Technical Memorandum

Co-Located Chemical Sampling Results at Historical Site Assessment Subarea 3 and Subarea 6 in Area IV

Santa Susana Field Laboratory
Ventura County, California

Prepared for:

Department of Energy
Energy Technology and Engineering Center
P.O. Box 10300
Canoga Park, California 91309

Prepared by:

CDM Federal Programs Corporation (CDM Smith)

Prepared under:

US Department of Energy
EM Consolidated Business Center
Contract DE-AM09-05SR22404
CDM Task Order DE-AT30-08CC60021/ET17

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

Prepared by: _____ _____
Margaret Bloisa, P.G. Date
CDM Smith Geologist

Approved by: _____ _____
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
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
EPA	U.S. Environmental Protection Agency
EMAX	EMAX Laboratories, Inc.
FSAP	field sampling and analysis plan
FTL	field team leader
GRO	gasoline range organics
HGL	HydroGeoLogic, Inc.
HSA	Historical Site Assessment
ICP	inductively coupled plasma
LCS	laboratory control sample
LCSD	laboratory control sample duplicate
LLI	Lancaster Laboratories, Inc.
MDL	method detection limit
mL	milliliters
MS	matrix spike
MSD	matrix spike duplicate
MWH	Montgomery Watson
NDMA	n-Nitrosodimethylamine
PAH	polycyclic aromatic hydrocarbon
PARCCS	precision, accuracy, representativeness, comparability, completeness and sensitivity
PCB	polychlorinated biphenyl
PCT	polychlorinated triphenyl
PID	photoionization detector
QA	quality assurance

QAPP	quality assurance project plan
QC	quality control
RCRA	Resource Conservation and Recovery Act
RFI	RCRA Facility Investigation
RL	reporting limit
RPD	relative percent difference
SDG	sample delivery group
SIM	selective ion monitoring
SOW	statement of work
SRE	Sodium Reactor Experiment
SSFL	Santa Susana Field Laboratory
SVOC	semi-volatile organic compound
TM	technical memorandum
TPH	total petroleum hydrocarbon
VOC	volatile organic compound
WP/FSAP	Work Plan/Field Sampling and Analysis Plan

Section 1
Introduction

This Technical Memorandum (TM) presents the results of chemical analyses of surface and subsurface soil, and soil from intermittent drainages collected under the *Master Work Plan/Field Sampling and Analysis Plan, Co-Located Chemical Sampling at Area IV, Santa Susana Field Laboratory, Ventura County, California* (CDM Federal Programs Corporation [CDM] 2011a) (WP/FSAP), *Addendum No. 5 to Master Work Plan/Field Sampling and Analysis Plan, Co-Located Chemical Sampling at Area IV, Santa Susana Field Laboratory, Ventura County, California, EPA Subarea 6 Soil Sampling* (CDM 2011b) (WP/FSAP Addendum) and *Addendum No. 6 to Master Work Plan/Field Sampling and Analysis Plan, Co-Located Chemical Sampling at Area IV Santa Susana Field Laboratory, Ventura County, California, EPA Subareas 3, 5D South, 7 and 8 South Soil Sampling* (CDM 2011c).

This TM addresses sampling within U.S. Environmental Protection Agency (EPA) Historical Site Assessment (HSA) Subareas 3 and 6 of Area IV at Santa Susana Field Laboratory (SSFL) and provides a description of the sampling activities, the analytical results, and a discussion of the analytical data review findings. 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 (RFI) efforts within the Area IV soil chemical database. A data gap analysis will be performed to assess the adequacy of Area IV data as a whole in defining the nature and extent of chemicals in soil for purposes of remedy determination.

1.1 Co-Located Soil Chemical Sampling Objectives

The radiological characterization study being performed by EPA includes collection of surface and subsurface soil, as well as drainage soil samples throughout Area IV of SSFL and the Northern Buffer Zone for analysis of radionuclides. The California Department of Toxic Substances Control (DTSC) and Department of Energy (DOE) agreed in the *Administrative Order on Consent for Remedial Action* (AOC, Docket Number HSA-CO 10/11-037) (DTSC 2010) that soil/sediment samples collected by EPA to also be analyzed for chemical analytes. EPA's contractor, HydroGeoLogic, Inc. (HGL) was responsible for the collection of the EPA-proposed soil samples. DTSC and DOE agreed that the chemical analyses of the soil samples provided by EPA would be done by DOE's contractor, CDM. CDM was responsible for the management, shipment, and laboratory analyses of the samples collected for chemical analyses.

The AOC was signed by DTSC and DOE on December 6, 2010. The AOC is a legally binding order that requires and describes the characterization of Area IV and Northern Buffer Zone soils/sediments and further defines DOE's obligations in relation to radiologic and chemical cleanup of soils within these areas. It also stipulates that during Phase 1 of the chemical investigation activities, DOE is to analyze soil samples for chemical constituents at locations where EPA collects a sample for radiological analysis.

1.2 Basis for HSA Subareas 3 and 6 Soil Sampling

HGL's *Field Sampling Plan for Soil Sampling, Area IV Radiological Study, Santa Susana Field Laboratory, Ventura County, California* (HGL 2010) includes a description of the project objectives, the scope of work, laboratory analytical suites, sample collection and other standard field operation methods for EPA's radiological characterization study.

Subarea 6 FSP Addendum, Santa Susana Field Laboratory Site, Area IV Radiological Study (HGL 2011a) and *Subarea 3 FSP Addendum, Santa Susana Field Laboratory Site, Area IV Radiological Study* (HGL 2011b) were prepared by HGL to support the radiological soil sampling field implementation program specific to Subareas 3 and 6. These addenda provide the technical justification for location of the drainage, surface, and subsurface soil samples in Subareas 3 and 6. CDM obtained collocated soil samples for chemical analysis at each location where HGL collected soil samples for radionuclides analyses.

1.3 Geology

Subarea 3 is within the Chatsworth Formation consisting of fine- to medium- grained sandstone interbedded with siltstone. The overlying native soils encountered consist of mostly silts and sands with minimal clay content toward the surface. Calcium carbonates are also observed in this area. The observed contact with bedrock occurs between 1.0 foot to 9.8 feet below ground surface (bgs). Non-native materials (gravel) were observed in only trace quantities with this subarea.

Subarea 6 is within the Chatsworth Formation also consisting of fine- to medium- grained sandstone interbedded with siltstone. The overlying sediment contains mostly non-native soils ranging from sandy silt to gravelly clay and in most areas are considered to be "fill" with depths ranging from the surface to 10.0 feet bgs. Non-native materials consisting of gravel, concrete, asphalt and debris were observed in large quantities in this subarea, most notably at the Sodium Reactor Complex and Old Conservation Yard. The observed contact with bedrock occurs between 0.9 foot and to 9.5 feet bgs.

Additional information describing the geology in Area IV can be found in Volume I of *Draft Group 3 Remedial Investigation Report at the Santa Susana Field Laboratory, Ventura County, California* (CD2M Hill 2009) and Volume 1 of *Group 6 – Northeastern Portion of Area IV RCRA Facility Investigation Report Santa Susana Field Laboratory, Ventura County, California* (MWH 2006).

1.4 Technical Memorandum Organization

This TM includes the following sections:

- **Section 1 - Introduction** – Summarizes the basis and objectives of the co-located soil sampling in Subareas 3 and 6
- **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**

Section 2
Field Sampling and Analytical Methods

Soil samples were collected from surface locations in Subarea 3 on September 26, 2011. Subsurface sampling was performed on October 11 through October 13, 2011, and November 7, 2011. All Subarea 3 sample locations are shown on Figure 2-1.

Soil samples at surface and drainage locations in Subarea 6 were collected from July 11 through July 27, August 30, October 6, and November 29 and 30, 2011. Subsurface sampling was performed between July 11 and September 12, 2011; October 3 through October 11, 2011, and on November 29 and November 30, 2011. All Subarea 6 sample locations are shown on Figure 2-2.

Table 2-1 (Subarea 3) and Table 2-2 (Subarea 6) provide the rationale for sampling at each location, sample number, date of collection for the soil samples, location description, description of any fill materials encountered, reasons for not sampling some of the locations proposed by EPA, and the required analyses.

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 the WP/FSAP.

2.1 Surface and Drainage Sampling

Surface soil and drainage samples in Subareas 3 and 6 were collected from the ground surface to 6 inches bgs. The surface of the sample area was prepared by HGL sampling personnel by removing leaves, grass, and any other surface debris. Surface samples to be analyzed for semivolatile organic compounds (SVOCs), polycyclic aromatic hydrocarbons (PAHs), and polychlorinated biphenyls (PCBs)/polychlorinated triphenyls (PCTs) were collected first using a slide hammer equipped with a 2-inch diameter and 6-inch long stainless steel sample liner. The sampler was pounded into the soil until its top 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.

The soil sample for the remaining analytes was collected from a circular hole, approximately 12 inches in diameter to a depth of 6 inches bgs, using a stainless steel trowel and transferred to a stainless steel bowl and homogenized. Debris, wood, or other materials larger than 0.25 inch were removed prior to homogenization. After homogenization, the sample was placed into one or more 16-ounce glass jars. Adhesive sample labels, completed with all sampling information, were affixed to both the sample sleeves and jars. All sleeves and jars were placed into plastic baggies, and placed in a cooler with double bagged ice.

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Legend

- Sample Location
- Area IV Subarea
- Removed Building

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

Subarea 3 Sample Locations

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

0 25 50 100 150 200 Feet

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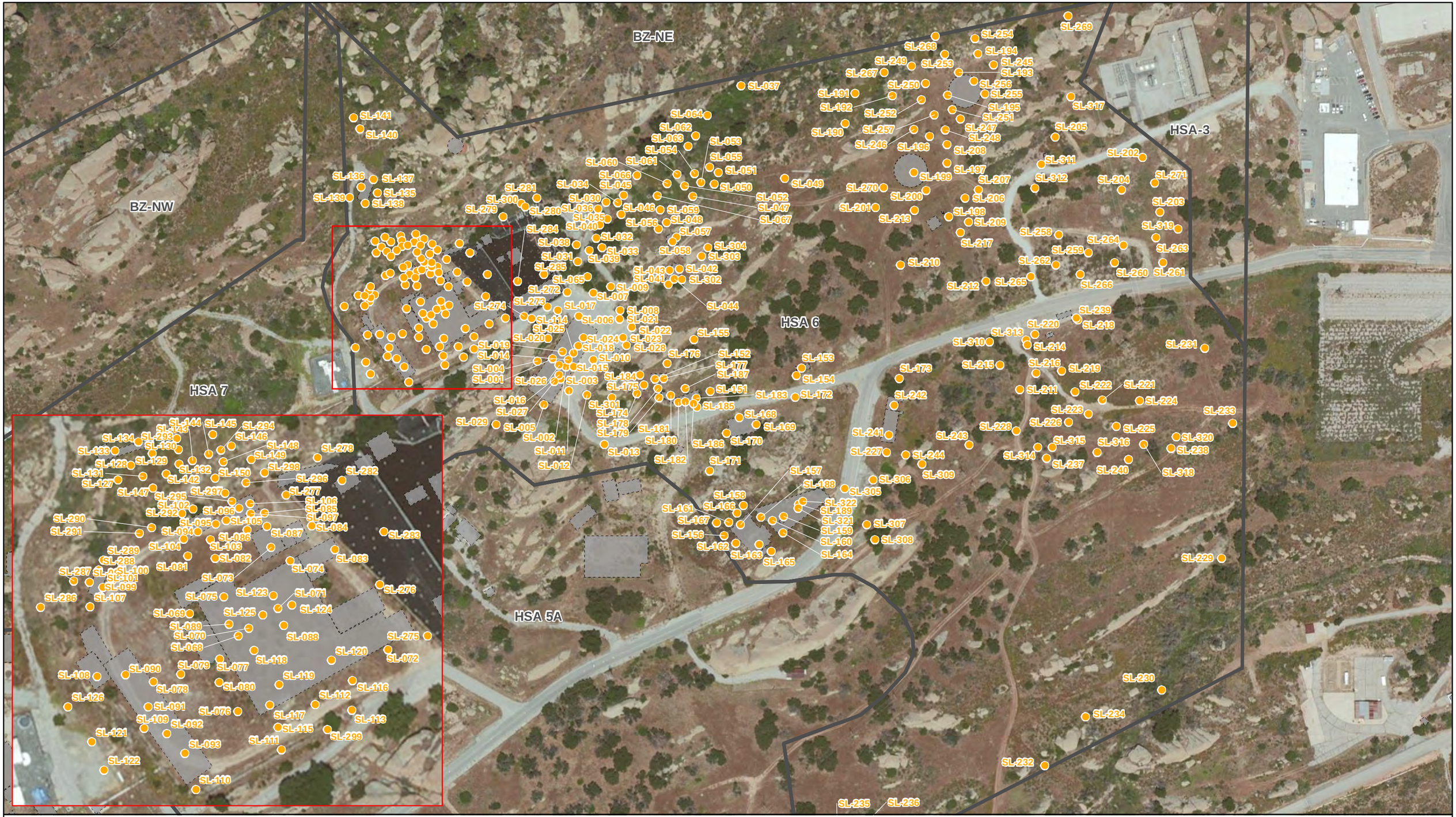

N

Legend

- Sample Location
- Area IV Subarea
- Removed Building

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

Subarea 6 Sample Locations North

0 30 60 120 180 240 Feet

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

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Table 2-1
Soil Samples Collected from HSA Subarea 3

Sample Type	EPA Location ID	Location Description From EPA	EPA Technical Justification for Sample Collection	Boring Total Depth (ft bgs)	Description of Fill Encountered (from EPA Soil Boring Log)	Sample Date	Laboratory Analyses	Co-Located Chemical Sample Number
Surface	1	Northwest portion of Subarea 3.	PGRAY 1T	0.5	None indicated	9/26/2011	Primary	SL-001-SA3-SS-0.0-0.5
Subsurface	1	Northwest portion of Subarea 3.	PGRAY 1T	3.3	None indicated Refusal on sandstone	11/7/2011	Primary	SL-001-SA3-SB-2.0-3.0
Surface	2	East of the SCE Substation in Subarea 3.	PGRAY 2T	0.5	None indicated	9/26/2011	Primary	SL-002-SA3-SS-0.0-0.5
Subsurface	2	East of the SCE Substation in Subarea 3.	PGRAY 2T	1.3	None indicated Refusal on sandstone	No sample collected due to shallow refusal < 2.5 ft 11/7/2011	NA	NA
Subsurface	3	South side of the SCE Substation.	Potential contamination from open storage activities conducted at the Old Conservation Yard.	2.5	None indicated Refusal on sandstone	No sample collected due to shallow refusal < 2.5 ft 10/13/2011	NA	NA
Subsurface	4	West side of the SCE Substation	Potential contamination from open storage activities conducted at the Old Conservation Yard.	8.3	None indicated Refusal on sandstone	11/7/2011	TPH-GRO Primary and Secondary TPH-GRO Primary and Secondary	SL-004-SA3-SB-4.5 SL-004-SA3-SB-4.0-5.0 SL-004-SA3-SB-7.5 SL-004-SA3-SB-7.0-8.0
Subsurface	5	South side of the SCE Substation.	Potential contamination from open storage activities conducted at the Old Conservation Yard.	8.5	None indicated Refusal on sandstone	10/13/2011	TPH-GRO Primary and Secondary TPH-GRO Primary and Secondary	SL-005-SA3-SB-4.5 SL-005-SA3-SB-4.0-5.0 SL-005-SA3-SB-8.0 SL-005-SA3-SB-7.5-8.5
Subsurface	6	East side of the SCE Substation.	Potential contamination associated with open storage activities conducted at the Old Conservation Yard.	10.0	None indicated	10/13/2011	Primary Primary	SL-006-SA3-SB-4.0-5.0 SL-006-SA3-SB-9.0-10.0
Subsurface	9	South of the SCE Substation.	Geophysical feature, "Magnetometer and GPR."	5.0	"10% subangular granitic gravel (fine)" from 0 to 2.3 feet "trace bentonite chips, trace fibrous moist cloth" at ~ 1.5 feet "6-in asphalt layer" at 2.3 feet Refusal on sandstone	10/11/2011	Primary	SL-009-SA3-SB-4.0-5.0
Subsurface	10	South of the SCE Substation, west of Building 204.	Geophysical feature, "Conductivity Anomaly,"	4.0	"trace gravel, trace asphalt" from 0 to 2.0 feet "artificial fill" note at 3.0 feet Refusal on sandstone	11/7/2011	TPH-GRO Primary and Secondary	SL-010-SA3-SB-3.5 SL-010-SA3-SB-3.0-4.0
Subsurface	11	South of the SCE Substation and west of Building 204.	Geophysical feature, "Conductivity."	7.0	"10% subangular fine gravel (1/8 to 3/4") fill rock" from 0 to 2.6 feet "concrete debris" at 2.6 feet "no recovery, 3-5 ft bgs, concrete in shoe" "5% subangular gravel (fill rock + concrete)" from 5.0 to 6.0 feet "concrete debris" at 5.9 feet Refusal on sandstone	10/12/2011	TPH-GRO Primary and Secondary	SL-011-SA3-SB-4.5MS SL-011-SA3-SA04.0-5.0MS
Subsurface	13	North of F Street within Subarea 3.	Geophysical features, "Conductivity and Magnetometer Anomalies."	1.8	None indicated Refusal on sandstone	11/7/2011	Primary and Secondary	SL-013-SA3-SB-0.5-1.5

