	Subsurface	SL-724-SA5B-SB-5.5	N	TPH-GRO EPA 8015
							SL-724-SA5B-SB-5.0-6.0	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
						Surface	SL-724-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015

Location ID	Location Description	Rationale/Comments	Total Boring Depth (ft bgs)	Fill Description	Sample Date	Sample Type	Sample Number	Normal or Field Duplicate	Laboratory Analyses
5B_DG-725	Open Storage West of B4011	Stepout and open storage area sample for PAHs, PCBs, dioxins, and metals analysis based on PAHs, PCBs, dioxins, and metals detected at SL-156-SA5B collected at EPA aerial photo location identified as "probable stained area." Hold deep samples pending shallow results since surface impacts were identified at SL-156-SA5B. aerial photo "probable stained area" (EPA) . Hold deep samples pending shallow results since surface impacts were identified at SL-156-SA5B.	5	None indicated.	8/27/2012	Subsurface	SL-725-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-725-SA5B-SB-4.5	N	TPH-GRO EPA 8015
						Surface	SL-725-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-726	Open Storage West of B4011	Stepout and open storage area sample for PAHs, PCBs, dioxins, and metals analysis based on PAHs, PCBs, dioxins, and metals detected at SL-156-SA5B collected at EPA aerial photo location identified as "probable stained area." Hold deep samples pending shallow results since surface impacts were identified at SL-156-SA5B. aerial photo "probable stained area" (EPA) . Hold deep samples pending shallow results since surface impacts were identified at SL-156-SA5B.	3.6	None indicated.	8/27/2012	Subsurface	SL-726-SA5B-SB-2.5-3.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-726-SA5B-SB-3.0	N	TPH-GRO EPA 8015
						Surface	SL-726-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-727	20th Street DrainageWest of B4011 Storage Yard	Sample targets drainage west of storage yard immediately downstream of culvert discharge, open storage area, and location identified as "probable stained area" in EPA HSA. Location also serves as stepout based on PAHs, PCBs, dioxins, and metals detected at SL-156-SA5B. Analyze for cooling tower suite since down drainage from cooling tower operations at SCTI and analyze all depths since drainage unlined. Collect deepest sample just above bedrock (shallow soils anticipated).	4.6	None indicated.	8/27/2012	Subsurface	SL-727-SA5B-SB-3.5-4.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-727-SA5B-SB-4.0	N	TPH-GRO EPA 8015
						Surface	SL-727-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-728	Open Storage West of B4011	Stepout and open storage area sample for PAHs, PCBs, dioxins, and metals analysis based on PAHs, PCBs, dioxins, and metals detected at SL-156-SA5B collected at EPA aerial photo location identified as "probable stained area." Hold deep samples pending shallow results since surface impacts were identified at SL-156-SA5B. aerial photo "probable stained area" (EPA) . Hold deep samples pending shallow results since surface impacts were identified at SL-156-SA5B.	2.1	None indicated.	8/27/2012	Surface	SL-728-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-729	Open Storage West of B4011	Targets open storage area; hold deep samples pending shallow results.	4	None indicated.	8/27/2012	Subsurface	SL-729-SA5B-SB-3.0-4.0	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-729-SA5B-SB-3.5	N	TPH-GRO EPA 8015
						Surface	SL-729-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-730	Open Storage West of B4011	Same as 5B_DG-729.	6.4	None indicated.	8/27/2012	Subsurface	SL-730-SA5B-SB-5.0-6.0	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-730-SA5B-SB-5.5	N	TPH-GRO EPA 8015
						Surface	SL-730-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015

Table 2-1
Soil Samples Designated to be Collected from Subarea 5B - Phase 3

Location ID	Location Description	Rationale/Comments	Total Boring Depth (ft bgs)	Fill Description	Sample Date	Sample Type	Sample Number	Normal or Field Duplicate	Laboratory Analyses
5B_DG-731	20th Street DrainageWest of B4011 Storage Yard	Sample in drainage west of storage yard. Analyze for cooling tower suite since down drainage of SCTI operations and all depths since drainage unlined. Collect deepest sample just above bedrock (shallow soils anticipated).	5	None indicated.	8/27/2012	Subsurface	SL-731-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-731-SA5B-SB-4.5	N	TPH-GRO EPA 8015
						Subsurface (Duplicate)	SL-1131-SA5B-SB-4.5	FD	TPH-GRO EPA 8015
							SL-1131-SA5B-SB-4.0-5.0	FD	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
						Surface	SL-731-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-732	Open Storage West of B4011	Same as 5B_DG-723.	8.2	0-4.2 ft bgs: Gravel encountered to 4.2 ft bgs.	8/27/2012	Subsurface	SL-732-SA5B-SB-7.5	N	TPH-GRO EPA 8015
							SL-732-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-732-SA5B-SB-4.5	N	TPH-GRO EPA 8015
							SL-732-SA5B-SB-7.0-8.0	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
						Surface	SL-732-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-733	Storage Area southeast of B4011	Location targets open storage area.	4.2	0-0.2 ft bgs: fill described as asphalt.	8/29/2012	Subsurface	SL-733-SA5B-SB-3.5	N	TPH-GRO EPA 8015
							SL-733-SA5B-SB-3.0-4.0	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
						Surface	SL-733-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-734	B4011 Leach Field AreaAlong G Street	Targets area south of G Street, drainage, and adjacent (stepout) for fill area to south for ISL exceedences of PCBs, dioxins, metals, PAHs. Lead at L2BS1002 detected at 66 mg/kg. Hold 10 foot samples (if collected; refusal likely as shallow as 5.5 feet bgs (L2BS1002) pending shallow results or if fill encountered.	6.5	0-4.6 ft bgs: fill described as silts and sands with igneous/metamorphic gravel.	9/10/2012	Subsurface	SL-734-SA5B-SB-5.5-6.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-734-SA5B-SB-6.0	N	TPH-GRO EPA 8015
						Surface	SL-734-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
						Surface (Duplicate)	SL-1134-SA5B-SB-0.0-0.5	FD	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-735	B4011 Leach Field AreaAlong G Street	Same as 5B_DG-734.	5	0-3.8 ft bgs: fill described as fines and sand with igneous/metamorphic gravel.	9/10/2012	Subsurface	SL-735-SA5B-SB-3.5-4.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-735-SA5B-SB-4.0	N	TPH-GRO EPA 8015
						Surface	SL-735-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-736	Fill Area FA-11 West of B4011 Leach Field	Targets fill area identified in EPA HSA and defines extent of identified contamination area at B4011 Leach Field. Analyze all depths for full chemical suite based on PAHs, dioxins, PCBs and metals detected in fill and unknown source of material. Depth to refusal variable between 6 and 10 feet bgs; collect sample in underlying native soil if discernible and deepest sample just above bedrock.	8.8	0-3.8 ft bgs: fill described as sandy silt and clay with brick fragments encountered at 3.2 ft bgs.	9/5/2012	Subsurface	SL-736-SA5B-SB-8.0-9.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-736-SA5B-SB-8.5	N	TPH-GRO EPA 8015
							SL-736-SA5B-SB-4.5	N	TPH-GRO EPA 8015
							SL-736-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
						Subsurface (Duplicate)	SL-1136-SA5B-SB-4.5	FD	TPH-GRO EPA 8015
							SL-1136-SA5B-SB-4.0-5.0	FD	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
						Surface	SL-736-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-737	West of Identified ContaminationArea (East of B4015 Field)	Stepout to west of contaminated area and dioxins at SL-178-SA5B.	6.2	None indicated.	9/11/2012	Subsurface	SL-737-SA5B-SB-5.0-6.0	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-737-SA5B-SB-5.5	N	TPH-GRO EPA 8015
						Surface	SL-737-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-738	Drainage West of B3271	Location targets drainage within fill area and downstream of identified contaminated areas. Analyze all depths.	9	None indicated.	9/4/2012	Subsurface	SL-738-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-738-SA5B-SB-8.5	N	TPH-GRO EPA 8015
							SL-738-SA5B-SB-4.5	N	TPH-GRO EPA 8015
							SL-738-SA5B-SB-8.0-9.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
						Surface	SL-738-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015

Location ID	Location Description	Rationale/Comments	Total Boring Depth (ft bgs)	Fill Description	Sample Date	Sample Type	Sample Number	Normal or Field Duplicate	Laboratory Analyses
5B_DG-739	Fill Area FA-11 West of B4011 Leach Field	Targets fill area identified in EPA HSA and defines extent of identified contamination area at B4011 Leach Field. Excavate trench to investigate presence and depth of fill. Analyze all depths for full chemical suite based on PAHs, dioxins, PCBs and metals detected in fill and unknown source of material. Depth to refusal variable between 6 and 10 feet bgs; collect sample in underlying native soil if discernible and deepest sample just above bedrock.		**Not Sampled-Trench**					
5B_DG-740	Fill Area FA-11 Southeast of B4011 Leach Field	Targets fill soil southeast of identified contamination area at B4011 Leach Field as per 5B_DG-736.	6.2	None indicated.	8/30/2012	Subsurface	SL-740-SA5B-SB-5.5	N	TPH-GRO EPA 8015
							SL-740-SA5B-SB-5.0-6.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
						Surface	SL-740-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-741	Fill Area FA-11 East of B4011 Leach Field	Same as 5B_DG-739.		**Not Sampled-Trench**					
5B_DG-742	Fill Area FA-11 East of B4011 Leach Field	Targets fill soil east of identified contamination area at B4011 Leach Field as per 5B_DG-736.	5.5	None indicated.	8/29/2012	Subsurface	SL-742-SA5B-SB-4.5-5.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-742-SA5B-SB-5.0	N	TPH-GRO EPA 8015
						Surface	SL-742-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-743	Open Area South of SCTL PowerPak Interconnecting Facility	Stepout to delineate dioxins and pesticides detected to the west. Location also provides characterization in open area. Hold deep samples pending surface results. Shallow bedrock observed in surrounding samples; collect deepest sample just above bedrock.	3	0-0.8 ft bgs: Gravel encountered to 0.8 ft bgs.	8/24/2012	Subsurface	SL-743-SA5B-SB-2.0-3.0	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Pesticides EPA 8081, PH EPA 9045, TPH-EFH EPA 8015
							SL-743-SA5B-SB-2.5	N	TPH-GRO EPA 8015
						Surface	SL-743-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Pesticides EPA 8081, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-744	Open Space South of SCTL PowerPak Interconnecting Facility	Same as 5B_DG-743.	2.3	0-0.8 ft bgs: Gravel encountered to 0.8 ft bgs.	8/24/2012	Surface	SL-744-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Pesticides EPA 8081, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-745	Open Space South of SCTL PowerPak Interconnecting Facility	Targets open area similar to 5B_DG-743.	2.5	0-0.8 ft bgs: fill described as sandy silt with igneous/metamorphic gravel.	8/24/2012	Surface	SL-745-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Pesticides EPA 8081, PH EPA 9045, TPH-EFH EPA 8015
						Surface (Duplicate)	SL-1145-SA5B-SB-0.0-0.5	FD	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Pesticides EPA 8081, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-746	B4704 Transformer Substation	Collected discrete samples around substation. Analyze full suite since location adjacent to substation support structures, and bounds Identified Contamination Area. Analyze sample just above bedrock at depth. Shallow soils anticipated.		**Not Sampled-Active Transformer**					
5B_DG-747	B4704 Transformer Substation	Same as 5B_DG-746.		**Not Sampled-Active Transformer**					
5B_DG-748	B4704 Transformer Substation	Collect discrete samples around substation. Hold deep samples pending shallow results. Analyze dioxins due to detections in adjacent areas.		**Not Sampled-Active Transformer**					
5B_DG-749	B4704 Transformer Substation	Same as 5B_DG-746.		**Not Sampled-Active Transformer**					
5B_DG-750	B4704 Transformer Substation	Same as 5B_DG-748.		**Not Sampled-Active Transformer**					
5B_DG-751	B4704 Transformer Substation	Same as 5B_DG-748.		**Not Sampled-Active Transformer**					

Table 2-1
Soil Samples Designated to be Collected from Subarea 5B - Phase 3

Location ID	Location Description	Rationale/Comments	Total Boring Depth (ft bgs)	Fill Description	Sample Date	Sample Type	Sample Number	Normal or Field Duplicate	Laboratory Analyses
5B_DG-752	Former aboveground tank T-735	Stepout downslope of AST, along pipeline and for TPH impacts at OCBS25/OCTS20. Collect sample along bedrock surface; likely more shallow than 5 ft. bgs since bedrock encountered at between 1' and 3' in boring OCBS25 and trench OCTS20, respectively. Analyze both samples to characterize potential migration of fuels along bedrock.	3	0-0.5 ft bgs: Gravel encountered to 0.5 ft bgs.	8/28/2012	Subsurface	SL-752-SA5B-SB-2.0-3.0	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-752-SA5B-SB-2.5	N	TPH-GRO EPA 8015
						Surface	SL-752-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-753	F Street Drainage Ditch	Same as 5B_DG-712 at SL-135-SA5B.	2	0-1.4 ft bgs: Fill described as 2" of asphalt at surface with gravel encountered at 0.2 ft bgs. **Not Sampled- Stepdown location not sampled due to shallow refusal less then 2.5 ft bgs.**					
5B_DG-754	Storage Yard North B4007	Same as 5B_DG-768.	5.2	None indicated.	8/24/2012	Subsurface	SL-754-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Energetics EPA 8330, Formaldehyde EPA 8315, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, PH EPA 9045, TPH-EFH EPA 8015
							SL-754-SA5B-SB-4.5	N	TPH-GRO EPA 8015, VOC EPA 8260
						Surface	SL-754-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Energetics EPA 8330, Formaldehyde EPA 8315, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-755	Storage Yard North B4007	Same as 5B_DG-768.	1.3	0-1.3 ft bgs: Gravel encountered to 1.3 ft bgs.	8/24/2012	Surface	SL-755-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Energetics EPA 8330, Formaldehyde EPA 8315, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-756	Storage Yard between B4007/B4008	Same as 5B_DG-768.	2.4	0-1.0 ft bgs: Gravel encountered to 1.0 ft bgs.	8/24/2012	Surface	SL-756-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Energetics EPA 8330, Formaldehyde EPA 8315, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-757	Storage Yard North of B4008	Location targets storage yards around B4007 observed in aerial photographs; characterizes area for storage of flammable hazardous materials (solvents, morpholine, hydrazine, petroleum fuels, metals, PCBs, and propellants) described in RFI and EPA HSA. Analyze for VOCs in soil matrix since soils to shallow for soil vapor. Hold deep samples pending shallow. Shallow bedrock observed in adjacent samples; collect 5 foot sample if soil present.	3.5	None indicated.	8/27/2012	Subsurface	SL-757-SA5B-SB-2.5-3.5	N	Dioxins EPA 1613, Energetics EPA 8330, Formaldehyde EPA 8315, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, PH EPA 9045, TPH-EFH EPA 8015
							SL-757-SA5B-SB-3.0	N	TPH-GRO EPA 8015, VOC EPA 8260
						Surface	SL-757-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Energetics EPA 8330, Formaldehyde EPA 8315, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-758	Storage Yard North of B4008	Same as 5B_DG-757.	5	0-1.6 ft bgs: Gravel encountered to 1.6 ft bgs.	8/27/2012	Subsurface	SL-758-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Energetics EPA 8330, Formaldehyde EPA 8315, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, PH EPA 9045, TPH-EFH EPA 8015
							SL-758-SA5B-SB-4.5	N	TPH-GRO EPA 8015, VOC EPA 8260
						Surface	SL-758-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Energetics EPA 8330, Formaldehyde EPA 8315, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-759	Building 4008	Characterizes B4008 for storage of flammable hazardous materials (solvents, morpholine, hydrazine, petroleum fuels, metals, PCBs, and propellants) described in RFI and EPA HSA. Analyze for VOCs in soil matrix since soils to shallow for soil vapor. Hold deep samples pending shallow. Shallow bedrock observed in adjacent samples; collect 5 foot sample if soil present.	5	0-1.5 ft bgs: Gravel encountered to 1.5 ft bgs.	8/28/2012	Subsurface	SL-759-SA5B-SB-4.5	N	TPH-GRO EPA 8015, VOC EPA 8260
							SL-759-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Energetics EPA 8330, Formaldehyde EPA 8315, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, PH EPA 9045, TPH-EFH EPA 8015
						Surface	SL-759-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Energetics EPA 8330, Formaldehyde EPA 8315, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-760	Building 4008	Same as 5B_DG-759.	3	0-3.0 ft bgs: Gravel encountered to 3.0 ft bgs.	8/27/2012	Subsurface	SL-760-SA5B-SB-2.0-3.0	N	Dioxins EPA 1613, Energetics EPA 8330, Formaldehyde EPA 8315, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, PH EPA 9045, TPH-EFH EPA 8015
							SL-760-SA5B-SB-2.5	N	TPH-GRO EPA 8015, VOC EPA 8260
						Surface	SL-760-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Energetics EPA 8330, Formaldehyde EPA 8315, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-761	Building 4007	Same as 5B_DG-768.	2	0-0.6 ft bgs: Gravel encountered to 0.6 ft bgs.	8/24/2012	Surface	SL-761-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Energetics EPA 8330, Formaldehyde EPA 8315, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, PH EPA 9045, TPH-EFH EPA 8015

Location ID	Location Description	Rationale/Comments	Total Boring Depth (ft bgs)	Fill Description	Sample Date	Sample Type	Sample Number	Normal or Field Duplicate	Laboratory Analyses
5B_DG-762	Building 4007	Same as 5B_DG-768.	5.1	0-3.0 ft bgs: Gravel encountered to 3.0 ft bgs.	8/27/2012	Subsurface	SL-762-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Energetics EPA 8330, Formaldehyde EPA 8315, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, PH EPA 9045, TPH-EFH EPA 8015
							SL-762-SA5B-SB-4.5	N	TPH-GRO EPA 8015, VOC EPA 8260
						Subsurface (Duplicate)	SL-1162-SA5B-SB-4.0-5.0	FD	Dioxins EPA 1613, Energetics EPA 8330, Formaldehyde EPA 8315, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, PH EPA 9045, TPH-EFH EPA 8015
							SL-1162-SA5B-SB-4.5	FD	TPH-GRO EPA 8015, VOC EPA 8260
						Surface	SL-762-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Energetics EPA 8330, Formaldehyde EPA 8315, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-763	Storage Yard South of B4007	Same as 5B_DG-768.	5	0-5.0 ft bgs: fill described as silt with igneous/metamorphic gravel. Gravel encountered at 2.0 ft bgs.	8/27/2012	Subsurface	SL-763-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Energetics EPA 8330, Formaldehyde EPA 8315, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, PH EPA 9045, TPH-EFH EPA 8015
							SL-763-SA5B-SB-4.5	N	TPH-GRO EPA 8015, VOC EPA 8260
						Subsurface (Duplicate)	SL-1163-SA5B-SB-4.0-5.0	FD	Dioxins EPA 1613, Energetics EPA 8330, Formaldehyde EPA 8315, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, PH EPA 9045, TPH-EFH EPA 8015
							SL-1163-SA5B-SB-4.5	FD	TPH-GRO EPA 8015, VOC EPA 8260
						Surface	SL-763-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Energetics EPA 8330, Formaldehyde EPA 8315, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-764	South of B4007	Location targets downslope area from B4007/B4008; also serves as stepout for SL-262-SA5B to the northeast. Analyze for all chemicals identified in storage areas. Shallow bedrock observed in adjacent samples; collect and analyze 5 foot sample if soil present.	2.5	0-1.2 ft bgs: Gravel encountered to 1.2 ft bgs.	8/27/2012	Surface	SL-764-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Energetics EPA 8330, Formaldehyde EPA 8315, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-765	17th Street Drainage	Stepdown to characterize drainage at depth (previous samples shallow).	0.5	0-0.5 ft bgs: Fill described as silty sand with asphalt and igneous/metamorphic gravel.	9/5/2012	Surface	SL-765-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-766	South of Building 4007/4008	Stepout to delineate dioxins at SL-263-SA5B and characterize area adjacent to storage at B4007/4008. Analyze for chemicals stored at B4007/B4008. Shallow bedrock observed in adjacent samples; collect and analyze 5 foot sample if soil present.	2	0-1.7 ft bgs: Gravel encountered to 1.7 ft bgs.	8/27/2012	Surface	SL-766-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-767	Storage Yard South of B4008	Same as 5B_DG-768.	5	None indicated.	8/27/2012	Subsurface	SL-767-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Energetics EPA 8330, Formaldehyde EPA 8315, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, PH EPA 9045, TPH-EFH EPA 8015
							SL-767-SA5B-SB-4.5	N	TPH-GRO EPA 8015, VOC EPA 8260
						Surface	SL-767-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Energetics EPA 8330, Formaldehyde EPA 8315, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-768	Storage Yard South of B4008	Location characterizes area for storage of flammable hazardous materials (solvents, morpholine, hydrazine, petroleum fuels, metals, PCBs, and propellants) described in RFI and EPA HSA. Analyze VOCs in soil matrix since soils too shallow for soil vapor. Shallow bedrock observed in adjacent samples; collect 5 foot sample if soil present. 5B_DG-768 also serves as a stepout for L2BS1009 to the south.	4.1	0-3.0 ft bgs: fill described as sand with concrete and igneous/metamorphic gravel.	8/28/2012	Subsurface	SL-768-SA5B-SB-3.0-4.0	N	Dioxins EPA 1613, Energetics EPA 8330, Formaldehyde EPA 8315, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, PH EPA 9045, TPH-EFH EPA 8015
							SL-768-SA5B-SB-3.5	N	TPH-GRO EPA 8015, VOC EPA 8260
						Surface	SL-768-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Energetics EPA 8330, Formaldehyde EPA 8315, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-769	Storage Area South of Building 4008	Stepout to delineate PAHs and TPH in L2BS1009 and TPH in L2BS1008. Sample adjacent to B4500 and general operations area. Shallow bedrock observed in adjacent samples; collect and analyze 5 foot samples if soil present.	2.2	0-0.8 ft bgs: fill described as 2" of asphalt at surface and sand with igneous/metamorphic gravel.	8/28/2012	Surface	SL-769-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-770	Storage Area South of Building 4008	Same as 5B_DG-769.	5.1	0-0.2 ft bgs: fill described as 2" of asphalt at surface.	8/28/2012	Subsurface	SL-770-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-770-SA5B-SB-4.5	N	TPH-GRO EPA 8015
						Surface	SL-770-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-771	Storage Area South of Building 4008	Same as 5B_DG-769.	2.8	0-1.2 ft bgs: Fill described as sand with asphalt and igneous/metamorphic gravel.	8/28/2012	Subsurface	SL-771-SA5B-SB-2.0	N	1,4 Dioxane EPA 8260 SIM, TPH-GRO EPA 8015, VOC EPA 8260
							SL-771-SA5B-SB-2.0-3.0	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
						Surface	SL-771-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015

Table 2-1
Soil Samples Designated to be Collected from Subarea 5B - Phase 3

Location ID	Location Description	Rationale/Comments	Total Boring Depth (ft bgs)	Fill Description	Sample Date	Sample Type	Sample Number	Normal or Field Duplicate	Laboratory Analyses
5B_DG-772	G Street DrainageWest of 17th Street	Locations target drainage along G Street. Analyze for all chemicals stored at B4007/4008 since location is downslope/downdrainage. Deepest sample targets just above bedrock. Analyze all depths since historical drainage was unlined.	4.5	0-2.8 ft bgs: Gravel encountered 2.0 to 2.8 ft bgs.	8/29/2012	Subsurface	SL-772-SA5B-SB-3.5-4.5	N	Dioxins EPA 1613, Energetics EPA 8330, Formaldehyde EPA 8315, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, PH EPA 9045, TPH-EFH EPA 8015
							SL-772-SA5B-SB-4.0	N	TPH-GRO EPA 8015
						Surface	SL-772-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Energetics EPA 8330, Formaldehyde EPA 8315, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-773	G Street DrainageWest of 17th Street	Same as 5B_DG-772.	1.7	None indicated.	8/29/2012	Surface	SL-773-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Energetics EPA 8330, Formaldehyde EPA 8315, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-774	North of Fill Area Along G Street	Sample on slope along G Street.	5.2	None indicated.	9/7/2012	Subsurface	SL-774-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-774-SA5B-SB-4.5	N	TPH-GRO EPA 8015
						Surface	SL-774-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-775	North of Fill Area Along G Street	Sample on slope along G Street.	6.5	None indicated.	9/7/2012	Subsurface	SL-775-SA5B-SB-4.5	N	TPH-GRO EPA 8015
							SL-775-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
						Surface	SL-775-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-776	North of Fill Area Along G Street	Location targets 'tarp-like' feature observed in 1960 aerial photograph and linear and magnetic geophysical anomalies to characterize soil for potential pipeline or buried metal.	2	Gravel encountered at surface.	9/7/2012	Surface	SL-776-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-777	North of 17th Street Pond	Location targets 'tarp-like' feature south of G Street observed in 1960 aerial photo (note: photo analysis indicates actual photo date as 1959).	5.2	None indicated.	9/6/2012	Subsurface	SL-777-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-777-SA5B-SB-4.5	N	TPH-GRO EPA 8015
						Surface	SL-777-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-778	Undefined object south of G Street	Stepout on west side of 17 Street Pond Identified Contamination Area drainage (dioxins 120 x ISL), and slope below G street. Refusal in bedrock between 2.5 and 5' in nearby borings.	5	None indicated.	9/6/2012	Subsurface	SL-778-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-778-SA5B-SB-4.5	N	TPH-GRO EPA 8015
						Surface	SL-778-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-779	West of 17th St. Pond Identified Contamination Area Drainage South of G Street.	Same as 5B_DG-782, west of 17th Street Drainage.	2.2	0-2.2 ft bgs: fill described as silty sand with asphalt and igneous/metamorphic gravel.	9/6/2012	Surface	SL-779-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-780	Northeast of 17th St. Pond Identified Contamination Area.	Stepout/representative sample location to characterize open area northeast of Identified Contamination Area (define extent) and stepout for SL-215-SA5B PCBs, dioxins, metals. Analyze all depths. Shallow soil anticipated based on previous sampling.	5	0-5.0 ft bgs: fill described as silty sand with asphalt and igneous/metamorphic gravel.	9/5/2012	Subsurface	SL-780-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-780-SA5B-SB-4.5	N	TPH-GRO EPA 8015
						Surface	SL-780-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-781	Northeast of 17th St. Pond Identified Contamination Area.	Stepout/representative sample location to characterize open area northeast of Identified Contamination Area. Shallow soil anticipated based on previous sampling.	5	0-5.0 ft bgs: fill described as silty sand with wood.	9/6/2012	Subsurface	SL-781-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-781-SA5B-SB-4.0	N	TPH-GRO EPA 8015
						Surface	SL-781-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-782	Northeast of 17th St. Pond Identified Contamination Area.	Stepout/representative sample location to characterize open area northeast of Identified Contamination Area (define extent), and stepout for SL-212-SA5B and SL-213-SA5B PAH, PCB, metal, and dioxin detects. Analyze all depths. Shallow soil anticipated based on previous sampling.	5	None indicated.	9/11/2012	Subsurface	SL-782-SA5B-SB-4.5	N	TPH-GRO EPA 8015
							SL-782-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
						Surface	SL-782-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015