Notes:
GPR = Ground Penetrating Radar
NA = not applicable
PGRAY = potential gamma radiation anomaly
SCE = Southern California Edison
TPH-GRO = total petroluem hydrocarbon-gasoline range organics

Table 2-2
Soil Samples Collected from HSA Subarea 6

Sample Type	EPA Location ID	Location Description From EPA	EPA Technical Justification for Sample Collection	Boring Total Depth (ft bgs)	Description of Fill Encountered (from EPA Soil Boring Log)	Sample Date	Laboratory Analyses	Co-Located Chemical Sample Number
Subsurface	1	Engineering Test Building - Southwest corner of the footprint for former Building 4003.	Pit shown in Figure 2.1.1b of the Historical Site Assessment.	0.9	"trace gravel at surface" Refusal on sandstone	9/9/2011	Primary	SL-001-SA6-SB-0.0-1.0MS
Subsurface	2	Engineering Test Building - South corner of the footprint for former Building 4003.	Location of Pit within former Building 4003 (Figure 2.1.1b of the Historical Site Assessment).	10.0	Fill "Silty clay and silty sand" from 0 to 10.0 ft "trace pea size gravel" from 1.75 to 3.6 ft "concrete debris ~1/2" diameter" at 7.3 ft "concrete debris ~ 1/4" diameter" at 7.9 ft "granitic gravel ~ 1/2 " diameter" at 8.7 ft "angular volcanic gravel (fill rock) at 10.0 ft	8/3/2011	Primary	SL-002-SA6-SB-4.0-5.0 SL-002-SA6-SB-9.0-10.0
Subsurface	3	Engineering Test Building - South corner of the footprint for former Building 4003.	Location of the Hot Cell within former Building 4003 (Figure 2.1.1b of the Historical Site Assessment).	9.3	Fill "silty clay and silty sand from 0 to 8.6 ft Fill "poorly graded sand" from 8.6 to 9.2 ft "10% subangular medium gravel and concrete debris" from 6.0 to 8.6 ft "concrete debris" at 7.5 ft Refusal on sandstone	8/3/2011	Primary	SL-003-SA6-SB-4.0-5.0 SL-003-SA6-SB-8.5-9.5
Subsurface	4	Engineering Test Building - Northwest of former Building 4003.	Asphalt Ditch that may have collected surface water run-off from the vicinity of former building 4003.	2.5	None indicated Refusal on sandstone	8/3/2011	Primary	SL-004-SA6-SB-1.5-2.5
Drainage	4	Engineering Test Building - Northwest of former Building 4003.	Asphalt Ditch that may have collected surface water run-off from the vicinity of former building 4003.	0.5	"15% gravel fill, sandstone fragments, concrete fragments"	7/15/2011	Primary	SL-004-SA6-SS-0.0-0.5
Subsurface	5	Engineering Test Building - Southwest of former Building 4003.	Asphalt Ditch that may have collected surface water run-off from the vicinity of former building 4003.	1.1	"15% gravel fill rock, asphalt and sandstone fragments" from 0 to 1.1 ft Refusal on Sandstone	No samples collected due to refusal at <2.5 ft bgs 9/9/2011	NA	NA
Drainage	5	Engineering Test Building - Southwest of former Building 4003.	Asphalt Ditch that may have collected surface water run-off from the vicinity of former building 4003.	0.5	None indicated	7/15/2011	Primary	SL-005-SA6-SS-0.0-0.5
Subsurface	6	Engineering Test Building - North of the footprint for former Building 4003.	Potential radiological contamination associated with releases from Sanitary Sewer line from 4003 towards the septic tank and leach field.	10.0	Fill "silty sand" from with angular sandstone gravel 0 to 7.75 ft Fill "poorly graded sand with silt "from 4.1 to 5.0 ft Fill "well graded gravel with silt" from 7.75 to 8.1 ft	8/4/2011	Primary Primary	SL-006-SA6-SB-4.0-5.0 SL-006-SA6-SB-9.0-10.0
Subsurface	7	Engineering Test Building - North of the footprint for former Building 4003.	Potential radiological contamination associated with releases from Sanitary Sewer line from 4003 towards the septic tank and leach field.	2.0	"20% gravel fill rock, trace asphalt" from 0 to 0.5 ft "5% sandstone rock fragments, gravel" from 0.5 to 2.0" Refusal on sandstone	10/4/2011	Primary	SL-007-SA6-SB-1.0-2.0
Subsurface	9	Engineering Test Building - North of the footprint for former Building 4003.	Potential contamination from surface run-off from the vicinity of former building 4003 and cleaning.	1.0	"5% concrete fragments"	No samples collected due to refusal at <2.5 ft bgs 10/4/2011	NA	NA
Drainage	9	Engineering Test Building - North of the footprint for former Building 4003.	Potential contamination from surface run-off from the vicinity of former building 4003 and cleaning.	0.5	"10% sandstone, asphalt fragments"	7/27/2011	Primary	SL-009-SA6-SS-0.0-0.5MS
Subsurface	10	Engineering Test Building - East of the footprint for former Building 4003.	Geophysical Anomaly Feature - Ground Penetrating Radar. Possible Open Storage.	7.5	Fill "silty sand" with 5% subrounded gravel (fill rock) from 0.5 to 1.0 ft Refusal on sandstone	8/5/2011	Primary	SL-010-SA6-SB-4.0-5.0

Table 2-2
Soil Samples Collected from HSA Subarea 6

Sample Type	EPA Location ID	Location Description From EPA	EPA Technical Justification for Sample Collection	Boring Total Depth (ft bgs)	Description of Fill Encountered (from EPA Soil Boring Log)	Sample Date	Laboratory Analyses	Co-Located Chemical Sample Number
Subsurface	11	Engineering Test Building - Southeast of the footprint for former Building 4003.	Geophysical Anomaly Feature - Ground Penetrating Radar. Possible Open Storage.	1.6	Fill "silty sand with 5% subangular medium gravel" from 0 to 1.5 ft Refusal on sandstone	8/3/2011	Primary	SL-011-SA6-SB-0.5-1.5
Subsurface	12	Engineering Test Building - AC Lined ditch southeast of the footprint of former building 4003.	Potential contamination from surface water run-off from the vicinity of former Building 4003.	1.8	Fill "silty sand with 40% medium subrounded gravel (base rock" from 0 to 1.0 ft Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 8/5/2011	NA	NA
Drainage	12	Engineering Test Building - AC Lined ditch southeast of the footprint of former building 4003.	Potential contamination from surface water run-off from the vicinity of former Building 4003.	1.8	Fill "silty sand with gravel" from 0 to 1.0 ft Refusal on sandstone	7/26/2011	Primary	SL-012-SA6-SS-0.0-0.5
Subsurface	13	Engineering Test Building - AC lined ditch south of the footprint for former Building 4003.	Surface water run-off from E Street and the former Sodium Storage Building.	1.0	None indicated Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 10/6/2011	NA	NA
Drainage	13	Engineering Test Building - AC lined ditch south of the footprint for former Building 4003.	Surface water run-off from E Street and the former Sodium Storage Building.	0.5	"20% fill gravel, asphalt pieces"	7/26/2011	Primary	SL-013-SA6-SS-0.0-0.5
Subsurface	14	Engineering Test Building - Central portion of the footprint for former Building 4003.	Geophysical Anomaly Feature - Conductivity. Process Knowledge - Floor Trenches.	10.0	Fill "sandy silt" grades into "Fill: silty sand" from 0 to 10.0 ft "5% fine gravel (fill rock)" from 3.75 to 10.0 ft "trace fine (fill rock) gravel" from 6.75 ft "concrete debris 3/4" diameter" at 8.45 ft	8/4/2011	Primary Primary	SL-014-SA6-SB-4.0-5.0 SL-014-SA6-SB-9.0-10.0
Subsurface	17	Engineering Test Building - North of footprint for former Building 4003 and south east of the Tarp area.	Potential contamination from the south side of the SRE and the north side of the Engineering Test Building (4003).	1.0	"15% gravel, asphalt and sandstone fragments"	No samples collected due to refusal at <2.5 ft bgs 9/9/2011	NA	NA
Drainage	17	Engineering Test Building - North of footprint for former Building 4003 and south east of the Tarp area.	Potential contamination from the south side of the SRE and the north side of the Engineering Test Building (4003).	0.5	"15% gravel, asphalt and sandstone fragments"	7/27/2011	Primary	SL-017-SA6-SS-0.0-0.5
Subsurface	19	Engineering Test Building - West side of the footprint of former Building 4003.	Geophysical Anomaly Feature - Conductivity. Process Knowledge - Floor Trenches.	10.0	Fill "sandy silt and silty clay" into "Fill:silty sand with gravel" from 0 to 10.0 ft "10% subangular granitic medium gravel" from 3.7 ft to 7.8 ft "5% fine angular granitic gravel" from 7.8 to 10.0 ft	8/4/2011	Primary Primary	SL-019-SA6-SB-4.0-5.0MS SL-019-SA6-SB-9.0-10.0

Sample Type	EPA Location ID	Location Description From EPA	EPA Technical Justification for Sample Collection	Boring Total Depth (ft bgs)	Description of Fill Encountered (from EPA Soil Boring Log)	Sample Date	Laboratory Analyses	Co-Located Chemical Sample Number
Subsurface	20	Engineering Test Building - Drainage west side of former Building 4003.	Potential radiological contamination from surface water run-off from the vicinity around former Building 4003.	1.5	None indicated Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 9/9/2011	NA	NA
Drainage	20	Engineering Test Building - Drainage west side of former Building 4003.	Potential radiological contamination from surface water run-off from the vicinity around former Building 4003.	0.5	None indicated	7/15/2011	Primary	SL-020-SA6-SS-0.0-0.5
Subsurface	22	Engineering Test Building - Northeast of former Building 4003.	Aerial Photo Feature - Open Storage.	1.3	None indicated Refusal on sandstone	8/5/2011	Primary	SL-022-SA6-SB-0.0-1.0
Subsurface	23	Engineering Test Building - Northeast of former Building 4003.	Aerial Photo Feature - Open Storage.	1.0	None indicated Refusal on sandstone	8/5/2011	Primary	SL-023-SA6-SB-0.0-1.0
Subsurface	24	Engineering Test Building - Northern portion of the footprint of former Building 4003.	Process Knowledge - Floor Trenches.	10.0	Fill "silty sand with 10% subangular fine to coarse sandstone gravel" from 0 to 4.0 ft Fill "silt with sand and 5% medium sandstone gravel" from 4.0 to 5.0 ft	8/4/2011	Primary Primary	SL-024-SA6-SB-4.0-5.0 SL-024-SA6-SB-9.0-10.0
Subsurface	25	Engineering Test Building - Central portion of the footprint of former Building 4003.	Process Knowledge - Floor Trenches.	10.0	Fill "sandy silt" from 0 to 2.55 ft	8/4/2011	Primary Primary	SL-025-SA6-SB-4.0-5.0 SL-025-SA6-SB-9.0-10.0
Subsurface	28	Engineering Test Building - In ditch on the southeast side of former Building 4003.	Surface water run-off from Engineering Building. Aerial Photo Feature - Open Storage.	1.2	None indicated Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 8/5/2011	NA	NA
Drainage	28	Engineering Test Building - In ditch on the southeast side of former Building 4003.	Surface water run-off from Engineering Building. Aerial Photo Feature - Open Storage.	0.5	None indicated	7/27/2011	Primary	SL-028-SA6-SS-0.0-0.5
Surface	29	Water line leading from former Building 4003 to the KEWB.	Potential radiological contamination along above ground pipeline. Stake Holder Request.	0.5	None indicated	7/15/2011	Primary	SL-029-SA6-SS-0.0-0.5
Subsurface	29	Water line leading from former Building 4003 to the KEWB.	Potential radiological contamination along above ground pipeline. Stake Holder Request.	0.8	None indicated Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 9/9/2011	NA	NA
Surface	30	SRE Pond Area.	North side of pond area. Boundary of Chemical Likely Remediation Zone.	0.5	None indicated	7/13/2011	Primary & Secondary	SL-030-SA6-SS-0.0-0.5
Subsurface	30	SRE Pond Area.	North side of pond area. Boundary of Chemical Likely Remediation Zone.	9.5	Fill "silty sand" from 0 to 1.0 ft Fill "poorly graded sand" from 1.0 to 5.0 ft "5% subrounded fine gravel (sandstone and quartzite)" from 1.0 to 2.0 ft "trace fine sandstone gravel" from 2.0 to 5.0 ft "trace fine to medium subrounded gravel" at 6.5 ft Refusal on sandstone	8/23/2011	TPH Primary & Secondary TPH Primary & Secondary	SL-030-SA6-SB-4.5 SL-030-SA6-SB-4.0-5.0 SL-030-SA6-SB-9.5 SL-030-SA6-SB-9.0-10.0

Table 2-2
Soil Samples Collected from HSA Subarea 6

Sample Type	EPA Location ID	Location Description From EPA	EPA Technical Justification for Sample Collection	Boring Total Depth (ft bgs)	Description of Fill Encountered (from EPA Soil Boring Log)	Sample Date	Laboratory Analyses	Co-Located Chemical Sample Number
Subsurface	31	SRE Septic System Area.	Potential radiological contamination related to the former septic tank.	10.0	Fill "silty sand" from 0 to 4.5 ft "5% fine subangular gravel (fill rock)" from 0 to 4.5 ft	8/8/2011	TPH Primary, alcohols, Terphenyl, glycols, & TPH TPH Primary, alcohols, Terphenyl, glycols, & TPH	SL-031-SA6-SB-4.5 SL-031-SA6-SB-4.0-5.0 SL-031-SA6-SB-9.5 SL-031-SA6-SB-9.0-10.0
Subsurface	33	SRE Septic System Area - Southeast of leach field.	Potential contamination from the leach field. Boundary of the Chemical Likely Remediation Zone.	3.5	"trace sandstone fragments and gravel fill rock" from 0 to 2.0 ft Refusal on sandstone	8/11/2011	TPH Primary, alcohols, Terphenyl, glycols, & TPH	SL-033-SA6-SB-3.0 SL-033-SA6-SB-2.5-3.5
Surface	35	SRE Pond Area.	Potential radiological contamination from surface water run-off from the vicinity of the SRE, former Building 4003, and the leach field.	0.5	"10% gravel fill and sandstone fragments"	7/13/2011	Primary & Secondary	SL-035-SA6-SS-0.0-0.5
Subsurface	35	SRE Pond Area.	Potential radiological contamination from surface water run-off from the vicinity of the SRE, former Building 4003, and the leach field.	9.5	"metal piece found" at 3.0 ft "slight petroleum odor" from 7.0 to 8.5 ft Refusal on sandstone	8/23/2011	TPH Primary & Secondary	SL-035-SA6-SB-3.0 SL-035-SA6-SB-2.5-3.5
Surface	37	SRE Pond Area - Drainage leading north.	Potential radiological contamination associated with surface water from the SRE Pond.	0.5	None indicated	7/14/2011	Primary & Secondary	SL-037-SA6-SS-0.0-0.5
Subsurface	37	SRE Pond Area - Drainage leading north.	Potential radiological contamination associated with surface water from the SRE Pond.	10.0	None indicated	10/4/2011	TPH Primary & Secondary TPH Primary & Secondary	SL-037-SA6-SB-4.5 SL-037-SA6-SB-4.0-5.0 SL-037-SA6-SB-9.5 SL-037-SA6-SB-9.0-10.0
Subsurface	38	SRE Septic System Area.	Location of septic tank leach field. Boundary of Chemical Likely Remediation Zone.	1.5	None indicated Refusal on sandstone	8/12/2011	TPH Primary, alcohols, Terphenyl, glycols, & TPH	SL-038-SA6-SB-1.0 SL-038-SA6-SB-0.5-1.5
Surface	40	SRE Septic System Area.	Location of septic tank leach field. Boundary of Chemical Likely Remediation Zone.	0.5	"5% rock fragments (sandstone and concrete, gravel fill)"	7/13/2011	Primary, alcohols, glycols, terphenyls, & TPH	SL-040-SA6-SS-0.0-0.5
Subsurface	40	SRE Septic System Area.	Location of septic tank leach field. Boundary of Chemical Likely Remediation Zone.	5.7	Fill " silty sand with trace glass and fill rock" from 0 to 1.0 ft "5% angular gravel of sandstone" from 4.0 to 5.5 ft Refusal on sandstone	8/23/2011	TPH Primary, alcohols, Terphenyl, glycols, & TPH	SL-040-SA6-SB-4.5 SL-040-SA6-SB-4.0-5.0
Subsurface	41	Hot Oil Sodium Cleaning Facility.	Potential radiological contamination resulting from cleaning activities.	4.0	None indicated Refusal on sandstone	8/25/2011	TPH Primary & Secondary	SL-041-SA6-SB-3.5 SL-041-SA6-SB-3.0-4.0
Subsurface	42	Hot Oil Sodium Cleaning Facility.	Potential radiological contamination resulting from cleaning activities.	3.5	"Artificial fill: sandy silt" from 0 to 1.0 ft Refusal on sandstone	8/9/2011	TPH Primary, alcohols, Terphenyl, glycols, & TPH	SL-042-SA6-SB-3.0 SL-042-SA6-SB-2.5-3.5