Location ID	Location Description	Rationale/Comments	Total Boring Depth (ft bgs)	Fill Description	Sample Date	Sample Type	Sample Number	Normal or Field Duplicate	Laboratory Analyses
5B_DG-783	Northeast of 17th St. Pond Identified Contamination Area.	Stepout/representative sample location to characterize open area northeast of Identified Contamination Area (define extent). Analyze all depths. Shallow soil anticipated based on previous sampling.	4.1	None indicated.	9/11/2012	Subsurface	SL-783-SA5B-SB-3.0-4.0	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-783-SA5B-SB-3.5	N	TPH-GRO EPA 8015
						Surface	SL-783-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-784	Northeast of 17th St. Pond Identified Contamination Area.	Stepout/representative sample location to characterize open area northeast of Identified Contamination Area (define extent) and stepout for SL-215-SA5B PAHs, PCBs, and dioxins. Analyze all depths. Shallow soil anticipated based on previous sampling.	2.3	None indicated.	9/11/2012	Surface	SL-784-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-785	Northeast of 17th St. Pond Identified Contamination Area.	Stepout/representative sample location to characterize open area northeast of Identified Contamination Area (define extent). Analyze all depths. Shallow soil anticipated based on previous sampling.	2.3	None indicated.	9/11/2012	Surface	SL-785-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-786	Area southeast of 17th St. Pond Identified Contamination Area	Stepout/representative sample location to characterize open area southeast of Identified Contamination Area (define extent) and stepout for dioxins/metals both to east and west. Analyze all depths. Shallow soil anticipated based on previous sampling.	2.3	None indicated.	9/12/2012	Surface	SL-786-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-787	Area southeast of 17th St. Pond Identified Contamination Area	Same as 5B_DG-786.	5	None indicated.	9/12/2012	Subsurface	SL-787-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-787-SA5B-SB-4.5	N	TPH-GRO EPA 8015
						Surface	SL-787-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-788	Area southeast of 17th St. Pond Identified Contamination Area	Same as 5B_DG-786.	3.8	None indicated.	9/12/2012	Subsurface	SL-788-SA5B-SB-3.0-4.0	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-788-SA5B-SB-3.5	N	TPH-GRO EPA 8015
						Surface	SL-788-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-790	Area southeast of 17th St. Pond Identified Contamination Area	Same as 5B_DG-786; southeastern most extent of potential contamination extent within subarea 5B.		**Not Sampled-ESA**					
5B_DG-791	East of 17th StreetIdentified Contamination Area	Stepout for identified contamination area to the west, providing characterization of open area to the east. Location is also stepout between contamination area and silver (615 mg/kg) at location P2TS57. PCBs detected in identified contamination area and as TIC at P2TS57. Located in a suspect dredge area identified in RFI report. Analyze all depths; however, refusal on bedrock likely at approximately 5 feet bgs.		**Not Sampled-ESA**					
5B_DG-792	Area southeast of 17th St. Pond Identified Contamination Area	Same as 5B_DG-787; southeastern most extent of potential contamination extent within subarea 5B.		**Not Sampled-ESA**					
5B_DG-794	East of 17th StreetIdentified Contamination Area	Same as 5B_DG-791.		**Not Sampled-ESA**					
5B_DG-796	Sewer Line South of 17th Street Pond	Excvate test pit to investigate linear geophysical anomaly south of the 17th Street Pond. Inspect test pit for signs of fill and target sample at top of native if fill observed. Collect deepest samples just above bedrock to evaluate potential migration to groundwater.		**Not Sampled-ESA**					

Table 2-1
Soil Samples Designated to be Collected from Subarea 5B - Phase 3

Location ID	Location Description	Rationale/Comments	Total Boring Depth (ft bgs)	Fill Description	Sample Date	Sample Type	Sample Number	Normal or Field Duplicate	Laboratory Analyses
5B_DG-797	Drainage Near Area III Boundary	Stepdown for PAH, PCB, dioxin, and silver in sample SL-284-SA5B (0.5 feet only) to assess drainage sediment depth at downstream (Area IV) limit of Identified Contamination Area. Analyze 5 and 10 ft. samples; refusal in upstream location PUBS1054 at 7 ft. Target deepest sample just above bedrock.	2.1	None indicated. **Not Sampled-Stepdown location not sampled due to shallow refusal less than 2.5 ft bgs.**					
5B_DG-799	Area southwest of 17th St. Pond Clearly Contaminated Area	Stepout for southwestern extent of 17th Street Pond Identified Contamination Area and dioxins in SL-172SA5B. Analyze all depths. Refusal in bedrock between 2' and 5' in nearby borings.	5.1	None indicated.	9/4/2012	Subsurface	SL-799-SA5B-SB-4.5	N	TPH-GRO EPA 8015
							SL-799-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
						Surface	SL-799-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-800	Area southwest of 17th St. Pond Clearly Contaminated Area	Stepout for southwestern extent of 17th Street Pond Identified Contamination Area and dioxins in SL-172SA5B; also located within reclaimed water sprayfield area. Analyze all depths. Refusal in bedrock between 2' and 5' in nearby borings.	5.1	0-5.1 ft bgs: fill described as clay with igneous/metamorphic gravel and red brick.	9/4/2012	Subsurface	SL-800-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, PH EPA 9045, TPH-EFH EPA 8015
							SL-800-SA5B-SB-4.5	N	TPH-GRO EPA 8015
						Surface	SL-800-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-802	Area west of 17th St. Pond Clearly Contaminated Area	Stepout for western extent of 17th Street Pond Identified Contamination Area and dioxins in SL-173-SA5B. Analyze all depths. Refusal in bedrock between 3' and 4' in nearby borings. Conduct adjacent test pit for linear geophysical anomaly and adjust 5 foot boring sample to target (or sample pit as appropriate).		**Not Sampled-Test Pit**					
5B_DG-803	Reclaimed Water SprayfieldEast of EEL	Location characterizes area downslope of fill north of road, west of Identified Contamination Area, and assesses potential impacts from reclaimed water sprayfields. Hexavalent chromium, formaldehyde and perchlorate added for potential presence in reclaimed water. Shallow soils anticipated; collect deepest sample just above bedrock. Conduct adjacent test pit for linear geophysical anomaly and adjust 5 foot boring sample to target (or sample pit as appropriate).		**Not Sampled-Test Pit**					
5B_DG-805	Fill Area FA-11 East of B4011 Leach Field	Stepout from location of elevated dioxins (232 x ISL), characterization of southern boundary of fill, assesses potential impacts from nearby spray fields. Soil likely shallow based on nearby borings.	4.1	None indicated.	8/30/2012	Subsurface	SL-805-SA5B-SB-3.0-4.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, PH EPA 9045, TPH-EFH EPA 8015
							SL-805-SA5B-SB-3.5	N	TPH-GRO EPA 8015
						Surface	SL-805-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, PH EPA 9045, TPH-EFH EPA 8015
						Surface (Duplicate)	SL-1205-SA5B-SB-0.0-0.5	FD	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-806	East of Gas Cylinder Storage	Location assesses potential impacts from adjacent EEL operational area and reclaimed water sprayfields to the east. Hold deep samples pending shallow results or as warranted based on field observations. Hexavalent chromium, formaldehyde and perchlorate added for potential presence in reclaimed water. Refusal on bedrock nearby at 2.5'.	5.1	0-4.0 ft bgs: fill described as clay with igneous/metamorphic gravel encountered at 1.6 ft bgs.	9/4/2012	Subsurface	SL-806-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, PH EPA 9045, TPH-EFH EPA 8015
							SL-806-SA5B-SB-4.5	N	TPH-GRO EPA 8015
						Surface	SL-806-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, PH EPA 9045, TPH-EFH EPA 8015

Location ID	Location Description	Rationale/Comments	Total Boring Depth (ft bgs)	Fill Description	Sample Date	Sample Type	Sample Number	Normal or Field Duplicate	Laboratory Analyses
5B_DG-807	Northeast of Unknown Tank north of B3271	Location targets northern portion of chemical use area identified in RFI report. Hold deep samples pending shallow results to characterize potential surface impacts . Shallow bedrock anticipated based on ELBS1001.	3	None indicated.	8/30/2012	Subsurface	SL-807-SA5B-SB-2.0-3.0	N	Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-807-SA5B-SB-2.5	N	TPH-GRO EPA 8015
						Surface	SL-807-SA5B-SB-0.0-0.5	N	Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-808	Transformer North of Building 3271	Targets location based on unknown object in aerial photograph (1988). Nearby to gas cylinders and historical storage so believed to be some type of container. Object identified as transformer but only seen in one photograph and large transformer is located to south. Likely misidentified; however sample will be analyzed for full storage suite including PCBs. Shallow soils anticipated based on 2.5 foot refusal nearby.	3.8	0-2.8 ft bgs: fill described as clay with asphalt and igneous/metamorphic gravel.	9/5/2012	Subsurface	SL-808-SA5B-SB-2.5-3.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-808-SA5B-SB-3.0	N	TPH-GRO EPA 8015
						Surface	SL-808-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-809A	Transformer PadEast of Building 3271	Two samples previously collected, at southwest (elevated detect) and northeast (ND with elevated RL) corners. Resample at four locations to get representative sample consistent with discrete sampling for Area IV transformers and define for remedial planning. Hold deep samples pending shallow results.	3	0-2.8 ft bgs: fill described as sandy clay with igneous/metamorphic gravel. Red brick encountered at 1.0 ft bgs.	7/3/2012	Subsurface	SL-809A-SA5B-SB-2.0-3.0	N	PCBs/PCTs EPA 8082
						Surface	SL-809A-SA5B-SB-0.0-0.5	N	PCBs/PCTs EPA 8082
5B_DG-809B	Transformer PadEast of Building 3271	Two samples previously collected, at southwest (elevated detect) and northeast (ND with elevated RL) corners. Resample at four locations to get representative sample consistent with discrete sampling for Area IV transformers and define for remedial planning. Hold deep samples pending shallow results.	3	0-3.0 ft bgs: fill described as clay with igneous/metamorphic gravel. Red brick encountered at 1.0 ft bgs.	7/3/2012	Subsurface	SL-809B-SA5B-SB-2.0-3.0	N	PCBs/PCTs EPA 8082
						Surface	SL-809B-SA5B-SB-0.0-0.5	N	PCBs/PCTs EPA 8082
5B_DG-809C	Transformer PadEast of Building 3271	Two samples previously collected, at southwest (elevated detect) and northeast (ND with elevated RL) corners. Resample at four locations to get representative sample consistent with discrete sampling for Area IV transformers and define for remedial planning. Hold deep samples pending shallow results.	3	0-3.0 ft bgs: fill described as clay with asphalt, concrete, and igneous/metamorphic gravel. Red brick encountered at 1.0 ft bgs.	7/3/2012	Subsurface	SL-809C-SA5B-SB-2.0-3.0	N	PCBs/PCTs EPA 8082
						Surface	SL-809C-SA5B-SB-0.0-0.5	N	PCBs/PCTs EPA 8082
5B_DG-809D	Transformer PadEast of Building 3271	Two samples previously collected, at southwest (elevated detect) and northeast (ND with elevated RL) corners. Resample at four locations to get representative sample consistent with discrete sampling for Area IV transformers and define for remedial planning. Hold deep samples pending shallow results.	3.4	0-2.0 ft bgs: fill described as clay with sand and asphalt, metal, concrete, and igneous/metamorphic gravel and red brick.	7/3/2012	Subsurface	SL-809D-SA5B-SB-2.0-3.0	N	PCBs/PCTs EPA 8082
						Surface	SL-809D-SA5B-SB-0.0-0.5	N	PCBs/PCTs EPA 8082
5B_DG-810	Fill area West of Identified Contamination Area	Stepdown at elevated dioxin location (SL-192-SA5B); target fill, top of native soil and soil above bedrock as appropriate based on field conditions observed. Deepest sample at 5 feet bgs in previous boring.	9.1	0-0.5 ft bgs: fill described as silt with sand and igneous/metamorphic gravel.	8/29/2012	Subsurface	SL-810-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-810-SA5B-SB-4.5	N	TPH-GRO EPA 8015
							SL-810-SA5B-SB-8.0-9.0	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-810-SA5B-SB-8.5	N	TPH-GRO EPA 8015
						Surface	SL-810-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015

Table 2-1
Soil Samples Designated to be Collected from Subarea 5B - Phase 3

Location ID	Location Description	Rationale/Comments	Total Boring Depth (ft bgs)	Fill Description	Sample Date	Sample Type	Sample Number	Normal or Field Duplicate	Laboratory Analyses
5B_DG-811	East of Building 3271	Stepout to characterize potential impacts outside of operational area (chem storage and PCBs at transformer); delineate surficial impacts of PCBs at ELBS16 and assess potential impacts from adjacent reclaimed water sprayfields. Refusal depths at surrounding borings range from 3.5' to 7'; collect and hold sample at 10' if soil is present.	6.8	None indicated.	8/31/2012	Subsurface	SL-811-SA5B-SB-5.0-6.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, PH EPA 9045, TPH-EFH EPA 8015
							SL-811-SA5B-SB-5.5	N	TPH-GRO EPA 8015
						Subsurface (Duplicate)	SL-1211-SA5B-SB-5.5	FD	TPH-GRO EPA 8015
							SL-1211-SA5B-SB-5.0-6.0	FD	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, PH EPA 9045, TPH-EFH EPA 8015
						Surface	SL-811-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-812	East of EEL in Reclaimed Water Sprayfield	Targets reclaimed water sprayfield. Hexavalent chromium, formaldehyde and perchlorate added for potential presence in reclaimed water. Analyze 5 foot sample since targeting linear geophysical anomaly (potential pipeline); hold 10 foot sample pending shallow results.	6.8	0-2.5 ft bgs: fill described as clay with sand and igneous/metamorphic gravel.	9/4/2012	Subsurface	SL-812-SA5B-SB-6.0-7.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, PH EPA 9045, TPH-EFH EPA 8015
							SL-812-SA5B-SB-6.5	N	TPH-GRO EPA 8015
						Surface	SL-812-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-813	Hazardous Materials Storage Area East of Building 3271	Characterize soil immediately adjacent to concrete pad for Hazardous Materials Storage Area, undefined feature observed in 1960-1963 aerial photograph, and potential impacts from reclaimed water spray field. Bedrock in area approximately 7 feet bgs; target deepest sample just above bedrock due to assess potential fluid release and migration along bedrock from HMSA.	7.8	0-3.8 ft bgs: fill described as clay with igneous/metamorphic gravel.	9/4/2012	Subsurface	SL-813-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, PH EPA 9045, TPH-EFH EPA 8015
							SL-813-SA5B-SB-4.5	N	TPH-GRO EPA 8015
							SL-813-SA5B-SB-7.0-8.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, PH EPA 9045, TPH-EFH EPA 8015
							SL-813-SA5B-SB-7.5	N	TPH-GRO EPA 8015
						Surface	SL-813-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-815	Hazardous Materials Storage Area East of Building 3271	Same as 5B_DG-813.	5.6	None indicated.	8/31/2012	Subsurface	SL-815-SA5B-SB-4.5-5.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, PH EPA 9045, TPH-EFH EPA 8015
							SL-815-SA5B-SB-5.0	N	TPH-GRO EPA 8015
						Surface	SL-815-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-816	Hazardous Materials Storage AreaEast of Building 3271	Same as 5B_DG-813.	6.6	0-5.2 ft bgs: fill described as fines and sand with igneous/metamorphic gravel. Red brick encountered at 3.0 ft bgs.	9/4/2012	Subsurface	SL-816-SA5B-SB-5.5-6.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, PH EPA 9045, TPH-EFH EPA 8015
							SL-816-SA5B-SB-6.0	N	TPH-GRO EPA 8015
						Surface	SL-816-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-817	East of Building 3271	Stepout to delineate surficial impacts of PCBs at ELBS16, assess EEL operational area and potential impacts from adjacent reclaimed water sprayfields. Refusal depth at surrounding borings range from 3.5' to 6.5'; collect and hold sample at 10' if soil is present.	5.1	0-0.2 ft bgs: fill described as igneous/metamorphic gravel.	8/31/2012	Subsurface	SL-817-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, PH EPA 9045, TPH-EFH EPA 8015
							SL-817-SA5B-SB-4.5	N	TPH-GRO EPA 8015
						Surface	SL-817-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-819	Fill Area FA-11 East of B4011 Leach Field	Collect sample at SL-187-SA5B to confirm previous perchlorate detection at 5 feet. Hold 10 foot sample pending shallow results.	3.8	None indicated.	8/30/2012	Subsurface	SL-819-SA5B-SB-3.0-4.0	N	Perchlorate Confirmation EPA 6850/6860
						Surface	SL-819-SA5B-SB-0.0-0.5	N	Perchlorate Confirmation EPA 6850/6860
5B_DG-820	Fill Area FA-11 East of B4011 Leach Field	Collect sample at SL-190-SA5B to confirm previous perchlorate detection at 5 feet. Hold 10 foot sample pending shallow results.	9.5	None indicated.	8/30/2012	Subsurface	SL-820-SA5B-SB-4.0-5.0	N	Perchlorate Confirmation EPA 6850/6860
							SL-820-SA5B-SB-8.5-9.5	N	Perchlorate Confirmation EPA 6850/6860
						Surface	SL-820-SA5B-SB-0.0-0.5	N	Perchlorate Confirmation EPA 6850/6860

Location ID	Location Description	Rationale/Comments	Total Boring Depth (ft bgs)	Fill Description	Sample Date	Sample Type	Sample Number	Normal or Field Duplicate	Laboratory Analyses
5B_DG-821	East of Building 3271	Same as 5B_DG-817.	5.6	0-0.4 ft bgs: fill described as igneous/metamorphic gravel with sand.	8/31/2012	Subsurface	SL-821-SA5B-SB-4.5-5.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, PH EPA 9045, TPH-EFH EPA 8015
							SL-821-SA5B-SB-5.0	N	TPH-GRO EPA 8015
						Surface	SL-821-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-822	North Wall of B3271	Targets location of compressors and other operational equipment along north wall of B3271.	1.5	None indicated.	8/30/2012	Surface	SL-822-SA5B-SB-0.0-0.5	N	Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-823	Operational Area north of Building 3271	Location targets operational area north of B3271 and south (downslope) of storage. Analyze full storage suite since downslope of tanks with unknown contents. Hold deep samples pending shallow results or warranted based on field observations. Nearby borings ELBS1009 and ELBS1030 encountered refusal on bedrock at 3' and 1.5', respectively.	5.6	0-5.6 ft bgs: fill described as silty sand with igneous/metamorphic gravel.	9/4/2012	Subsurface	SL-823-SA5B-SB-4.5-5.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-823-SA5B-SB-5.0	N	TPH-GRO EPA 8015
						Surface	SL-823-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-824	Unknown tank north of B3271	Location targets an AST with unknown contents. Analyze for full storage suite to address uncertainty of tank contents. Hold deep samples pending shallow results to characterize potential surface impacts from AST. Shallow bedrock anticipated based on ELBS1001.	5.9	0-4.0 ft bgs: fill described as silty sand with igneous/metamorphic gravel. Asphalt and brick encountered at 0.6 ft bgs.	9/4/2012	Subsurface	SL-824-SA5B-SB-5.0-6.0	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-824-SA5B-SB-5.5	N	TPH-GRO EPA 8015
						Surface	SL-824-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-825	Fill Area FA-11 North of EEL Storage	Stepout to define boundary of fill area as described below for 5B_DG-833.	5.1	0-0.6 ft bgs: fill described as silty sand with igneous/metamorphic gravel.	9/4/2012	Subsurface	SL-825-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-825-SA5B-SB-4.5	N	TPH-GRO EPA 8015
						Surface	SL-825-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
						Surface (Duplicate)	SL-1225-SA5B-SB-0.0-0.5	FD	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-826	Storage Area on Slope North of Building 3271	Location targets storage area observed in aerial photographs; hold deep samples pending shallow results. Shallow soils anticipated; 10 foot sample should target just above bedrock.	5.7	0-0.6 ft bgs: fill described as silty sand with igneous/metamorphic gravel.	9/4/2012	Subsurface	SL-826-SA5B-SB-4.5-5.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, PH EPA 9045, TPH-EFH EPA 8015
							SL-826-SA5B-SB-5.0	N	TPH-GRO EPA 8015
						Surface	SL-826-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-827	Storage Area on Slope North of Building 3271	Location targets downslope of storage area observed in aerial photographs; hold deep samples pending shallow results; 10 foot sample should target just above bedrock.	5.3	None indicated.	9/4/2012	Subsurface	SL-827-SA5B-SB-4.5	N	TPH-GRO EPA 8015
							SL-827-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
						Surface	SL-827-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-828	Unknown tank -AT-EL-12 Northwest of B3271	Location targets former sample ELBS1002 downslope of AST AT-EL-12 with unknown contents. Previous sample only analyzed for TPH (detected < ISL at 0.5 ft.). Analyze for full storage suite to address uncertainty of tank contents. Bedrock refusal was 7.5' in boring ELBS1002; 10 ft. sample should target immediately above bedrock for potential migration along bedrock surface. (Note: tank is represented in miscellaneous lines layer in GIS).	1	0-0.6 ft bgs: fill described as silty sand with concrete and igneous/metamorphic gravel.	9/4/2012	Surface	SL-828-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-829	North Wall of B3271	Targets location of compressors and other operational equipment along north wall of B3271.	4	0-4.0 ft bgs: Gravel encountered at 2.2 to 4.0 ft bgs (native).	8/30/2012	Subsurface	SL-829-SA5B-SB-3.0-4.0	N	Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-829-SA5B-SB-3.5	N	TPH-GRO EPA 8015
						Surface	SL-829-SA5B-SB-0.0-0.5	N	Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015

Table 2-1
Soil Samples Designated to be Collected from Subarea 5B - Phase 3

Location ID	Location Description	Rationale/Comments	Total Boring Depth (ft bgs)	Fill Description	Sample Date	Sample Type	Sample Number	Normal or Field Duplicate	Laboratory Analyses
5B_DG-830	North Wall of B3271	Targets location of compressors and other operational equipment along north wall of B3271.	5.6	0-0.8 ft bgs: fill described as silty sand with igneous/metamorphic gravel.	8/30/2012	Subsurface	SL-830-SA5B-SB-4.5-5.5	N	Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-830-SA5B-SB-5.0	N	TPH-GRO EPA 8015
						Surface	SL-830-SA5B-SB-0.0-0.5	N	Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-831	Undefined feature North of B3271	Targets previous sample location ESBS1406, analyzed for metals only at 1 foot bgs only, to assess undefined feature observed in 1967 aerial photo.	5.4	0-0.6 ft bgs: fill described as silty sand with igneous/metamorphic gravel.	8/31/2012	Subsurface	SL-831-SA5B-SB-4.5-5.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, PH EPA 9045, TPH-EFH EPA 8015
							SL-831-SA5B-SB-5.0	N	TPH-GRO EPA 8015
						Surface	SL-831-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-832	Storage Area and Fill Boundary on Slope North of Building 3271	Location targets western portion of storage area observed in aerial photographs and defines fill boundary as described below for 5B_DG-833; sample and analyze as described above.	9.3	0-0.6 ft bgs: fill described as silty sand with igneous/metamorphic gravel.	8/31/2012	Subsurface	SL-832-SA5B-SB-8.5	N	TPH-GRO EPA 8015
							SL-832-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-832-SA5B-SB-4.5	N	TPH-GRO EPA 8015
							SL-832-SA5B-SB-8.0-9.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
						Surface	SL-832-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-833	Fill Area FA-11 Northwest of Building 3271	Stepout to define boundary of fill area and PAHs, PCBs, and dioxins at SL-176-SA5B . If fill observed collect sample in fill, native soil, just above bedrock as soil conditions warrant; otherwise sample at 0.5, 5 and just above bedrock (refusal anticipated < 10 ft. bgs).	6.6	0-5.0 ft bgs: fill described as silty sand with igneous/metamorphic gravel.	8/31/2012	Subsurface	SL-833-SA5B-SB-6.0	N	TPH-GRO EPA 8015
							SL-833-SA5B-SB-5.5-6.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
						Surface	SL-833-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-834	West of EEL (Subarea 5C)	Stepout in drainage to west of dioxins in SL-176-SA5B. Location also targets reclaimed water sprayfield; hexavalent chromium, formaldehyde and perchlorate added for potential presence in reclaimed water. Analyze all depths due to natural (unlined) drainage and deposition over time. Note: 5B_DG-834 located east of Subarea 5B boundary in Subarea 5C.	6	0-0.7 ft bgs: fill described as silty sand with igneous/metamorphic gravel.	8/31/2012	Subsurface	SL-834-SA5B-SB-5.0-6.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, PH EPA 9045, TPH-EFH EPA 8015
							SL-834-SA5B-SB-5.5	N	TPH-GRO EPA 8015
						Subsurface (Duplicate)	SL-1234-SA5B-SB-5.0-6.0	FD	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, PH EPA 9045, TPH-EFH EPA 8015
							SL-1234-SA5B-SB-5.5	FD	TPH-GRO EPA 8015
						Surface	SL-834-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, Perchlorate Confirmation EPA 6850/6860, PH EPA 9045, TPH-EFH EPA 8015
5B_DG-835	Fill Area FA-11 West of B3271	Stepout to define boundary of fill area as described above for 5B_DG-833.	5.4	0-3.6 ft bgs: fill described as silty sand.	8/30/2012	Subsurface	SL-835-SA5B-SB-4.0-5.0	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015
							SL-835-SA5B-SB-4.5	N	TPH-GRO EPA 8015
						Surface	SL-835-SA5B-SB-0.0-0.5	N	Dioxins EPA 1613, Formaldehyde EPA 8315, Hexavalent Chromium EPA 7196/7199, Mercury EPA 7471, Metals EPA 6020, PAH EPA 8270 SIM, PCBs/PCTs EPA 8082, PH EPA 9045, TPH-EFH EPA 8015

Notes & Abbreviations:

Note: The sample number for a "duplicate sample" was increased by 300 (e.g. SB-530 and SB-830)
AST = Above-ground Storage Tank
B(a)P = benzo (a) pyrene
BG = Background
bgs = below ground surface
Cr (VI) = hexavalent chromium
EEL = Environemntal Effectives Laboratory
EFH = extractable fuel hydrocarbons
EPA = Environmental Protection Agency
ESA= Environmentally Sensitive Area
DTSC = Department of Toxic Substances Control
FD = field duplicate sample
ft = feet
GRO = gasoline range organics
hg = mercury
HMSA = Hazardous Material Storage Area
HSA = Historical Site Assessment
ISL = interim screening level
L = liter
mg/kg = milligram per kilogram
N = normal sample
ng/kg = nanogram per kilogram
ND = nondetect
NDMA = n-Nitrosodimethylamine
PAH = polyaromatic hydrocarbon
PCB/PCT = polychlorinated biphenyl/polychlorinated triphenyl
ppb = parts per billion
ppm = parts per million
ppt = part per trillion
RFI = Facility Investigation Report
RL = reporting limit
SCTI = Sodium Component Test Installation
SPTF = Sodium Pump Test Facility
TEM = technical memorandum
TEQ = toxicity equivalency factor
TIC = tentatively identified compound
TPH = total petroleum hydrocarbons
UST = underground storage tank
VOC (SIM) = volatile organic compound - selective ion monitoring
SNAP RFI, 2008 = Systems for Nuclear Auxiliary Power
Samples not collected

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, which 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 to be analyzed for the analytes identified for each sample location as indicated in Table 1 of the Subarea 5B Data Gap Analysis TM (CDM Smith 2012b).

2.2 Subsurface Sampling

Most of the subsurface soil sampling was performed by a California-licensed DPT subcontractor under CDM Smith oversight and in accordance with SSFL SOP 4 of the Master FSP. The majority of the Phase 3 DPT borings in Subarea 5B were advanced to depths of between approximately 5 and 10 feet bgs. Table 2-1 provides the actual depths reached at each location. Appendix E also provides the specific boring log for each sample.

Soil cores were collected using the DPT dual-tube sampling method, which consists of a 2-inch outer steel drive casing and an inner 1¾-inch diameter acetate soil sampling sleeve. After the liner was retracted from the core barrel, it was opened lengthwise with a cutting tool. Samples were collected from the acetate sleeve by the CDM Smith sampler at the depths specified in Table 1 of the Subarea 5B Data Gap Analysis TM. Samples were also collected from any depths where the PID detected concentrations above background or where there was visual evidence of possible contamination.

Soil for volatile organic compounds (VOCs)/1,4-dioxane and/or total petroleum hydrocarbons-gasoline range organics (TPH-GRO) and TPH-Extractable Fuel Hydrocarbons (EFH) analyses was collected from the acetate sleeve using EnCore® samplers. Subsurface soil for semivolatile organic compound (SVOC), poly aromatic hydrocarbon (PAH), and polychlorinated biphenyl/polychlorinated triphenyl (PCB/PCT) analyses was removed from the acetate sleeve in a manner causing minimal soil disturbance and placed into glass jars (ranging from four ounces to 16 ounces depending on volume of soil needed for the required analyses). Soil for all non-volatile analyses was also placed into glass jars. Adhesive sample labels were completed with all sampling information and affixed to each sample jar, and then placed into plastic zip top bags. The EnCore® samplers were placed into the bags in which they were received (three samplers per bag), and the sample label affixed to the outside of the bag. All jars and EnCore® samplers were placed in a cooler with double bagged ice.