Table 2-2
Soil Samples Collected from HSA Subarea 6

Sample Type	EPA Location ID	Location Description From EPA	EPA Technical Justification for Sample Collection	Boring Total Depth (ft bgs)	Description of Fill Encountered (from EPA Soil Boring Log)	Sample Date	Laboratory Analyses	Co-Located Chemical Sample Number
Surface	43	Hot Oil Sodium Cleaning Facility.	Potential radiological contamination resulting from cleaning activities.	0.5	"5% sandstone rock and concrete fragments"	7/15/2011	Primary, alcohols, glycols, terphenyls, & TPH	SL-043-SA6-SS-0.0-0.5
Subsurface	43	Hot Oil Sodium Cleaning Facility.	Potential radiological contamination resulting from cleaning activities.	0.5	None indicated Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 8/9/2011	NA	NA
Surface	44	Hot Oil Sodium Cleaning Facility.	Potential radiological contamination resulting from cleaning activities.	0.5	"5% concrete and sandstone rock fragments"	7/15/2011	Primary, alcohols, glycols, terphenyls, & TPH	SL-044-SA6-SS-0.0-0.5
Subsurface	44	Hot Oil Sodium Cleaning Facility.	Potential radiological contamination resulting from cleaning activities.	3.8	None indicated Refusal on sandstone	8/9/2011	TPH Primary, alcohols, Terphenyl, glycols, & TPH	SL-044-SA6-SB-3.0 SL-044-SA6-SB-2.5-3.5
Surface	46	Transfer Pipeline - SRE Pond Area near transfer pump.	Potential radiological contamination from leaks at the pump and along the above ground pipeline.	0.5	None indicated	7/13/2011	Primary & Secondary	SL-046-SA6-SS-0.0-0.5
Subsurface	46	Transfer Pipeline - SRE Pond Area near transfer pump.	Potential radiological contamination from leaks at the pump and along the above ground pipeline.	3.5	None indicated Refusal on sandstone	10/7/2011	TPH Primary & Secondary	SL-046-SA6-SB-3.0 SL-046-SA6-SB-2.5-3.5
Surface	47	Transfer Pipeline - East of the SRE Pond dam.	Potential radiological contamination from leaks along the above ground pipeline.	0.5	None indicated	7/13/2011	Primary & Secondary	SL-047-SA6-SS-0.0-0.5
Subsurface	47	Transfer Pipeline - East of the SRE Pond dam.	Potential radiological contamination from leaks along the above ground pipeline.	1.5	"15% sandstone rock fragments" Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 8/24/2011	NA	NA
Surface	48	Transfer Pipeline - East of the SRE Pond dam.	Potential radiological contamination from leaks along the above ground pipeline.	0.5	None indicated	7/14/2011	Primary & Secondary	SL-048-SA6-SS-0.0-0.5
Subsurface	48	Transfer Pipeline - East of the SRE Pond dam.	Potential radiological contamination from leaks along the above ground pipeline.	0.9	None indicated Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 8/24/2011	NA	NA
Surface	49	Steam Sodium Cleaning Pad - Down gradient of pad.	Potential radiological contamination from cleaning activities.	0.5	None indicated	7/14/2011	Primary & Secondary	SL-049-SA6-SS-0.0-0.5
Subsurface	49	Steam Sodium Cleaning Pad - Down gradient of pad.	Potential radiological contamination from cleaning activities.	3.5	None indicated Refusal on sandstone	8/9/2011	TPH Primary & Secondary	SL-049-SA6-SB-3.0 SL-049-SA6-SB-2.5-3.5

Table 2-2
Soil Samples Collected from HSA Subarea 6

Sample Type	EPA Location ID	Location Description From EPA	EPA Technical Justification for Sample Collection	Boring Total Depth (ft bgs)	Description of Fill Encountered (from EPA Soil Boring Log)	Sample Date	Laboratory Analyses	Co-Located Chemical Sample Number
Surface	50	Debris Pile - East of SRE Pond Dam.	Potential radiological contamination from dumping activities.	0.5	"5% sandstone rock fragments, trace fill rock"	7/14/2011	Primary, alcohols, glycols, terphenyls, & TPH	SL-050-SA6-SS-0.0-0.5
Subsurface	50	Debris Pile - East of SRE Pond Dam.	Potential radiological contamination from dumping activities.	2.0	"5% fine gravel and sandstone rock fragments" Refusal on sandstone	9/12/2011	TPH Primary, alcohols, Terphenyl, glycols, & TPH	SL-050-SA6-SB-1.5 SL-050-SA6-SB-1.0-2.0
Surface	51	Debris Pile - East of SRE Pond Dam.	Potential radiological contamination from dumping activities.	0.5	"5% sandstone fragments, trace gravel fill"	7/14/2011	Primary, alcohols, glycols, terphenyls, & TPH	SL-051-SA6-SS-0.0-0.5
Subsurface	51	Debris Pile - East of SRE Pond Dam.	Potential radiological contamination from dumping activities.	4.5	None indicated Refusal on sandstone	9/12/2011	TPH Primary, alcohols, Terphenyl, glycols, & TPH	SL-051-SA6-SB-4.0 SL-051-SA6-SB-3.5-4.5
Surface	52	Debris Pile - East of SRE Pond Dam.	Potential radiological contamination from dumping activities.	0.5	None indicated	7/14/2011	Primary & Secondary	SL-052-SA6-SS-0.0-0.5
Subsurface	52	Debris Pile - East of SRE Pond Dam.	Potential radiological contamination from dumping activities.	2.2	None indicated Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 9/12/2011	NA	NA
Surface	53	Debris Pile - East of SRE Pond Dam.	Potential radiological contamination from dumping activities.	0.5	"10% sandstone fragments and gravel fill rock"	7/14/2011	Primary & Secondary	SL-053-SA6-SS-0.0-0.5
Subsurface	53	Debris Pile - East of SRE Pond Dam.	Potential radiological contamination from dumping activities.	2.2	None indicated Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 9/12/2011	NA	NA
Surface	54	Debris Pile - East of SRE Pond Dam.	Potential radiological contamination from dumping activities.	0.5	None indicated	7/14/2011	Primary & Secondary	SL-054-SA6-SS-0.0-0.5
Subsurface	54	Debris Pile - East of SRE Pond Dam.	Potential radiological contamination from dumping activities.	1.5	None indicated Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 9/12/2011	NA	NA
Surface	55	Debris Pile - East of SRE Pond Dam	Potential radiological contamination from dumping activities.	0.5	None indicated	7/14/2011	Primary & Secondary	SL-055-SA6-SS-0.0-0.5

Table 2-2
Soil Samples Collected from HSA Subarea 6

Sample Type	EPA Location ID	Location Description From EPA	EPA Technical Justification for Sample Collection	Boring Total Depth (ft bgs)	Description of Fill Encountered (from EPA Soil Boring Log)	Sample Date	Laboratory Analyses	Co-Located Chemical Sample Number
Subsurface	55	Debris Pile - East of SRE Pond Dam	Potential radiological contamination from dumping activities.	3.0	None indicated Refusal on sandstone	9/12/2011	TPH Primary, alcohols, Terphenyl, glycols, & TPH	SL-055-SA6-SB-2.5 SL-055-SA6-SB-2.0-3.0
Surface	56	Steam Sodium Cleaning Pad - Downgradient of pad.	Potential radiological contamination from cleaning activities.	0.5	None indicated	7/14/2011	Primary, alcohols, glycols, terphenyls, & TPH	SL-056-SA6-SS-0.0-0.5
Subsurface	56	Steam Sodium Cleaning Pad - Downgradient of pad.	Potential radiological contamination from cleaning activities.	1.9	None indicated Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 8/24/2011	NA	NA
Surface	58	Steam Sodium Cleaning Pad.	Potential radiological contamination from cleaning activities.	0.5	"15% gravel fill and sandstone rock fragments"	7/14/2011	Primary, alcohols, glycols, TPH	SL-058-SA6-SS-0.0-0.5
Subsurface	58	Steam Sodium Cleaning Pad.	Potential radiological contamination from cleaning activities.	2.0	Fill "well graded sand with scarce concrete debris" from 0 to 1.0 ft Refusal on sandstone	8/9/2011	NA	No samples collected due to refusal at <2.5 ft bgs
Surface	59	Steam Sodium Cleaning Pad - Downgradient of pad.	Potential radiological contamination from cleaning activities.	0.5	"5% asphalt, concrete, glass, iron wire fragments"	7/13/2011	Primary, alcohols, glycols, terphenyls, & TPH	SL-059-SA6-SS-0.0-0.5
Subsurface	59	Steam Sodium Cleaning Pad - Downgradient of pad.	Potential radiological contamination from cleaning activities.	0.5	None indicated Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 8/24/2011	NA	NA
Surface	60	SRE Pond - Drainage leading to the north.	Potential radiological contamination associated with water from the SRE Pond. Boundary of Chemical Likely Remediation Zone.	0.5	"5% sandstone rock fragments and gravel fill rock"	7/14/2011	Primary & Secondary	SL-060-SA6-SS-0.0-0.5
Subsurface	60	SRE Pond - Drainage leading to the north.	Potential radiological contamination associated with water from the SRE Pond. Boundary of Chemical Likely Remediation Zone.	1.5	None indicate Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 10/3/2011	NA	NA
Surface	63	SRE Pond - Drainage leading to the north.	Potential radiological contamination associated with water from the SRE Pond. Boundary of Chemical Likely Remediation Zone.	0.5	"5% sandstone rock fragments/concrete/asphalt/tar fragments"	7/14/2011	Primary & Secondary	SL-063-SA6-SS-0.0-0.5

Table 2-2
Soil Samples Collected from HSA Subarea 6

Sample Type	EPA Location ID	Location Description From EPA	EPA Technical Justification for Sample Collection	Boring Total Depth (ft bgs)	Description of Fill Encountered (from EPA Soil Boring Log)	Sample Date	Laboratory Analyses	Co-Located Chemical Sample Number
Subsurface	63	SRE Pond - Drainage leading to the north.	Potential radiological contamination associated with water from the SRE Pond. Boundary of Chemical Likely Remediation Zone.	0.8	"20% sandstone and concrete rock fragments" Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 10/3/2011	NA	NA
Surface	64	SRE Pond - Drainage leading to the north.	Potential radiological contamination associated with water from the SRE Pond.	0.5	"5% gravel fill rock and sandstone rock fragments"	7/14/2011	Primary & Secondary	SL-064-SA6-SS-0.0-0.5
Subsurface	64	SRE Pond - Drainage leading to the north.	Potential radiological contamination associated with water from the SRE Pond.	10.0	"asphalt fragments found" from 4.0 to 5.0 ft	10/3/2011	TPH Primary & Secondary TPH Primary & Secondary	SL-064-SA6-SB-4.5 SL-064-SA6-SB-4.0-5.0 SL-064-SA6-SB-9.5 SL-064-SA6-SB-9.0-10.0
Subsurface	65	SRE Septic System Area.	Potential radiological contamination associated with Sewer Transfer Station.	2.8	"trace carbon (charcoal) pieces" from 0 to 1.0 ft Refusal on sandstone	8/12/2011	TPH Primary, alcohols, Terphenyl, glycols, & TPH	SL-065-SA6-SB-1.0 SL-065-SA6-SB-0.5-1.5
Surface	66	SRE Pond Area - Northern portion of the dam.	Potential radiological contamination from surface water run-off from the SRE Complex and former Building 4003.	0.5	None indicated	7/13/2011	Primary & Secondary	SL-066-SA6-SS-0.0-0.5
Subsurface	66	SRE Pond Area - Northern portion of the dam.	Potential radiological contamination from surface water run-off from the SRE Complex and former Building 4003.	3.2	None indicated Refusal on sandstone	8/24/2011	TPH Primary & Secondary	SL-066-SA6-SB-2.5 SL-066-SA6-SB-2.0-3.0
Surface	67	SRE Pond Area - Southern portion of the dam.	Potential radiological contamination from surface water run-off from the SRE Complex and former Building 4003.	0.5	None indicated	7/13/2011	Primary & Secondary	SL-067-SA6-SS-0.0-0.5
Subsurface	67	SRE Pond Area - Southern portion of the dam.	Potential radiological contamination from surface water run-off from the SRE Complex and former Building 4003.	2.0	"5% sandstone rock fragments, trace gravel fill" Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 8/24/2011	NA	NA
Subsurface	68	SRE Complex - Central Portion	Location of the former Hot Cell as shown in the Floor Plan presented as Figure 2.1.3b of the Subarea 6 Historical Site Assessment.	20.0	Fill "silt with sand and silty sand" from 0 to 4.6 ft "5% fine gravel and concrete debris" from 0 to 2.1 ft "5% angular fine gravel (fill rock)" from 2.1 to 4.6 ft "5% gravel (fill rock)" from 4.6 to 8.0 ft "some asphalt debris" at 6.3 ft "2" think concrete debris" at 8.0 ft Fill "gravelly clay with silt, 15% fine to medium gravel and concrete debris" from 8.0 to 12.0 ft "concrete debris" at 8.6 ft Fill "sandy clay with gravel, 10% medium angular gravel and concrete" from 12.5 to 20.0 ft "concrete with magnetite" at 19.8 ft Refusal on CONCRETE	7/28/2011	TPH Primary, alcohols, Terphenyl, glycols, & TPH TPH Primary, alcohols, Terphenyl, glycols, & TPH	SL-068-SA6-SB-4.5 SL-068-SA6-SB-4.0-5.0 SL-068-SA6-SB-19.5 SL-068-SA6-SB-19.0-20.0

Table 2-2
Soil Samples Collected from HSA Subarea 6

Sample Type	EPA Location ID	Location Description From EPA	EPA Technical Justification for Sample Collection	Boring Total Depth (ft bgs)	Description of Fill Encountered (from EPA Soil Boring Log)	Sample Date	Laboratory Analyses	Co-Located Chemical Sample Number
Subsurface	69	SRE Complex - Central Portion	Geophysical Anomaly Feature - Ground Penetrating Radar and Conductivity.	10.0	Fill "silt with gravel, 15% subangular fine to medium gravel (fill rock)" from 0 to 2.5 ft Fill "sandy silt with clay, 5% subangular gravel (fill rock)" from 2.5 to 4.5 ft Fill "clay with silt and sand, 5% subangular gravel (fill rock)" from 4.5 to 6.8 ft Fill "sandy silt with clay and gravel, 10% subangular to angular medium gravel (fill rock) or concrete debris" from 6.8 to 8.8 ft Fill "clay with gravel, 10% angular quartzite and concrete medium gravel" from 8.8 to 10.0 ft "nail" at 8.75 ft "medium angular quartzite gravel" at 10.0	7/27/2011	TPH Primary, alcohols, Terphenyl, glycols, & TPH TPH Primary, alcohols, Terphenyl, glycols, & TPH	SL-069-SA6-SB-4.5 SL-069-SA6-SB-4.0-5.0 SL-069-SA6-SB-9.5 SL-069-SA6-SB-9.0-10.0
Subsurface	70	SRE Complex - Central Portion	Location of the former Dry Fuel Storage Cell as shown in the Floor Plan presented as Figure 2.1.3b of the Subarea 6 Historical Site Assessment.	20.0	"Fill: sandy silt" with 5% subrounded medium gravel (fill rock) from 0 to 1.75 ft and from 3.5 to 5.8 ft with no gravel "Fill: silty sand" with "5% angular gravel (fill rock)" from 1.75 to 3.5 ft "Fill: sandy silt with gravel, 15% angular medium to large gravel and concrete debris" from 6.6 to 13.8 ft "abundant concrete with magnetite" at 8.3 ft "some medium subrounded gravel (fill rock)" at 10.0 "Fill: poorly graded sand" from 13.8 to 14.3 ft "Fill: silty clay with sand from 14.3 to 16.2 ft "Fill: sandy silt with gravel, 10% subrounded to subangular fine to medium gravel (fill rock)" from 16.2 to 20.0 "concrete debris" from 18.5 to 18.7 ft "trace asphalt" at 19.0 ft "magnetite and concrete debris" at 19.2 ft Refusal on sandstone	7/28/2011	TPH Primary, alcohols, Terphenyl, glycols, & TPH TPH Primary, alcohols, Terphenyl, glycols, &TPH	SL-070-SA6-SB-4.5 SL-070-SA6-SB-4.0-5.0 SL-070-SA6-SB-19.5 SL-070-SA6-SB-19.0-20.0
Subsurface	71	SRE Complex - Central Portion	Location of the former Reactor Vault as shown in the Floor Plan presented as Figure 2.1.3b of the Subarea 6 Historical Site Assessment.	15.0	Fill "sandy silt with gravel, 10% angular fine to course gravel and concrete debris and trace asphalt" from 0 to 3.1 ft Fill "silty clay with 5% fine gravel and asphalt debris" from 3.1 to 5.0 ft Fill "silty sand with gravel, 15% angular gravel and asphalt/concrete debris" from 5.0 to 9.0 ft "asphalt debris ~2" thick" from 6.0 ft "granitic gravel" at 8.0 ft "concrete debris" at 8.1 ft Fill "silty sand with gravel with 10% angular gravel" from 9.0 to 11.0 ft "thick concrete debris" at 11.0 ft Fill "silty sand with gravel, 15% angular gravel and concrete debris and trace asphalt" from 11.0 to 15.0 ft "black concrete debris" at 15.0 ft Refusal on CONCRETE	7/14/2011	VOCs/1,4 Dioxane/TPH Primary, alcohols, Terphenyl, glycols, & TPH TPH Primary, alcohols, Terphenyl, glycols, & TPH	SL-071-SA6-SB-4.5 SL-071-SA6-SB-4.0-5.0 SL-071-SA6-SB-7.0 SL-071-SA6-SB-6.5-7.5

Table 2-2
Soil Samples Collected from HSA Subarea 6

Sample Type	EPA Location ID	Location Description From EPA	EPA Technical Justification for Sample Collection	Boring Total Depth (ft bgs)	Description of Fill Encountered (from EPA Soil Boring Log)	Sample Date	Laboratory Analyses	Co-Located Chemical Sample Number
Subsurface	72	SRE Complex - Southeast Portion	Geophysical Anomaly Feature - Ground Penetrating Radar.	10.0	Fill "sandy silt and silty sand" from 0 to 4.2 ft "5% fine angular gravel (fill rock)" from 0 to 2.3 ft	7/13/2011	VOCs/1,4 Dioxane/TPH Primary, alcohols, Terphenyl, glycols, & TPH TPH Primary, alcohols, Terphenyl, glycols, & TPH	SL-072-SA6-SB-4.5 SL-072-SA6-SB-4.0-5.0 SL-072-SA6-SB-9.5 SL-072-SA6-SB-9.0-10.0
Subsurface	73	SRE Complex - Northeast portion within the footprint of former Building 4753.	Location of the former Primary Sodium Storage Tank Vault. Aerial Photo feature - Excavation. Geophysical Anomaly Feature - Ground Penetrating Radar & Magnetometer.	5.3	Fill "sandy silt with gravel, 10% fine to medium subangular gravel and concrete debris" from 0 to 1.1 ft Fill "silty sand with gravel, 15% fine to coarse subangular gravel and concrete debris" from 1.1 to 5.3 ft "some magnetite debris" at 4.0 ft "red brick debris trace" at 5.0 ft "abundant concrete debris" at 5.3 ft Refusal on CONCRETE	7/21/2011	VOCs/1,4 Dioxane/TPH Primary, alcohols, Terphenyl, glycols, & TPH	SL-073-SA6-SB-4.5 SL-073-SA6-SB-4.0-5.0
Subsurface	74	SRE Complex - Northeast portion	Geophysical Anomaly Feature - Ground Penetrating Radar and Magnetometer.	10.0	Fill "sandy Silt" from 0 to 1.5 ft Fill "silty Sand" from 1.5 to 10.0 ft "trace concrete debris" from 1.5 to 4.5 ft "gravel and trace asphalt" at 4.5 ft "coarse angular concrete debris ~ 11/4" diameter" at 7.5 ft "trace concrete debris" from 7.5 to 8.0 ft "15% angular fine to coarse gravel (fill rock) from 8.0 to 10.0 ft	7/14/2011	VOCs/1,4 Dioxane/TPH Primary, alcohols, Terphenyl, glycols, & TPH TPH Primary, alcohols, Terphenyl, glycols, & TPH	SL-074-SA6-SB-4.5MS SL-074-SA6-SB-4.0-5.0MS SL-074-SA6-SB-9.5 SL-074-SA6-SB-9.0-10.0
Subsurface	75	SRE Complex - North portion	Geophysical Anomaly Feature - Ground Penetrating Radar and Magnetometer.	10.0	described as "all artificial fill " at bottom of log-sandy silt and sand to 2.5 ft and clay from 2.5 to 10.0 ft "trace concrete debris" from 0.0 to 2.0 ft "concrete and magnetite combined" at 5.0 ft "asphalt and concrete debris" at 7.75 ft "asphalt debris" at 8.9 ft "concrete" from 9.1 to 9.25 ft	7/22/2011	VOCs/1,4 Dioxane/TPH Primary, alcohols, Terphenyl, glycols, & TPH TPH Primary, alcohols, Terphenyl, glycols, & TPH	SL-075-SA6-SB-4.5 SL-075-SA6-SB-4.0-5.0 SL-075-SA6-SB-9.5 SL-075-SA6-SB-9.0-10.0
Subsurface	76	SRE Complex - Southwest portion	Geophysical Anomaly Feature - Conductivity.	3.0	None indicated Refusal on sandstone	7/27/2011	TPH Primary, alcohols, Terphenyl, glycols, & TPH	SL-076-SA6-SB-2.5 SL-076-SA6-SB-2.0-3.0
Subsurface	77	SRE Complex - West portion	Geophysical Anomaly Feature - Ground Penetrating Radar.	10.0	"trace gravel-subangular (sandstone)" from 0 to 1.0 ft "trace concrete debris" from 1.0 to 2.0 ft "trace concrete debris and asphalt debris throughout" from 2.0 to 5.0 ft "trace asphalt debris" from 5.8 to 6.3 ft "asphalt pieces" at 7.1 ft and from 8.8 to 8.9 ft "magnetite piece" at 9.7 ft	7/26/2011	TPH Primary, alcohols, Terphenyl, glycols, & TPH TPH Primary, alcohols, Terphenyl, glycols, & TPH	SL-077-SA6-SB-4.5 SL-077-SA6-SB-4.0-5.0 SL-077-SA6-SB-9.5 SL-077-SA6-SB-9.0-10.0
Subsurface	79	SRE Complex - West portion, within the footprint of former Building 4041.	Geophysical Anomaly Feature - Ground Penetrating Radar.	2.5	Fill "well graded sand" with "5% angular fine gravel (fill rock)" from 0 to 2.0 ft "trace asphalt debris" at 1.8 ft Refusal on sandstone	No samples collected due to refusal at <2.5 ft bg 7/29/2011	NA	NA

Sample Type	EPA Location ID	Location Description From EPA	EPA Technical Justification for Sample Collection	Boring Total Depth (ft bgs)	Description of Fill Encountered (from EPA Soil Boring Log)	Sample Date	Laboratory Analyses	Co-Located Chemical Sample Number
Subsurface	80	SRE Complex - Southwest portion, within the footprint of former Building 4041.	Geophysical Anomaly Feature - Ground Penetrating Radar.	4.5	"trace gravel- subangular (sandstone and volcanic) from 0 to 1.3 ft "traces of pea gravel" from 2.1 to 2.3 ft "piece of asphalt" at 2.3 ft "trace granitic gravel" at 3.3 ft Refusal on sandstone	7/26/2011	TPH Primary, alcohols, Terphenyl, glycols, & TPH	SL-077-SA6-SB-4.0 SL-077-SA6-SB-3.5-4.5
Subsurface	81	SRE Complex - Northwest portion	Historical Radiological Liquid Spill. Geophysical Anomaly Feature - Ground Penetrating Radar.	10.0	Fill from 0 to 10.0 ft: "silty sand" from 0 to 8.0 ft and "poorly graded sand with silt" from 8 to 10.0 ft "5% subangular fine to medium gravel" from 0 to 1.9 ft "10% angular to subangular fine to course gravel" from 2.0 to 8.0 ft	7/21/2011	VOCs/1,4 Dioxane/TPH Primary, alcohols, Terphenyl, glycols, & TPH TPH Primary, alcohols, Terphenyl, glycols, & TPH	SL-081-SA6-SB-4.5 SL-081-SA6-SB-4.0-5.0 SL-081-SA6-SB-9.5 SL-081-SA6-SB-9.0-10.0
Subsurface	82	SRE Complex - Northwest portion	Historical Radiological Liquid Spill. Geophysical Anomaly Feature - Magnetometer.	10.0	"5% pea gravel(volcanic subangular)" from to 2.5 ft "asphalt" from 2.0 to 2.3 ft "trace asphalt debris" from 6.6 to 10.0 ft	7/22/2011	VOCs/1,4 Dioxane/TPH Primary, alcohols, Terphenyl, glycols, & TPH TPH Primary, alcohols, Terphenyl, glycols, & TPH	SL-082-SA6-SB-4.5 SL-082-SA6-SB-4.0-5.0 SL-082-SA6-SB-9.5 SL-082-SA6-SB-9.0-10.0
Subsurface	83	SRE Complex - Northeast portion, within the footprint of former Building 4413.	Aerial Photo feature - Excavation. Within the footprint of former Building 4413.	10.0	Fill "silty sand with gravel" from 0 to 10.0 ft "10% fine to coarse gravel and concrete debris" from 0 to 1.8 ft "concrete debris 1 in diameter" at 1.8 ft "15% fine to coarse gravel and concrete debris" from 1.8 ft to 6.2 ft "bent copper pipe" at 2.5 ft "concrete debris ~ 3/4-1' in diameter" at 4.0 ft and 5.0 ft "85% concrete debris from 6.0 to 6.2 ft "concrete debris~ 1 in thick" at 7.6 ft "electrical wire ~ 1/8 in diameter" at 8.5 ft Refusal on asphalt and gravel	7/13/2011	VOCs/1,4 Dioxane/TPH Primary, alcohols, Terphenyl, glycols, & TPH TPH Primary, alcohols, Terphenyl, glycols, & TPH	SL-083-SA6-SB-4.5 SL-083-SA6-SB-4.0-5.0 SL-083-SA6-SB-9.5 SL-083-SA6-SB-9.0-10.0
Subsurface	84	SRE Complex - Northeast portion, within the footprint of former Building 4153.	Aerial Photo feature - Excavation. Within the footprint of former Building 4153.	10.0	Fill "silty sand with gravel into poorly graded sand" from 0 to 10.0 ft "5% fine gravel (fill rock) from 0 to 1.8 ft "20% fine to coarse gravel and concrete debris" from 1.8 to 8.7 ft "abundant concrete debris" at 3.1 ft "trace electrical wire" at 3.5 ft "trace black concrete" at 6.0 ft "trace black fine concrete" at 7.5 ft Refusal on fill "Refusal conditions met from 3.5 to 6.0 bgs on sampling efforts on debris"	7/19/2011	VOCs/1,4 Dioxane/TPH Primary, alcohols, Terphenyl, glycols, & TPH TPH Primary, alcohols, Terphenyl, glycols, & TPH	SL-084-SA6-SB-4.5 SL-084-SA6-SB-4.0-5.0 SL-084-SA6-SB-9.5 SL-084-SA6-SB-9.0-10.0
Subsurface	85	SRE Complex - Northeast portion. Southeast of the Sodium Cleaning Pad (Site 4733).	Downgradient of the Sodium Cleaning Pad. Possible Open Storage.	8.0	Fill "Silty sand" from 0 to 8.0 ft "5 % fine gravel" from 0 to 1.0 ft "trace fine gravel" from 1.0 to 7.75 ft Refusal on sandstone	7/19/2011	VOCs/1,4 Dioxane/TPH Primary, alcohols, Terphenyl, glycols, & TPH TPH Primary, alcohols, Terphenyl, glycols, & TPH	SL-085-SA6-SB-4.5 SL-085-SA6-SB-4.0-5.0 SL-085-SA6-SB-7.5 SL-085-SA6-SB-7.0-8.0

Table 2-2
Soil Samples Collected from HSA Subarea 6

Sample Type	EPA Location ID	Location Description From EPA	EPA Technical Justification for Sample Collection	Boring Total Depth (ft bgs)	Description of Fill Encountered (from EPA Soil Boring Log)	Sample Date	Laboratory Analyses	Co-Located Chemical Sample Number
Subsurface	86	SRE Complex - Northeast portion. South of the Sodium Cleaning Pad (Site 4733).	Downgradient of the Sodium Cleaning Pad. Possible Open Storage.	10.0	Fill "silty sand" from 0 to 10.0 ft "trace asphalt" from 0 to 2.5 ft "5% fine to medium gravel" from 2.5 to 10.0 ft "trace rubber debris" at 3.5 ft " 7 in thick asphalt debris without any soil" at 4.5 ft "trace concrete and 5% gravel" from 5.0 to 10.0 ft "angular gravel (fill rock)" at 8.6 ft	7/20/2022	VOCs/1,4 Dioxane/TPH Primary, alcohols, Terphenyl, glycols, & TPH TPH Primary, alcohols, Terphenyl, glycols, & TPH	SL-086-SA6-SB-4.5 SL-086-SA6-SB-4.0-5.0 SL-086-SA6-SB-9.5 SL-086-SA6-SB-9.0-10.0
Subsurface	88	SRE Complex - Central Portion. South of the former Reactor Vault.	Potential radiological contamination associated with the former Reactor Vault.	15.0	Fill "silty sand with gravel into well graded sand" from 0 to 15.0 ft "10% gravel angular fine to coarse" from 0 to 5.0 ft "concrete debris ~1 in diameter at 3.9 ft "10% angular fine to medium gravel (fill rock)" from 5.0 to ~8.8 ft "concrete debris ~1/2 in diameter" ~7.6 ft "5% fine gravel and trace gravel " from 10.0 to 14.5 ft Refusal on sandstone	7/14/2011	VOCs/1,4 Dioxane/TPH Primary, alcohols, Terphenyl, glycols, & TPH TPH Primary, alcohols, Terphenyl, glycols, & TPH	SL-088-SA6-SB-4.5 SL-088-SA6-SB-4.0-5.0 SL-088-SA6-SB-9.5 SL-088-SA6-SB-9.0-10.0
Subsurface	89	SRE Complex - Central Portion, Northwest corner of the footprint for former Building 4143.	Location of the former Fuel Wash Cells.	10.0	Fill "silty clay with sand into sandy silt with gravel" from 0 to 10.0 "trace concrete and brick debris" from 0 to ~2.0 ft "5% subangular medium gravel (fill rock) and trace asphalt" from 3.5 to 5.0 ft "concrete debris 2" diameter" at ~6.9 ft "10% subangular medium gravel (fill rock) from 6.9 to 10.0 ft	7/27/2011	TPH Primary, alcohols, Terphenyl, glycols, & TPH TPH Primary, alcohols, Terphenyl, glycols, & TPH	SL-089-SA6-SB-4.5 SL-089-SA6-SB-4.0-5.0 SL-089-SA6-SB-9.5 SL-089-SA6-SB-9.0-10.0
Subsurface	90	SRE Complex - West Portion, within the footprint of former Building 4041.	Potential radiological contamination associated with activities conducted in former Building 4041.	4.0	Fill "(silty sand) with trace fine granitic gravel" from 0 to 2.0 ft Refusal on sandstone	7/28/2011	TPH Primary, alcohols, Terphenyl, glycols, & TPH	SL-090-SA6-SB-3.5 SL-090-A6-SB-3.0-4.0
Subsurface	93	SRE Complex - West Portion, within the footprint of former Building 4041.	Potential radiological contamination associated with activities conducted in former Building 4041.	1.0	None indicated Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 7/26/2011	NA	NA
Subsurface	94	SRE Complex - North Central Portion.	Location of the Tetralin Heat Exchanger, former Building 4743.	2.0	Fill "silty sand with grave" from 0 to 1.7 ft "10% subangular medium gravel (fill rock)" Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 7/4/2011	NA	NA
Subsurface	96	SRE Complex - Northeast portion. Within the footprint of the former Sodium Cleaning Pad (Site 4733).	Potential radiological contamination associated with cleaning activities conducted at the former Sodium Cleaning Pad.	2.0	Fill "silty sand with gravel and 15% angular volcanic (granitic, basalt), fine to course gravel" from 0 to 2.0 ft Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 7/15/2011	NA	NA