Several subsurface locations were not accessible by the DPT rig and borings at these locations were advanced using a hand auger. Each location was augered to the required sample depth and every foot of augered soil was retrieved to the surface, placed in plastic bags and screened using the Micro R, Pancake, and PID. All borings were sampled in accordance with SSFL SOP 3 of the Master FSP, using a slide hammer equipped with stainless steel sleeves. Any EnCore® samplers needed were filled from the bottom end of the sleeve, and the sleeve was capped and submitted for the required analyses. This process was repeated at those locations where deeper samples were also to be collected.

After all samples were collected from each boring and hand augered hole, the soil cuttings were used to backfill the hole and the hole was topped off with a bentonite chip seal. At locations in asphalt, asphalt patch was placed on top of the bentonite.

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 the sample labels 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, 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 Subarea 5B sampling activities are presented in Appendix F. 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.

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, field blanks and performance evaluation samples. 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 VOCs/1,4-dioxane, and/or TPH-GRO.

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 (five percent) parent samples soil samples collected. The field duplicate and MS/MSD samples are collected from the same location. The duplicate samples were submitted to the laboratory as separate (and blind) from the parent samples. The MS/MSD samples are additional volume of the parent samples collected in triple volume for the DPT subsurface samples; a double volume of soil was sufficient for the surface and hand-augered MS/MSD samples.

During sampling in Subarea 5B, a total of 29 field duplicate/MS/MSD samples were collected equating to approximately five percent of the whole program. On an individual method basis, the five percent goal was approximately met or exceeded for all analyses except for herbicides as field duplicates and MS/MSDs were inadvertently not collected. A total of six samples were collected for this method. Other QC parameters were within acceptable control limits for the herbicide samples so this oversight is considered to have minimal impacts to data quality.

2.4.2 Equipment Rinsate Blank Samples

Equipment rinsate blanks were collected weekly for both surface and subsurface samples regardless of the number of soil samples collected.

2.4.3 Field Blank Samples

Field blanks were collected once for each lot number of American Society for Testing and Materials (ASTM) International Type II water that was used for decontamination. Two field blanks were collected during Phase 3 sampling in Subarea 5B.

2.4.4 Performance Evaluation Samples

Performance evaluation (PE) samples were collected once to evaluate the performance of Test America Laboratories initial performance.

2.4.5 Decontamination of Sampling Equipment

All sampling and drilling equipment were decontaminated by the DPT subcontractor and/or CDM Smith staff before and after completing each sample. This included the hand auger equipment, slide hammer equipment, split spoon sampler and drill rods for the DPT, Encore® sampler and other sampling equipment. All sampling equipment was cleaned with the triple rinse method before sampling at the next depth; cleaning was also done 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 cap (that holds the stainless steel sleeves in place while sampling) were decontaminated as follows:

- Washed with a solution of potable water and Alconox, 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 Analytical Laboratory Methods and Procedures

2.5.1 Analytical Methods

The Subarea 5B Phase 3 soil samples were subject to analysis using at least one of the following analytical methods:

- Metals using EPA Methods 6010C/6020/6020A, 7471A/7471B (mercury), and 7199 (chromium VI)
- Soil pH using EPA Method 9045D
- PAHs using Method 8270C selective ion monitoring (SIM)
- N-Nitrosodimethylamine (NDMA) using EPA Method 8270C SIM
- Pesticides using EPA Method 8081A/8081B
- Herbicides using EPA Method 8151A
- PCBs/PCTs using EPA Method 8082/8082A
- Dioxins/furans using EPA Method 1613B
- Perchlorate using EPA Method 6850/6860
- Formaldehyde using EPA Method 8315A
- Energetics using EPA method 8330A
- Alcohols using EPA method 8015B/8015C
- TPH-EFH using EPA Method 8015B EFH

- TPH-GRO using EPA Method 8015B GRO
- Glycols using EPA Method 8015C/8015C GLYCOLS/8015M

At locations where PID measurements indicated the presence of VOCs above background and/or there was evident staining or organic odors, samples were to also be analyzed for:

- VOCs using EPA Method 8260B
- 1,4-dioxane using EPA Method 8260B SIM

Lancaster Laboratories, Inc. (LLI) in Lancaster, Pennsylvania analyzed samples for dioxins and formaldehyde. EMAX Laboratories, Inc. (EMAX) located in Torrance, CA and Test America Laboratories, located in Denver, Colorado performed the other analyses. Test America Laboratories also analyzed dioxins and formaldehyde for a few samples. Laboratories were selected using a competitive procurement process.

2.6 Data Review Processes

Analytical data produced by the analytical laboratories (LLI, EMAX and Test America) 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 two to three 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.
- Laboratory consultation with the project chemists on data quality issues during sample analyses such as missed holding times, poor spike recoveries, etc. These issues are discussed between the project chemists and the laboratory and are resolved based on technical merit and determined if usable in the evaluation.

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. 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.

2.7 Deviations from the Master FSP

During the Phase 3 field sampling and analytical programs, modifications from the procedures detailed in the Master FSP (CDM Smith 2012a) and project SOPs were required. These modifications and associated resolutions were discussed with the FTL, the project manager, and in some cases with the DTSC representative prior to implementation. In other instances, deviations effected in the field were not discussed with the project manager or DTSC prior to their implementation. These deviations are described in the following subsections.

2.7.1 Field Sampling

A total of 288 locations in Subarea 5B (Table 2-1) were to be sampled at one or more depths. No subsurface samples were collected at 46 locations due to shallow refusal at less than 2.5 feet bgs. Surface samples were collected at all of the locations with shallow refusal except for four step-down locations as shown below. Thirty-nine locations were not sampled due to the presence of active transformers, an Environmentally Sensitive Area (ESA) or planned to be completed as trenches and/or test pits. These samples are shown in Table 2-2.

Table 2-2 – Locations Not Sampled

Location	Reason Not Sampled		Location	Reason Not Sampled
5B_DG_501A	Active Transformer		5B_DG_717B	Active Transformer
5B_DG_501B	Active Transformer		5B_DG_717C	Active Transformer
5B_DG_501C	Active Transformer		5B_DG_717D	Active Transformer
5B_DG_501D	Active Transformer		5B_DG_739	Trench
5B_DG_527	Trench		5B_DG_741	Trench
5B-DG_529	Trench		5B_DG_746	Transformer Substation
5B_DG_597	Trench		5B_DG_747	Transformer Substation
5B_DG_598	Trench		5B_DG_748	Transformer Substation
5B_DG_599	Test Pit		5B_DG_749	Transformer Substation
5B_DG_616	Trench		5B_DG_750	Transformer Substation
5B_DG_628	Test Pit		5B_DG_751	Transformer Substation
5B_DG_632	Trench		5B_DG_753	Refusal < 2.5 feet bgs
5B_DG_660	Refusal < 10 ft bgs		5B_DG_789	ESA
5B_DG-671	Refusal < 10 ft bgs		5B_DG_790	ESA
5B_DG_680	Test Pit		5B_DG_791	ESA
5B_DG_690	Test Pit		5B_DG_792	ESA
5B_DG_693	Test Pit		5B_DG_794	ESA
5B_DG_695	Test Pit		5B_DG_796	Test Pit
5B_DG_699	Test Pit		5B_DG_797	Refusal < 2 feet bgs
5B_DG_704	ESA		5B_DG_802	Test Pit
5B_DG_707	Test Pit		5B_DG_803	Test Pit
5B_DG_717A	Active Transformer			

Surface soil samples at 229 locations identified in Table 2-1 were collected from an acetate sleeve using the DPT rig and placed into glass jars instead of being collected in accordance with SSFL SOP 2. The SSFL SOP 2 required samples for nonvolatile organic or inorganic compounds to be collected

using a clean slide hammer and decontaminated stainless steel sleeves to drive a sample from 0 to 6-inches bgs and for VOC analysis to utilize the EnCore® sampler method. The samples associated with this deviation are presented in Table 2-1.

Some required analytical sample methods were inadvertently not analyzed during the Phase 3 Subarea 5B sampling program. Hexavalent chromium was not collected/analyzed for samples SL-617 (5.5-6.5 feet), SL-618 (0.0-0.5 feet and 4.5-5.5 feet), and SL-643 (2.5-3.5 feet). VOCs were not collected or analyzed for the following samples due to refusal at or below three feet bgs: SL-542; SL-755; SL-756; and SL-751. These locations will be resampled during the data gap go-back investigation depending on whether they are determined to be critical sample locations and analyses.

An herbicide field duplicate and MS/MSD sample were inadvertently not collected with the samples analyzed for herbicides. All other QC information was within criteria.

2.7.2 Analytical

The analytical laboratories for the Phase 3 Subarea 5B soil sampling effort included LLI, EMAX and Test America Laboratories as indicated in Section 2.5.1 Sample locations SL-633, SL-638, SL-639, and SL-651 were collected and shipped to the laboratory but were received at a higher temperature than required. The samples were recollected and shipped to the laboratory and analyzed accordingly.

Sample SL-673C had a transcription error from Test America Laboratory. This was identified during the validated sample completeness check and was corrected accordingly.

Section 3

Area IV Subarea 5B Phase 3 Soil Sampling Results

Because this TM only provides the analytical results, data in this section are presented in a summary fashion. Tables 3-1, 3-2 and 3-3 summarize the Phase 3 Subarea 5B surface, subsurface and combined soil sample data respectively. The tables detail the chemicals analyzed, their associated chemical abstract service (CAS) number, frequency of detection, minimum and maximum detected concentrations, 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.

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

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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
Alcohols	2-Propanol	67-63-0	0 / 16	-	-	250 - 1400	510 - 4900	µg/kg				-
Alcohols	Ethanol	64-17-5	0 / 16	-	-	250 - 1700	510 - 4900	µg/kg				-
Alcohols	Methanol	67-56-1	11 / 16	480 J Z	36000	250 - 2200	510 - 4900	µg/kg	5B_DG-625	Test America	8015C	0 - 0.5
Dioxins	1,2,3,4,6,7,8-Heptachlorodibenzo-p-Dioxin	35822-46-9	187 / 212	0.17 J Z	1250	0.0232 - 1.4	4.7 - 6.5	ng/kg	5B_DG-553	LL	1613B	0 - 0.5
Dioxins	1,2,3,4,6,7,8-HPCDF	67562-39-4	165 / 212	0.073 J Z	191	0.00949 - 1.4	4.7 - 6.5	ng/kg	5B_DG-553	LL	1613B	0 - 0.5
Dioxins	1,2,3,4,7,8,9-HPCDF	55673-89-7	74 / 212	0.082 J Z	17.8	0.0122 - 1.4	4.7 - 6.5	ng/kg	5B_DG-553	LL	1613B	0 - 0.5
Dioxins	1,2,3,4,7,8-Hexachlorodibenzo-p-Dioxin	39227-28-6	90 / 212	0.079 J Z	19	0.021 - 1.4	4.7 - 6.5	ng/kg	5B_DG-737	Test America	1613B	0 - 0.5
Dioxins	1,2,3,4,7,8-HXCDF	70648-26-9	81 / 212	0.071 J Z	11.4	0.0122 - 1.4	4.7 - 6.5	ng/kg	5B_DG-553	LL	1613B	0 - 0.5
Dioxins	1,2,3,6,7,8-Hexachlorodibenzo-p-Dioxin	57653-85-7	155 / 212	0.099 J Z	48	0.023 - 1.4	4.7 - 6.5	ng/kg	5B_DG-737	Test America	1613B	0 - 0.5
Dioxins	1,2,3,6,7,8-HXCDF	57117-44-9	93 / 212	0.066 J Z	9.5	0.0117 - 1.4	4.7 - 6.5	ng/kg	5B_DG-682	Test America	1613B	0 - 0.5
Dioxins	1,2,3,7,8,9-Hexachlorodibenzo-p-Dioxin	19408-74-3	144 / 212	0.1 J Z	67	0.021 - 1.4	4.7 - 6.5	ng/kg	5B_DG-737	Test America	1613B	0 - 0.5
Dioxins	1,2,3,7,8,9-HXCDF	72918-21-9	71 / 212	0.0365 J Z	1.22 J Z	0.0117 - 1.4	4.7 - 6.5	ng/kg	5B_DG-528	LL	1613B	0 - 0.5
Dioxins	1,2,3,7,8-Pentachlorodibenzofuran	57117-41-6	48 / 212	0.046 J Z	1.8 J Z	0.0115 - 1.4	4.7 - 6.5	ng/kg	5B_DG-737	Test America	1613B	0 - 0.5
Dioxins	1,2,3,7,8-Pentachlorodibenzo-p-Dioxin	40321-76-4	69 / 212	0.042 J Z	10	0.019 - 1.4	4.7 - 6.5	ng/kg	5B_DG-737	Test America	1613B	0 - 0.5
Dioxins	2,3,4,6,7,8-HXCDF	60851-34-5	83 / 212	0.037 J Z	12.1	0.0114 - 1.4	4.7 - 6.5	ng/kg	5B_DG-553	LL	1613B	0 - 0.5
Dioxins	2,3,4,7,8-PECDF	57117-31-4	45 / 212	0.057 J FD, Z	9.5	0.0106 - 1.4	4.7 - 6.5	ng/kg	5B_DG-682	Test America	1613B	0 - 0.5
Dioxins	2,3,7,8-TCDD	1746-01-6	37 / 212	0.013 J Z	1.4	0.012 - 1.4	0.93 - 1.4	ng/kg	5B_DG-682	Test America	1613B	0 - 0.5
Dioxins	2,3,7,8-Tetrachlorodibenzofuran	51207-31-9	72 / 212	0.02 J Z	5	0.013 - 1.4	0.93 - 1.4	ng/kg	5B_DG-682	Test America	1613B	0 - 0.5
Dioxins	OCDD	3268-87-9	195 / 212	1.4 J Z	15500 J *#	0.0171 - 3.6	9.3 - 13	ng/kg	5B_DG-553	LL	1613B	0 - 0.5
Dioxins	OCDF	39001-02-0	167 / 212	0.2 J Z	400	0.015 - 1.4	9.3 - 13	ng/kg	5B_DG-744	Test America	1613B	0 - 0.5
Energetics	1,3,5-Trinitrobenzene	99-35-4	0 / 15	-	-	13 - 15	370 - 420	µg/kg				-
Energetics	2,4,6-Trinitrotoluene	118-96-7	0 / 15	-	-	29 - 32	370 - 420	µg/kg				-
Energetics	2,4-Diamino-6-nitrotoluene	6629-29-4	0 / 15	-	-	480 - 550	740 - 840	µg/kg				-
Energetics	2,4-Dinitrotoluene	121-14-2	0 / 15	-	-	14 - 16	370 - 420	µg/kg				-
Energetics	2,6-Diamino-4-nitrotoluene	59229-75-3	0 / 15	-	-	480 - 550	740 - 840	µg/kg				-
Energetics	2,6-Dinitrotoluene	606-20-2	0 / 15	-	-	18 - 20	370 - 420	µg/kg				-
Energetics	2-Amino-4,6-Dinitrotoluene	35572-78-2	0 / 15	-	-	31 - 35	370 - 420	µg/kg				-
Energetics	2-Nitrotoluene	88-72-2	0 / 15	-	-	44 - 50	370 - 420	µg/kg				-
Energetics	3-Nitrotoluene	99-08-1	0 / 15	-	-	59 - 68	370 - 420	µg/kg				-
Energetics	4-Amino-2,6-Dinitrotoluene	19406-51-0	0 / 15	-	-	28 - 32	370 - 420	µg/kg				-
Energetics	4-Nitrotoluene	99-99-0	0 / 15	-	-	34 - 39	370 - 420	µg/kg				-
Energetics	HMX	2691-41-0	0 / 15	-	-	21 - 24	370 - 420	µg/kg				-
Energetics	M-Dinitrobenzene	99-65-0	0 / 15	-	-	15 - 18	370 - 420	µg/kg				-
Energetics	Nitrobenzene	98-95-3	0 / 15	-	-	79 - 90	370 - 420	µg/kg				-
Energetics	Nitroglycerin	55-63-0	0 / 15	-	-	200 - 230	1900 - 2100	µg/kg				-
Energetics	PETN	78-11-5	0 / 15	-	-	460 - 520	1900 - 2100	µg/kg				-
Energetics	RDX	121-82-4	0 / 15	-	-	40 - 45	370 - 420	µg/kg				-
Energetics	Tetryl	479-45-8	0 / 15	-	-	41 - 46	370 - 420	µg/kg				-
Formaldehyde	Formaldehyde	50-00-0	17 / 149	270 J Z	8300 J S	210 - 1400	1700 - 3500	µg/kg	5B_DG-508	LL	8315A	0 - 0.5
Glycols	Diethylene Glycol	111-46-6	0 / 9	-	-	0.58 - 7.8	15 - 22	mg/kg				-
Glycols	Ethylene Glycol	107-21-1	0 / 9	-	-	1.8 - 5.2	10 - 27	mg/kg				-
Glycols	Propylene Glycol	57-55-6	0 / 9	-	-	1.3 - 5.2	10 - 27	mg/kg				-
Glycols	Triethylene Glycol	112-27-6	0 / 4	-	-	2.2 - 2.3	11 - 11	mg/kg				-
Herbicides	2,2-Dichlor-Propionic Acid	75-99-0	0 / 3	-	-	1.4 - 1.5	98 - 100	µg/kg				-
Herbicides	2,4,5-T	93-76-5	0 / 3	-	-	2.3 - 2.4	20 - 21	µg/kg				-
Herbicides	2,4-D	94-75-7	0 / 3	-	-	14 - 15	39 - 42	µg/kg				-
Herbicides	2,4-DB	94-82-6	1 / 3	20 J Z	20 J Z	7.3 - 7.8	79 - 83	µg/kg	5B_DG-694	Test America	8151A	0 - 0.5
Herbicides	Dicamba	1918-00-9	0 / 3	-	-	1.4 - 1.5	39 - 42	µg/kg				-
Herbicides	Dichlorprop	120-36-5	0 / 3	-	-	3.2 - 3.3	39 - 42	µg/kg				-
Herbicides	Dinitrobutyl Phenol	88-85-7	0 / 1	-	-	1.4 - 1.4	40 - 40	µg/kg				-
Herbicides	MCPA	94-74-6	1 / 3	3600 J Z	3600 J Z	2000 - 2100	6400 - 6800	µg/kg	5B_DG-692	Test America	8151A	0 - 0.5
Herbicides	Mecoprop	7085-19-0	0 / 3	-	-	2000 - 2100	6400 - 6800	µg/kg				-
Herbicides	Silvex (2,4,5-TP)	93-72-1	0 / 3	-	-	1.4 - 1.5	20 - 21	µg/kg				-
Hexavalent Chromium	Chromium (Hexavalent Compounds)	18540-29-9	25 / 128	0.19 J Q, Z	1.8 J Q, Z	0.15 - 1.6	1.01 - 4.5	mg/kg	5B_DG-620	Test America	7199	0 - 0.5
Mercury	Mercury	7439-97-6	156 / 250	0.0061 J Z	1.4	0.0055 - 0.069	0.017 - 0.25	mg/kg	5B_DG-688	Test America	7471B	0 - 0.5
Metals	Aluminum	7429-90-5	250 / 250	3800 J Z	31000 J A	1.3 - 13.3	8.9 - 110000	mg/kg	5B_DG-763	Test America	6010C	0 - 0.5
Metals	Antimony	7440-36-0	173 / 249	0.013 J Q, Z	0.625	0.012 - 0.111	0.18 - 9.5	mg/kg	5B_DG-541	EMAX	6020	0 - 0.5
Metals	Arsenic	7440-38-2	250 / 250	1.93	13 J Z	0.043 - 0.221	0.485 - 16	mg/kg	5B_DG-581	Test America	6020A	0 - 0.5
Metals	Barium	7440-39-3	250 / 250	30 J Z	200	0.06 - 0.221	0.18 - 150	mg/kg	5B_DG-654	Test America	6020A	0 - 0.5
Metals	Beryllium	7440-41-7	250 / 250	0.19 J Z	1.6	0.019 - 0.0553	0.089 - 2.3	mg/kg	5B_DG-581	Test America	6020A	0 - 0.5

Table 3-1
Summary of Analytical Results for Chemicals - Validated Data
Surface Soils - Subarea 5B - 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
Metals	Boron	7440-42-8	44 / 250	1.7 J Z	9.3 J Z	0.84 - 2.77	4.85 - 11	mg/kg	5B_DG-829	Test America	6010C	0 - 0.5
Metals	Cadmium	7440-43-9	250 / 250	0.068 J Z	5.41	0.008 - 0.0553	0.089 - 1.1	mg/kg	5B_DG-502	EMAX	6020	0 - 0.5
Metals	Calcium	7440-70-2	250 / 250	1500 J A	58800	9.71 - 77	19.4 - 270	mg/kg	5B_DG-605	EMAX	6020	0 - 0.5
Metals	Chromium	7440-47-3	250 / 250	7.32	79	0.065 - 0.221	0.18 - 40	mg/kg	5B_DG-775	Test America	6020A	0 - 0.5
Metals	Cobalt	7440-48-4	250 / 250	2.9 J Z	70	0.0056 - 0.0553	0.089 - 23	mg/kg	5B_DG-775	Test America	6020A	0 - 0.5
Metals	Copper	7440-50-8	250 / 250	3.36	290	0.06 - 0.221	0.22 - 32	mg/kg	5B_DG-731	Test America	6020A	0 - 0.5
Metals	Iron	7439-89-6	250 / 250	6500	35000	3.2 - 21	13 - 190	mg/kg	5B_DG-821	Test America	6010C	0 - 0.5
Metals	Lead	7439-92-1	250 / 250	3.05	210 J Q	0.015 - 0.111	0.13 - 37	mg/kg	5B_DG-735	Test America	6020A	0 - 0.5
Metals	Lithium	7439-93-2	250 / 250	6.2 J Z	50 J A	0.26 - 1.6	1.94 - 200	mg/kg	5B_DG-764	Test America	6010C	0 - 0.5
Metals	Magnesium	7439-95-4	250 / 250	1300	8200 J A	3.2 - 5.53	8.5 - 21	mg/kg	5B_DG-764	Test America	6010C	0 - 0.5
Metals	Manganese	7439-96-5	250 / 250	130 J Z	680	0.085 - 0.277	0.485 - 540	mg/kg	5B_DG-774	Test America	6010C	0 - 0.5
Metals	Molybdenum	7439-98-7	238 / 250	0.16 J Z	23	0.015 - 0.0553	0.18 - 5.8	mg/kg	5B_DG-775	Test America	6020A	0 - 0.5
Metals	Nickel	7440-02-0	250 / 250	4.6	160	0.021 - 0.221	0.13 - 32	mg/kg	5B_DG-775	Test America	6020A	0 - 0.5
Metals	Phosphorus	7723-14-0	250 / 250	86	620	1.4 - 6.64	8.5 - 310	mg/kg	5B_DG-752	Test America	6010C	0 - 0.5
Metals	Potassium	9/7/7440	250 / 250	730 J Z	5300 J Z	29.1 - 220	97.1 - 35000	mg/kg	5B_DG-649	Test America	6010C	0 - 0.5
Metals	Selenium	7782-49-2	187 / 250	0.12 J Z	1.7	0.11 - 0.221	0.45 - 0.71	mg/kg	5B_DG-581	Test America	6020A	0 - 0.5
Metals	Silver	7440-22-4	180 / 250	0.021 J Z	1.1	0.017 - 0.0553	0.089 - 0.86	mg/kg	5B_DG-788	Test America	6020A	0 - 0.5
Metals	Sodium	7440-23-5	233 / 250	69.9 J Z	1950	48.5 - 320	97.1 - 2700	mg/kg	5B_DG-543	EMAX	6020	0 - 0.5
Metals	Strontium	7440-24-6	250 / 250	10 J A	115 J Q	0.031 - 0.277	0.42 - 2.7	mg/kg	5B_DG-605	EMAX	6020	0 - 0.5
Metals	Thallium	7440-28-0	250 / 250	0.094 J Z	0.48	0.003 - 0.0553	0.089 - 0.5	mg/kg	5B_DG-581	Test America	6020A	0 - 0.5
Metals	Tin	7440-31-5	170 / 250	0.86 J Z	5.5 J Z	0.78 - 5.53	8.8 - 12	mg/kg	5B_DG-633	Test America	6010C	0 - 0.5
Metals	Titanium	7440-32-6	250 / 250	230	1200	0.12 - 0.553	0.85 - 1.11	mg/kg	5B_DG-630 5B_DG-764	Test America Test America	6010C 6010C	0 - 0.5 0 - 0.5
Metals	Vanadium	7440-62-2	250 / 250	15 J Z	72	0.033 - 0.0553	0.45 - 68	mg/kg	5B_DG-581	Test America	6020A	0 - 0.5
Metals	Zinc	7440-66-6	250 / 250	23 J Z	750	0.27 - 1.66	0.89 - 120	mg/kg	5B_DG-682	Test America	6020A	0 - 0.5
Metals	Zirconium	7440-67-7	200 / 250	0.95 J Z	6.3 J Z	0.3 - 2.77	2.6 - 47	mg/kg	5B_DG-586	Test America	6010C	0 - 0.5
Moisture Content	Moisture	MOIST	48 / 48	0.88	15.4	0.5 - 0.5	0.5 - 0.5	%	5B_DG-502	LL	160.3M	0 - 0.5
NDMA	Methanamine, N-Methyl-N-Nitroso	62-75-9	1 / 246	2.5 J Z	2.5 J Z	2.2 - 260	9.3 - 1100	ug/kg	5B_DG-776	Test America	8270C SIM	0 - 0.5
PAHs	1,1'-Biphenyl	92-52-4	0 / 48	-	-	2.5 - 7.8	5.1 - 16	µg/kg				-
PAHs	1-Methylnaphthalene	90-12-0	52 / 246	0.26 J Z 0.26 J FD, Z	54	0.24 - 28	9.3 - 1100	µg/kg	5B_DG-779	Test America	8270C SIM	0 - 0.5
PAHs	2-Methylnaphthalene	91-57-6	63 / 246	0.3 J Z	65	0.29 - 33	9.3 - 1100	µg/kg	5B_DG-779	Test America	8270C SIM	0 - 0.5
PAHs	Acenaphthene	83-32-9	33 / 246	0.16 J Z	180 J Z	0.15 - 17	9.3 - 1100	µg/kg	5B_DG-681	Test America	8270C SIM	0 - 0.5
PAHs	Acenaphthylene	208-96-8	29 / 246	0.18 J Z	27 J Z	0.16 - 18	9.3 - 1100	µg/kg	5B_DG-721	Test America	8270C SIM	0 - 0.5
PAHs	Anthracene	120-12-7	39 / 246	0.71 J Z	550	0.67 - 77	9.3 - 1100	µg/kg	5B_DG-681	Test America	8270C SIM	0 - 0.5
PAHs	Azobenzene	103-33-3	0 / 48	-	-	2.5 - 7.8	5.1 - 16	µg/kg				-
PAHs	Benzo(a)anthracene	56-55-3	86 / 246	0.89 J Z	15000	0.84 - 280	9.3 - 3100	µg/kg	5B_DG-681	Test America	8270C SIM	0 - 0.5
PAHs	Benzo(a)pyrene	50-32-8	89 / 246	0.74 J L, Z	14000	0.69 - 230	9.3 - 3100	µg/kg	5B_DG-681	Test America	8270C SIM	0 - 0.5
PAHs	Benzo(b)fluoranthene	205-99-2	106 / 246	1.2 J Z 1.2 J FD, Z	11000	1.1 - 370	9.3 - 3100	µg/kg	5B_DG-681	Test America	8270C SIM	0 - 0.5
PAHs	Benzo(e)pyrene	192-97-2	16 / 48	2.7 J Z	43	2.5 - 7.8	5.1 - 16	µg/kg	5B_DG-613	EMAX	8270C SIM	0 - 0.5
PAHs	Benzo(g,h,i)perylene	191-24-2	96 / 246	1.1 J Z	7300	1 - 120	9.3 - 1100	µg/kg	5B_DG-681	Test America	8270C SIM	0 - 0.5
PAHs	Benzo(k)fluoranthene	207-08-9	46 / 246	0.97 J Z	3400	0.93 - 310	9.3 - 3100	µg/kg	5B_DG-721	Test America	8270C SIM	0 - 0.5
PAHs	Chrysene	218-01-9	102 / 246	0.99 J Z	27000	0.93 - 310	9.3 - 3100	µg/kg	5B_DG-681	Test America	8270C SIM	0 - 0.5
PAHs	Dibenzo(a,h)anthracene	53-70-3	32 / 246	1.6 J Z	1600	1.2 - 140	9.3 - 1100	µg/kg	5B_DG-681	Test America	8270C SIM	0 - 0.5
PAHs	Fluoranthene	206-44-0	100 / 246	0.96 J Z	7200	0.93 - 110	9.3 - 1100	µg/kg	5B_DG-681	Test America	8270C SIM	0 - 0.5
PAHs	Fluorene	86-73-7	27 / 246	0.47 J Z	98 J Z	0.44 - 50	9.3 - 1100	µg/kg	5B_DG-681	Test America	8270C SIM	0 - 0.5
PAHs	Indeno(1,2,3-cd)pyrene	193-39-5	65 / 246	1.1 J Z	5200	1 - 120	9.3 - 1100	µg/kg	5B_DG-721	Test America	8270C SIM	0 - 0.5
PAHs	Morpholine	110-91-8	3 / 141	42 J FD	160	19 - 21000	37 - 21000	µg/kg	5B_DG-658	Test America	8270C SIM	0 - 0.5
PAHs	Naphthalene	91-20-3	26 / 246	1.4 J Z	36	0.3 - 35	9.3 - 1100	µg/kg	5B_DG-779	Test America	8270C SIM	0 - 0.5
PAHs	N-Nitrosodimethylamine	62-75-9	1 / 246	2.5 J Z	2.5 J Z	2.2 - 260	9.3 - 1100	µg/kg	5B_DG-776	Test America	8270C SIM	0 - 0.5
PAHs	Phenanthrene	85-01-8	81 / 246	1.1 J Z 1.1 J FD, Z	3300	1 - 120	9.3 - 1100	µg/kg	5B_DG-681	Test America	8270C SIM	0 - 0.5
PAHs	Pyrene	129-00-0	94 / 246	1.1 J Z	12000	1 - 340	9.3 - 3100	µg/kg	5B_DG-681	Test America	8270C SIM	0 - 0.5
PCBPCTs	Aroclor 1016	12674-11-2	0 / 262	-	-	4.7 - 110	16 - 350	µg/kg				-
PCBPCTs	Aroclor 1221	11104-28-2	0 / 262	-	-	10 - 320	20 - 690	µg/kg				-
PCBPCTs	Aroclor 1232	11141-16-5	0 / 262	-	-	4.8 - 110	16 - 350	µg/kg				-
PCBPCTs	Aroclor 1242	53469-21-9	0 / 261	-	-	8.5 - 190	16 - 350	µg/kg				-
PCBPCTs	Aroclor 1248	12672-29-6	13 / 261	9.3 J Z	3900	5.2 - 120	16 - 350	µg/kg	5B_DG-678	Test America	8082A	0 - 0.5
PCBPCTs	Aroclor 1254	11097-69-1	49 / 262	6.3 J Z	1500	5.1 - 110	16 - 350	µg/kg	5B_DG-682	Test America	8082A	0 - 0.5
PCBPCTs	Aroclor 1260	11096-82-5	37 / 262	5 J Z	310	2.5 - 55	16 - 350	µg/kg	5B_DG-682	Test America	8082A	0 - 0.5