Sample Type	EPA Location ID	Location Description From EPA	EPA Technical Justification for Sample Collection	Boring Total Depth (ft bgs)	Description of Fill Encountered (from EPA Soil Boring Log)	Sample Date	Laboratory Analyses	Co-Located Chemical Sample Number
Subsurface	97	SRE Complex - Northeast portion. Within the footprint of the former Sodium Cleaning Pad (Site 4733).	Potential radiological contamination associated with cleaning activities conducted at the former Sodium Cleaning Pad.	6.0	Fill ""silty sand into poorly graded sand with silt" with 5% angular medium gravel and concrete" from 0 to 5. 7 ft "tar/asphalt patch without aggregate or sand" at 1.8 ft Refusal on sandstone	7/20/2011	VOCs/1,4 Dioxane/TPH Primary & Secondary	SL-097-SA6-SB-2.0 SL-097-SA6-SB-1.5-2.5
Surface	98	SRE Complex - Northwest portion. Site 4689.	Open Storage Area. Close proximity to PGREY numbers 2 and 3.	0.5	"5% fine gravel (sandstone, concrete)"	7/12/2011	Primary, alcohols, glycols, terphenyls, & TPH	SL-098-SA6-SS-0.0-0.5
Subsurface	98	SRE Complex - Northwest portion. Site 4689.	Open Storage Area. Close proximity to PGREY numbers 2 and 3.	3.0	Fill "silty sand with gravel" and "10% fine to coarse subangular gravel (fill rock and concrete debris) from 0 to 1.7 ft Refusal on sandstone	7/25/2011	VOCs/1,4 Dioxane/TPH Primary, alcohols, Terphenyl, glycols, & TPH	SL-098-SA6-SB-2.5MS SL-098-SA6-SB-2.0-3.0MS
Subsurface	99	SRE Complex - Northwest portion. Site 4689.	Downgradient from the Open Storage Area. Close proximity to PGREY numbers 2 and 3.	1.5	Fill "silty sand" from 0 to 1.0 ft Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 7/25/2011	NA	NA
Subsurface	100	SRE Complex - Northwest portion. Site 4689.	Downgradient from the Open Storage Area. Close proximity to PGREY numbers 2 and 3.	1.5	Fill "silty sand with gravel" with 10% fine to medium gravel (fill rock) from 0 to 1.1 ft Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 7/25/2011	NA	NA
Subsurface	103	SRE Complex - North Central Portion.	Downgradient of the Tetralin Heat Exchanger, former Building 4743.	10.0	"1 in of asphlat " at 1.5 ft "trace sandstone subanguler gravel" from 1.6 to ~ 3.0 ft "concrete" from 2.6 to ~ 2.8 ft "trace gravel" from ~3.0 to 5.0 ft "concrete" at ~ 7.0 ft Noted as "all artificial fill" at the end of log-"sand with clay" grades into "sand with silt" and "silty sand"	7/22/2011	VOCs/1,4 Dioxane/TPH Primary, alcohols, Terphenyl, glycols, & TPH TPH Primary, alcohols, Terphenyl, glycols, & TPH	SL-103-SA6-SB-4.5 SL-103-SA6-SB-4.0-5.0 SL-103-SA6-SB-9.5 SL-103-SA6-SB-9.0-10.0
Subsurface	104	SRE Complex - North Central Portion.	Downgradient of the Tetralin Heat Exchanger, former Building 4743.	3.5	Fill "silty sand with gravel" with "10% subangular medium gravel (fill rock)" from 0 to 3.1 ft "large 1/2 in diameter concrete debris" at 2.0 ft Refusal on sandstone	7/21/2011	VOCs/1,4 Dioxane/TPH Primary, alcohols, Terphenyl, glycols, & TPH	SL-104-SA6-SB-3.0 SL-104-SA6-SB-2.5-3.5
Subsurface	105	SRE Complex - North Central Portion.	Downgradient of the Tetralin Heat Exchanger, former Building 4743.	3.5	Fill "silty sand with gravel" from 0 to ~ 3.0 ft "large 1/2 in diameter concrete debris" at 2.0 ft Refusal on sandstone	7/21/2011	VOCs/1,4 Dioxane/TPH Primary, alcohols, Terphenyl, glycols, & TPH	SL-105-SA6-SB-3.0 SL-105-SA6-SB-2.5-3.5
Subsurface	106	SRE Complex - Northeast portion. Within the footprint of the former Sodium Cleaning Pad (Site 4733).	Potential radiological contamination associated with cleaning activities conducted at the former Sodium Cleaning Pad.	1.5	Fill "silty sand with gravel" from 0 to 1.5 ft Refusal on fill	No samples collected due to refusal at <2.5 ft bgs 7/20/2011	NA	NA

Table 2-2
Soil Samples Collected from HSA Subarea 6

Sample Type	EPA Location ID	Location Description From EPA	EPA Technical Justification for Sample Collection	Boring Total Depth (ft bgs)	Description of Fill Encountered (from EPA Soil Boring Log)	Sample Date	Laboratory Analyses	Co-Located Chemical Sample Number
Subsurface	109	SRE Complex - West portion.	Potential radiological contamination from surface water run-off from the vicinity of former Building 4041.	0.7	None indicated Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 7/26/2011	NA	NA
Drainage	109	SRE Complex - West portion.	Potential radiological contamination from surface water run-off from the vicinity of former Building 4041.	0.5	"10% asphalt, sandstone pieces and gravel"	7/12/2011	Primary, alcohols, glycols, terphenyls, & TPH	SL-109-SA6-SS-0.0-0.5
Subsurface	110	SRE Complex - Southwest portion.	Potential radiological contamination from surface water run-off from the vicinity of former Building 4041.	0.3	"15% sandstone fragments and asphalt fragments"	No samples collected due to refusal at <2.5 ft bgs 8/26/2011	NA	NA
Drainage	110	SRE Complex - Southwest portion.	Potential radiological contamination from surface water run-off from the vicinity of former Building 4041.	0.5	"30% gravel fill, sandstone and asphalt fragments"	7/12/2011	Primary, alcohols, glycols, terphenyls, & TPH	SL-110-SA6-SS-0.0-0.5
Subsurface	113	SRE Complex - Southern portion.	Potential radiological contamination from surface water run-off from the southern portion of the SRE Complex.	8.0	"10% asphalt and sandstone fragments" from 0 to 1.5 ft" Refusal on sandstone	8/26/2011	TPH Primary, alcohols, Terphenyl, glycols, & TPH TPH Primary, alcohols, Terphenyl, glycols, & TPH	SL-113-SA6-SB-4.5 SL-113-SA6-SB-4.0-5.0 SL-113-SA6-SB-7.5 SL-113-SA6-SB-7.0-8.0
Drainage	113	SRE Complex - Southern portion.	Potential radiological contamination from surface water run-off from the southern portion of the SRE Complex.	0.5	"5% asphalt fragments"	7/12/2011	Primary, alcohols, glycols, terphenyls, & TPH	SL-113-SA6-SS-0.0-0.5
Subsurface	114	SRE Complex - Southern portion.	Process Knowledge - Possible radiological contamination associated with storm drain line.	10.0	Fill "silty sand" and "sandy silt" from 0 to 7.0 ft "5% fine gravel" from 0.6 to 5.0 ft	8/5/2011	TPH Primary, alcohols, Terphenyl, glycols, & TPH TPH Primary, alcohols, Terphenyl, glycols, & TPH	SL-114-SA6-SB-4.5 SL-114-SA6-SB-4.0-5.0 SL-114-SA6-SB-9.5 SL-114-SA6-SB-9.0-10.0
Subsurface	115	SRE Complex - Southern portion.	Process Knowledge - Possible radiological contamination associated with Sanitary Sewer Line.	0.9	None indicated	No samples collected due to refusal at <2.5 ft bgs 7/27/2011	NA	NA
Subsurface	116	SRE Complex - Southern portion.	Process Knowledge - Possible radiological contamination associated with Sanitary Sewer Line.	3.5	Fill "silty sand with gravel" from 0 to 3.5 ft "asphalt debris" at 2.0 ft "angular concrete debris ~ 1.2 in diameter" at 3.0 ft Refusal on sandstone	7/13/2011	VOCs/1,4 Dioxane/TPH Primary, alcohols, Terphenyl, glycols, & TPH	SL-116-SA6-SB-3.0 SL-116-SA6-SB-2.5-3.5
Subsurface	117	SRE Complex - Southern portion.	Process Knowledge - Possible radiological contamination associated with Sanitary Sewer Line.	2.9	Fill "silty sand" from 0 to 2.0 ft Refusal on sandstone	7/27/2011	TPH Primary, alcohols, Terphenyl, glycols, & TPH	SL-117-SA6-SB-2.5 SL-117-SA6-SB-2.0-3.0

Sample Type	EPA Location ID	Location Description From EPA	EPA Technical Justification for Sample Collection	Boring Total Depth (ft bgs)	Description of Fill Encountered (from EPA Soil Boring Log)	Sample Date	Laboratory Analyses	Co-Located Chemical Sample Number
Subsurface	118	SRE Complex - Central Portion.	Location of the former Liquid Waste Sump Tanks. Geophysical Anomaly Feature - Conductivity.	11.5	Fill "silty sand and silty clay" into "poorly graded sand" from 0 to 11.0 ft "fine concrete gravel debris" at 2.5 ft "trace fine to coarse gravel (fill rock)" from 2.5 to 5.0 ft "concrete debris ~1/4 in diameter" at 4.5 ft "trace fine gravel" from 5.0 to ~7.0 ft "5% angular fine to medium gravel (granitic or metamorphic)" from 7.0 to 10.0 ft Refusal on sandstone	7/13/2011	VOCs/1,4 Dioxane/TPH Primary, alcohols, Terphenyl, glycols, & TPH TPH Primary, alcohols, Terphenyl, glycols, & TPH	SL-118-SA6-SB-4.5 SL-118-SA6-SB-4.0-5.0 SL-118-SA6-SB-11.0 SL-118-SA6-SB-10.0-11.5
Subsurface	119	SRE Complex - South central portion.	Geophysical Anomaly Feature - Conductivity.	2.5	Fill "silty sand with gravel" and "10% angular gravel and concrete debris" from 0 to 2.1 ft Refusal on siltstone/mudstone	No samples collected due to refusal at <2.5 ft bgs 7/13/2011	NA	NA
Subsurface	120	SRE Complex - South central portion.	Geophysical Anomaly Feature - Conductivity.	0.8	None indicated Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 7/13/2011	NA	NA
Subsurface	122	SRE Complex - West edge.	Aerial Photo Feature - Open Storage.	0.5	None indicated Refusal on sandstone	7/29/2011	TPH Primary, alcohols, Terphenyl, glycols, & TPH	SL-122-SA6-SB-0.5 SL-122-SA6-SB-0.0-1.0
Subsurface	123	SRE Complex - Central Portion, north of the former Reactor Vault.	Potential radiological contamination associated with the former Reactor Vault.	9.5	Fill "silty sand" and "sandy silt" from 0 to 9.5 ft "trace gravel and asphalt" from 0 to 2.0 ft "trace rock fragments/gravel" from 2.0 to 6.0 ft "concrete (black/dark grey) at 8.0 ft Refusal on construction debris	7/29/2011	TPH Primary, alcohols, Terphenyl, glycols, & TPH TPH Primary, alcohols, Terphenyl, glycols, & TPH	SL-123-SA6-SB-4.5 SL-123-SA6-SB-4.0-5.0 SL-123-SA6-SB-7.5 SL-123-SA6-SB-7.0-8.0
Subsurface	124	SRE Complex - Central Portion, east of the former Reactor Vault.	Potential radiological contamination associated with the former Reactor Vault.	14.0	Fill "silty sand" into "clayey sand" from 0 to 14.0 ft "concrete and asphalt debris throughout" from 1.8 to 5.0 ft "magnetite" from 4.5 to 4.9 ft, 5.6 to 5.9 ft and at 7.0 ft "concrete debris throughout" from 6.0 to ~8.7 ft and 8.5 to 8.8 ft "asphalt debris, trace volcanic gravel-subangular" from 8.9 to 10.0 ft "concrete debris throughout, trace volcanic gravel subangular" from 10.0 to 13.8 ft "asphalt debris" at 12.0 ft "concrete" from 12.1 to 12.8 ft and 13.8 to 14.0 ft "concrete & building material debris" from 13.1 to 13.5 ft Refusal on fill	7/22/2011	VOCs/1,4 Dioxane/TPH Primary, alcohols, Terphenyl, glycols, & TPH TPH Primary, alcohols, Terphenyl, glycols, & TPH	SL-124-SA6-SB-4.5 SL-124-SA6-SB-4.0-5.0 SL-124-SA6-SB-13.0 SL-124-SA6-SB-12.5-13.5

Table 2-2
Soil Samples Collected from HSA Subarea 6

Sample Type	EPA Location ID	Location Description From EPA	EPA Technical Justification for Sample Collection	Boring Total Depth (ft bgs)	Description of Fill Encountered (from EPA Soil Boring Log)	Sample Date	Laboratory Analyses	Co-Located Chemical Sample Number
Subsurface	125	SRE Complex - Central Portion, west of the former Reactor Vault.	Potential radiological contamination associated with the former Reactor Vault.	21.3	Artificial Fill throughout: "sandy clay with silt" from 0 to 9.0 ft, "clayey sands" and "sandy clays" from 9.0 to ~20.0 ft terminating in "sand" "concrete" from 1.5 to 1.8 ft, at 3.2 ft, "5% gravel- subangular" from 1.8 to 2.3 ft "concrete pieces, trace gravel and asphalt debris" from 3.1 to 4.0 ft "magnetite" at 9.1 ft and at 11.1 ft "concrete and asphalt debris" from 9.2 to 10.0 ft "asphalt, concrete, and magnetite pieces throughout" from 10.0 to 12.0 ft "concrete, asphalt and magnetite pieces from 12.0 to 12.7 ft "trace gravel-subangular concrete and asphalt debris throughout" from 12.8 to 15.0 ft "asphalt" 14.5 ft "trace asphalt & concrete debris" from 15.0 to ~16.5 ft "concrete and asphalt" from 16.4 to 20.1 ft Refusal on sandstone	7/29/2011	TPH Primary, alcohols, Terphenyl, glycols, & TPH TPH Primary, alcohols, Terphenyl, glycols, & TPH	SL-125-SA6-SB-4.5MS SL-125-SA6-SB-4.0-5.0MS SL-125-SA6-SB-20.5 SL-125-SA6-SB-20.0-21.0
Surface	126	SRE Complex - West portion.	Historical Data show elevated Co-60 and Cs-137.	0.5	"35% gravel fill rock"	7/15/2011	Primary, alcohols, glycols, terphenyls, & TPH	SL-126-SA6-SS-0.0-0.5
Subsurface	126	SRE Complex - West portion.	Historical Data show elevated Co-60 and Cs-137.	10.0	"trace gravel" from 0 to 2.0 ft	7/29/2011	TPH Primary, alcohols, Terphenyl, glycols, & TPH TPH Primary, alcohols, Terphenyl, glycols, & TPH	SL-126-SA6-SB-4.5MS SL-126-SA6-SB-4.0-5.0MS SL-126-SA6-SB-9.5 SL-126-SA6-SB-9.0-10.0
Surface	127	Liquid and Gas Radioactive Storage Tanks Area.	Approximate location of the Gaseous Storage Tanks.	0.5	None indicated	7/18/2011	Primary, alcohols, glycols, terphenyls, & TPH	SL-127-SA6-SS-0.0-0.5
Subsurface	127	Liquid and Gas Radioactive Storage Tanks Area.	Approximate location of the Gaseous Storage Tanks.	3.0	Fill "sandy silt" with trace asphalt from 0 to 3.0 ft Refusal on sandstone	8/1/2011	TPH Primary, alcohols, Terphenyl, glycols, & TPH	SL-127-SA6-SB-2.5 SL-127-SA6-SB-2.0-3.0
Surface	128	Liquid and Gas Radioactive Storage Tanks Area.	Geophysical Anomaly Feature - Conductivity. Approximate location of the Gaseous Storage Tanks.	0.5	"trace sandstone -gravel"	7/18/2011	Primary, alcohols, glycols, terphenyls, & TPH	SL-128-SA6-SS-0.0-0.5
Subsurface	128	Liquid and Gas Radioactive Storage Tanks Area.	Geophysical Anomaly Feature - Conductivity. Approximate location of the Gaseous Storage Tanks.	8.5	Fill "silty sand" from 0 to 8.5 ft "5% fine gravel (fill rock)" from 0 to 4.5 ft "5% fine granitic gravel" from 4.6 to 8.5 ft Refusal on sandstone	8/2/2011	TPH Primary, alcohols, Terphenyl, glycols, & TPH TPH Primary, alcohols, Terphenyl, glycols, & TPH	SL-128-SA6-SB-4.5 SL-128-SA6-SB-4.0-5.0 SL-128-SA6-SB-8.0 SL-128-SA6-SB-7.5-8.5
Surface	133	Liquid and Gas Radioactive Storage Tanks Area.	Approximate location of the Hold-up Vaults.	0.5	None indicated	7/18/2011	Primary, alcohols, glycols, terphenyls, & TPH	SL-133-SA6-SS-0.0-0.5