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
PCBPCTs	Aroclor 1262	37324-23-5	1 / 261	24 J Z	24 J Z	10 - 240	20 - 690	µg/kg	5B_DG-673C	Test America	8082A	0 - 0.5
PCBPCTs	Aroclor 1268	11100-14-4	1 / 261	7 J Z	7 J Z	3.7 - 82	20 - 690	µg/kg	5B_DG-646	Test America	8082A	0 - 0.5
PCBPCTs	Aroclor 5432	63496-31-1	0 / 261	-	-	15 - 330	40 - 1000	µg/kg				-
PCBPCTs	Aroclor 5442	12642-23-8	0 / 261	-	-	20 - 670	40 - 1000	µg/kg				-
PCBPCTs	Aroclor 5460	11126-42-4	12 / 262	16 J Z	110	15 - 340	40 - 1000	µg/kg	5B_DG-831	Test America	8082A	0 - 0.5
Perchlorate	Perchlorate	14797-73-0	25 / 47	0.044 J Z	6.88	0.038 - 2.77	0.49 - 290	µg/kg	5B_DG-541	EMAX	6850	0 - 0.5
Pesticides	4,4'-DDD	72-54-8	0 / 23	-	-	0.41 - 0.56	2 - 3.4	µg/kg				-
Pesticides	4,4'-DDE	72-55-9	3 / 23	2.4	11	0.23 - 0.44	2 - 3.4	µg/kg	5B_DG-713	Test America	8081B	0 - 0.5
Pesticides	4,4'-DDT	50-29-3	7 / 23	0.49 J Z	6.6	0.41 - 0.61	2 - 3.4	µg/kg	5B_DG-520	EMAX	8081A	0 - 0.5
Pesticides	Aldrin	309-00-2	0 / 23	-	-	0.24 - 0.44	1.6 - 2.2	µg/kg				-
Pesticides	Alpha-Bhc	319-84-6	0 / 23	-	-	0.2 - 0.44	1.6 - 2.2	µg/kg				-
Pesticides	Beta-Bhc	319-85-7	0 / 23	-	-	0.41 - 0.69	1.6 - 2.2	µg/kg				-
Pesticides	Chlordane (Technical)	12789-03-6	0 / 23	-	-	5.1 - 8	10 - 18	µg/kg				-
Pesticides	Delta-Bhc	319-86-8	0 / 23	-	-	0.38 - 0.44	1.6 - 2.2	µg/kg				-
Pesticides	Dieldrin	60-57-1	0 / 23	-	-	0.2 - 0.44	2 - 3.4	µg/kg				-
Pesticides	Endosulfan I	959-98-8	0 / 23	-	-	0.17 - 0.44	1.6 - 2.2	µg/kg				-
Pesticides	Endosulfan II	33213-65-9	0 / 23	-	-	0.27 - 0.44	2 - 3.4	µg/kg				-
Pesticides	Endosulfan Sulfate	1031-07-8	0 / 23	-	-	0.26 - 0.44	2 - 3.4	µg/kg				-
Pesticides	Endrin	72-20-8	0 / 23	-	-	0.29 - 0.44	2 - 3.4	µg/kg				-
Pesticides	Endrin Aldehyde	7421-93-4	0 / 23	-	-	0.16 - 0.44	2 - 3.4	µg/kg				-
Pesticides	Endrin Ketone	53494-70-5	0 / 23	-	-	0.41 - 0.51	2 - 3.4	µg/kg				-
Pesticides	Gamma-Bhc (Lindane)	58-89-9	0 / 23	-	-	0.41 - 0.48	1.6 - 2.2	µg/kg				-
Pesticides	Heptachlor	76-44-8	0 / 23	-	-	0.2 - 0.44	1.6 - 2.2	µg/kg				-
Pesticides	Heptachlor Epoxide	1024-57-3	0 / 23	-	-	0.4 - 0.44	1.6 - 2.2	µg/kg				-
Pesticides	Methoxychlor	72-43-5	0 / 23	-	-	0.43 - 2.2	5.1 - 6.9	µg/kg				-
Pesticides	Mirex	2385-85-5	0 / 23	-	-	0.25 - 0.44	1.6 - 2.2	µg/kg				-
Pesticides	Technical Toxaphene	8001-35-2	0 / 23	-	-	10 - 16	47 - 55	µg/kg				-
pH	pH	pH	249 / 249	5.69	11	0.1 - 0.1	0.1 - 0.1	pH	5B_DG-569	Test America	9045D	0 - 0.5
TPH-EFH	EFH (C12-C14)	PHCC12C14	1 / 248	8.8 J Z	8.8 J Z	0.92 - 25	4.6 - 120	mg/kg	5B_DG-721	Test America	8015B EFH	0 - 0.5
TPH-EFH	EFH (C15-C20)	PHCC15C20	43 / 248	1.1 J Z	74	0.92 - 25	4.6 - 120	mg/kg	5B_DG-721	Test America	8015B EFH	0 - 0.5
TPH-EFH	EFH (C21-C30)	PHCC21C30	166 / 248	1 J Z	1500	0.92 - 25	4.6 - 120	mg/kg	5B_DG-681	Test America	8015B EFH	0 - 0.5
TPH-EFH	EFH (C30-C40)	PHCC30C40	185 / 248	1 J Z	360	0.92 - 25	9.2 - 250	mg/kg	5B_DG-681	Test America	8015B EFH	0 - 0.5
TPH-EFH	EFH (C8-C11)	PHCC8C11	0 / 248	-	-	0.92 - 25	4.6 - 120	mg/kg				-
TPH-EFH	Total EFH (C8-C40)	PHCC8C40	7 / 8	3 J Z	140	2.5 - 2.6	5.1 - 5.3	mg/kg	5B_DG-522	EMAX	8015B EFH	0 - 0.5

Notes
ug/kg- microgram per kilogram
mg/kg - milligram per kilogram
ng/kg - nanogram per kilogram
J - Result is an estimated value
H - Holding times exceeded
S - Surrogates outside of criteria
C - Calibration recoveries outside of criteria
R - Calibration relative response factors outside of criteria
B - Method blank contamination
L - Laboratory control sample recoveries outside of criteria
Q - Matrix spike recoveries outside of criteria
E - Laboratory control sample and or matrix spike relative percent differences outside of criteria
I - Internal standards outside of criteria
A - Serial dilution results outside of criteria
F - Field blank contamination
Z - Analytes reported below the reporting limits and above the method detection limit
FD - Field duplicate relative percent difference outside of criteria
*# - Unusual problems found with the quality control data. See validation reports in Appendix C for detail.
pH and Moisture - Not all pH/moisture results are reported in the electronic deliverables provided by the various laboratories. The information is in the data packages. Results reported here were provided in the electronic data deliverables.
LL - Lancaster Laboratories

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
1,4-Dioxane	1,4-Dioxane	123-91-1	0 / 9	-	-	0.74 - 5.5	8.9 - 13	µg/kg				-
Alcohols	2-Propanol	67-63-0	0 / 17	-	-	270 - 1400	550 - 5000	µg/kg				-
Alcohols	Ethanol	64-17-5	0 / 17	-	-	280 - 1700	550 - 5000	µg/kg				-
Alcohols	Methanol	67-56-1	12 / 17	450 J Z	26000	280 - 2300	550 - 5000	µg/kg	5B_DG-625	Test America	8015C	5 - 6
Dioxins	1,2,3,4,6,7,8-Heptachlorodibenzo-p-Dioxin	35822-46-9	170 / 247	0.12 J Z 0.12 J FD, Z	630	0.0121 - 1.1	4.8 - 6.5	ng/kg	5B_DG-682	Test America	1613B	2 - 3
Dioxins	1,2,3,4,6,7,8-HPCDF	67562-39-4	120 / 247	0.13 J Z	100	0.00779 - 1	4.8 - 6.5	ng/kg	5B_DG-546	LL	1613B	1.5 - 2.5
Dioxins	1,2,3,4,7,8,9-HPCDF	55673-89-7	44 / 247	0.034 J Z	6	0.0102 - 1.3	4.8 - 6.5	ng/kg	5B_DG-682	Test America	1613B	2 - 3
Dioxins	1,2,3,4,7,8-Hexachlorodibenzo-p-Dioxin	39227-28-6	48 / 247	0.042 J Z	13.4	0.016 - 0.67	4.8 - 6.5	ng/kg	5B_DG-546	LL	1613B	1.5 - 2.5
Dioxins	1,2,3,4,7,8-HXCDF	70648-26-9	44 / 247	0.018 J Z	5.1 J Z	0.00775 - 0.56	4.8 - 6.5	ng/kg	5B_DG-682	Test America	1613B	2 - 3
Dioxins	1,2,3,6,7,8-Hexachlorodibenzo-p-Dioxin	57653-85-7	113 / 247	0.0269 J Z	53	0.018 - 0.67	4.8 - 6.5	ng/kg	5B_DG-543	LL	1613B	4 - 5
Dioxins	1,2,3,6,7,8-HXCDF	57117-44-9	58 / 247	0.036 J Z	14.2	0.00657 - 0.67	4.8 - 6.5	ng/kg	5B_DG-528	LL	1613B	8.5 - 9.5
Dioxins	1,2,3,7,8,9-Hexachlorodibenzo-p-Dioxin	19408-74-3	98 / 247	0.093 J Z	84.1	0.015 - 0.48	4.8 - 6.5	ng/kg	5B_DG-543	LL	1613B	4 - 5
Dioxins	1,2,3,7,8,9-HXCDF	72918-21-9	40 / 247	0.031 J Z	6.04	0.00841 - 0.69	4.8 - 6.5	ng/kg	5B_DG-543	LL	1613B	4 - 5
Dioxins	1,2,3,7,8-Pentachlorodibenzofuran	57117-41-6	28 / 247	0.023 J Z	1.14 J Z	0.00828 - 1.3	4.8 - 6.5	ng/kg	5B_DG-543	LL	1613B	4 - 5
Dioxins	1,2,3,7,8-Pentachlorodibenzo-p-Dioxin	40321-76-4	30 / 247	0.038 J Z	6.8	0.013 - 0.97	4.8 - 6.5	ng/kg	5B_DG-546	LL	1613B	1.5 - 2.5
Dioxins	2,3,4,6,7,8-HXCDF	60851-34-5	34 / 247	0.038 J Z	9.07	0.00692 - 0.56	4.8 - 6.5	ng/kg	5B_DG-546	LL	1613B	1.5 - 2.5
Dioxins	2,3,4,7,8-PECDF	57117-31-4	21 / 247	0.025 J Z	3.2 J Z	0.0091 - 1.4	4.8 - 6.5	ng/kg	5B_DG-682	Test America	1613B	2 - 3
Dioxins	2,3,7,8-TCDD	1746-01-6	28 / 247	0.0065 J Z	0.37 J Z	0.011 - 1	0.96 - 1.3	ng/kg	5B_DG-682	Test America	1613B	2 - 3
Dioxins	2,3,7,8-Tetrachlorodibenzofuran	51207-31-9	61 / 247	0.0056 J Z	1.9	0.0074 - 0.95	0.96 - 1.3	ng/kg	5B_DG-682	Test America	1613B	2 - 3
Dioxins	OCDD	3268-87-9	195 / 247	0.48 J Z	7800 J *#	0.0144 - 2.9	9.6 - 13	ng/kg	5B_DG-682	Test America	1613B	2 - 3
Dioxins	OCDF	39001-02-0	131 / 247	0.14 J Z	240	0.0132 - 1.4	9.6 - 13	ng/kg	5B_DG-682	Test America	1613B	2 - 3
Energetics	1,3,5-Trinitrobenzene	99-35-4	0 / 10	-	-	14 - 15	400 - 430	µg/kg				-
Energetics	2,4,6-Trinitrotoluene	118-96-7	0 / 10	-	-	30 - 33	400 - 430	µg/kg				-
Energetics	2,4-Diamino-6-nitrotoluene	6629-29-4	0 / 8	-	-	520 - 550	800 - 850	µg/kg				-
Energetics	2,4-Dinitrotoluene	121-14-2	0 / 10	-	-	15 - 16	400 - 430	µg/kg				-
Energetics	2,6-Diamino-4-nitrotoluene	59229-75-3	0 / 9	-	-	520 - 550	790 - 850	µg/kg				-
Energetics	2,6-Dinitrotoluene	606-20-2	0 / 10	-	-	19 - 20	400 - 430	µg/kg				-
Energetics	2-Amino-4,6-Dinitrotoluene	35572-78-2	0 / 10	-	-	33 - 35	400 - 430	µg/kg				-
Energetics	2-Nitrotoluene	88-72-2	0 / 10	-	-	47 - 50	400 - 430	µg/kg				-
Energetics	3-Nitrotoluene	99-08-1	0 / 10	-	-	63 - 68	400 - 430	µg/kg				-
Energetics	4-Amino-2,6-Dinitrotoluene	19406-51-0	0 / 10	-	-	30 - 32	400 - 430	µg/kg				-
Energetics	4-Nitrotoluene	99-99-0	0 / 10	-	-	36 - 39	400 - 430	µg/kg				-
Energetics	HMX	2691-41-0	0 / 10	-	-	23 - 24	400 - 430	µg/kg				-
Energetics	M-Dinitrobenzene	99-65-0	0 / 10	-	-	16 - 18	400 - 430	µg/kg				-
Energetics	Nitrobenzene	98-95-3	0 / 10	-	-	84 - 91	400 - 430	µg/kg				-
Energetics	Nitroglycerin	55-63-0	0 / 10	-	-	210 - 230	2000 - 2100	µg/kg				-
Energetics	PETN	78-11-5	0 / 10	-	-	490 - 530	2000 - 2100	µg/kg				-
Energetics	RDX	121-82-4	0 / 10	-	-	43 - 46	400 - 430	µg/kg				-
Energetics	Tetryl	479-45-8	0 / 10	-	-	44 - 47	400 - 430	µg/kg				-
Formaldehyde	Formaldehyde	50-00-0	46 / 193	340 J Z	14000 J FD, Q	210 - 1500	1700 - 3700	µg/kg	5B_DG-511	LL	8315A	4 - 5
Glycols	Diethylene Glycol	111-46-6	0 / 22	-	-	0.57 - 8.9	16 - 22	mg/kg				-
Glycols	Ethylene Glycol	107-21-1	0 / 22	-	-	1.8 - 5.9	11 - 28	mg/kg				-
Glycols	Propylene Glycol	57-55-6	0 / 22	-	-	1.2 - 5.9	11 - 28	mg/kg				-
Glycols	Triethylene Glycol	112-27-6	1 / 15	2.5 J Z	2.5 J Z	2.2 - 2.4	10 - 11	mg/kg	5B_DG-593	Test America	8015C	18.5 - 19.5
Herbicides	2,2-Dichlor-Propionic Acid	75-99-0	0 / 3	-	-	1.5 - 1.5	110 - 110	µg/kg				-
Herbicides	2,4,5-T	93-76-5	0 / 3	-	-	2.4 - 2.5	21 - 22	µg/kg				-
Herbicides	2,4-D	94-75-7	0 / 3	-	-	15 - 15	42 - 43	µg/kg				-
Herbicides	2,4-DB	94-82-6	0 / 3	-	-	7.9 - 8.1	85 - 87	µg/kg				-
Herbicides	Dicamba	1918-00-9	0 / 3	-	-	1.5 - 1.5	42 - 43	µg/kg				-
Herbicides	Dichlorprop	120-36-5	0 / 3	-	-	3.4 - 3.5	42 - 43	µg/kg				-
Herbicides	MCPA	94-74-6	0 / 3	-	-	2100 - 2200	6900 - 7000	µg/kg				-
Herbicides	Mecoprop	7085-19-0	0 / 3	-	-	2100 - 2200	6900 - 7000	µg/kg				-
Herbicides	Silvex (2,4,5-TP)	93-72-1	0 / 3	-	-	1.5 - 1.5	21 - 22	µg/kg				-
Hexavalent Chromium	Chromium (Hexavalent Compounds)	18540-29-9	30 / 167	0.18 J Z	1.78	0.15 - 1.7	1.04 - 4.7	mg/kg	5B_DG-601	EMAX	7199	9 - 10
Mercury	Mercury	7439-97-6	158 / 286	0.0057 J Z	0.42	0.005 - 0.0595	0.016 - 0.119	mg/kg	5B_DG-682	Test America	7471B	2 - 3
Metals	Aluminum	7429-90-5	286 / 286	8100 J Z	30000 J Z, A	1.3 - 14	9 - 110000	mg/kg	5B_DG-823	Test America	6010C	4.5 - 5.5
Metals	Antimony	7440-36-0	167 / 284	0.013 J Q, Z	0.387 J FD, Q, Z	0.012 - 0.117	0.19 - 9.8	mg/kg	5B_DG-520	EMAX	6020	4 - 5

Table 3-2
Summary of Analytical Results for Chemicals - Validated Data
Subsurface Soils - Subarea 5B - 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
Metals	Arsenic	7440-38-2	286 / 286	2.4	28	0.043 - 0.233	0.501 - 17	mg/kg	5B_DG-810	Test America	6020A	4 - 5
Metals	Barium	7440-39-3	286 / 286	36.7	294 J Q	0.06 - 0.233	0.19 - 160	mg/kg	5B_DG-541	EMAX	6020	5 - 6
Metals	Beryllium	7440-41-7	286 / 286	0.31 J Z	2.1	0.019 - 0.0583	0.093 - 2.3	mg/kg	5B_DG-823	Test America	6020A	4.5 - 5.5
Metals	Boron	7440-42-8	25 / 286	2.67 J Z	7.09	0.85 - 2.92	5.01 - 11	mg/kg	5B_DG-511	EMAX	6020	9 - 10
Metals	Cadmium	7440-43-9	285 / 286	0.022 J Z	1.1	0.008 - 0.0583	0.093 - 1.1	mg/kg	5B_DG-682	Test America	6020A	2 - 3
Metals	Calcium	7440-70-2	286 / 286	1300	52000	10 - 75	20 - 260	mg/kg	5B_DG-711	Test America	6010C	3 - 4
Metals	Chromium	7440-47-3	286 / 286	5.53	63	0.065 - 0.233	0.19 - 41	mg/kg	5B_DG-823	Test America	6020A	4.5 - 5.5
Metals	Cobalt	7440-48-4	286 / 286	1.6	22	0.0057 - 0.0583	0.093 - 24	mg/kg	5B_DG-567	Test America	6020A	7 - 8
Metals	Copper	7440-50-8	286 / 286	2.09	40	0.061 - 0.233	0.23 - 33	mg/kg	5B_DG-823	Test America	6020A	4.5 - 5.5
Metals	Iron	7439-89-6	286 / 286	14000 J A	49000 J A	3.3 - 20	14 - 180	mg/kg	5B_DG-823	Test America	6010C	4.5 - 5.5
Metals	Lead	7439-92-1	286 / 286	2.6 J Z	51.5	0.016 - 0.117	0.14 - 38	mg/kg	5B_DG-531	EMAX	6020	4 - 5
Metals	Lithium	7439-93-2	286 / 286	12.9	68 J A	0.26 - 1.6	2 - 200	mg/kg	5B_DG-767	Test America	6010C	4 - 5
Metals	Magnesium	7439-95-4	286 / 286	2360	11000 J A	3.2 - 5.83	8.6 - 22	mg/kg	5B_DG-823	Test America	6010C	4.5 - 5.5
Metals	Manganese	7439-96-5	286 / 286	71.7	1400	0.086 - 0.292	0.501 - 550	mg/kg	5B_DG-830	Test America	6010C	4.5 - 5.5
Metals	Molybdenum	7439-98-7	271 / 286	0.12 J Z	4.46	0.015 - 0.0583	0.19 - 6	mg/kg	5B_DG-508	EMAX	6020	7.5 - 8.5
Metals	Nickel	7440-02-0	286 / 286	2.57	48	0.022 - 0.233	0.14 - 33	mg/kg	5B_DG-823	Test America	6020A	4.5 - 5.5
Metals	Phosphorus	7723-14-0	286 / 286	60.7	1600	1.4 - 7	8.6 - 330	mg/kg	5B_DG-830	Test America	6010C	4.5 - 5.5
Metals	Potassium	9/7/7440	286 / 286	898	5300 J Z	30.1 - 220	100 - 34000	mg/kg	5B_DG-569	Test America	6010C	2 - 3
Metals	Selenium	7782-49-2	183 / 286	0.11 J Z	2.4	0.11 - 0.233	0.47 - 0.74	mg/kg	5B_DG-823	Test America	6020A	4.5 - 5.5
Metals	Silver	7440-22-4	165 / 286	0.019 J Z	0.4 J Z	0.017 - 0.0583	0.093 - 0.89	mg/kg	5B_DG-823	Test America	6020A	4.5 - 5.5
Metals	Sodium	7440-23-5	269 / 286	89.3 J Z	2080	50.1 - 310	100 - 2600	mg/kg	5B_DG-543	EMAX	6020	4 - 5
Metals	Strontium	7440-24-6	286 / 286	8.1	200	0.031 - 0.292	0.43 - 2.6	mg/kg	5B_DG-711	Test America	6010C	3 - 4
Metals	Thallium	7440-28-0	286 / 286	0.141 J Z	1.1	0.003 - 0.0583	0.093 - 0.52	mg/kg	5B_DG-810	Test America	6020A	4 - 5
Metals	Tin	7440-31-5	182 / 286	0.85 J Z	4.5 J Z	0.79 - 5.83	9 - 12	mg/kg	5B_DG-767	Test America	6010C	4 - 5
Metals	Titanium	7440-32-6	286 / 286	446	1600	0.12 - 0.583	0.86 - 1.17	mg/kg	5B_DG-767	Test America	6010C	4 - 5
Metals	Vanadium	7440-62-2	286 / 286	16.5	80	0.033 - 0.0583	0.47 - 70	mg/kg	5B_DG-810	Test America	6020A	4 - 5
Metals	Zinc	7440-66-6	286 / 286	26 J Q, E	150	0.27 - 1.75	0.93 - 120	mg/kg	5B_DG-682	Test America	6020A	2 - 3
Metals	Zirconium	7440-67-7	223 / 286	0.86 J Z	9.6	0.31 - 2.92	2.7 - 45	mg/kg	5B_DG-575	Test America	6010C	4 - 5
Moisture Content	Moisture	MOIST	65 / 65	0.84	18.3	0.5 - 0.5	0.5 - 0.5	%	5B_DG-502	LL	160.3M	4 - 5
NDMA	Methanamine, N-Methyl-N-Nitroso	62-75-9	0 / 284	-	-	2.3 - 10	9.4 - 43	ug/kg				-
PAHs	1,1'-Biphenyl	92-52-4	0 / 63	-	-	2.6 - 7.9	5.2 - 16	µg/kg				-
PAHs	1-Methylnaphthalene	90-12-0	35 / 284	0.26 J Z	12	0.25 - 7.9	9.4 - 43	µg/kg	5B_DG-771	Test America	8270C SIM	2 - 3
PAHs	2-Methylnaphthalene	91-57-6	40 / 284	0.32 J Z	18	0.29 - 7.9	9.4 - 43	µg/kg	5B_DG-771	Test America	8270C SIM	2 - 3
PAHs	Acenaphthene	83-32-9	24 / 284	0.16 J Z	23	0.15 - 7.9	9.4 - 43	µg/kg	5B_DG-826	Test America	8270C SIM	4.5 - 5.5
PAHs	Acenaphthylene	208-96-8	8 / 284	0.16 J Z	3.3 J Z	0.16 - 7.9	9.4 - 43	µg/kg	5B_DG-800	Test America	8270C SIM	4 - 5
PAHs	Anthracene	120-12-7	21 / 284	0.75 J Z	110	0.68 - 7.9	9.4 - 43	µg/kg	5B_DG-826	Test America	8270C SIM	4.5 - 5.5
PAHs	Azobenzene	103-33-3	0 / 63	-	-	2.6 - 7.9	5.2 - 16	µg/kg				-
PAHs	Benzo(a)anthracene	56-55-3	58 / 284	0.91 J Z	430	0.85 - 9.4	9.4 - 100	µg/kg	5B_DG-826	Test America	8270C SIM	4.5 - 5.5
PAHs	Benzo(a)pyrene	50-32-8	69 / 284	0.78 J Z	260	0.7 - 7.9	9.4 - 100	µg/kg	5B_DG-826	Test America	8270C SIM	4.5 - 5.5
PAHs	Benzo(b)fluoranthene	205-99-2	77 / 284	1.2 J Z	350	1.1 - 13	9.4 - 100	µg/kg	5B_DG-826	Test America	8270C SIM	4.5 - 5.5
PAHs	Benzo(e)pyrene	192-97-2	15 / 63	2.8 J FD, S, Z	26	2.6 - 7.9	5.2 - 16	µg/kg	5B_DG-534	EMAX	8270C SIM	6.5 - 7.5
PAHs	Benzo(g,h,i)perylene	191-24-2	60 / 284	1.1 J Z	140	1 - 7.9	9.4 - 43	µg/kg	5B_DG-721	Test America	8270C SIM	4 - 5
PAHs	Benzo(k)fluoranthene	207-08-9	20 / 284	1 J Z	110	0.94 - 7.9	9.4 - 43	µg/kg	5B_DG-826	Test America	8270C SIM	4.5 - 5.5
PAHs	Chrysene	218-01-9	70 / 284	1 J Z	510	0.94 - 10	9.4 - 100	µg/kg	5B_DG-826	Test America	8270C SIM	4.5 - 5.5
PAHs	Dibenzo(a,h)anthracene	53-70-3	15 / 284	1.3 J Z	30	1.2 - 7.9	9.4 - 43	µg/kg	5B_DG-826	Test America	8270C SIM	4.5 - 5.5
PAHs	Fluoranthene	206-44-0	84 / 284	0.99 J Z	1100	0.94 - 10	9.4 - 100	µg/kg	5B_DG-826	Test America	8270C SIM	4.5 - 5.5
PAHs	Fluorene	86-73-7	8 / 284	0.56 J Z	12	0.44 - 7.9	9.4 - 43	µg/kg	5B_DG-826	Test America	8270C SIM	4.5 - 5.5
PAHs	Indeno(1,2,3-cd)pyrene	193-39-5	37 / 284	1.1 J Z	120	1 - 7.9	9.4 - 43	µg/kg	5B_DG-826 5B_DG-721	Test America Test America	8270C SIM 8270C SIM	4.5 - 5.5 4 - 5
PAHs	Morpholine	110-91-8	1 / 181	25 J Z	25 J Z	19 - 21000	38 - 21000	µg/kg	5B_DG-590B	Test America	8270C SIM	9 - 10
PAHs	Naphthalene	91-20-3	14 / 284	0.34 J Z	10	0.31 - 7.9	9.4 - 100	µg/kg	5B_DG-700	Test America	8270C SIM	2.5 - 3.5
PAHs	N-Nitrosodimethylamine	62-75-9	0 / 284	-	-	2.3 - 10	9.4 - 43	µg/kg				-
PAHs	Phenanthrene	85-01-8	78 / 284	1.1 J Z J FD, Z	620	1 - 12	9.4 - 100	µg/kg	5B_DG-826	Test America	8270C SIM	4.5 - 5.5
PAHs	Pyrene	129-00-0	75 / 284	1.1 J Z	1100	1 - 12	9.4 - 100	µg/kg	5B_DG-826	Test America	8270C SIM	4.5 - 5.5
PCBPCTs	Aroclor 1016	12674-11-2	0 / 288	-	-	4.8 - 51	16 - 170	µg/kg				-
PCBPCTs	Aroclor 1221	11104-28-2	0 / 288	-	-	10 - 150	21 - 330	µg/kg				-
PCBPCTs	Aroclor 1232	11141-16-5	0 / 288	-	-	4.8 - 51	16 - 170	µg/kg				-
PCBPCTs	Aroclor 1242	53469-21-9	7 / 288	12 J Z	220 J S	8.6 - 91	16 - 170	µg/kg	5B_DG-650	Test America	8082A	11 - 12

Table 3-2
Summary of Analytical Results for Chemicals - Validated Data
Subsurface Soils - Subarea 5B - 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
PCBPCTs	Aroclor 1248	12672-29-6	7 / 288	6.2 J Z	1700	5.3 - 56	16 - 170	µg/kg	5B_DG-678	Test America	8082A	4.5 - 5.5
PCBPCTs	Aroclor 1254	11097-69-1	19 / 288	7.6 J Z 7.6 J Q, Z	420	5.2 - 55	16 - 170	µg/kg	5B_DG-682	Test America	8082A	2 - 3
PCBPCTs	Aroclor 1260	11096-82-5	8 / 288	6.7 J Z	110	2.5 - 26	16 - 170	µg/kg	5B_DG-682	Test America	8082A	2 - 3
PCBPCTs	Aroclor 1262	37324-23-5	0 / 288	-	-	10 - 120	21 - 330	µg/kg				-
PCBPCTs	Aroclor 1268	11100-14-4	1 / 288	26 J Z	26 J Z	3.7 - 39	21 - 330	µg/kg	5B_DG-590B	Test America	8082A	9 - 10
PCBPCTs	Aroclor 5432	63496-31-1	0 / 288	-	-	15 - 160	42 - 500	µg/kg				-
PCBPCTs	Aroclor 5442	12642-23-8	0 / 288	-	-	21 - 320	42 - 500	µg/kg				-
PCBPCTs	Aroclor 5460	11126-42-4	3 / 288	41 J Z	110	16 - 160	42 - 500	µg/kg	5B_DG-832	Test America	8082A	4 - 5
Perchlorate	Perchlorate	14797-73-0	23 / 45	0.053 J Z	0.77 J Z	0.039 - 2.89	0.51 - 290	µg/kg	5B_DG-757	Test America	6860	2.5 - 3.5
Pesticides	4,4'-DDD	72-54-8	0 / 25	-	-	0.42 - 0.59	2.1 - 3.5	µg/kg				-
Pesticides	4,4'-DDE	72-55-9	4 / 25	0.56 J Z	1.2 J FD, Z	0.24 - 0.48	2.1 - 3.5	µg/kg	5B_DG-520	EMAX	8081A	4 - 5
Pesticides	4,4'-DDT	50-29-3	1 / 25	3.5	3.5	0.42 - 0.63	2.1 - 3.5	µg/kg	5B_DG-520	EMAX	8081A	4 - 5
Pesticides	Aldrin	309-00-2	0 / 25	-	-	0.25 - 0.48	1.7 - 2.4	µg/kg				-
Pesticides	Alpha-Bhc	319-84-6	0 / 25	-	-	0.21 - 0.48	1.7 - 2.4	µg/kg				-
Pesticides	Beta-Bhc	319-85-7	0 / 25	-	-	0.42 - 0.71	1.7 - 2.4	µg/kg				-
Pesticides	Chlordane (Technical)	12789-03-6	0 / 25	-	-	5.2 - 8.4	10 - 18	µg/kg				-
Pesticides	Delta-Bhc	319-86-8	0 / 25	-	-	0.4 - 0.48	1.7 - 2.4	µg/kg				-
Pesticides	Dieldrin	60-57-1	0 / 25	-	-	0.21 - 0.48	2.1 - 3.5	µg/kg				-
Pesticides	Endosulfan I	959-98-8	0 / 25	-	-	0.17 - 0.48	1.7 - 2.4	µg/kg				-
Pesticides	Endosulfan II	33213-65-9	0 / 25	-	-	0.28 - 0.48	2.1 - 3.5	µg/kg				-
Pesticides	Endosulfan Sulfate	1031-07-8	0 / 25	-	-	0.27 - 0.48	2.1 - 3.5	µg/kg				-
Pesticides	Endrin	72-20-8	0 / 25	-	-	0.3 - 0.48	2.1 - 3.5	µg/kg				-
Pesticides	Endrin Aldehyde	7421-93-4	0 / 25	-	-	0.17 - 0.48	2.1 - 3.5	µg/kg				-
Pesticides	Endrin Ketone	53494-70-5	0 / 25	-	-	0.42 - 0.53	2.1 - 3.5	µg/kg				-
Pesticides	Gamma-Bhc (Lindane)	58-89-9	0 / 25	-	-	0.42 - 0.5	1.7 - 2.4	µg/kg				-
Pesticides	Heptachlor	76-44-8	0 / 25	-	-	0.21 - 0.48	1.7 - 2.4	µg/kg				-
Pesticides	Heptachlor Epoxide	1024-57-3	0 / 25	-	-	0.42 - 0.48	1.7 - 2.4	µg/kg				-
Pesticides	Methoxychlor	72-43-5	0 / 25	-	-	0.45 - 2.4	5.2 - 7.2	µg/kg				-
Pesticides	Mirex	2385-85-5	0 / 25	-	-	0.26 - 0.48	1.7 - 2.4	µg/kg				-
Pesticides	Technical Toxaphene	8001-35-2	0 / 25	-	-	10 - 17	50 - 60	µg/kg				-
pH	pH	pH	284 / 284	6.34	11.8	0.1 - 0.1	0.1 - 0.1	pH	5B_DG-539	EMAX	9045D	9 - 10
TPH-EFH	EFH (C12-C14)	PHCC12C14	2 / 285	1.5 J Z	2.4 J Z	0.92 - 5.5	4.6 - 27	mg/kg	5B_DG-743	Test America	8015B EFH	2 - 3
TPH-EFH	EFH (C15-C20)	PHCC15C20	30 / 285	1 J Z	9.7 J Z	0.92 - 5.5	4.6 - 27	mg/kg	5B_DG-771	Test America	8015B EFH	2 - 3
TPH-EFH	EFH (C21-C30)	PHCC21C30	140 / 285	1 J Z	220	0.92 - 5.5	4.6 - 27	mg/kg	5B_DG-771	Test America	8015B EFH	2 - 3
TPH-EFH	EFH (C30-C40)	PHCC30C40	161 / 285	1 J Z	270	0.92 - 6	9.2 - 55	mg/kg	5B_DG-508	EMAX	8015B EFH	7.5 - 8.5
TPH-EFH	EFH (C8-C11)	PHCC8C11	4 / 285	1.2 J Z	6.2	0.92 - 5.4	4.6 - 27	mg/kg	5B_DG-758	Test America	8015B EFH	4 - 5
TPH-GRO	Gasoline Range Organics (C4-C12)	GROC4C12	6 / 223	0.33 J Z	0.5 J Z	0.26 - 0.5	0.8 - 1.5	mg/kg	5B_DG-559	Test America	8015B GRO	4.5 - 4.5
TPH-GRO	Gasoline Range Organics (C5-C12)	GROC5C12	1 / 63	1.2	1.2	0.44 - 0.84	0.88 - 1.7	mg/kg	5B_DG-536	EMAX	8015B GRO	5 - 5
VOC	1,1,1,2-Tetrachloroethane	630-20-6	0 / 43	-	-	0.51 - 1.3	4.5 - 6.3	µg/kg				-
VOC	1,1,1-Trichloroethane	71-55-6	0 / 43	-	-	0.47 - 1.3	4.5 - 6.3	µg/kg				-
VOC	1,1,2,2-Tetrachloroethane	79-34-5	0 / 43	-	-	0.55 - 1.3	4.5 - 6.3	µg/kg				-
VOC	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0 / 43	-	-	0.41 - 2.5	4.5 - 6.3	µg/kg				-
VOC	1,1,2-Trichloroethane	79-00-5	0 / 43	-	-	0.8 - 1.3	4.5 - 6.3	µg/kg				-
VOC	1,1-Dichloroethane	75-34-3	0 / 43	-	-	0.19 - 1.3	4.5 - 6.3	µg/kg				-
VOC	1,1-Dichloroethene	75-35-4	0 / 43	-	-	0.54 - 1.3	4.5 - 6.3	µg/kg				-
VOC	1,1-Dichloropropene	563-58-6	0 / 43	-	-	0.49 - 1.3	4.5 - 6.3	µg/kg				-
VOC	1,2,3-Trichlorobenzene	87-61-6	0 / 43	-	-	0.68 - 2.5	4.5 - 6.3	µg/kg				-
VOC	1,2,3-Trichloropropane	96-18-4	0 / 43	-	-	0.74 - 2.5	4.5 - 6.3	µg/kg				-
VOC	1,2,4-Trichlorobenzene	120-82-1	0 / 43	-	-	0.66 - 2.5	4.5 - 6.3	µg/kg				-
VOC	1,2,4-Trimethylbenzene	95-63-6	0 / 43	-	-	0.53 - 1.3	4.5 - 6.3	µg/kg				-
VOC	1,2-Dibromo-3-chloropropane	96-12-8	0 / 43	-	-	0.55 - 2.5	4.6 - 12	µg/kg				-
VOC	1,2-Dibromoethane	106-93-4	0 / 43	-	-	0.47 - 1.3	4.5 - 6.3	µg/kg				-
VOC	1,2-Dichlorobenzene	95-50-1	0 / 43	-	-	0.41 - 1.3	4.5 - 6.3	µg/kg				-
VOC	1,2-Dichloroethane	107-06-2	0 / 43	-	-	0.64 - 1.3	4.5 - 6.3	µg/kg				-
VOC	1,2-Dichloropropane	78-87-5	0 / 43	-	-	0.5 - 1.3	4.5 - 6.3	µg/kg				-
VOC	1,3,5-Trimethylbenzene	108-67-8	0 / 43	-	-	0.52 - 1.3	4.5 - 6.3	µg/kg				-
VOC	1,3-Dichlorobenzene	541-73-1	0 / 43	-	-	0.44 - 1.3	4.5 - 6.3	µg/kg				-
VOC	1,3-Dichloropropane	142-28-9	0 / 43	-	-	0.46 - 1.3	4.5 - 6.3	µg/kg				-

Table 3-2
Summary of Analytical Results for Chemicals - Validated Data
Subsurface Soils - Subarea 5B - 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
VOC	1,3-Dichloropropylene	542-75-6	0 / 34	-	-	0.61 - 0.79	1.8 - 2.3	µg/kg				-
VOC	1,4-Dichlorobenzene	106-46-7	0 / 43	-	-	0.71 - 1.3	4.5 - 6.3	µg/kg				-
VOC	1-Chlorohexane	544-10-5	0 / 43	-	-	0.57 - 1.3	4.5 - 6.3	µg/kg				-
VOC	2,2-Dichloropropane	594-20-7	0 / 43	-	-	0.4 - 2.5	4.5 - 6.3	µg/kg				-
VOC	2-Butanone (MEK)	78-93-3	0 / 43	-	-	1.7 - 6.3	9.2 - 23	µg/kg				-
VOC	2-Chloro-1,1,1-trifluoroethane	75-88-7	0 / 43	-	-	0.56 - 2.5	4.6 - 12	µg/kg				-
VOC	2-Chloroethyl Vinyl Ether	110-75-8	0 / 43	-	-	1.8 - 5.9	4.6 - 12	µg/kg				-
VOC	2-Chlorotoluene	95-49-8	0 / 43	-	-	0.46 - 1.3	4.5 - 6.3	µg/kg				-
VOC	2-Hexanone	591-78-6	0 / 43	-	-	4.4 - 6.3	9.1 - 13	µg/kg				-
VOC	2-Phenylbutane	135-98-8	0 / 43	-	-	0.7 - 1.3	4.5 - 6.3	µg/kg				-
VOC	4-Chlorotoluene	106-43-4	0 / 43	-	-	0.71 - 1.3	4.5 - 6.3	µg/kg				-
VOC	4-Methyl-2-pentanone (MIBK)	108-10-1	0 / 43	-	-	4 - 6.3	9.1 - 13	µg/kg				-
VOC	Acetone	67-64-1	9 / 43	7.1 J Z	85	4.6 - 6.3	9.2 - 23	µg/kg	5B_DG-723	Test America	8260B	4.5 - 4.5
VOC	Acrolein	107-02-8	0 / 43	-	-	4.6 - 23	9.2 - 120	µg/kg				-
VOC	Acrylonitrile	107-13-1	0 / 43	-	-	4.6 - 12	9.2 - 120	µg/kg				-
VOC	Benzene	71-43-2	0 / 43	-	-	0.43 - 1.3	4.5 - 6.3	µg/kg				-
VOC	Bromobenzene	108-86-1	0 / 43	-	-	0.45 - 1.3	4.5 - 6.3	µg/kg				-
VOC	Bromochloromethane	74-97-5	0 / 43	-	-	0.27 - 1.3	4.5 - 6.3	µg/kg				-
VOC	Bromodichloromethane	75-27-4	0 / 43	-	-	0.2 - 1.3	4.5 - 6.3	µg/kg				-
VOC	Bromoform	75-25-2	0 / 43	-	-	0.21 - 2.5	4.5 - 6.3	µg/kg				-
VOC	Bromomethane	74-83-9	0 / 43	-	-	0.45 - 2.5	4.5 - 6.3	µg/kg				-
VOC	Carbon Disulfide	75-15-0	0 / 43	-	-	0.38 - 2.5	4.5 - 6.3	µg/kg				-
VOC	Carbon Tetrachloride	56-23-5	0 / 43	-	-	0.57 - 1.3	4.5 - 6.3	µg/kg				-
VOC	Chlorobenzene	108-90-7	0 / 43	-	-	0.49 - 1.3	4.5 - 6.3	µg/kg				-
VOC	Chloroethane	75-00-3	0 / 43	-	-	0.81 - 2.5	4.5 - 6.3	µg/kg				-
VOC	Chloroform	67-66-3	0 / 43	-	-	0.26 - 1.3	4.5 - 6.3	µg/kg				-
VOC	Chloromethane	74-87-3	0 / 43	-	-	0.7 - 2.5	4.5 - 6.3	µg/kg				-
VOC	Chlorotrifluoroethylene	79-38-9	0 / 43	-	-	0.79 - 2.5	4.6 - 12	µg/kg				-
VOC	cis-1,2-Dichloroethene	156-59-2	0 / 43	-	-	0.51 - 1.3	4.5 - 6.3	µg/kg				-
VOC	cis-1,3-Dichloropropene	10061-01-5	0 / 43	-	-	0.92 - 1.5	4.5 - 6.3	µg/kg				-
VOC	Cymene	99-87-6	0 / 43	-	-	0.45 - 1.3	4.5 - 6.3	µg/kg				-
VOC	Di isopropyl Ether	108-20-3	0 / 43	-	-	2.5 - 6.3	9.1 - 13	µg/kg				-
VOC	Dibromochloromethane	124-48-1	0 / 43	-	-	0.52 - 1.3	4.5 - 6.3	µg/kg				-
VOC	Dibromomethane	74-95-3	0 / 43	-	-	0.76 - 1.3	4.5 - 6.3	µg/kg				-
VOC	Dichlorodifluoromethane	75-71-8	0 / 43	-	-	0.47 - 2.5	4.5 - 6.3	µg/kg				-
VOC	Ethylbenzene	100-41-4	0 / 43	-	-	0.61 - 1.3	4.5 - 6.3	µg/kg				-
VOC	Hexachloro-1,3-butadiene	87-68-3	0 / 43	-	-	0.5 - 2.5	4.5 - 6.3	µg/kg				-
VOC	Isopropylbenzene	98-82-8	0 / 43	-	-	0.54 - 1.3	4.5 - 6.3	µg/kg				-
VOC	m,p-Xylene	179601-23-1	0 / 43	-	-	0.95 - 2.5	4.5 - 6.3	µg/kg				-
VOC	Methyl Iodide	74-88-4	0 / 43	-	-	0.4 - 2.5	4.6 - 12	µg/kg				-
VOC	Methyl Tert-Butyl Ether	1634-04-4	0 / 43	-	-	0.31 - 1.3	4.5 - 6.3	µg/kg				-
VOC	Methylene Chloride	75-09-2	0 / 43	-	-	1.5 - 2.5	4.6 - 12	µg/kg				-
VOC	n-Butylbenzene	104-51-8	0 / 43	-	-	0.51 - 1.3	4.5 - 6.3	µg/kg				-
VOC	n-Propylbenzene	103-65-1	0 / 43	-	-	0.53 - 1.3	4.5 - 6.3	µg/kg				-
VOC	o-Xylene	95-47-6	0 / 43	-	-	0.55 - 1.3	4.5 - 6.3	µg/kg				-
VOC	Styrene	100-42-5	0 / 43	-	-	0.57 - 1.3	4.5 - 6.3	µg/kg				-
VOC	tert-Butyl ethyl ether	637-92-3	0 / 43	-	-	0.92 - 5	4.5 - 6.3	µg/kg				-
VOC	tert-Butylbenzene	98-06-6	0 / 43	-	-	0.45 - 1.3	4.5 - 6.3	µg/kg				-
VOC	Tertiary amyl methyl ether	994-05-8	0 / 43	-	-	0.92 - 1.8	4.5 - 6.3	µg/kg				-
VOC	Tertiary butyl alcohol	75-65-0	0 / 43	-	-	9.2 - 15	18 - 59	µg/kg				-
VOC	Tetrachloroethene	127-18-4	0 / 43	-	-	0.54 - 1.3	4.5 - 6.3	µg/kg				-
VOC	Toluene	108-88-3	0 / 43	-	-	0.63 - 1.3	4.5 - 6.3	µg/kg				-
VOC	trans-1,2-Dichloroethene	156-60-5	0 / 43	-	-	0.35 - 1.3	4.5 - 6.3	µg/kg				-
VOC	trans-1,3-Dichloropropene	10061-02-6	0 / 43	-	-	0.61 - 1.3	4.5 - 6.3	µg/kg				-
VOC	Trichloroethene	79-01-6	2 / 43	0.35 J Z	1.3 J Z	0.21 - 1.3	4.5 - 6.3	µg/kg	5B_DG-594	Test America	8260B	21.5 - 21.5
VOC	Trichlorofluoromethane	75-69-4	0 / 43	-	-	0.95 - 2.5	4.5 - 6.3	µg/kg				-
VOC	Vinyl Acetate	108-05-4	0 / 42	-	-	0.97 - 2.5	4.6 - 12	µg/kg				-
VOC	Vinyl Chloride	75-01-4	0 / 43	-	-	1.2 - 2.5	4.5 - 6.3	µg/kg				-

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

Notes
ug/kg- microgram per kilogram
mg/kg - milligram per kilogram
ng/kg - nanogram per kilogram
J - Result is an estimated value
H - Holding times exceeded
S - Surrogates outside of criteria
C - Calibration recoveries outside of criteria
R - Calibration relative response factors outside of criteria
B - Method blank contamination
L - Laboratory control sample recoveries outside of criteria
Q - Matrix spike recoveries outside of criteria
E - Laboratory control sample and or matrix spike relative percent differences outside of criteria
I - Internal standards outside of criteria
A - Serial dilution results outside of criteria
F - Field blank contamination
Z - Analytes reported below the reporting limits and above the method detection limit
FD - Field duplicate relative percent difference outside of criteria
*# - Unusual problems found with the quality control data. See validation reports in Appendix C for detail.
pH and Moisture - Not all pH/moisture results are reported in the electronic deliverables provided by the various laboratories. The information is in the data packages. Results reported here were provided in the electronic data deliverables.
LL - Lancaster Laboratories