Sample Type	EPA Location ID	Location Description From EPA	EPA Technical Justification for Sample Collection	Boring Total Depth (ft bgs)	Description of Fill Encountered (from EPA Soil Boring Log)	Sample Date	Laboratory Analyses	Co-Located Chemical Sample Number
Subsurface	133	Liquid and Gas Radioactive Storage Tanks Area.	Approximate location of the Hold-up Vaults.	1.4	Fill "sandy silt" with "5% subrounded medium gravel" from 0 to 1.5 ft Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 8/1/2011	NA	NA
Surface	134	Liquid and Gas Radioactive Storage Tanks Area.	Approximate location of the Hold-up Vaults.	0.5	None indicated	7/18/2011	Primary, alcohols, glycols, terphenyls, TPH	SL-134-SA6-SS-0.0-0.5
Subsurface	134	Liquid and Gas Radioactive Storage Tanks Area.	Approximate location of the Hold-up Vaults.	1.5	Fill "sandy silt" with "5% subangular gravel (fill rock)" form 0 to 1.5 ft Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 8/1/2011	NA	NA
Subsurface	135	Solid Radioactive Waste Storage - East side of concrete pad.	Potential contamination originating from storage activities.	5.0	Fill "silty sand" with "trace medium quartz gravel" from 0 to 2.0 ft Refusal on sandstone	7/11/2011	VOCs/1,4 Dioxane/TPH Primary, alcohols, Terphenyl, glycols, & TPH	SL-135-SA6-SB-4.5 SL-135-SA6-SB-4.0-5.0
Subsurface	136	Solid Radioactive Waste Storage - West side of concrete pad.	Potential contamination originating from storage activities.	10.0	Fill "silty sand" with "5% angular fine gravel (fill rock)" from 0 to 2.0 ft	7/12/2011	VOCs/1,4 Dioxane/TPH Primary, alcohols, Terphenyl, glycols, & TPH TPH Primary, alcohols, Terphenyl, glycols, & TPH	SL-136-SA6-SB-4.5 SL-136-SA6-SB-4.0-5.0 SL-136-SA6-SB-9.5 SL-136-SA6-SB-9.0-10.0
Subsurface	137	Solid Radioactive Waste Storage - North side of concrete pad.	Potential contamination originating from storage activities.	2.5	Fill "silty sand" with "5% asphalt gravel" from 0 to 1.0 ft Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 7/11/2011	NA	NA
Subsurface	138	Solid Radioactive Waste Storage - South side of concrete pad.	Potential contamination originating from storage activities.	10.0	Fill "silty sand" with "trace asphalt near surface" from 0 to 5.0 ft	7/11/2011	VOCs/1,4 Dioxane/TPH Primary, alcohols, Terphenyl, glycols, & TPH TPH Primary, alcohols, Terphenyl, glycols, & TPH	SL-138-SA6-SB-4.5 SL-138-SA6-SB-4.0-5.0 SL-138-SA6-SB-9.5 SL-138-SA6-SB-9.0-10.0
Subsurface	139	Solid Radioactive Waste Storage - Southwest of concrete pad.	Potential contamination originating from storage activities may have migrated downgradient.	10.0	Fill "silty sand" from 0 to 2.0 ft	7/12/2011	VOCs/1,4 Dioxane/TPH Primary, alcohols, Terphenyl, glycols, & TPH TPH Primary, alcohols, Terphenyl, glycols, & TPH	SL-139-SA6-SB-4.5 SL-139-SA6-SB-4.0-5.0 SL-139-SA6-SB-9.5 SL-139-SA6-SB-9.0-10.0
Subsurface	140	Debris field north of the Solid Radioactive Waste Storage.	Potential radiological contamination within debris found during site reconnaissance.	NA	Not evaluated	NA	NA	No sample collected - Archeology Zone
Subsurface	141	Debris field north of the Solid Radioactive Waste Storage.	Potential radiological contamination within debris found during site reconnaissance.	NA	Not evaluated	NA	NA	No sample collected - Archeology Zone

Table 2-2
Soil Samples Collected from HSA Subarea 6

Sample Type	EPA Location ID	Location Description From EPA	EPA Technical Justification for Sample Collection	Boring Total Depth (ft bgs)	Description of Fill Encountered (from EPA Soil Boring Log)	Sample Date	Laboratory Analyses	Co-Located Chemical Sample Number
Surface	142	Liquid and Gas Radioactive Storage Tanks Area.	Geophysical Anomaly Feature - Conductivity. Approximate location of the Liquid Radioactive Storage Tanks.	0.5	None indicated	7/18/2011	Primary, alcohols, glycols, terphenyls, & TPH	SL-142-SA6-SS-0.0-0.5
Subsurface	142	Liquid and Gas Radioactive Storage Tanks Area.	Geophysical Anomaly Feature - Conductivity. Approximate location of the Liquid Radioactive Storage Tanks.	2.0	Fill "sandy silt with gravel" with " 10% fine to medium gravel (fill rock)" from 0 to 2.0 ft Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 8/1/2011	NA	NA
Surface	143	Liquid and Gas Radioactive Storage Tanks Area.	Geophysical Anomaly Feature - Conductivity. Approximate location of the Liquid Radioactive Storage Tanks.	0.5	"trace fine gravel"	7/18/2011	Primary, alcohols, glycols, terphenyls, & TPH	SL-143-SA6-SS-0.0-0.5
Subsurface	143	Liquid and Gas Radioactive Storage Tanks Area.	Geophysical Anomaly Feature - Conductivity. Approximate location of the Liquid Radioactive Storage Tanks.	2.2	"15% sandstone rock fragments, asphalt fragments" from 0 to 2.2 ft Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 9/7/2011	NA	NA
Surface	145	Liquid and Gas Radioactive Storage Tanks Area.	Between PGRAY 5 and 8. Geophysical Anomaly Feature - Conductivity.	0.5	None indicated	7/18/2011	Primary, alcohols, glycols, terphenyls, & TPH	SL-145-SA6-SS-0.0-0.5
Subsurface	145	Liquid and Gas Radioactive Storage Tanks Area.	Between PGRAY 5 and 8. Geophysical Anomaly Feature - Conductivity.	4.5	"trace gravel" from 1.0 to 3.0 ft Refusal on sandstone	8/2/2011	TPH Primary, alcohols, Terphenyl, glycols, & TPH	SL-145-SA6-SB-4.0 SL-145-SA6-SB-3.5-4.5
Surface	146	Liquid and Gas Radioactive Storage Tanks Area.	Downgradient of PGRAY 8.	0.5	None indicated	7/18/2011	Primary, alcohols, glycols, terphenyls, & TPH	SL-146-SA6-SS-0.0-0.5
Subsurface	146	Liquid and Gas Radioactive Storage Tanks Area.	Downgradient of PGRAY 8.	1.4	None indicated Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 9/7/2011	NA	NA
Surface	147	Liquid and Gas Radioactive Storage Tanks Area.	Former location of drainage ditch that diverted surface water to the east and down slope.	0.5	"trace sandstone gravel, piece of concrete debris, asphalt debris"	7/18/2011	Primary, alcohols, glycols, terphenyls, & TPH	SL-147-SA6-SS-0.0-0.5
Subsurface	147	Liquid and Gas Radioactive Storage Tanks Area.	Former location of drainage ditch that diverted surface water to the east and down slope.	1.8	Fill "sandy silt with gravel" with " 10% fine to medium gravel (granitic gravel)" from 0 to 1.8 ft Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 8/1/2011	NA	NA
Surface	148	Liquid and Gas Radioactive Storage Tanks Area.	Former location of drainage ditch that diverted surface water to the east and down slope.	0.5	None indicated	7/18/2011	Primary, alcohols, glycols, terphenyls, & TPH	SL-148-SA6-SS-0.0-0.5
Subsurface	148	Liquid and Gas Radioactive Storage Tanks Area.	Former location of drainage ditch that diverted surface water to the east and down slope.	1.5	None indicated Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 9/7/2011	NA	NA

Table 2-2
Soil Samples Collected from HSA Subarea 6

Sample Type	EPA Location ID	Location Description From EPA	EPA Technical Justification for Sample Collection	Boring Total Depth (ft bgs)	Description of Fill Encountered (from EPA Soil Boring Log)	Sample Date	Laboratory Analyses	Co-Located Chemical Sample Number
Surface	149	Liquid and Gas Radioactive Storage Tanks Area.	Former location of drainage ditch that diverted surface water to the east and down slope.	0.5	"5% gravel sandstone pieces"	7/11/2011	Primary, alcohols, glycols, terphenyls, & TPH	SL-149-SA6-SS-0.0-0.5
Subsurface	149	Liquid and Gas Radioactive Storage Tanks Area.	Former location of drainage ditch that diverted surface water to the east and down slope.	0.6	None indicated Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 8/25/2011	NA	NA
Surface	150	SRE Complex - Northeast corner.	Up gradient of PGREY 9.	0.5	"trace concrete debris"	7/18/2011	Primary, alcohols, glycols, terphenyls, & TPH	SL-150-SA6-SS-0.0-0.5
Subsurface	150	SRE Complex - Northeast corner.	Up gradient of PGREY 10.	2.3	None indicated Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 9/7/112	NA	NA
Subsurface	151	Contaminated Laundry Building.	Potential radiological contamination from the disposal of water used to wash contaminated laundry.	10.0	None indicated	8/10/2011	Primary Primary	SL-151-SA6-SB-4.0-5.0 SL-151-SA6-SB-9.0-10.0
Drainage	151	Contaminated Laundry Building.	Potential radiological contamination from the disposal of water used to wash contaminated laundry.	0.5	None indicated	7/19/2011	Primary	SL-151-SA6-SS-0.0-0.5
Surface	152	Contaminated Laundry Building.	Potential radiological contamination from the disposal of water used to wash contaminated laundry.	0.5	"piece of asphalt"	7/18/2011	Primary	SL-152-SA6-SS-0.0-0.5
Subsurface	152	Contaminated Laundry Building.	Potential radiological contamination from the disposal of water used to wash contaminated laundry.	0.9	None indicated Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 8/11/2011	NA	NA
Surface	154	East of the Contaminated Laundry Building.	Geophysical Anomaly Feature - Magnetometer.	0.5	"trace gravel fill "	7/19/2011	Primary	SL-154-SA6-SS-0.0-0.5
Subsurface	154	East of the Contaminated Laundry Building.	Geophysical Anomaly Feature - Magnetometer.	3.9	Fill "sandy silt" with "trace asphalt" from 0 to 1.5 ft Refusal on sandstone	8/17/2011	Primary	SL-154-SA6-SB-3.0-4.0
Surface	155	Contaminated Laundry Building.	Downgradient of Contaminated Laundry Building. Potential radiological contamination from the disposal of water used to wash contaminated laundry.	0.5	None indicated	7/18/2011	Primary	SL-155-SA6-SS-0.0-0.5
Subsurface	155	Contaminated Laundry Building.	Downgradient of Contaminated Laundry Building. Potential radiological contamination from the disposal of water used to wash contaminated laundry.	7.0	None indicated Refusal on sandstone	8/11/2011	Primary	SL-155-SA6-SB-4.0-5.0MS

Table 2-2
Soil Samples Collected from HSA Subarea 6

Sample Type	EPA Location ID	Location Description From EPA	EPA Technical Justification for Sample Collection	Boring Total Depth (ft bgs)	Description of Fill Encountered (from EPA Soil Boring Log)	Sample Date	Laboratory Analyses	Co-Located Chemical Sample Number
Surface	156	Fuel Storage Facility.	Geophysical Anomaly Feature - Conductivity and Magnetometer. Slightly elevated gamma scanning survey readings.	0.5	"trace gravel fill"	7/20/2011	Primary, alcohols, glycols, terphenyls, & TPH	SL-156-SA6-SS-0.0-0.5
Subsurface	156	Fuel Storage Facility.	Geophysical Anomaly Feature - Conductivity and Magnetometer. Slightly elevated gamma scanning survey readings.	4.0	None indicated Refusal on sandstone	8/15/2011	TPH Primary, alcohols, Terphenyl, glycols, & TPH	SL-156-SA6-SB-3.5 SL-156-SA6-SB-3.0-4.0
Surface	157	Fuel Storage Facility.	Geophysical Anomaly Feature - Conductivity, Magnetometer and GPR. Slightly elevated gamma scanning survey readings.	0.5	"10% gravel fill rock"	7/20/2011	Primary, alcohols, glycols, terphenyls, & TPH	SL-157-SA6-SS-0.0-0.5
Subsurface	157	Fuel Storage Facility.	Geophysical Anomaly Feature - Conductivity, Magnetometer and GPR. Slightly elevated gamma scanning survey readings.	3.2	Fill " silty sand with gravel" with "15% subangular gravel fine" from 0 to 1.0 ft Refusal on sandstone	8/15/2011	TPH Primary, alcohols, Terphenyl, glycols, & TPH	SL-157-SA6-SB-2.5 SL-157-SA6-SB-2.0-3.0
Surface	159	Fuel Storage Facility.	Location of the former septic tank and leach field. Geophysical Anomaly Feature - Magnetometer.	0.5	"5% subrounded to subangular gravel"	7/20/2011	Primary, alcohols, glycols, terphenyls, & TPH	SL-159-SA6-SS-0.0-0.5
Subsurface	159	Fuel Storage Facility.	Location of the former septic tank and leach field. Geophysical Anomaly Feature - Magnetometer.	8.0	Fill "silty sand with gravel" from 0.5 to 3.5 ft Refusal on siltstone	8/16/2011	TPH Primary, alcohols, Terphenyl, glycols, & TPH TPH Primary, alcohols, Terphenyl, glycols, & TPH	SL-159-SA6-SB-4.5 SL-159-SA6-SB-4.0-5.0 SL-159-SA6-SB-7.5 SL-159-SA6-SB-7.0-8.0
Surface	160	Fuel Storage Facility.	Location of the former septic tank and leach field. Geophysical Anomaly Feature - Magnetometer.	0.5	"gravel fill rock"	7/20/2011	Primary, alcohols, glycols, terphenyls, & TPH	SL-160-SA6-SS-0.0-0.5MS
Subsurface	160	Fuel Storage Facility.	Location of the former septic tank and leach field. Geophysical Anomaly Feature - Magnetometer.	5.1	Fill "silty sand with gravel" with 10% angular to subangular fine to coarse gravel (fill rock)" from 0 to ~2.0 ft Refusal on sandstone	8/16/2011	TPH Primary, alcohols, Terphenyl, glycols, & TPH	SL-160-SA6-SB-4.5 SL-160-SA6-SB-4.0-5.0
Surface	162	Fuel Storage Facility.	Geophysical Anomaly Feature - Magnetometer and GPR.	0.5	"10% sandstone rock fragments and gravel fill rock"	7/20/2011	Primary, alcohols, glycols, terphenyls, & TPH	SL-162-SA6-SS-0.0-0.5
Subsurface	162	Fuel Storage Facility.	Geophysical Anomaly Feature - Magnetometer and GPR.	0.5	Fill "well graded sand with gravel" from 0 to 3 inches Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 8/15/2011	NA	NA
Surface	164	Fuel Storage Facility.	Aerial Photo Feature - Open Storage. Downgradient of the former septic tank and leach field. Historic data shows elevated readings of Cs-137.	0.5	None indicated	7/20/2011	Primary, alcohols, glycols, terphenyls, & TPH	SL-164-SA6-SS-0.0-0.5