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
1,4-Dioxane	1,4-Dioxane	123-91-1	0 / 9	-	-	0.74 - 5.5	8.9 - 13	µg/kg				-
Alcohols	2-Propanol	67-63-0	0 / 33	-	-	250 - 1400	510 - 5000	µg/kg				-
Alcohols	Ethanol	64-17-5	0 / 33	-	-	250 - 1700	510 - 5000	µg/kg				-
Alcohols	Methanol	67-56-1	23 / 33	450 J Z	36000	250 - 2300	510 - 5000	µg/kg	5B_DG-625	Test America	8015C	0 - 0.5
Dioxins	1,2,3,4,6,7,8-Heptachlorodibenzo-p-Dioxin	35822-46-9	357 / 459	0.12 J Z 0.12 J FD, Z	1250	0.0121 - 1.4	4.7 - 6.5	ng/kg	5B_DG-553	LL	1613B	0 - 0.5
Dioxins	1,2,3,4,6,7,8-HPCDF	67562-39-4	285 / 459	0.073 J Z	191	0.00779 - 1.4	4.7 - 6.5	ng/kg	5B_DG-553	LL	1613B	0 - 0.5
Dioxins	1,2,3,4,7,8,9-HPCDF	55673-89-7	118 / 459	0.034 J Z	17.8	0.0102 - 1.4	4.7 - 6.5	ng/kg	5B_DG-553	LL	1613B	0 - 0.5
Dioxins	1,2,3,4,7,8-Hexachlorodibenzo-p-Dioxin	39227-28-6	138 / 459	0.042 J Z	19	0.016 - 1.4	4.7 - 6.5	ng/kg	5B_DG-737	Test America	1613B	0 - 0.5
Dioxins	1,2,3,4,7,8-HXCDF	70648-26-9	125 / 459	0.018 J Z	11.4	0.00775 - 1.4	4.7 - 6.5	ng/kg	5B_DG-553	LL	1613B	0 - 0.5
Dioxins	1,2,3,6,7,8-Hexachlorodibenzo-p-Dioxin	57653-85-7	268 / 459	0.0269 J Z	53	0.018 - 1.4	4.7 - 6.5	ng/kg	5B_DG-543	LL	1613B	4 - 5
Dioxins	1,2,3,6,7,8-HXCDF	57117-44-9	151 / 459	0.036 J Z	14.2	0.00657 - 1.4	4.7 - 6.5	ng/kg	5B_DG-528	LL	1613B	8.5 - 9.5
Dioxins	1,2,3,7,8,9-Hexachlorodibenzo-p-Dioxin	19408-74-3	242 / 459	0.093 J Z	84.1	0.015 - 1.4	4.7 - 6.5	ng/kg	5B_DG-543	LL	1613B	4 - 5
Dioxins	1,2,3,7,8,9-HXCDF	72918-21-9	111 / 459	0.031 J Z	6.04	0.00841 - 1.4	4.7 - 6.5	ng/kg	5B_DG-543	LL	1613B	4 - 5
Dioxins	1,2,3,7,8-Pentachlorodibenzofuran	57117-41-6	76 / 459	0.023 J Z	1.8 J Z	0.00828 - 1.4	4.7 - 6.5	ng/kg	5B_DG-737	Test America	1613B	0 - 0.5
Dioxins	1,2,3,7,8-Pentachlorodibenzo-p-Dioxin	40321-76-4	99 / 459	0.038 J Z	10	0.013 - 1.4	4.7 - 6.5	ng/kg	5B_DG-737	Test America	1613B	0 - 0.5
Dioxins	2,3,4,6,7,8-HXCDF	60851-34-5	117 / 459	0.037 J Z	12.1	0.00692 - 1.4	4.7 - 6.5	ng/kg	5B_DG-553	LL	1613B	0 - 0.5
Dioxins	2,3,4,7,8-PECDF	57117-31-4	66 / 459	0.025 J Z	9.5	0.0091 - 1.4	4.7 - 6.5	ng/kg	5B_DG-682	Test America	1613B	0 - 0.5
Dioxins	2,3,7,8-TCDD	1746-01-6	65 / 459	0.0065 J Z	1.4	0.011 - 1.4	0.93 - 1.4	ng/kg	5B_DG-682	Test America	1613B	0 - 0.5
Dioxins	2,3,7,8-Tetrachlorodibenzofuran	51207-31-9	133 / 459	0.0056 J Z	5	0.0074 - 1.4	0.93 - 1.4	ng/kg	5B_DG-682	Test America	1613B	0 - 0.5
Dioxins	OCDD	3268-87-9	390 / 459	0.48 J Z	15500 J *#	0.0144 - 3.6	9.3 - 13	ng/kg	5B_DG-553	LL	1613B	0 - 0.5
Dioxins	OCDF	39001-02-0	298 / 459	0.14 J Z	400	0.0132 - 1.4	9.3 - 13	ng/kg	5B_DG-744	Test America	1613B	0 - 0.5
Energetics	1,3,5-Trinitrobenzene	99-35-4	0 / 25	-	-	13 - 15	370 - 430	µg/kg				-
Energetics	2,4,6-Trinitrotoluene	118-96-7	0 / 25	-	-	29 - 33	370 - 430	µg/kg				-
Energetics	2,4-Diamino-6-nitrotoluene	6629-29-4	0 / 23	-	-	480 - 550	740 - 850	µg/kg				-
Energetics	2,4-Dinitrotoluene	121-14-2	0 / 25	-	-	14 - 16	370 - 430	µg/kg				-
Energetics	2,6-Diamino-4-nitrotoluene	59229-75-3	0 / 24	-	-	480 - 550	740 - 850	µg/kg				-
Energetics	2,6-Dinitrotoluene	606-20-2	0 / 25	-	-	18 - 20	370 - 430	µg/kg				-
Energetics	2-Amino-4,6-Dinitrotoluene	35572-78-2	0 / 25	-	-	31 - 35	370 - 430	µg/kg				-
Energetics	2-Nitrotoluene	88-72-2	0 / 25	-	-	44 - 50	370 - 430	µg/kg				-
Energetics	3-Nitrotoluene	99-08-1	0 / 25	-	-	59 - 68	370 - 430	µg/kg				-
Energetics	4-Amino-2,6-Dinitrotoluene	19406-51-0	0 / 25	-	-	28 - 32	370 - 430	µg/kg				-
Energetics	4-Nitrotoluene	99-99-0	0 / 25	-	-	34 - 39	370 - 430	µg/kg				-
Energetics	HMX	2691-41-0	0 / 25	-	-	21 - 24	370 - 430	µg/kg				-
Energetics	M-Dinitrobenzene	99-65-0	0 / 25	-	-	15 - 18	370 - 430	µg/kg				-
Energetics	Nitrobenzene	98-95-3	0 / 25	-	-	79 - 91	370 - 430	µg/kg				-
Energetics	Nitroglycerin	55-63-0	0 / 25	-	-	200 - 230	1900 - 2100	µg/kg				-
Energetics	PETN	78-11-5	0 / 25	-	-	460 - 530	1900 - 2100	µg/kg				-
Energetics	RDX	121-82-4	0 / 25	-	-	40 - 46	370 - 430	µg/kg				-
Energetics	Tetryl	479-45-8	0 / 25	-	-	41 - 47	370 - 430	µg/kg				-
Formaldehyde	Formaldehyde	50-00-0	63 / 342	270 J Z	14000 J FD, Q	210 - 1500	1700 - 3700	µg/kg	5B_DG-511	LL	8315A	4 - 5
Glycols	Diethylene Glycol	111-46-6	0 / 31	-	-	0.57 - 8.9	15 - 22	mg/kg				-
Glycols	Ethylene Glycol	107-21-1	0 / 31	-	-	1.8 - 5.9	10 - 28	mg/kg				-
Glycols	Propylene Glycol	57-55-6	0 / 31	-	-	1.2 - 5.9	10 - 28	mg/kg				-
Glycols	Triethylene Glycol	112-27-6	1 / 19	2.5 J Z	2.5 J Z	2.2 - 2.4	10 - 11	mg/kg	5B_DG-593	Test America	8015C	18.5 - 19.5
Herbicides	2,2-Dichlor-Propionic Acid	75-99-0	0 / 6	-	-	1.4 - 1.5	98 - 110	µg/kg				-
Herbicides	2,4,5-T	93-76-5	0 / 6	-	-	2.3 - 2.5	20 - 22	µg/kg				-
Herbicides	2,4-D	94-75-7	0 / 6	-	-	14 - 15	39 - 43	µg/kg				-
Herbicides	2,4-DB	94-82-6	1 / 6	20 J Z	20 J Z	7.3 - 8.1	79 - 87	µg/kg	5B_DG-694	Test America	8151A	0 - 0.5
Herbicides	Dicamba	1918-00-9	0 / 6	-	-	1.4 - 1.5	39 - 43	µg/kg				-
Herbicides	Dichlorprop	120-36-5	0 / 6	-	-	3.2 - 3.5	39 - 43	µg/kg				-
Herbicides	Dinitrobutyl Phenol	88-85-7	0 / 1	-	-	1.4 - 1.4	40 - 40	µg/kg				-
Herbicides	MCPA	94-74-6	1 / 6	3600 J Z	3600 J Z	2000 - 2200	6400 - 7000	µg/kg	5B_DG-692	Test America	8151A	0 - 0.5
Herbicides	Mecoprop	7085-19-0	0 / 6	-	-	2000 - 2200	6400 - 7000	µg/kg				-
Herbicides	Silvex (2,4,5-TP)	93-72-1	0 / 6	-	-	1.4 - 1.5	20 - 22	µg/kg				-
Hexavalent Chromium	Chromium (Hexavalent Compounds)	18540-29-9	55 / 295	0.18 J Z	1.8 J Q, Z	0.15 - 1.7	1.01 - 4.7	mg/kg	5B_DG-620	Test America	7199	0 - 0.5
Mercury	Mercury	7439-97-6	314 / 536	0.0057 J Z	1.4	0.005 - 0.069	0.016 - 0.25	mg/kg	5B_DG-688	Test America	7471B	0 - 0.5
Metals	Aluminum	7429-90-5	536 / 536	3800 J Z	31000 J A	1.3 - 14	8.9 - 110000	mg/kg	5B_DG-763	Test America	6010C	0 - 0.5
Metals	Antimony	7440-36-0	340 / 533	0.013 J Q, Z	0.625	0.012 - 0.117	0.18 - 9.8	mg/kg	5B_DG-541	EMAX	6020	0 - 0.5
Metals	Arsenic	7440-38-2	536 / 536	1.93	28	0.043 - 0.233	0.485 - 17	mg/kg	5B_DG-810	Test America	6020A	4 - 5
Metals	Barium	7440-39-3	536 / 536	30 J Z	294 J Q	0.06 - 0.233	0.18 - 160	mg/kg	5B_DG-541	EMAX	6020	5 - 6
Metals	Beryllium	7440-41-7	536 / 536	0.19 J Z	2.1	0.019 - 0.0583	0.089 - 2.3	mg/kg	5B_DG-823	Test America	6020A	4.5 - 5.5
Metals	Boron	7440-42-8	69 / 536	1.7 J Z	9.3 J Z	0.84 - 2.92	4.85 - 11	mg/kg	5B_DG-829	Test America	6010C	0 - 0.5
Metals	Cadmium	7440-43-9	535 / 536	0.022 J Z	5.41	0.008 - 0.0583	0.089 - 1.1	mg/kg	5B_DG-502	EMAX	6020	0 - 0.5
Metals	Calcium	7440-70-2	536 / 536	1300	58800	9.71 - 77	19.4 - 270	mg/kg	5B_DG-605	EMAX	6020	0 - 0.5
Metals	Chromium	7440-47-3	536 / 536	5.53	79	0.065 - 0.233	0.18 - 41	mg/kg	5B_DG-775	Test America	6020A	0 - 0.5

Table 3-3
Summary of Analytical Results for Chemicals - Validated Data
Combined Soils - Subarea 5B - 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
Metals	Cobalt	7440-48-4	536 / 536	1.6	70	0.0056 - 0.0583	0.089 - 24	mg/kg	5B_DG-775	Test America	6020A	0 - 0.5
Metals	Copper	7440-50-8	536 / 536	2.09	290	0.06 - 0.233	0.22 - 33	mg/kg	5B_DG-731	Test America	6020A	0 - 0.5
Metals	Iron	7439-89-6	536 / 536	6500	49000 J A	3.2 - 21	13 - 190	mg/kg	5B_DG-823	Test America	6010C	4.5 - 5.5
Metals	Lead	7439-92-1	536 / 536	2.6 J Z	210 J Q	0.015 - 0.117	0.13 - 38	mg/kg	5B_DG-735	Test America	6020A	0 - 0.5
Metals	Lithium	7439-93-2	536 / 536	6.2 J Z	68 J A	0.26 - 1.6	1.94 - 200	mg/kg	5B_DG-767	Test America	6010C	4 - 5
Metals	Magnesium	7439-95-4	536 / 536	1300	11000 J A	3.2 - 5.83	8.5 - 22	mg/kg	5B_DG-823	Test America	6010C	4.5 - 5.5
Metals	Manganese	7439-96-5	536 / 536	71.7	1400	0.085 - 0.292	0.485 - 550	mg/kg	5B_DG-830	Test America	6010C	4.5 - 5.5
Metals	Molybdenum	7439-98-7	509 / 536	0.12 J Z	23	0.015 - 0.0583	0.18 - 6	mg/kg	5B_DG-775	Test America	6020A	0 - 0.5
Metals	Nickel	7440-02-0	536 / 536	2.57	160	0.021 - 0.233	0.13 - 33	mg/kg	5B_DG-775	Test America	6020A	0 - 0.5
Metals	Phosphorus	7723-14-0	536 / 536	60.7	1600	1.4 - 7	8.5 - 330	mg/kg	5B_DG-830	Test America	6010C	4.5 - 5.5
Metals	Potassium	9/7/7440	536 / 536	730 J Z	5300 J Z	29.1 - 220	97.1 - 35000	mg/kg	5B_DG-569 5B_DG-649	Test America Test America	6010C 6010C	2 - 3 0 - 0.5
Metals	Selenium	7782-49-2	370 / 536	0.11 J Z	2.4	0.11 - 0.233	0.45 - 0.74	mg/kg	5B_DG-823	Test America	6020A	4.5 - 5.5
Metals	Silver	7440-22-4	345 / 536	0.019 J Z	1.1	0.017 - 0.0583	0.089 - 0.89	mg/kg	5B_DG-788	Test America	6020A	0 - 0.5
Metals	Sodium	7440-23-5	502 / 536	69.9 J Z	2080	48.5 - 320	97.1 - 2700	mg/kg	5B_DG-543	EMAX	6020	4 - 5
Metals	Strontium	7440-24-6	536 / 536	8.1	200	0.031 - 0.292	0.42 - 2.7	mg/kg	5B_DG-711	Test America	6010C	3 - 4
Metals	Thallium	7440-28-0	536 / 536	0.094 J Z	1.1	0.003 - 0.0583	0.089 - 0.52	mg/kg	5B_DG-810	Test America	6020A	4 - 5
Metals	Tin	7440-31-5	352 / 536	0.85 J Z	5.5 J Z	0.78 - 5.83	8.8 - 12	mg/kg	5B_DG-633	Test America	6010C	0 - 0.5
Metals	Titanium	7440-32-6	536 / 536	230	1600	0.12 - 0.583	0.85 - 1.17	mg/kg	5B_DG-767	Test America	6010C	4 - 5
Metals	Vanadium	7440-62-2	536 / 536	15 J Z	80	0.033 - 0.0583	0.45 - 70	mg/kg	5B_DG-810	Test America	6020A	4 - 5
Metals	Zinc	7440-66-6	536 / 536	23 J Z	750	0.27 - 1.75	0.89 - 120	mg/kg	5B_DG-682	Test America	6020A	0 - 0.5
Metals	Zirconium	7440-67-7	423 / 536	0.86 J Z	9.6	0.3 - 2.92	2.6 - 47	mg/kg	5B_DG-575	Test America	6010C	4 - 5
Moisture Content	Moisture	MOIST	113 / 113	0.84	18.3	0.5 - 0.5	0.5 - 0.5	%	5B_DG-502	LL	160.3M	4 - 5
NDMA	METHANAMINE, N-METHYL-N-NITROSO	62-75-9	1 / 530	2.5 J Z	2.5 J Z	2.2 - 260	9.3 - 1100	ug/kg	5B_DG-776	Test America	8270C SIM	0 - 0.5
PAHs	1,1'-Biphenyl	92-52-4	0 / 111	-	-	2.5 - 7.9	5.1 - 16	µg/kg				-
PAHs	1-Methylnaphthalene	90-12-0	87 / 530	0.26 J FD, Z 0.26 J Z	54	0.24 - 28	9.3 - 1100	µg/kg	5B_DG-779	Test America	8270C SIM	0 - 0.5
PAHs	2-Methylnaphthalene	91-57-6	103 / 530	0.3 J Z	65	0.29 - 33	9.3 - 1100	µg/kg	5B_DG-779	Test America	8270C SIM	0 - 0.5
PAHs	Acenaphthene	83-32-9	57 / 530	0.16 J Z	180 J Z	0.15 - 17	9.3 - 1100	µg/kg	5B_DG-681	Test America	8270C SIM	0 - 0.5
PAHs	Acenaphthylene	208-96-8	37 / 530	0.16 J Z	27 J Z	0.16 - 18	9.3 - 1100	µg/kg	5B_DG-721	Test America	8270C SIM	0 - 0.5
PAHs	Anthracene	120-12-7	60 / 530	0.71 J Z	550	0.67 - 77	9.3 - 1100	µg/kg	5B_DG-681	Test America	8270C SIM	0 - 0.5
PAHs	Azobenzene	103-33-3	0 / 111	-	-	2.5 - 7.9	5.1 - 16	µg/kg				-
PAHs	Benzo(a)anthracene	56-55-3	144 / 530	0.89 J Z	15000	0.84 - 280	9.3 - 3100	µg/kg	5B_DG-681	Test America	8270C SIM	0 - 0.5
PAHs	Benzo(a)pyrene	50-32-8	158 / 530	0.74 J L, Z	14000	0.69 - 230	9.3 - 3100	µg/kg	5B_DG-681	Test America	8270C SIM	0 - 0.5
PAHs	Benzo(b)fluoranthene	205-99-2	183 / 530	1.2 J Z 1.2 J FD, Z	11000	1.1 - 370	9.3 - 3100	µg/kg	5B_DG-681	Test America	8270C SIM	0 - 0.5
PAHs	Benzo(e)pyrene	192-97-2	31 / 111	2.7 J Z	43	2.5 - 7.9	5.1 - 16	µg/kg	5B_DG-613	EMAX	8270C SIM	0 - 0.5
PAHs	Benzo(g,h,i)perylene	191-24-2	156 / 530	1.1 J Z	7300	1 - 120	9.3 - 1100	µg/kg	5B_DG-681	Test America	8270C SIM	0 - 0.5
PAHs	Benzo(k)fluoranthene	207-08-9	66 / 530	0.97 J Z	3400	0.93 - 310	9.3 - 3100	µg/kg	5B_DG-721	Test America	8270C SIM	0 - 0.5
PAHs	Chrysene	218-01-9	172 / 530	0.99 J Z	27000	0.93 - 310	9.3 - 3100	µg/kg	5B_DG-681	Test America	8270C SIM	0 - 0.5
PAHs	Dibenzo(a,h)anthracene	53-70-3	47 / 530	1.3 J Z	1600	1.2 - 140	9.3 - 1100	µg/kg	5B_DG-681	Test America	8270C SIM	0 - 0.5
PAHs	Fluoranthene	206-44-0	184 / 530	0.96 J Z	7200	0.93 - 110	9.3 - 1100	µg/kg	5B_DG-681	Test America	8270C SIM	0 - 0.5
PAHs	Fluorene	86-73-7	35 / 530	0.47 J Z	98 J Z	0.44 - 50	9.3 - 1100	µg/kg	5B_DG-681	Test America	8270C SIM	0 - 0.5
PAHs	Indeno(1,2,3-cd)pyrene	193-39-5	102 / 530	1.1 J Z	5200	1 - 120	9.3 - 1100	µg/kg	5B_DG-721	Test America	8270C SIM	0 - 0.5
PAHs	Morpholine	110-91-8	4 / 322	25 J Z	160	19 - 21000	37 - 21000	µg/kg	5B_DG-658	Test America	8270C SIM	0 - 0.5
PAHs	Naphthalene	91-20-3	40 / 530	0.34 J Z	36	0.3 - 35	9.3 - 1100	µg/kg	5B_DG-779	Test America	8270C SIM	0 - 0.5
PAHs	N-Nitrosodimethylamine	62-75-9	1 / 530	2.5 J Z	2.5 J Z	2.2 - 260	9.3 - 1100	µg/kg	5B_DG-776	Test America	8270C SIM	0 - 0.5
PAHs	Phenanthrene	85-01-8	159 / 530	1.1 J Z 1.1 J FD, Z	3300	1 - 120	9.3 - 1100	µg/kg	5B_DG-681	Test America	8270C SIM	0 - 0.5
PAHs	Pyrene	129-00-0	169 / 530	1.1 J Z	12000	1 - 340	9.3 - 3100	µg/kg	5B_DG-681	Test America	8270C SIM	0 - 0.5
PCBPCTs	Aroclor 1016	12674-11-2	0 / 550	-	-	4.7 - 110	16 - 350	µg/kg				-
PCBPCTs	Aroclor 1221	11104-28-2	0 / 550	-	-	10 - 320	20 - 690	µg/kg				-
PCBPCTs	Aroclor 1232	11141-16-5	0 / 550	-	-	4.8 - 110	16 - 350	µg/kg				-
PCBPCTs	Aroclor 1242	53469-21-9	7 / 549	12 J Z	220 J S	8.5 - 190	16 - 350	µg/kg	5B_DG-650	Test America	8082A	11 - 12
PCBPCTs	Aroclor 1248	12672-29-6	20 / 549	6.2 J Z	3900	5.2 - 120	16 - 350	µg/kg	5B_DG-678	Test America	8082A	0 - 0.5
PCBPCTs	Aroclor 1254	11097-69-1	68 / 550	6.3 J Z	1500	5.1 - 110	16 - 350	µg/kg	5B_DG-682	Test America	8082A	0 - 0.5
PCBPCTs	Aroclor 1260	11096-82-5	45 / 550	5 J Z	310	2.5 - 55	16 - 350	µg/kg	5B_DG-682	Test America	8082A	0 - 0.5
PCBPCTs	Aroclor 1262	37324-23-5	1 / 549	24 J Z	24 J Z	10 - 240	20 - 690	µg/kg	5B_DG-673C	Test America	8082A	0 - 0.5
PCBPCTs	Aroclor 1268	11100-14-4	2 / 549	7 J Z	26 J Z	3.7 - 82	20 - 690	µg/kg	5B_DG-590B	Test America	8082A	9 - 10
PCBPCTs	Aroclor 5432	63496-31-1	0 / 549	-	-	15 - 330	40 - 1000	µg/kg				-
PCBPCTs	Aroclor 5442	12642-23-8	0 / 549	-	-	20 - 670	40 - 1000	µg/kg				-
PCBPCTs	Aroclor 5460	11126-42-4	15 / 550	16 J Z	110	15 - 340	40 - 1000	µg/kg	5B_DG-831 5B_DG-832	Test America Test America	8082A 8082A	0 - 0.5 4 - 5
Perchlorate	Perchlorate	14797-73-0	48 / 92	0.044 J Z	6.88	0.038 - 2.89	0.49 - 290	µg/kg	5B_DG-541	EMAX	6850	0 - 0.5
Pesticides	4,4'-DDD	72-54-8	0 / 48	-	-	0.41 - 0.59	2 - 3.5	µg/kg				-
Pesticides	4,4'-DDE	72-55-9	7 / 48	0.56 J Z	11	0.23 - 0.48	2 - 3.5	µg/kg	5B_DG-713	Test America	8081B	0 - 0.5
Pesticides	4,4'-DDT	50-29-3	8 / 48	0.49 J Z	6.6	0.41 - 0.63	2 - 3.5	µg/kg	5B_DG-520	EMAX	8081A	0 - 0.5

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
Pesticides	Aldrin	309-00-2	0 / 48	-	-	0.24 - 0.48	1.6 - 2.4	µg/kg				-
Pesticides	Alpha-Bhc	319-84-6	0 / 48	-	-	0.2 - 0.48	1.6 - 2.4	µg/kg				-
Pesticides	Beta-Bhc	319-85-7	0 / 48	-	-	0.41 - 0.71	1.6 - 2.4	µg/kg				-
Pesticides	Chlordane (Technical)	12789-03-6	0 / 48	-	-	5.1 - 8.4	10 - 18	µg/kg				-
Pesticides	Delta-Bhc	319-86-8	0 / 48	-	-	0.38 - 0.48	1.6 - 2.4	µg/kg				-
Pesticides	Dieldrin	60-57-1	0 / 48	-	-	0.2 - 0.48	2 - 3.5	µg/kg				-
Pesticides	Endosulfan I	959-98-8	0 / 48	-	-	0.17 - 0.48	1.6 - 2.4	µg/kg				-
Pesticides	Endosulfan II	33213-65-9	0 / 48	-	-	0.27 - 0.48	2 - 3.5	µg/kg				-
Pesticides	Endosulfan Sulfate	1031-07-8	0 / 48	-	-	0.26 - 0.48	2 - 3.5	µg/kg				-
Pesticides	Endrin	72-20-8	0 / 48	-	-	0.29 - 0.48	2 - 3.5	µg/kg				-
Pesticides	Endrin Aldehyde	7421-93-4	0 / 48	-	-	0.16 - 0.48	2 - 3.5	µg/kg				-
Pesticides	Endrin Ketone	53494-70-5	0 / 48	-	-	0.41 - 0.53	2 - 3.5	µg/kg				-
Pesticides	Gamma-Bhc (Lindane)	58-89-9	0 / 48	-	-	0.41 - 0.5	1.6 - 2.4	µg/kg				-
Pesticides	Heptachlor	76-44-8	0 / 48	-	-	0.2 - 0.48	1.6 - 2.4	µg/kg				-
Pesticides	Heptachlor Epoxide	1024-57-3	0 / 48	-	-	0.4 - 0.48	1.6 - 2.4	µg/kg				-
Pesticides	Methoxychlor	72-43-5	0 / 48	-	-	0.43 - 2.4	5.1 - 7.2	µg/kg				-
Pesticides	Mirex	2385-85-5	0 / 48	-	-	0.25 - 0.48	1.6 - 2.4	µg/kg				-
Pesticides	Technical Toxaphene	8001-35-2	0 / 48	-	-	10 - 17	47 - 60	µg/kg				-
pH	pH	pH	533 / 533	5.69	11.8	0.1 - 0.1	0.1 - 0.1	pH	5B_DG-539	EMAX	9045D	9 - 10
Temperature	Temperature	TEMP	426 / 426	18.8	150	1 - 1	1 - 1	deg C	5B_DG-788	Test America	9045D	3 - 4
TPH-EFH	EFH (C12-C14)	PHCC12C14	3 / 533	1.5 J Z	8.8 J Z	0.92 - 25	4.6 - 120	mg/kg	5B_DG-721	Test America	8015B EFH	0 - 0.5
TPH-EFH	EFH (C15-C20)	PHCC15C20	73 / 533	1 J Z	74	0.92 - 25	4.6 - 120	mg/kg	5B_DG-721	Test America	8015B EFH	0 - 0.5
TPH-EFH	EFH (C21-C30)	PHCC21C30	306 / 533	1 J Z	1500	0.92 - 25	4.6 - 120	mg/kg	5B_DG-681	Test America	8015B EFH	0 - 0.5
TPH-EFH	EFH (C30-C40)	PHCC30C40	346 / 533	1 J Z	360	0.92 - 25	9.2 - 250	mg/kg	5B_DG-681	Test America	8015B EFH	0 - 0.5
TPH-EFH	EFH (C8-C11)	PHCC8C11	4 / 533	1.2 J Z	6.2	0.92 - 25	4.6 - 120	mg/kg	5B_DG-758	Test America	8015B EFH	4 - 5
TPH-EFH	Total EFH (C8-C40)	PHCC8C40	7 / 8	3 J Z	140	2.5 - 2.6	5.1 - 5.3	mg/kg	5B_DG-522	EMAX	8015B EFH	0 - 0.5
TPH-GRO	Gasoline Range Organics (C4-C12)	GROC4C12	6 / 223	0.33 J Z	0.5 J Z	0.26 - 0.5	0.8 - 1.5	mg/kg	5B_DG-559	Test America	8015B GRO	4.5 - 4.5
TPH-GRO	Gasoline Range Organics (C5-C12)	GROC5C12	1 / 63	1.2	1.2	0.44 - 0.84	0.88 - 1.7	mg/kg	5B_DG-536	EMAX	8015B GRO	5 - 5
VOC	1,1,1,2-Tetrachloroethane	630-20-6	0 / 43	-	-	0.51 - 1.3	4.5 - 6.3	µg/kg				-
VOC	1,1,1-Trichloroethane	71-55-6	0 / 43	-	-	0.47 - 1.3	4.5 - 6.3	µg/kg				-
VOC	1,1,2,2-Tetrachloroethane	79-34-5	0 / 43	-	-	0.55 - 1.3	4.5 - 6.3	µg/kg				-
VOC	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0 / 43	-	-	0.41 - 2.5	4.5 - 6.3	µg/kg				-
VOC	1,1,2-Trichloroethane	79-00-5	0 / 43	-	-	0.8 - 1.3	4.5 - 6.3	µg/kg				-
VOC	1,1-Dichloroethane	75-34-3	0 / 43	-	-	0.19 - 1.3	4.5 - 6.3	µg/kg				-
VOC	1,1-Dichloroethene	75-35-4	0 / 43	-	-	0.54 - 1.3	4.5 - 6.3	µg/kg				-
VOC	1,1-Dichloropropene	563-58-6	0 / 43	-	-	0.49 - 1.3	4.5 - 6.3	µg/kg				-
VOC	1,2,3-Trichlorobenzene	87-61-6	0 / 43	-	-	0.68 - 2.5	4.5 - 6.3	µg/kg				-
VOC	1,2,3-Trichloropropane	96-18-4	0 / 43	-	-	0.74 - 2.5	4.5 - 6.3	µg/kg				-
VOC	1,2,4-Trichlorobenzene	120-82-1	0 / 43	-	-	0.66 - 2.5	4.5 - 6.3	µg/kg				-
VOC	1,2,4-Trimethylbenzene	95-63-6	0 / 43	-	-	0.53 - 1.3	4.5 - 6.3	µg/kg				-
VOC	1,2-Dibromo-3-chloropropane	96-12-8	0 / 43	-	-	0.55 - 2.5	4.6 - 12	µg/kg				-
VOC	1,2-Dibromoethane	106-93-4	0 / 43	-	-	0.47 - 1.3	4.5 - 6.3	µg/kg				-
VOC	1,2-Dichlorobenzene	95-50-1	0 / 43	-	-	0.41 - 1.3	4.5 - 6.3	µg/kg				-
VOC	1,2-Dichloroethane	107-06-2	0 / 43	-	-	0.64 - 1.3	4.5 - 6.3	µg/kg				-
VOC	1,2-Dichloropropane	78-87-5	0 / 43	-	-	0.5 - 1.3	4.5 - 6.3	µg/kg				-
VOC	1,3,5-Trimethylbenzene	108-67-8	0 / 43	-	-	0.52 - 1.3	4.5 - 6.3	µg/kg				-
VOC	1,3-Dichlorobenzene	541-73-1	0 / 43	-	-	0.44 - 1.3	4.5 - 6.3	µg/kg				-
VOC	1,3-Dichloropropane	142-28-9	0 / 43	-	-	0.46 - 1.3	4.5 - 6.3	µg/kg				-
VOC	1,3-Dichloropropylene	542-75-6	0 / 34	-	-	0.61 - 0.79	1.8 - 2.3	µg/kg				-
VOC	1,4-Dichlorobenzene	106-46-7	0 / 43	-	-	0.71 - 1.3	4.5 - 6.3	µg/kg				-
VOC	1-Chlorohexane	544-10-5	0 / 43	-	-	0.57 - 1.3	4.5 - 6.3	µg/kg				-
VOC	2,2-Dichloropropane	594-20-7	0 / 43	-	-	0.4 - 2.5	4.5 - 6.3	µg/kg				-
VOC	2-Butanone (MEK)	78-93-3	0 / 43	-	-	1.7 - 6.3	9.2 - 23	µg/kg				-
VOC	2-Chloro-1,1,1-trifluoroethane	75-88-7	0 / 43	-	-	0.56 - 2.5	4.6 - 12	µg/kg				-
VOC	2-Chloroethyl Vinyl Ether	110-75-8	0 / 43	-	-	1.8 - 5.9	4.6 - 12	µg/kg				-
VOC	2-Chlorotoluene	95-49-8	0 / 43	-	-	0.46 - 1.3	4.5 - 6.3	µg/kg				-
VOC	2-Hexanone	591-78-6	0 / 43	-	-	4.4 - 6.3	9.1 - 13	µg/kg				-
VOC	2-Phenylbutane	135-98-8	0 / 43	-	-	0.7 - 1.3	4.5 - 6.3	µg/kg				-
VOC	4-Chlorotoluene	106-43-4	0 / 43	-	-	0.71 - 1.3	4.5 - 6.3	µg/kg				-
VOC	4-Methyl-2-pentanone (MIBK)	108-10-1	0 / 43	-	-	4 - 6.3	9.1 - 13	µg/kg				-
VOC	Acetone	67-64-1	9 / 43	7.1 J Z	85	4.6 - 6.3	9.2 - 23	µg/kg	5B_DG-723	Test America	8260B	4.5 - 4.5
VOC	Acrolein	107-02-8	0 / 43	-	-	4.6 - 23	9.2 - 120	µg/kg				-
VOC	Acrylonitrile	107-13-1	0 / 43	-	-	4.6 - 12	9.2 - 120	µg/kg				-
VOC	Benzene	71-43-2	0 / 43	-	-	0.43 - 1.3	4.5 - 6.3	µg/kg				-
VOC	Bromobenzene	108-86-1	0 / 43	-	-	0.45 - 1.3	4.5 - 6.3	µg/kg				-
VOC	Bromochloromethane	74-97-5	0 / 43	-	-	0.27 - 1.3	4.5 - 6.3	µg/kg				-
VOC	Bromodichloromethane	75-27-4	0 / 43	-	-	0.2 - 1.3	4.5 - 6.3	µg/kg				-