Table 2-2
Soil Samples Collected from HSA Subarea 6

Sample Type	EPA Location ID	Location Description From EPA	EPA Technical Justification for Sample Collection	Boring Total Depth (ft bgs)	Description of Fill Encountered (from EPA Soil Boring Log)	Sample Date	Laboratory Analyses	Co-Located Chemical Sample Number
Subsurface	164	Fuel Storage Facility.	Aerial Photo Feature - Open Storage. Downgradient of the former septic tank and leach field. Historic data shows elevated readings of Cs-137.	9.0	Fill "silty sand with gravel" with "10% fine subangular gravel" from 0 to 3.0 ft Refusal on siltstone	8/16/2011	TPH Primary, alcohols, Terphenyl, glycols, & TPH TPH Primary, alcohols, Terphenyl, glycols, & TPH	SL-164-SA6-SB-4.5 SL-164-SA6-SB-4.0-5.0 SL-164-SA6-SB-8.5 SL-164-SA6-SB-8.0-9.0
Surface	165	Fuel Storage Facility.	Geophysical Anomaly Feature - Conductivity.	0.5	None indicated	7/20/2011	Primary, alcohols, glycols, terphenyls, & TPH	SL-165-SA6-SS-0.0-0.5
Subsurface	165	Fuel Storage Facility.	Geophysical Anomaly Feature - Conductivity.	1.8	Fill "silty sand" with "5% subangular gravel" from 0 to 0.5 ft Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 8/16/2011	NA	NA
Surface	166	Fuel Storage Facility.	Geophysical Anomaly Feature - Conductivity and Magnetometer.	0.5	None indicated	7/19/2011	Primary, alcohols, glycols, terphenyls, & TPH	SL-166-SA6-SS-0.0-0.5
Subsurface	166	Fuel Storage Facility.	Geophysical Anomaly Feature - Conductivity and Magnetometer.	4.0	Fill "silty sand with gravel" from 0 to 1.1 ft Refusal on sandstone	8/15/2011	TPH Primary, alcohols, Terphenyl, glycols, & TPH	SL-166-SA6-SB-3.5 SL-166-SA6-SB-3.0-4.0
Surface	167	Fuel Storage Facility.	Aerial Photo Feature - Possible Open Storage.	0.5	None indicated	7/20/2011	Primary, alcohols, glycols, terphenyls, & TPH	SL-167-SA6-SS-0.0-0.5
Subsurface	167	Fuel Storage Facility.	Aerial Photo Feature - Possible Open Storage.	4.0	Fill "silty sand with gravel" 0 to 1.0 ft Refusal on sandstone	8/15/2011	TPH Primary, alcohols, Terphenyl, glycols, & TPH	SL-167-SA6-SB-3.5 SL-167-SA6-SB-3.0-4.0
Surface	168	Sodium Storage Building.	Potential radiological contamination originating from former Parking lot 4513 and possibly Building 4064.	0.5	"15% asphalt, concrete fragments, gravel fill"	7/19/2011	Primary, alcohols, glycols, terphenyls, & TPH	SL-168-SA6-SS-0.0-0.5
Subsurface	168	Sodium Storage Building.	Potential radiological contamination originating from former Parking lot 4513 and possibly Building 4064.	3.0	"trace gravel"	8/12/2011	TPH Primary, alcohols, Terphenyl, glycols, & TPH	SL-168-SA6-SB-2.5 SL-168-SA6-SB-2.0-3.0
Surface	169	Sodium Storage Building.	Potential radiological contamination originating from former Parking lot 4513 and possibly Building 4064.	0.5	"5% asphalt sandstone fragments"	7/19/2011	Primary, alcohols, glycols, terphenyls, & TPH	SL-169-SA6-SS-0.0-0.5
Subsurface	169	Sodium Storage Building.	Potential radiological contamination originating from former Parking lot 4513 and possibly Building 4064.	2.5	"trace gravel-subangular" from 0 to 1.5 ft Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 8/12/2011	NA	NA

Table 2-2
Soil Samples Collected from HSA Subarea 6

Sample Type	EPA Location ID	Location Description From EPA	EPA Technical Justification for Sample Collection	Boring Total Depth (ft bgs)	Description of Fill Encountered (from EPA Soil Boring Log)	Sample Date	Laboratory Analyses	Co-Located Chemical Sample Number
Surface	171	Sodium Storage Building.	Potential radiological contamination originating from former Parking lot 4513 and possibly Building 4064.	0.5	"10% gravel fill rock"	7/19/2011	Primary, alcohols, glycols, terphenyls, & TPH	SL-171-SA6-SS-0.0-0.5
Subsurface	171	Sodium Storage Building.	Potential radiological contamination originating from former Parking lot 4513 and possibly Building 4064.	6.0	"trace gravel" from 0 to 2.5 ft Refusal on sandstone	8/12/2011	TPH Primary, alcohols, Terphenyl, glycols, & TPH	SL-171-SA6-SB-4.5MS SL-171-SA6-SB-4.0-5.0MS
Subsurface	172	Sodium Storage Building.	Potential radiological contamination originating from former Parking lot 4513 and possibly Building 4064.	1.2	Fill "silty sand" from 0 to 0.5 ft Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 8/17/2011	NA	NA
Drainage	172	Sodium Storage Building.	Potential radiological contamination originating from former Parking lot 4513 and possibly Building 4064.	0.5	"trace asphalt and sandstone fragments"	7/19/2011	Primary	SL-172-SA6-SS-0.0-0.5
Surface	174	Contaminated Laundry Building.	Potential radiological contamination from the disposal of water used to wash contaminated laundry.	0.5	None indicated	7/19/2011	Primary	SL-174-SA6-SS-0.0-0.5
Subsurface	174	Contaminated Laundry Building.	Potential radiological contamination from the disposal of water used to wash contaminated laundry.	3.0	Fill "sandy silt" with trace concrete debris" from 0 to ~1.0 ft Refusal on sandstone	8/11/2011	Primary	SL-174-SA6-SB-2.0-3.0
Surface	176	Contaminated Laundry Building.	Potential radiological contamination from the disposal of water used to wash contaminated laundry.	0.5	None indicated	7/18/2011	Primary	SL-176-SA6-SS-0.0-0.5
Subsurface	176	Contaminated Laundry Building.	Potential radiological contamination from the disposal of water used to wash contaminated laundry.	2.3	None indicated Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 8/11/2011	NA	NA
Surface	178	Contaminated Laundry Building.	Downgradient of Contaminated Laundry Building. Potential radiological contamination from the disposal of water used to wash contaminated laundry.	0.5	None indicated	7/19/2011	Primary	SL-178-SA6-SS-0.0-0.5
Subsurface	178	Contaminated Laundry Building.	Downgradient of Contaminated Laundry Building. Potential radiological contamination from the disposal of water used to wash contaminated laundry.	2.0	"trace gravel" from 0 to 1.0 ft Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 8/12/2011	NA	NA
Surface	182	Electronics Shop Maintenance Service Building.	Within the footprint of former Building 4063 which use to be part of the Old Radioactive Laundry. Downgradient of Contaminated Laundry Building.	0.5	None indicated	7/18/2011	Primary	SL-182-SA6-SS-0.0-0.5

Sample Type	EPA Location ID	Location Description From EPA	EPA Technical Justification for Sample Collection	Boring Total Depth (ft bgs)	Description of Fill Encountered (from EPA Soil Boring Log)	Sample Date	Laboratory Analyses	Co-Located Chemical Sample Number
Subsurface	182	Electronics Shop Maintenance Service Building.	Within the footprint of former Building 4063 which use to be part of the Old Radioactive Laundry. Downgradient of Contaminated Laundry Building.	10.0	Fill "sandy silt" with "5% fine subrounded gravel" from 0 to 2.7 ft	8/10/2011	Primary Primary	SL-182-SA6-SB-4.0-5.0 SL-182-SA6-SB-9.0-10.0
Surface	183	Electronics Shop Maintenance Service Building.	Within the footprint of former Building 4063 which use to be part of the Old Radioactive Laundry. Downgradient of Contaminated Laundry Building.	0.5	Fill "silty sand" with "5% fine to medium gravel"	7/18/2011	Primary	SL-183-SA6-SS-0.0-0.5
Subsurface	183	Electronics Shop Maintenance Service Building.	Within the footprint of former Building 4063 which use to be part of the Old Radioactive Laundry. Downgradient of Contaminated Laundry Building.	10.0	Fill "sandy silt "with "trace glass and asphalt, trace fine subangular gravel (fill rock)" from 0 to 2.5 ft	8/10/2011	Primary Primary	SL-183-SA6-SB-4.0-5.0 SL-183-SA6-SB-9.0-10.0
Surface	184	Contaminated Laundry Building.	Potential radiological contamination from the disposal of water used to wash contaminated laundry.	0.5	None indicated	7/18/2011	Primary	SL-184-SA6-SS-0.0-0.5
Subsurface	184	Contaminated Laundry Building.	Potential radiological contamination from the disposal of water used to wash contaminated laundry.	2.3	None indicated Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 8/11/2011	NA	NA
Subsurface	185	Contaminated Laundry Building.	Downgradient of Contaminated Laundry Building. Potential radiological contamination from the disposal of water used to wash contaminated laundry.	10.0	Fill "silty sand" from 0 to 1.0 ft	8/10/2011	Primary Primary	SL-185-SA6-SB-4.0-5.0 SL-185-SA6-SB-9.0-10.0
Drainage	185	Contaminated Laundry Building.	Downgradient of Contaminated Laundry Building. Potential radiological contamination from the disposal of water used to wash contaminated laundry.	0.5	"5% sandstone rock fragments and gravel fill rock"	7/19/2011	Primary	SL-185-SA6-SS-0.0-0.5
Surface	190	Old Conservation Yard - Northwest portion.	Historical photograph of Old Conservation Yard. Slightly elevated gamma survey readings. Boundary of Chemical Likely Remediation Zone.	0.5	None indicated	7/25/2011	Primary & Secondary	SL-190-SA6-SS-0.0-0.5
Subsurface	190	Old Conservation Yard - Northwest portion.	Historical photograph of Old Conservation Yard. Slightly elevated gamma survey readings. Boundary of Chemical Likely Remediation Zone.	2.3	None indicated Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 8/30/2011	NA	NA
Subsurface	191	Old Conservation Yard - Northwest portion.	Historical photograph of Old Conservation Yard. Boundary of Chemical Likely Remediation Zone.	1.8	"25% gravel fill, rock ,concrete, asphalt fragments" from 0 to 1.0 ft "20% gravel fill rock" from 1.0 to 1.8 ft "Talc layer hit at 14 in on 2nd attempt (1-2" thick)" Refusal on fill	10/4/2011	TPH Primary & Secondary	SL-191-SA6-SB-0.5 SL-191-SA6-SB-0.0-1.0

Table 2-2
Soil Samples Collected from HSA Subarea 6

Sample Type	EPA Location ID	Location Description From EPA	EPA Technical Justification for Sample Collection	Boring Total Depth (ft bgs)	Description of Fill Encountered (from EPA Soil Boring Log)	Sample Date	Laboratory Analyses	Co-Located Chemical Sample Number
Surface	192	Old Conservation Yard - Northwest portion.	Historical photograph of Old Conservation Yard. Slightly elevated gamma survey readings. Boundary of Chemical Likely Remediation Zone.	0.5	None indicated	7/25/2011	Primary & Secondary	SL-192-SA6-SS-0.0-0.5
Subsurface	192	Old Conservation Yard - Northwest portion.	Historical photograph of Old Conservation Yard. Slightly elevated gamma survey readings. Boundary of Chemical Likely Remediation Zone.	10.0	Fill "silty sand" into "poorly graded sand" from 0 to 10.0 ft "trace subrounded gravel" at 4.0 ft "abundant metal shaving in spiral form" at 9.3 ft "gypsum board (trace)" at 9.4 ft "concrete debris" at 9.8 ft	8/29/2011	TPH Primary & Secondary TPH Primary & Secondary	SL-192-SA6-SB-4.5 SL-192-SA6-SB-4.0-5.0 SL-192-SA6-SB-9.5 SL-192-SA6-SB-9.0-10.0
Surface	193	Old Conservation Yard - North central portion.	Historical photograph of Old Conservation Yard. Aerial Photo Feature - Open Storage. Geophysical Anomaly Feature - Conductivity.	0.5	"10% sandstone rock fragments and asphalt fragments"	7/25/2011	Primary & Secondary	SL-193-SA6-SS-0.0-0.5
Subsurface	193	Old Conservation Yard - North central portion.	Historical photograph of Old Conservation Yard. Aerial Photo Feature - Open Storage. Geophysical Anomaly Feature - Conductivity.	2.5	Fill "silt with sand" with "trace asphalt" from 0 to 2.5 Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 8/26/2011	NA	NA
Subsurface	195	Old Conservation Yard - Central portion.	Historical photograph of Old Conservation Yard. Aerial Photo Feature - Open Storage. Geophysical Anomaly Feature - Ground Penetrating Radar.	2.0	None indicated Refusal on sandstone	8/25/2011	TPH Primary & Secondary	SL-195-SA6-SB-1.5 SL-195-SA6-SB-1.0-2.0
Subsurface	197	Old Conservation Yard - Central portion.	Historical photograph of Old Conservation Yard. Aerial Photo Feature - Open Storage. Geophysical Anomaly Feature - Conductivity.	7.3	Fill "silty clay with sand" with "trace asphalt" from 0 to 3.0 ft Refusal on sandstone	8/24/2011	TPH Primary & Secondary	SL-197-SA6-SB-4.5 SL-197-SA6-SB-4.0-5.0
Subsurface	198	Old Conservation Yard - Central portion.	Historical photograph of Old Conservation Yard. Aerial Photo Feature - Open Storage. Geophysical Anomaly Feature - Conductivity.	10.0	Fill "sandy silt with clay" and "clayey silt with gravel" from 0 to 10.0 ft "trace fine subrounded gravel (~1/4 in diameter)" from 0 to 2.7 ft "10% fine subrounded gravel (pea gravel ~1/4 in diameter" from 2.7 to 10.0 ft "concrete debris" at 7.4 ft	8/31/2011	TPH Primary & Secondary TPH Primary & Secondary	SL-198-SA6-SB-4.5 SL-198-SA6-SB-4.0-5.0 SL-198-SA6-SB-9.5 SL-198-SA6-SB-9.0-10.0
Subsurface	199	Old Conservation Yard - Central portion.	Historical photograph of Old Conservation Yard. Aerial Photo Feature - Open Storage. Geophysical Anomaly Feature - Conductivity.	7.5	Fill "sandy silt" with "5% angular fine sandstone gravel" from 0 to 3.0 ft Refusal on sandstone	8/31/2011	TPH Primary & Secondary	SL-199-SA6-SB-4.5 SL-199-SA6-SB-4.0-5.0

Table 2-2
Soil Samples Collected from HSA Subarea 6

Sample Type	EPA Location ID	Location Description From EPA	EPA Technical Justification for Sample Collection	Boring Total Depth (ft bgs)	Description of Fill Encountered (from EPA Soil Boring Log)	Sample Date	Laboratory Analyses	Co-Located Chemical Sample Number
Subsurface	200	Old Conservation Yard - Central portion.	Historical photograph of Old Conservation Yard. Aerial Photo Feature - Open Storage. Geophysical Anomaly Feature - Conductivity.	6.5	Fill "sandy silt" with "5% fine subrounded gravel" from 0 to 3.0 ft Refusal on sandstone	8/31/2011	TPH Primary & Secondary	SL-200-SA6-SB-4.5 SL-200-SA6-SB-4.0-5.0
Subsurface	201	Old Conservation Yard - Central portion.	Historical photograph of Old Conservation Yard. Aerial Photo Feature - Open Storage. Geophysical Anomaly Feature - Conductivity.	6.8	Fill "silty clay" from 0 to 4.1 ft Refusal on sandstone	8/31/2011	TPH Primary & Secondary	SL-201-SA6-SB-2.5 SL-201-SA6-SB-2.0-3.0
Surface	204	Old Conservation Yard - Eastern portion.	Historical photograph of Old Conservation Yard. Aerial Photo Feature - Debris Pile. Slightly elevated gamma scanning survey readings.	0.5	"trace glass and asphalt"	7/26/2011	Primary & Secondary	SL-204-SA6-SS-0.0-0.5
Subsurface	204	Old Conservation Yard - Eastern portion.	Historical photograph of Old Conservation Yard. Aerial Photo Feature - Debris Pile. Slightly elevated gamma scanning survey readings.	5.5	Fill "sandy silt" from 0 to 1.2 ft Refusal on sandstone	9/6/2011	TPH Primary & Secondary	SL-204-SA6-SB-4.5 SL-204-SA6-SB-4.0-5.0
Surface	205	Old Conservation Yard - Eastern portion.	Historical photograph of Old Conservation Yard. Aerial Photo Feature - Open Storage. Slightly elevated gamma scanning survey readings.	0.5	None indicated	7/26/2011	Primary & Secondary	SL-205-SA6-SS-0.0-0.5MS
Subsurface	205	Old Conservation Yard - Eastern portion.	Historical photograph of Old Conservation Yard. Aerial Photo Feature - Open Storage. Slightly elevated gamma scanning survey readings.	5.5	None indicated Refusal on sandstone	9/7/2011	TPH Primary & Secondary	SL-205-SA6-SB-4.5 SL-205-SA6-SB-4.0-5.0
Surface	206	Old Conservation Yard - Central portion.	Historical photograph of Old Conservation Yard. Aerial Photo Feature - Storage Tank. Geophysical Anomaly Feature - Conductivity.	0.5	None indicated	7/26/2011	Primary & Secondary	SL-206-SA6-SS-0.0-0.5
Subsurface	206	Old Conservation Yard - Central portion.	Historical photograph of Old Conservation Yard. Aerial Photo Feature - Storage Tank. Geophysical Anomaly Feature - Conductivity.	5.0	Fill "silty clay with sand" with "trace asphalt" from 0 to 4.2 ft Refusal on sandstone	10/4/2011	TPH Primary & Secondary	SL-206-SA6-SB-3.5 SL-206-SA6-SB-3.0-4.0
Subsurface	208	Old Conservation Yard - Central portion.	Historical photograph of Old Conservation Yard. Aerial Photo Feature - Open Storage. Geophysical Anomaly Feature - Ground Penetrating Radar.	7.3	Fill "sandy silt" with "5% subangular concrete gravel" from 0 to 1.3 ft Fill "silty clay" with "5 angular to subangular fine gravel concrete debris" from 1.3 to 2.5 ft Refusal on sandstone	8/24/2011	TPH Primary & Secondary	SL-208-SA6-SB-4.5 SL-208-SA6-SB-4.0-5.0
Subsurface	210	Old Conservation Yard - Central portion.	Historical photograph of Old Conservation Yard. Geophysical Anomaly Feature - Conductivity, Magnetometer and Ground Penetrating Radar.	10.0	Fill "clayey silt" to 2.2 ft; sandy silt from 2.2 ft to 3.2 ft and "poorly graded sand " to 3.6 ft Weathered sandstone encountered at total depth, no refusal	9/9/2011	TPH Primary & Secondary TPH Primary & Secondary	SL-210-SA6-SB-4.5 SL-210-SA6-SB-4.0-5.0 SL-210-SA6-SB-9.5 SL-210-SA6-SB-9.0-10.0