Table 3-3
Summary of Analytical Results for Chemicals - Validated Data
Combined Soils - Subarea 5B - 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
VOC	Bromoform	75-25-2	0 / 43	-	-	0.21 - 2.5	4.5 - 6.3	µg/kg				-
VOC	Bromomethane	74-83-9	0 / 43	-	-	0.45 - 2.5	4.5 - 6.3	µg/kg				-
VOC	Carbon Disulfide	75-15-0	0 / 43	-	-	0.38 - 2.5	4.5 - 6.3	µg/kg				-
VOC	Carbon Tetrachloride	56-23-5	0 / 43	-	-	0.57 - 1.3	4.5 - 6.3	µg/kg				-
VOC	Chlorobenzene	108-90-7	0 / 43	-	-	0.49 - 1.3	4.5 - 6.3	µg/kg				-
VOC	Chloroethane	75-00-3	0 / 43	-	-	0.81 - 2.5	4.5 - 6.3	µg/kg				-
VOC	Chloroform	67-66-3	0 / 43	-	-	0.26 - 1.3	4.5 - 6.3	µg/kg				-
VOC	Chloromethane	74-87-3	0 / 43	-	-	0.7 - 2.5	4.5 - 6.3	µg/kg				-
VOC	Chlorotrifluoroethylene	79-38-9	0 / 43	-	-	0.79 - 2.5	4.6 - 12	µg/kg				-
VOC	cis-1,2-Dichloroethene	156-59-2	0 / 43	-	-	0.51 - 1.3	4.5 - 6.3	µg/kg				-
VOC	cis-1,3-Dichloropropene	10061-01-5	0 / 43	-	-	0.92 - 1.5	4.5 - 6.3	µg/kg				-
VOC	Cymene	99-87-6	0 / 43	-	-	0.45 - 1.3	4.5 - 6.3	µg/kg				-
VOC	Di isopropyl Ether	108-20-3	0 / 43	-	-	2.5 - 6.3	9.1 - 13	µg/kg				-
VOC	Dibromochloromethane	124-48-1	0 / 43	-	-	0.52 - 1.3	4.5 - 6.3	µg/kg				-
VOC	Dibromomethane	74-95-3	0 / 43	-	-	0.76 - 1.3	4.5 - 6.3	µg/kg				-
VOC	Dichlorodifluoromethane	75-71-8	0 / 43	-	-	0.47 - 2.5	4.5 - 6.3	µg/kg				-
VOC	Ethylbenzene	100-41-4	0 / 43	-	-	0.61 - 1.3	4.5 - 6.3	µg/kg				-
VOC	Hexachloro-1,3-butadiene	87-68-3	0 / 43	-	-	0.5 - 2.5	4.5 - 6.3	µg/kg				-
VOC	Isopropylbenzene	98-82-8	0 / 43	-	-	0.54 - 1.3	4.5 - 6.3	µg/kg				-
VOC	m,p-Xylene	179601-23-1	0 / 43	-	-	0.95 - 2.5	4.5 - 6.3	µg/kg				-
VOC	Methyl Iodide	74-88-4	0 / 43	-	-	0.4 - 2.5	4.6 - 12	µg/kg				-
VOC	Methyl Tert-Butyl Ether	1634-04-4	0 / 43	-	-	0.31 - 1.3	4.5 - 6.3	µg/kg				-
VOC	Methylene Chloride	75-09-2	0 / 43	-	-	1.5 - 2.5	4.6 - 12	µg/kg				-
VOC	n-Butylbenzene	104-51-8	0 / 43	-	-	0.51 - 1.3	4.5 - 6.3	µg/kg				-
VOC	n-Propylbenzene	103-65-1	0 / 43	-	-	0.53 - 1.3	4.5 - 6.3	µg/kg				-
VOC	o-Xylene	95-47-6	0 / 43	-	-	0.55 - 1.3	4.5 - 6.3	µg/kg				-
VOC	Styrene	100-42-5	0 / 43	-	-	0.57 - 1.3	4.5 - 6.3	µg/kg				-
VOC	tert-Butyl ethyl ether	637-92-3	0 / 43	-	-	0.92 - 5	4.5 - 6.3	µg/kg				-
VOC	tert-Butylbenzene	98-06-6	0 / 43	-	-	0.45 - 1.3	4.5 - 6.3	µg/kg				-
VOC	Tertiary amyl methyl ether	994-05-8	0 / 43	-	-	0.92 - 1.8	4.5 - 6.3	µg/kg				-
VOC	Tertiary butyl alcohol	75-65-0	0 / 43	-	-	9.2 - 15	18 - 59	µg/kg				-
VOC	Tetrachloroethene	127-18-4	0 / 43	-	-	0.54 - 1.3	4.5 - 6.3	µg/kg				-
VOC	Toluene	108-88-3	0 / 43	-	-	0.63 - 1.3	4.5 - 6.3	µg/kg				-
VOC	trans-1,2-Dichloroethene	156-60-5	0 / 43	-	-	0.35 - 1.3	4.5 - 6.3	µg/kg				-
VOC	trans-1,3-Dichloropropene	10061-02-6	0 / 43	-	-	0.61 - 1.3	4.5 - 6.3	µg/kg				-
VOC	Trichloroethene	79-01-6	2 / 43	0.35 J Z	1.3 J Z	0.21 - 1.3	4.5 - 6.3	µg/kg	5B_DG-594	Test America	8260B	21.5 - 21.5
VOC	Trichlorofluoromethane	75-69-4	0 / 43	-	-	0.95 - 2.5	4.5 - 6.3	µg/kg				-
VOC	Vinyl Acetate	108-05-4	0 / 42	-	-	0.97 - 2.5	4.6 - 12	µg/kg				-
VOC	Vinyl Chloride	75-01-4	0 / 43	-	-	1.2 - 2.5	4.5 - 6.3	µg/kg				-

Notes
ug/kg- microgram per kilogram
mg/kg - milligram per kilogram
ng/kg - nanogram per kilogram
J - Result is an estimated value
H - Holding times exceeded
S - Surrogates outside of criteria
C - Calibration recoveries outside of criteria
R - Calibration relative response factors outside of criteria
B - Method blank contamination
L - Laboratory control sample recoveries outside of criteria
Q - Matrix spike recoveries outside of criteria
E - Laboratory control sample and or matrix spike relative percent differences outside of criteria
I - Internal standards outside of criteria
A - Serial dilution results outside of criteria
F - Field blank contamination
Z - Analytes reported below the reporting limits and above the method detection limit
FD - Field duplicate relative percent difference outside of criteria
*# - Unusual problems found with the quality control data. See validation reports in Appendix C for detail.
pH and Moisture - Not all pH/moisture results are reported in the electronic deliverables provided by the various laboratories. The information is in the data packages. Results reported here were provided in the electronic data deliverables.
LL - Lancaster Laboratories

Section 4

Data Usability Assessment

The purpose of the DUAR provided in Appendix C and summarized here is to describe the data validation processes performed on the data sets and 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).

4.1 Usability Summary

For the Subarea 5B data usability assessment, 97 data sets, or SDGs were reviewed. An SDG consists of 20 or fewer samples grouped together by analytical method for analyses depending on the time and date the samples were received by the laboratory. The analyses performed are discussed in Section 2.5.1.

Samples were collected and analyzed in accordance with the Master FSP (CDM Smith 2012a), and Addendum to the Master FSP for Subarea 5B with the exception of the field investigation deviations as stated in Section 2.7.

The validated data for Subarea 5B samples are usable as reported with the exception of the rejected data. Three antimony, six Arochlor, five dinitrobutyl phenol, one vinyl acetate, one formaldehyde, two 2-4-diamino-6-nitrotoluene and one 2-6-diamino-4-nitrotoluene results were rejected for Phase 3 Subarea 5B. For all Subarea 5B data, 0.04 percent of the results were rejected. These rejected data do not impact project objectives and goals because their absence is being evaluated in the data gap review process. Specific details are provided in the validation reports in Appendix C and Section 4.7.

4.2 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 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 protocols (all QC parameters except calibrations and raw data). The Level IV determination also included reviewing 10 percent for each laboratory and each method. In order to achieve this, the validators chose appropriate samples in each SDG. Hence, not all samples in some of the SDGs were Level IV validated but they received a mixture of Level IV and Level III review.

Table 4-1 presents all SDGs that include Subarea 5B soil samples and those SDGs that were validated as Level III or Level IV. Some SDGs may 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 C.

Table 4-1 Sample Delivery Groups and Validation Levels for Subarea 5B

Sample Delivery Group	Level of Validation Performed	CDM Smith Review
12G002	Level IV	
12G018	Level III	
12G024	Level III	X
12G029	Level III	
12G049	Level III	
12G081	Level III	
12G105	Level III	
12G122	Level III	
12G142	Level III	
12G160	Level IV	X
12G182	Level III	
12G197	Level III	
12G220	Level IV	
12G238	Level III	
280-31650-1	Level III	
280-31650-2	Level III	
280-31680-1	Level III	
280-31680-2	Level III	
280-31708-1	Level III	
280-31708-2	Level III	
280-31767-1	Level IV	X
280-31767-2	Level III	X
280-31847-1	Level III	
280-31847-2	Level IV	
280-31888-1	Level III	
280-31888-2	Level III	
280-31938-1	Level III	
280-31938-2	Level III	
280-31992-1	Level III	
280-31992-2	Level III	
280-32038-1	Level III	X
280-32082-1	Level III	
280-32082-2	Level III	
280-32119-1	Level IV	
280-32119-2	Level III	
280-32172-1	Level IV	
280-32172-2	Level III	
280-32219-1	Level III	
280-32219-2	Level III	
280-32311-1	Level IV	
280-32311-2	Level III	
280-32356-1	Level III	
280-32356-2	Level III	
280-32358-1	Level III	X

Table 4-1 Sample Delivery Groups and Validation Levels for Subarea 5B

Sample Delivery Group	Level of Validation Performed	CDM Smith Review
280-32358-2	Level III	X
280-32402-1	Level III	
280-32402-2	Level IV	
280-32446-1	Level IV	
280-32446-2	Level III	
280-32488-1	Level III	
280-32488-2	Level III	
280-32560-1	Level III	
280-32560-2	Level III	
280-32598-1	Level III	
280-32598-2	Level III	
280-32625-1	Level IV	
280-32625-2	Level III	
280-32671-1	Level IV	
280-32671-2	Level III	
280-32744-1	Level III	
280-32744-2	Level III	
280-32778-1	Level III	
280-32778-2	Level III	
280-32821-1	Level III	
280-32821-2	Level IV	X
280-32859-1	Level III	X
280-32859-2	Level III	
280-32899-1	Level III	
280-32899-2	Level III	
280-32974-1	Level III	
280-32974-2	Level III	
280-33037-1	Level III	
280-33037-2	Level III	
280-33068-1	Level III	
280-33068-2	Level III	
280-33115-1	Level III	
280-33115-2	Level III	
PH016	Level III	
PH018	Level III	
PH019	Level IV	X
PH021	Level III	
PH022	Level III	
PH023	Level III	
PH026	Level III	
PT015	Level IV	X
PT016	Level III	
PT017	Level III	
PT018	Level III	
PT019	Level III	

Table 4-1 Sample Delivery Groups and Validation Levels for Subarea 5B

Sample Delivery Group	Level of Validation Performed	CDM Smith Review
PT020	Level III	
PT021	Level III	
PT023	Level III	
PT025	Level III	X
PT026	Level III	
PT027	Level III	
PT028	Level III	
PT031	Level III	
PT032	Level III	

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 over 10 percent of the Subarea 5B soil sample 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 4.8.

4.3 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 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 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 a determination of impact on data quality as a result of these deviations

The data validation review determines if the collected data are of sufficient quality to support their intended use.

4.4 Summary of Field and Laboratory QA Activities

CDM Smith completed sampling activities in Subarea 5B in accordance with the approved Master FSP (CDM Smith 2012a) and Addendum to the Master FSP (CDM Smith 2012b) except for the surface samples that were collected using the subsurface procedure as discussed in Section 2.1. A total of 621

soil samples were collected and analyzed from the locations described in Table 2-1. Table 2-1 also provides a summary of the samples collected and the laboratory analyses requested. Associated QA activities are described below.

4.5 Field Quality QA/QC

The MS/MSDs and field duplicates field QC samples were collected at a frequency of approximately 1 per 20 samples (5 percent). During sampling in Subarea 5B, a total of 29 field duplicate/MS/MSD samples were collected equating to approximately five percent of the whole program. On an individual method basis, the five percent goal was approximately met or exceeded for all analyses except for herbicides as field duplicates and MS/MSDs were inadvertently not collected. A total of six samples were collected and analyzed for this method. Other QC parameters were within acceptable control limits for the herbicide samples so this oversight is considered to have minimal impacts to data quality. Field duplicate and MS/MSD samples met the frequency requirements detailed in the Master FSP (CDM Smith 2012a) except for the herbicide method as discussed previously.

Sections 2.4.2 through 2.4.4 discuss the equipment blanks, field blanks and performance evaluation samples collected in association with the Phase 3 Subarea 5B soil samples.

Equipment Rinsate and Field Blanks

The 15 equipment rinsate blank results collected are presented in Appendix C and a summary of the detected results is presented in Table 4-2. Field blank samples were collected from each lot number of ASTM International Type II water used for decontamination. Two field blanks were collected during sampling in Subarea 5B. The detected results are presented below in Table 4-3 and all results are reported in Appendix C.

Table 4-2 Equipment Blank Results for Subarea 5B Soil Samples – Detected Results Only

EB-071912 EB-5B 7/06/2012			
Analyte	**Units**	**Concentration/RL**	**Final Qualifier**
1,2,3,7,8,9-Hexachlorodibenzo-p-Dioxin	pg/L	0.352/10.7	J
1,2,3,7,8-Pentachlorodibenzofuran	pg/L	0.252/10.7	J
Aluminum	mg/L	0.027/0.1	J
Boron	mg/L	0.00544/0.01	J
Copper	mg/L	0.000986/0.001	J
Gasoline Range Organics (C5-C12)	µg/L	18/50	J
EB-071912 EB-5B 07/19/2012			
Analyte	**Units**	**Concentration/RL**	**Final Qualifier**
2-Butanone	µg/L	5.3/10	J
Aluminum	mg/L	0.0404/0.1	J
Boron	mg/L	0.0088/0.01	J
Calcium	mg/L	0.0297/0.1	J
Copper	mg/L	0.00152/0.001	
Gasoline Range Organics (C5-C12)	µg/L	10/50	J
Methylene Chloride	µg/L	1.5/1	
Naphthalene	µg/L	0.24/0.19	
Sodium	mg/L	0.0578/0.1	J

Table 4-2 Equipment Blank Results for Subarea 5B Soil Samples – Detected Results Only

EB-072612 EB-5B 07/26/2012			
Analyte	**Units**	**Concentration/RL**	**Final Qualifier**
1,2,3,4,7,8-Hexachlorodibenzo-p-Dioxin	pg/L	0.779/10.2	J
2,3,4,6,7,8-HXCDF	pg/L	0.785/10.2	J
2-Butanone	µg/L	5/10	J
Acenaphthene	µg/L	0.18/0.21	J
Aluminum	mg/L	0.0229/0.1	J
Boron	mg/L	0.0091/0.01	J
Copper	mg/L	0.000581/0.001	J
Iron	mg/L	0.0121/0.1	J
Manganese	mg/L	0.000265/0.001	J
Naphthalene	µg/L	0.21/0.21	J
EB-080212 EB-5B 08/2/2012			
Analyte	**Units**	**Concentration/RL**	**Final Qualifier**
1-Methylnapthalene	µg/L	0.0068/0.096	J
2-Butanone	µg/L	7.1/6	
2-Methylnaphthalene	µg/L	0.012/0.096	J
Gasoline Range Organics (C4-C12)	µg/L	10/25	J
Iron	mg/L	0.028/0.1	J
Manganese	mg/L	0.00037/0.01	J
Naphthalene	µg/L	0.035/0.096	J
Phosphorous	mg/L	0.28/3	J
Sodium	mg/L	0.14/1	J
Zinc	mg/L	0.0025/0.01	J
EB-080912 EB-5B 08/9/2012			
Analyte	**Units**	**Concentration/RL**	**Final Qualifier**
1-Methylnaphthalene	µg/L	6.6/100	J
2-Butanone	µg/L	8/6	
2-Methylnaphthalene	µg/L	8.4/100	J
Benzo(g,h,i)perylene	µg/L	13/100	J
Boron	mg/L	0.012/0.1	J
Dibenzo(a,h)anthracene	µg/L	15/100	J
Manganese	mg/L	0.00063/0.01	J
Naphthalene	µg/L	46/100	J
Triethylene Glycol	mg/L	2.1/10	J
EB-081612 EB-5B 08/16/2012			
Analyte	**Units**	**Concentration/RL**	**Final Qualifier**
2-Methylnaphthalene	µg/L	0.0096/0.1	J
Boron	mg/L	0.0089/0.1	J
EFH (C15-C20)	mg/L	0.14/0.25	J
Iron	mg/L	0.025/0.1	J
Lithium	mg/L	0.0041/0.01	J
Manganese	mg/L	0.00025/0.01	J
Methylene Chloride	µg/L	0.38/2	J
Naphthalene	µg/L	0.22/0.1	
Silver	mg/L	0.000059/0.005	J
Sodium	mg/L	0.14/1	J
Titanium	mg/L	0.0016/0.01	J

Table 4-2 Equipment Blank Results for Subarea 5B Soil Samples – Detected Results Only

EB-082212 EB-5B 08/22/2012			
Analyte	**Units**	**Concentration/RL**	**Final Qualifier**
1,2,3-Trichloropropane	µg/L	0.33/2.5	J
1-Methylnaphthalene	µg/L	0.0086/0.11	J
2-Butanone	µg/L	11/6	
2-Methylnaphthalene	µg/L	0.013/0.11	J
Benzo(a)pyrene	µg/L	0.007/0.11	J
Chrysene	µg/L	0.11/0.11	J
Fluoranthene	µg/L	0.0053/0.11	J
Naphthalene	µg/L	0.082/0.11	J
Titanium	mg/L	0.0008/0.01	J
Zinc	mg/L	0.0075/0.01	J
EB-082312 EB-5B 08/23/2012			
Analyte	**Units**	**Concentration/RL**	**Final Qualifier**
1-Methylnaphthalene	µg/L	0.01/0.099	J
2,6-Dinitrotoluene	µg/L	0.1/0.21	J
2-Methylnaphthalene	µg/L	0.016/0.099	J
Acenaphthene	µg/L	0.011/0.099	J
Barium	mg/L	0.0014/0.001	
Boron	mg/L	0.013/0.1	J
Calcium	mg/L	0.036/0.2	J
Chrysene	µg/L	0.011/0.099	J
Magnesium	mg/L	0.013/0.2	J
Manganese	mg/L	0.00086/0.01	J
Naphthalene	µg/L	0.26/0.099	
Nickel	mg/L	0.0003/0.002	J
Strontium	mg/L	0.00044/0.001	J
Titanium	mg/L	0.0011/0.01	J
Zinc	mg/L	0.0034/0.01	J
EB-082912 EB-5B 08/29/2012			
Analyte	**Units**	**Concentration/RL**	**Final Qualifier**
1-Methylnaphthalene	µg/L	0.0096/0.1	J
2-Butanone	µg/L	10/6	
2-Methylnaphthalene	µg/L	0.013/0.1	J
Boron	mg/L	0.0071/0.1	J
Naphthalene	µg/L	0.085/0.1	J
EB-083012 EB-5B 08/30/2012			
Analyte	**Units**	**Concentration/RL**	**Final Qualifier**
1,2,3,4,6,7,8-Heptachlorodibenzo-p-Dioxin	pg/L	0.78/51	J
1,2,3,6,7,8-Hexachlorodibenzo-p-Dioxin	pg/L	0.52/51	J
1,2,3,6,7,8-HXCDF	pg/L	0.96/51	J
1,2,3,7,8,9-Hexachlorodibenzo-p-Dioxin	pg/L	0.36/51	J
1-Methylnaphthalene	µg/L	0.01/0.1	J
2,3,4,6,7,8-HXCDF	pg/L	0.47/51	J
2,3,7,8-Tetrachlorodibenzofuran	pg/L	1.6/10	J
2-Butanone	µg/L	8.9/6	
2-Methylnaphthalene	µg/L	0.013/0.1	J

Table 4-2 Equipment Blank Results for Subarea 5B Soil Samples – Detected Results Only

Analyte	Units	Concentration/RL	Final Qualifier
Barium	mg/L	0.00034/0.001	J
Naphthalene	µg/L	0.26/0.1	
EB1-090512 EB-5B 09/05/2012			
Analyte	**Units**	**Concentration/RL**	**Final Qualifier**
1-Methylnaphthalene	µg/L	0.009/0.099	J
2-Methylnaphthalene	µg/L	0.014/0.099	J
Boron	mg/L	0.0065/0.1	J
Naphthalene	µg/L	0.053/0.099	J
EB2-090512 EB-5B 09/05/2012			
Analyte	**Units**	**Concentration/RL**	**Final Qualifier**
2-Methylnaphthalene	µg/L	0.01/0.097	J
Boron	mg/L	0.0049/0.1	J
Cadmium	mg/L	0.00012/0.001	J
Naphthalene	µg/L	0.05/0.097	J
Zinc	mg/L	0.006/0.01	J
EB-090612 EB-5B 09/06/2012			
Analyte	**Units**	**Concentration/RL**	**Final Qualifier**
2-Methylnaphthalene	µg/L	0.01/0.1	J
Boron	mg/L	0.0046/0.1	J
Copper	mg/L	0.0014/0.002	J
Naphthalene	µg/L	0.046/0.1	J
EB-091212 EB-5B 09/12/2012			
Analyte	**Units**	**Concentration/RL**	**Final Qualifier**
1-Methylnaphthalene	µg/L	0.012/0.1	J
2-Methylnaphthalene	µg/L	0.015/0.1	J
Calcium	mg/L	0.043/0.2	J
Manganese	mg/L	0.00032/0.01	J
Naphthalene	µg/L	0.35/0.1	

Notes:
Blank result greater than RL
EFH = extractable fuel hydrocarbons
HxCDF = hexachlorodibenzofuran
RL = Reporting Limit
µg/L = microgram per liter
pg/L = picogram per liter
mg/L = milligram per liter
ng/L = nanogram per liter
J = estimated value

Table 4-3 Field Blank Results for Subarea 5B Samples – Detected Results Only

FB-060512 5C-DG-FB 06/05/2012			
Analyte	**Units**	**Concentration/RL**	**Final Qualifier**
1,2,3,7,8-Pentachlorodibenzofuran	pg/L	0.142/9.6	J
2,3,7,8-Tetrachlorodibenzofuran	pg/L	0.208/1.92	J

Table 4-3 Field Blank Results for Subarea 5B Samples – Detected Results Only

Analyte	Units	Concentration/RL	Final Qualifier
Acetone	µg/L	26/10	
Aluminum	mg/L	0.027/0.1	J
Calcium	mg/L	0.0263/0.1	J
Copper	mg/L	0.000954/0.001	J
Formaldehyde	µg/L	12/50	J
Gasoline Range Organics (C5-C12)	µg/L	49/50	J
FB-06202012 5C-DG-FB 06/20/2012			
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
2-Butanone	µg/L	6.2/10	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	
Gasoline Range Organics (C5-C12)	µg/L	28/50	J
Methylene Chloride	µg/L	4.1/1	
Naphthalene	µg/L	0.26/0.2	
Toluene	µg/L	0.29/1	J

Notes:
Blank result greater than RL
RL = Reporting Limit
µg/L = microgram per liter
mg/L = milligram per liter
pg/L =- picogram per liter
J = estimated value

Trip Blanks

Thirty-nine trip blank samples were shipped with the Subarea 5B soil samples. The analytical results for the trip blanks collected in association with the Subarea 5B soil samples are presented in Appendix C and a summary of the detected results are shown in Table 4-4.

Table 4-4 Trip Blank Results for Subarea 5B Samples – Detected Results Only

TB-071212 TRIP BLANK SA5B 07/12/2012			
Analyte	**Units**	**Concentration/RL**	**Final Qualifier**
Gasoline Range Organics (C5-C12)	µg/L	19/50	J
TB-071612 TRIP BLANK SA5B 07/16/2012			
Analyte	**Units**	**Concentration/RL**	**Final Qualifier**
Gasoline Range Organics (C5-C12)	µg/L	81/50	

Table 4-4 Trip Blank Results for Subarea 5B Samples – Detected Results Only

TB-071712 TRIP BLANK SA5B 07/17/2012			
Analyte	**Units**	**Concentration/RL**	**Final Qualifier**
Gasoline Range Organics (C5-C12)	µg/L	17/50	J
TB-071812 TRIP BLANK SA5B 07/18/2012			
Analyte	**Units**	**Concentration/RL**	**Final Qualifier**
Gasoline Range Organics (C5-C12)	µg/L	44/50	J
TB-072312 TRIP BLANK SA5B 07/23/2012			
Analyte	**Units**	**Concentration/RL**	**Final Qualifier**
Gasoline Range Organics (C5-C12)	µg/L	18/50	J
TB-072412 TRIP BLANK 07/24/2012			
Analyte	**Units**	**Concentration/RL**	**Final Qualifier**
Gasoline Range Organics (C5-C12)	µg/L	18/50	J
TB-072612 TRIP BLANK 07/26/2012			
Analyte	**Units**	**Concentration/RL**	**Final Qualifier**
Gasoline Range Organics (C5-C12)	µg/L	12/50	J
TB-081612 TRIP BLANK 08/16/2012			
Analyte	**Units**	**Concentration/RL**	**Final Qualifier**
Gasoline Range Organics (C4-C12)	µg/L	11/25	J

Notes:
Blank result greater than RL
RL = Reporting Limit
µg/L = microgram per liter
J = estimated value

On August 20, 2012 a set of PE samples were submitted to Test America and identified as SL-1400-SA5B-SB-0.0-0.5. The set of PE samples were submitted for the analysis of dioxin/furans by method 1613B; metals and mercury by methods 6010C, 6020A and 7471B; PAHs by method 8270C SIM, PCB/PCTs by method 8082, TPH-GRO by method 8015B, and TPH-EFH by method 8015B.

The PE samples were manufactured by Resource Technology Corporation (RTC) of Laramie, Wyoming for dioxin/furans and Phenova of Golden, Colorado for all other parameters. PE samples were submitted to Test America as a set under one sample identification number. The intention was to submit the PE samples disguised as a field sample (blind), but the nature of and instructions for the TPH-GRO sample [this sample required addition of the standard (received in a solvent) onto a clean sand matrix] precluded this effort. The certified values and acceptance limits as provided by the manufactures for each sample are provided in Appendix G.

Results

Dioxins/Furans

The results for the dioxin/furan analysis by method 1613B are provided in Table 4-5. All parameters were recovered within the acceptance limits provided by the manufacturer of the sample.

Table 4-5 – PE Dioxin/Furan Results

Parameter	Result		Units	Certified Value	Lower Acceptance Limit	Upper Acceptance Limit
1,2,3,4,6,7,8-HpCDD	300		ng/kg	322	172	472
1,2,3,4,6,7,8-HpCDF	570		ng/kg	653	354	952
1,2,3,4,7,8,9-HpCDF	760		ng/kg	891	485	1300
1,2,3,4,7,8-HxCDD	170		ng/kg	207	109	305
1,2,3,4,7,8-HxCDF	480		ng/kg	522	402	642
1,2,3,6,7,8-HxCDD	250		ng/kg	300	160	440
1,2,3,6,7,8-HxCDF	47	J	ng/kg	51.6	25.5	77.8
1,2,3,7,8,9-HxCDD	470		ng/kg	521	281	761
1,2,3,7,8,9-HxCDF	410		ng/kg	485	262	708
1,2,3,7,8-PeCDD	570		ng/kg	653	354	952
1,2,3,7,8-PeCDF	62		ng/kg	79.4	38.3	121
2,3,4,6,7,8-HxCDF	160		ng/kg	185	96.4	274
2,3,4,7,8-PeCDF	100		ng/kg	115	57.9	172
2,3,7,8-TCDD	690		ng/kg	799	434	1160
2,3,7,8-TCDF	300		ng/kg	331	177	485
OCDD	710		ng/kg	711	418	1000
OCDF	320		ng/kg	397	213	581

Notes:
HpCDD = heptachlorodibenzo-p-dioxin
HpCDF = heptachlorodibenzofuran
HxCDD = hexachlorodibenzo-p-dioxin
HxCDF = hexachlorodibenzofuran
PeCDD = pentachlorodibenzo-p-dioxin
PeCDF = pentachlorodibenzofuran
TCDD = tetrachlorodibenzodioxin
TCDF = tetrachlorodibenzofuran
OCDD = octachlorodibenzodioxin
OCDF = octochlorodibenzofuran
ng/kg = nanogram per kilogram
J = estimated value

Metals and Mercury

The results for the metals and mercury analysis by methods 6010C, 6020A and 7471B are provided in Table 4-6. All parameters except antimony and silver were recovered within the acceptance limits provided by the manufacturer of the sample. Antimony was recovered significantly below the lower acceptance limit and silver was measured slightly below the lower acceptance limit.

For antimony, the digestion method followed by Test America (SW-846-3050B) contains an optional step to improve the solubility and recovery of antimony but can potentially cause interferences to

other metals. This additional step normally performed by the subcontracted laboratory results in a separate digestion because it can cause interferences to other elements like arsenic. The PE sample acceptance limits were obtained through multiple analyses by laboratories that include this step. Because of the limited PE soil material, Test America did not perform this additional digestion step. Silver was measured slightly below the lower acceptance limit. Qualification of Test America antimony and silver data is not indicated as the results generated for these PE samples were obtained using digestion steps that are known to result in less than full recoveries. Future PE sample submittals will provide enough sufficient material to perform multiple digestions.

Table 4-6 – PE Metals and Mercury Results

Parameter	Result		Units	Certified Value	Lower Acceptance Limit	Upper Acceptance Limit
Aluminum	13000	J	mg/kg	6130	4380	15300
Antimony	2.8	J	mg/kg	281	28.1	309
Arsenic	160		mg/kg	192	112	211
Barium	180		mg/kg	191	117	210
Beryllium	260		mg/kg	316	193	348
Boron	290		mg/kg	541	169	595
Cadmium	210		mg/kg	245	148	270
Calcium	14000	B	mg/kg	11900	10200	16600
Chromium	250		mg/kg	303	177	333
Cobalt	210		mg/kg	249	153	274
Copper	76	B	mg/kg	93	56.3	102
Iron	12000		mg/kg	9630	2580	18600
Lead	170		mg/kg	225	137	248
Lithium	72	J	mg/kg	90.6	39.1	99.7
Magnesium	5000		mg/kg	5230	3270	5970
Manganese	410	J	mg/kg	445	297	489
Mercury	7		mg/kg	13.3	4.33	14.6
Molybdenum	34		mg/kg	62.6	26	68.9
Nickel	220		mg/kg	255	157	280
Phosphorus	87		mg/kg	na	na	na
Potassium	12000	J	mg/kg	14200	8110	15600
Selenium	81		mg/kg	112	48.6	124
Silver	13		mg/kg	28.8	14.5	31.7
Sodium	7500		mg/kg	8160	4520	8970
Strontium	340	B	mg/kg	387	227	426
Thallium	190	B	mg/kg	233	129	256
Tin	100	B	mg/kg	146	52.4	161
Titanium	54		mg/kg	216	21.6	238
Vanadium	130		mg/kg	177	83.4	195
Zinc	270		mg/kg	314	184	346
Zirconium	8.6	J	mg/kg	na	na	na

Notes:
J = estimated value
B = analyte detected in method blank
mg/kg = milligram per kilogram
na = not applicable

PAHs

The results for the PAH analysis by method SW-846-8270 SIM are provided in Table 4-7. All parameters were recovered within the acceptance limits provided by the manufacturer of the sample. 1-methylnapthalene was detected between the method detection limit (MDL) and the method reporting limit (MRL) in this sample.

Table 4-7 – PE PAH Results

Parameter	Result		Units	Certified Value	Lower Acceptance Limit	Upper Acceptance Limit
1-Methylnaphthalene	5.8	J	µg/kg	na	na	na
2-Methylnaphthalene	320		µg/kg	438	43.8	831
Acenaphthene	210		µg/kg	260	30	324
Acenaphthylene	180		µg/kg	237	30	329
Anthracene	570		µg/kg	621	91.9	825
Benzo[a]anthracene	130		µg/kg	140	40.2	176
Benzo[a]pyrene	320		µg/kg	257	49	335
Benzo[g,h,i]perylene	240		µg/kg	217	21.7	312
Benzo[k]fluoranthene	370		µg/kg	341	106	438
Chrysene	180		µg/kg	211	43.8	277
Dibenz(a,h)anthracene	110		µg/kg	102	22.9	150
Fluoranthene	650		µg/kg	649	181	796
Fluorene	350		µg/kg	420	84	534
Indeno[1,2,3-cd]pyrene	470		µg/kg	427	68.2	538
Naphthalene	460		µg/kg	678	67.8	925
Phenanthrene	740		µg/kg	882	227	1050
Pyrene	400		µg/kg	377	104	490

Notes:
J = estimated value
µg/kg = microgram per kilogram
na = not applicable

PCBs

PCB (Arochlor 1260) was reported by Test America at 24,000 µg/kg, which is within the lower and upper acceptance limits of 5980 and 32,600 µg/kg respectively. The manufacturer's certified value is 25,500 µg/kg.

TPH - EFH

The results for the TPH-EFH analysis by method SW-846-8015B are provided in Table 4-8. Total TPH-EFH was recovered within the acceptance limits provided by the manufacturer of the sample. The certification for this sample did not include individual certified values for the separate fractions reported by Test America Laboratories. Instead the certified values provided are a total of the individual TPH-EFH values.

Table 4-8 – PE TPH - EFH Results

Parameter	Result		Units	Certified Value	Lower Acceptance Limit	Upper Acceptance Limit
EFH (C8-C11)	190		mg/kg	na	na	na
EFH (C21-C30)	91	J	mg/kg	na	na	na
EFH (C15-C20)	1100		mg/kg	na	na	na
C30-C40	380	U	mg/kg	na	na	na
EFH (C12-C14)	660		mg/kg	na	na	na
Total EFH	2041		mg/kg	2330	709	2720

Notes:
J = estimated value
U = result is nondetect
na = not applicable

TPH-GRO

TPH-GRO was reported by Test America at 44 mg/kg, below the lower acceptance limit. The manufacturers certified value is 472 mg/kg and the lower and upper acceptance limits are 47.2 and 833 mg/kg respectively. Test America was instructed to modify the preparation of this sample in order to be similar to the actual way the samples are analyzed (typical SSFL TPH-GRO samples are collected and analyzed from an Encore sampler). As a result of this modification acceptable results were not attainable. The PE sample procured for this evaluation was not appropriate for assessing the laboratories performance using this sample collection and analytical method. Similar manufactures of PE samples have not developed a suitable product to evaluate this analysis and it is suggested that future PE sample submittals not include TPH-GRO.

Temperature Blanks

Temperature blanks were to be included with each shipment of samples. Based on validation results all temperature blanks submitted with the Subarea 5B samples met criteria. Data qualifications based on all blank detections and impacts to the data due to contaminants detected in the blanks are discussed in Section 4.7.3 and in the Appendix C validation reports.

Field QC Summary

As stated previously, on an individual method basis, the five percent goal was approximately met or exceeded for all analyses except for herbicides as field duplicates and MS/MSDs were inadvertently not collected. A total of six samples were collected for this method. Other QC parameters were within acceptable control limits for the herbicide samples so this oversight is considered to have minimal impacts to data quality. Field duplicate and MS/MSD samples met the frequency requirements detailed in the Master FSP (CDM Smith 2012a) for the Phase 3 Subarea 5B sampling program except for the method listed above. Further, field QA/QC objectives were attained through the use of appropriate sampling techniques and collection of the required number and frequency of QC samples.

4.6 Laboratory Quality QA/QC

Analytical QA/QC was assessed by laboratory QC checks, method blanks, sample custody tracking, sample preservation, adherence to holding times, laboratory control samples (LCSs), MSs, calibration recoveries, surrogates, tuning criteria, second column confirmations, internal standards, serial dilutions, laboratory duplicates, and interference check standards. The majority of the laboratory QC sample criteria met project requirements as indicated in the data validation reports in Appendix C with the appropriate qualifiers applied. Three antimony results, six Arochlor results, five dinitrobutyl phenol results, two 2-4-diamino-6-nitrotoluene and one 2-6-diamino-4-nitrotoluene results, one vinyl acetate result and one formaldehyde result were rejected for Phase 3 Subarea 5B. For all Subarea 5B data, 0.04 percent of the results were rejected. Specific details are provided in the validation reports in Appendix C and Section 4.7.

4.7 Data Quality Indicators

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

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

4.7.1 Precision

Precision is the measurement of the ability to obtain the same value on re-analysis of a sample through the entire analytical process. The closer the measurement results, 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.

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

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 Subarea 5B soil 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 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.

The following Subarea 5B individual analyte results were qualified as estimated "J/UJ" based on precision criteria:

- Some of the metal analyte results , VOC results and one perchlorate result due to laboratory precision criteria

Field duplicate precision criteria required the qualification of some dioxins, various metal analytes, perchlorate, mercury, TPH-EFH, alcohols and glycols, pesticides, PCBs, SVOC SIM and formaldehyde results for Phase 3 Subarea 5B samples. No results were rejected based on field duplicate precision criteria. All field duplicate RPD results are presented in Appendix C. In summary, sample results that have been qualified as estimated "J/UJ" due to precision criteria are usable for project decisions with a degree of caution.

There was no discernible pattern or reason for the identified laboratory and field duplicate sample RPD exceedances. 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.

4.7.2 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:

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

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 EPA 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 is 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 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 Subarea 5B soil data set, accuracy was evaluated by reviewing the %R values and relative response factors of initial and continuing calibration (percent difference or percent drift [%D] for organic analyses), internal standards, surrogate spikes (organic analyses only), MS/MSD, LCS/LCSD, inductively coupled plasma (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 C.

The following Subarea 5B individual analyte results were qualified as estimated "J/UJ" based on accuracy criteria:

- Some of the dioxins, metals, perchlorate, hexavalent chromium, mercury, TPH-EFH, pesticides, PCBs, VOCs, SVOC SIM, formaldehyde, and energetic results due to MSs
- Some of the dioxin results, herbicide results, and SVOC SIM results due to LCSs
- Some of the PCB results, herbicide results, one VOC result, SVOC SIM results, and formaldehyde results due to surrogates
- Some of the metal analyte results due to serial dilutions
- Some of the dioxin results, one pesticide result and SVOC SIM results due to confirmation column results
- Some of the pesticide results, PCBs, one herbicide result, VOCs, one 1,4-dioxane result, and SVOC results based on calibration criteria
- Some of the dioxin results for internal standards
- Some of the metal results for ICP interference check sample (ICS) criteria
- Some of the VOC results, and one 1,4-dioxane result for relative response factors
- Some of the alcohol and glycol results and formaldehyde results based on holding times

The following individual analyte results were rejected "R" based on accuracy criteria:

- Three metal results (antimony) based on MSs

- Six PCB/PCT results (Arochlors) based on MSs
- Five herbicide results (dinitrobutyl phenol) based on LCSs
- One VOC result (vinyl acetate) based on MSs
- One formaldehyde result based on MSs
- Three energetic results (two samples for 2-4-diamino-6-nitrotoluene and one sample for 2-6-diamino-4-nitrotoluene) based on MSs

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 except for those identified above and discussed in detail in the Appendix C DUAR laboratory validation reports.

In summary, sample results that have been qualified as estimated "J/UJ" due to accuracy criteria are usable for project decisions. Results that have been rejected are not usable.

4.7.3 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. 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 2.4.5. 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 C discuss the results that were qualified based on field and laboratory blank contamination.

In summary, for Phase 3 Subarea 5B samples, some dioxins, metals, hexavalent chromium results, TPH-EFH, TPH-GRO, VOCs, SVOC SIM results, and formaldehyde results were qualified as non-detect due to laboratory blank contamination criteria. The percentage of results qualified as non-detect based on laboratory blank contamination was less than 5 percent, as discussed in Appendix C, for all analyses except dioxins (16 percent) and formaldehyde (28 percent). These results were qualified as non-detect "U" due to laboratory blank contamination.

For the dioxins, MDLs for this analysis are very low, reported in nanogram per kilogram (ng/kg) or parts per trillion, resulting in numerous results qualified as estimated "J." Many of these estimated values have been subsequently qualified as non-detect "U" because the compound was detected in related laboratory blanks. In the laboratory blanks, low level detections of dioxin analytes are somewhat inevitable because of the nature and universal extent of the compounds. The dioxin levels

found in the blanks are well below site-related action levels. Therefore, the resulting qualification of associated sample results as not detected or "U" does not falsely diminish identification of site-related contaminants.

The other reported analyte that had blank qualifications greater than 5 percent do not indicate a laboratory blank contamination problem as the overall sample counts for that analyte were low. For example, there were only 295 hexavalent chromium samples analyzed for Subarea 5B and out of those samples 85 results were qualified due to blank contamination.

Tables 4-2 through 4-4 provide a summary of analytes observed in equipment blanks, field blanks and trip blank samples. Most of the detected compounds in these blanks were below the RLs but above the MDLs. Compounds detected above the RL are highlighted yellow in the associated tables. The ASTM International Type II water used to generate the equipment and field blanks. The field blanks (source water) had detections of acetone, copper, methylene chloride, and naphthalene (above the RL) indicating inherent low level contamination in the source water used.

ASTM International Type II water is not typically certified "clean" to the low RLs established for the low level methods used for Phase 3 Subarea 5B sampling. CDM Smith will continue to monitor ASTM International Type II water field blanks for detected concentrations of analytes throughout the sampling program.

A review of the Phase 3 equipment blanks for Subarea 5B 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 was required for equipment blank contamination during the validation process. To date, chemical detections in equipment blank samples appear to be random occurrences.

Detected trip blank results are presented in Table 4-3. All the trip blank samples had detections of GRO. The trip blank samples are received from the laboratory in coolers with the empty sample jars and are returned to the laboratory with the collected samples while unopened in the field. The laboratory was requested to review these anomalous results and the chromatograms for these samples. EMAX noted that the detects were the results of one or more discrete peaks that eluted in the range of GROs, (from C5 to C12). Those discrete peaks were included in the integration of the samples resulting in one GRO detection above the MRL. However, EMAX reported that there was no gasoline pattern shown in these trip blanks. The validators also reviewed the chromatograms for each blank sample and confirmed the laboratories recommendation. CDM Smith will require laboratories to provide proper documentation of the quality of the trip blank water prior to its use in the field. This will help determine if future GRO detections above the MRL can be attributed to contamination in the shipping process (in the cooler) or if the detections of individual GRO compounds are isolated in the laboratory. Future reporting rules for GRO in trip blanks will require the identification of clearly identified GRO patterns by the laboratory. All sample results were non-detect for GRO for the Phase 3 5B except for seven soil samples. None of these results were qualified as nondetect based on the trip blank results.

4.7.4 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 Master FSP

(CDM Smith 2012a) 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.

4.7.4.1 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 Master FSP (CDM Smith 2012a) 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 Master FSP (CDM Smith 2012a) for sample location and collection and by using approved standard operating procedures 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.

4.7.4.2 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, EMAX and Test America. Utilizing such procedures and methods enables the current data to be comparable with previous and future data sets generated using similar methods.

4.7.4.3 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 interferences 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. Details of the validation and the number of results qualified are discussed in detail in the DUAR and laboratory validation reports in Appendix C.

In summary, for all methods analyzed for Subarea 5B, results for some of the analytes were qualified as estimated due to RL criteria for dioxins, metals, perchlorate, hexavalent chromium, mercury, TPH-EFH, TPH-GRO, alcohols and glycols, pesticides, PCBs, herbicides, VOCs, SVOC SIM, and formaldehyde results. For the data validated in this TM, RLs for a majority of the sample results were low enough to compare to the RLs stated in the Master FSP (CDM Smith 2012a). RLs above those stated in the Master FSP (CDM Smith 2012a) will be evaluated on a case by case basis to see if resampling is required.

4.8 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.

4.9 Data Completeness

Completeness of the data collection program is defined as the percentage of samples planned for collection as listed in the Master FSP (CDM Smith 2012a) versus the actual number of samples collected during the field program (see equation A).

Completeness for acceptable data is defined as the percentage of acceptable data obtained judged to be valid versus the total quantity of data generated (see equation B). Acceptable data include both data that pass all the QC criteria (unqualified data) and data that may not pass all the QC criteria but had appropriate corrective actions taken (qualified but usable data).

Equation A.

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

Where:

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

Equation B.

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

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 621 soil samples including the field duplicates were collected and analyzed. Some locations required only a subsurface sample while other locations required both a surface and a subsurface sample. The number of subsurface samples to be collected at each location was not pre-determined because the total depth of each boring varies depending on the local geology. No subsurface samples were collected at 46 locations due to shallow refusal at less than 2.5 feet bgs, four locations were not sampled due to shallow refusal, and samples were not collected at 39 locations due to transformers, ESAs or trenches/test pit as noted in Section 2.7.1. Some locations required only a subsurface or surface sample while other locations required both a surface and a subsurface sample. The number of subsurface samples to be collected at each location was not pre-determined because the total depth of each boring varies depending on the location geology. The completeness goal for the actual number of samples collected compared to the number of samples planned is considered acceptable as a sample was collected from each location (depending on shallow refusal) and locations for trench samples and near active transformers will be collected during future Phase 3 sampling activities.

The completeness goal achieved for acceptable data was 99.96 percent of the number of measurements judged to be valid versus the total number of measurements made for all Subarea 5B samples analyzed. Table 4-9 summarizes all results that were estimated or rejected.

The following Phase 3 Subarea 5B individual analyte results were rejected per analyses:

- Method 6020A
  - Three out of 16,080 individual metal analyte results (0.02 percent)
- Method 8082A
  - Six out of 84 PCB/PCT results (0.09 percent)
- Method 8151A
  - Five out of 60 individual herbicide analyte results (8.3 percent)
- Method 8260B
  - One out of 3,345 VOC results (0.03 percent)
- Method 8151A
  - One out of 343 individual formaldehyde analyte results (0.29 percent)

- Method 8330A
  - Three out of 450 energetic results (0.66 percent)

Table 4-9 Summary of Data Completeness Following Data Validation – Subarea 5B

	Number of Analyte Detections Without Qualifiers	Number of Estimated Results	Number of Rejected Results	Number of Nondetect Results	Number of Estimated Nondetect Results	Total Analytes Detect and Nondetect	Percent of Analyte Results Judged Valid Versus Total Analyte Results Collected
Dioxins – 1613B	746	2,293	0	4700	64	7803	100
Metals - 6010C	1678	3755	0	506	25	5964	100
Metals – 6020	2088	733	0	461	18	3300	100
Metals – 6020A	780	5667	3	181	185	6816	99.98
Perchlorate – 6850	1	0	0	26	0	27	100
Perchlorate – 6860	0	47	0	17	1	65	100
Hexavalent Chromium – 7199	1	54	0	167	73	295	100
Mercury – 7471A	1	1	0	108	0	110	100
Mercury – 7471B	52	260	0	112	2	426	100
Alcohols – 8015B	0	0	0	12	0	12	100
TPH-EFH – 8015B EFH	401	338	0	1920	14	2673	100
TPH-GRO – 8015B GRO	1	6	0	276	3	286	100
Alcohols and Glycols – 8015C	17	7	0	118	1	143	100
Glycols – 8015C	0	0	0	20	0	20	100
Glycols – 8015M	0	0	0	36	0	36	100
Pesticides – 8081A	3	6	0	630	12	651	100
Pesticides – 8081B	2	4	0	341	10	357	100
PCB/PCTs - 8082	4	4	0	1300	0	1308	100
PCB/PCTs – 8082A	80	70	6	5053	83	5292	99.91
Herbicides – 8151A	0	2	5	43	10	60	91.7
VOCs – 8260B	5	6	1	3257	76	3345	99.97
1,4-Dioxane – 8260B SIM	0	0	0	8	1	9	100
SVOC SIM – 8270C SIM	373	1622	0	8146	584	10725	100
Formaldehyde – 8315A	18	45	1	186	93	343	99.71
Energetics – 8330A	0	0	3	447	0	450	99.34
Completeness Total for Phase 3 Subarea 5B Samples Collected and Judged Valid							**99.96**

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 Master FSP (CDM Smith 2012a) are discussed in Section 2.7 of this TM. Deviations did not impact DQOs for this sampling event. The data reported and not rejected are suitable for their intended use for characterization of Area IV of SSFL. The DQIs identified in the Master FSP (CDM Smith 2012a) met appropriate criteria. The achievement of the completeness goals for the data indicates a sufficient amount of usable data has been generated for project decisions.

4.10 Assessment of Data Usability and Reconciliation with Master FSP Goals

Over 99 percent of the data validated for Subarea 5B, and reported in this TM, are suitable for their intended use for site characterization. Rejected sample results are not suitable for project use. The rejected analyte results do not impact achievement of the overall project objectives. The RLs reported generally met the expected limits proposed by the analytical laboratories in their subcontract agreements with CDM Smith.

Sample results that were qualified as estimated are usable for project decisions.

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.

Some samples were not analyzed for hexavalent chromium and VOCs as was required and discussed in Section 2.7.1. These locations will be resampled during the data gap go-back investigation depending on whether they are determined to be critical sample locations and analyses.

Section 5
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. 2 to Master Field Sampling Plan for Chemical Data Gap Investigation, Phase 3 Soil Chemical Sampling at Area IV, Santa Susana Field Laboratory, Ventura County, California, Subarea 5B.* 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.

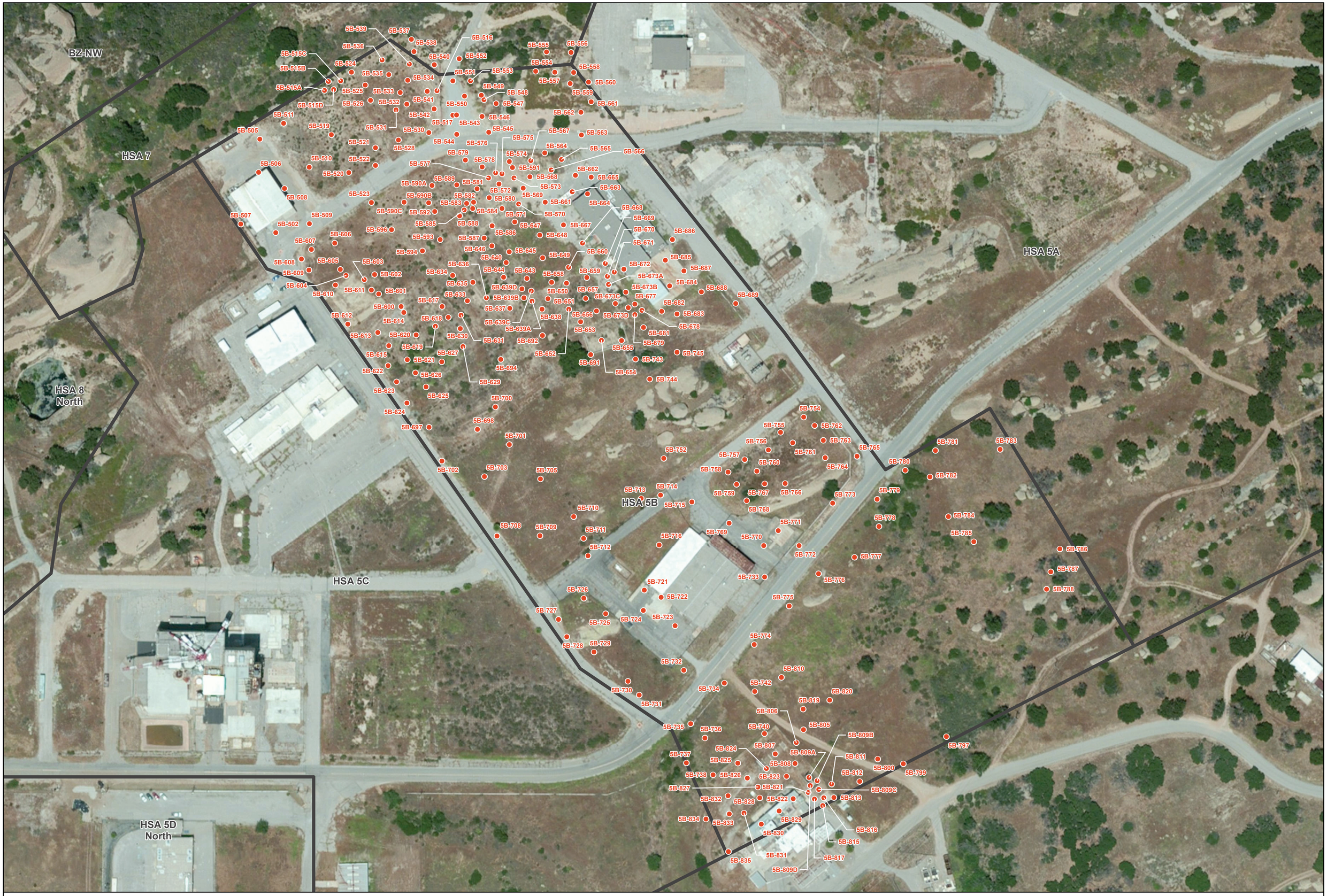
Department of Toxic Substance and Control. 2010. Administrative Order on Consent for RA, Docket Number HAS-CO 10/11-037. December 6.

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

EPA. 2005. *EPA Contract Laboratory Program National Functional Guidelines for Chlorinated Dioxin/Furan Data Review*.

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

Exhibit 1



N

Legend

- Sample Location
- Area IV Subarea

Aerial Source: Imagery Web Map Services, (c) 2010 Microsoft and its data suppliers.

Subarea 5B Phase 3 Sample Locations

0 50 100 200 300 Feet

Santa Susana Field Laboratory
Ventura County, California
Exhibit 1

CDM Smith

C:_projects\SantaSusana\GIS\MXD\SSFL_5B_DG_Sampling_Locations_18x24_20131003.mxd 10/3/2013

Appendix A
Analytical Results Tables

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
Subarea 5C

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	
6010B	7429-90-5	Aluminum	
6010B	7439-89-6	Iron	
6020	7439-92-1	Lead	
6010B	7439-93-2	Lithium	
6010B	7439-95-4	Magnesium	
6010B	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
Subarea 5C

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	
8082	12642-23-8	Aroclor 5442	

Appendix A1
Analytical Method, CAS Number and Chemical Name
Subarea 5C

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	
8270C	62-53-3	Aniline	
8270C	65-85-0	Benzoic Acid	

Appendix A1
Analytical Method, CAS Number and Chemical Name
Subarea 5C

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	
8260B	110-75-8	2-Chloroethyl Vinyl Ether	
8260B SIM	123-91-1	1,4-Dioxane	
8260B	124-48-1	Dibromochloromethane	

Appendix A1
Analytical Method, CAS Number and Chemical Name
Subarea 5C

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	