Table 2-2
Soil Samples Collected from HSA Subarea 6

Sample Type	EPA Location ID	Location Description From EPA	EPA Technical Justification for Sample Collection	Boring Total Depth (ft bgs)	Description of Fill Encountered (from EPA Soil Boring Log)	Sample Date	Laboratory Analyses	Co-Located Chemical Sample Number
Surface	211	New Conservation Yard - Northwest portion.	Historical photograph of Old Conservation Yard. Geophysical Anomaly Feature - Conductivity. Potential radiological contamination associated with the transfer pipeline from the SRE Pond.	0.5	None indicated	7/21/2011	Primary	SL-211-SA6-SS-0.0-0.5MS
Subsurface	211	Old Conservation Yard - South central portion.	Historical photograph of Old Conservation Yard. Geophysical Anomaly Feature - Conductivity. Potential radiological contamination associated with the transfer pipeline from the SRE Pond.	2.6	None indicated Refusal on sandstone	8/18/2011	Primary	SL-211-SA6-SB-1.5-2.5
Surface	213	New Conservation Yard - Northwest portion.	Downgradient from PGRAY 47. Boundary of Chemical Likely Remediation Zone.	0.5	"5% sandstone rock fragments, gravel, asphalt pieces"	7/26/2011	Primary & Secondary	SL-213-SA6-SS-0.0-0.5
Subsurface	213	New Conservation Yard - Northwest portion.	Downgradient from PGRAY 47. Boundary of Chemical Likely Remediation Zone.	7.0	None indicated Refusal on sandstone	8/31/2011	TPH Primary & Secondary	SL-213-SA6-SB-4.5 SL-213-SA6-SB-4.0-5.0
Surface	214	Old Conservation Yard - South central portion.	Historical photograph of the Old Conservation Yard. Location of former transfer pipeline from the SRE Pond.	0.5	"trace foil, plastic, tile pieces, duct tape found"	7/21/2011	Primary	SL-214-SA6-SS-0.0-0.5
Subsurface	214	Old Conservation Yard - South central portion.	Historical photograph of the Old Conservation Yard. Location of former transfer pipeline from the SRE Pond.	1.8	None indicated Refusal on siltstone	8/19/2011	Primary	SL-214-SA6-SB-1.0-2.0
Surface	215	New Conservation Yard - Northwest portion.	Downgradient from PGRAY 43. Slightly elevated gamma scanning survey readings. Boundary of Chemical Likely Remediation Zone.	0.5	None indicated	7/20/2011	Primary & Secondary	SL-215-SA6-SS-0.0-0.5
Subsurface	215	New Conservation Yard - Northwest portion.	Downgradient from PGRAY 43. Slightly elevated gamma scanning survey readings. Boundary of Chemical Likely Remediation Zone.	6.5	"trace fine gravel (pea gravel - native rocks)"from 5.0 to 6.5 ft Refusal on sandstone	8/22/2011	Primary & Secondary	SL-215-SA6-SB-4.5 SL-215-SA6-SB-4.0-5.0
Surface	216	New Conservation Yard - Northwest portion.	Aerial Photo Feature - Open Storage.	0.5	None indicated	7/21/2011	Primary, alcohols, glycols, terphenyls, & TPH	SL-216-SA6-SS-0.0-0.5
Subsurface	216	New Conservation Yard - Northwest portion.	Aerial Photo Feature - Open Storage.	1.8	None indicated Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 8/18/2011	NA	NA
Surface	217	Old Conservation Yard - South central portion.	Aerial Photo Feature - Open Storage. Historical photograph. Geophysical Anomaly Feature - Conductivity.	0.5	None indicated	7/26/2011	Primary & Secondary	SL-217-SA6-SS-0.0-0.5

Table 2-2
Soil Samples Collected from HSA Subarea 6

Sample Type	EPA Location ID	Location Description From EPA	EPA Technical Justification for Sample Collection	Boring Total Depth (ft bgs)	Description of Fill Encountered (from EPA Soil Boring Log)	Sample Date	Laboratory Analyses	Co-Located Chemical Sample Number
Subsurface	217	Old Conservation Yard - South central portion.	Aerial Photo Feature - Open Storage. Historical photograph. Geophysical Anomaly Feature - Conductivity.	8.5	Fill "sandy silt" from 0 to 1.2 ft Refusal on sandstone	9/9/2011	TPH Primary & Secondary TPH Primary & Secondary	SL-217-SA6-SB-4.5 SL-217-SA6-SB-4.0-5.0 SL-217-SA6-SB-8.0 SL-217-SA6-SB-7.5-8.5
Surface	218	New Conservation Yard - Northwest portion.	Potential radiological contamination originating from an underground storage tank associated with former Decontamination Trailer.	0.5	None indicated	7/20/2011	Primary	SL-218-SA6-SS-0.0-0.5
Subsurface	218	New Conservation Yard - Northwest portion.	Potential radiological contamination originating from an underground storage tank associated with former Decontamination Trailer.	1.7	None indicated Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 8/19/2011	NA	NA
Surface	219	New Conservation Yard - Northwest portion.	Aerial Photo Feature - Open Storage.	0.5	None indicated	7/21/2011	Primary, alcohols, glycols, terphenyls, & TPH	SL-219-SA6-SS-0.0-0.5
Subsurface	219	New Conservation Yard - Northwest portion.	Aerial Photo Feature - Open Storage.	3.6	None indicated Refusal on sandstone	8/18/2011	TPH Primary, alcohols, Terphenyl, glycols, & TPH	SL-219-SA6-SB-3.0 SL-219-SA6-SB-2.5-3.5
Surface	220	New Conservation Yard - Central portion.	Aerial Photo Feature -Storage Tank. Close proximity to PGRAY 47.	0.5	None indicated	7/20/2011	Primary	SL-220-SA6-SS-0.0-0.5
Subsurface	220	New Conservation Yard - Northwest portion.	Aerial Photo Feature -Storage Tank. Close proximity to PGRAY 47.	2.0	Fill "silty sand" from 0 to 1.3 ft "Asphalt 3 in thick" starting at 5 inches bgs "5% angular fine sandstone gravel" from 8 inches to 1.3 ft Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 8/19/2011	NA	NA
Subsurface	221	New Conservation Yard - Central portion.	Aerial Photo Feature - Open Storage.	2.0	Fill "silty sand with gravel" from 0 to 0.5 ft Refusal on sandstone	8/17/2011	TPH Primary, alcohols, Terphenyl, glycols, & TPH	SL-221-SA6-SB-1.5 SL-221-SA6-SB-1.0-2.0
Subsurface	223	New Conservation Yard - Central portion.	Aerial Photo Feature - Open Storage. Geophysical Anomaly Feature - GPR. Boundary of Chemical Likely Remediation Zone.	3.5	Fill "silty sand" with "5% fine gavel" from 0 to 1.0 ft Refusal on sandstone	8/17/2011	TPH Primary, alcohols, Terphenyl, glycols, & TPH	SL-223-SA6-SB-3.0 SL-223-SA6-SB-2.5-3.5
Subsurface	224	New Conservation Yard - Central portion.	Aerial Photo Feature - Open Storage.	4.5	Fill "silty sand" form 0 to 0.75 ft Refusal on siltstone	8/17/2011	TPH Primary, alcohols, Terphenyl, glycols, & TPH	SL-224-SA6-SB-3.5MS SL-224-SA6-SB-3.0-4.0MS

Table 2-2
Soil Samples Collected from HSA Subarea 6

Sample Type	EPA Location ID	Location Description From EPA	EPA Technical Justification for Sample Collection	Boring Total Depth (ft bgs)	Description of Fill Encountered (from EPA Soil Boring Log)	Sample Date	Laboratory Analyses	Co-Located Chemical Sample Number
Subsurface	225	New Conservation Yard - Central portion.	Aerial Photo Feature - Open Storage. Boundary of Chemical Likely Remediation Zone.	4.3	Fill "silty sand" from 0 to 4.0 ft "large piece of asphalt noted in downhole at 0.5 ft depth Refusal on sandstone	10/4/2011	TPH Primary, alcohols, Terphenyl, glycols, & TPH	SL-225-SA6-SB-3.5 SL-225-SA6-SB-3.0-4.0
Subsurface	226	New Conservation Yard - Central portion.	Aerial Photo Feature - Open Storage. Boundary of Chemical Likely Remediation Zone.	5.0	Fill "silty sand" with "15% gravel " from 0 to 0.5 ft Refusal on sandstone	8/17/2011	TPH Primary, alcohols, Terphenyl, glycols, & TPH	SL-226-SA6-SB-4.0 SL-226-SA6-SB-3.5-4.5
Surface	228	New Conservation Yard - South portion.	Boundary of Chemical Likely Remediation Zone.	0.5	None indicated	7/21/2011	Primary & Secondary	SL-228-SA6-SS-0.0-0.5MS
Subsurface	228	New Conservation Yard - Central portion.	Boundary of Chemical Likely Remediation Zone.	5.0	None indicated Refusal on sandstone	8/18/2011	TPH Primary & Secondary	SL-228-SA6-SB-4.5 SL-228-SA6-SB-4.0-5.0
Subsurface	229	New Conservation Yard - Southeast portion.	Potential radiological contamination within drainage that originated in the OCY and received water from transfer pipeline that carried water from the SRE Pond.	3.0	None indicated Refusal on sandstone	10/6/2011	Primary	SL-229-SA6-SB-2.0-3.0
Drainage	229	New Conservation Yard - Southeast portion.	Potential radiological contamination within drainage that originated in the OCY and received water from transfer pipeline that carried water from the SRE Pond.	0.5	None indicated	10/6/2011	Primary	SL-229-SA6-SS-0.0-0.5
Subsurface	230	New Conservation Yard - Southeast portion.	Potential radiological contamination within drainage that originated in the OCY and received water from transfer pipeline that carried water from the SRE Pond.	4.8	"trace gravel" from 0 to 3.5 ft "fine gravel 10%" from 3.5 to 4.8 ft Refusal on sandstone	10/6/2011	TPH Primary & Secondary	SL-230-SA6-SB-4.5 SL-230-SA6-SB-4.0-5.0
Drainage	230	New Conservation Yard - Southeast portion.	Potential radiological contamination within drainage that originated in the OCY and received water from transfer pipeline that carried water from the SRE Pond.	0.5	"trace gravel (fine)"	10/6/2011	Primary & Secondary	SL-230-SA6-SS-0.0-0.5
Subsurface	232	New Conservation Yard - East portion.	Potential radiological contamination within drainage that originated in the OCY and received water from transfer pipeline that carried water from the SRE Pond.	3.5	None indicated Refusal on sandstone	10/6/2011	Primary	SL-232-SA6-SB-2.5-3.5

Table 2-2
Soil Samples Collected from HSA Subarea 6

Sample Type	EPA Location ID	Location Description From EPA	EPA Technical Justification for Sample Collection	Boring Total Depth (ft bgs)	Description of Fill Encountered (from EPA Soil Boring Log)	Sample Date	Laboratory Analyses	Co-Located Chemical Sample Number
Drainage	232	New Conservation Yard - East portion.	Potential radiological contamination within drainage that originated in the OCY and received water from transfer pipeline that carried water from the SRE Pond.	0.5	None indicated	10/6/2011	Primary	SL-232-SA6-SS-0.0-0.5
Surface	233	New Conservation Yard - South portion.	Potential radiological contamination from surface water run-off from the New Conservation Yard.	0.5	"5% gravel fill, concrete and sandstone fragments"	7/22/2011	Primary & Secondary	SL-233-SA6-SS-0.0-0.5
Subsurface	233	New Conservation Yard - South portion.	Potential radiological contamination from surface water run-off from the New Conservation Yard.	2.0	None indicated Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 10/3/2011	NA	NA
Surface	234	New Conservation Yard - South portion.	Potential radiological contamination from surface water run-off from the New Conservation Yard.	0.5	None indicated	10/6/2011	Primary	SL-234-SA6-SS-0.0-0.5
Subsurface	234	New Conservation Yard - South portion.	Potential radiological contamination from surface water run-off from the New Conservation Yard.	2.5	None indicated Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 10/6/2011	NA	NA
Surface	235	New Conservation Yard - South portion.	Potential radiological contamination from surface water run-off from the New Conservation Yard.	0.5	None indicated	7/25/2011	Primary	SL-235-SA6-SS-0.0-0.5
Subsurface	235	New Conservation Yard - South portion.	Potential radiological contamination from surface water run-off from the New Conservation Yard.	5.0	None indicated Refusal on sandstone	9/12/2011	Primary	SL-235-SA6-SB-4.0-5.0
Surface	236	New Conservation Yard - Central portion.	Potential radiological contamination from surface water run-off from the New Conservation Yard.	0.5	None indicated	7/25/2011	Primary	SL-236-SA6-SS-0.0-0.5
Subsurface	236	New Conservation Yard - South portion.	Potential radiological contamination from surface water run-off from the New Conservation Yard.	1.5	None indicated Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 9/12/2011	NA	NA
Surface	237	New Conservation Yard - Central portion.	Close proximity to PGRAY 49. Boundary of Chemical Likely Remediation Zone.	0.5	None indicated	7/21/2011	Primary	SL-237-SA6-SS-0.0-0.5
Subsurface	237	New Conservation Yard - Central portion.	Close proximity to PGRAY 49. Boundary of Chemical Likely Remediation Zone.	2.7	None indicated Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 10/3/2011	NA	NA
Surface	238	New Conservation Yard - Central portion.	Close proximity to PGRAY 56 and 58. Boundary of Chemical Likely Remediation Zone.	0.5	None indicated	7/22/2011	Primary	SL-238-SA6-SS-0.0-0.5

Table 2-2
Soil Samples Collected from HSA Subarea 6

Sample Type	EPA Location ID	Location Description From EPA	EPA Technical Justification for Sample Collection	Boring Total Depth (ft bgs)	Description of Fill Encountered (from EPA Soil Boring Log)	Sample Date	Laboratory Analyses	Co-Located Chemical Sample Number
Subsurface	238	New Conservation Yard - Central portion.	Close proximity to PGRAY 56 and 58. Boundary of Chemical Likely Remediation Zone.	2.0	None indicated Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 8/18/2011	NA	NA
Surface	240	Contaminated Medical/Storage Facility.	Close proximity to PGRAY 52 and 56. Boundary of Chemical Likely Remediation Zone.	0.5	None indicated	7/21/2011	Primary & Secondary	SL-240-SA6-SS-0.0-0.5
Subsurface	240	New Conservation Yard - Central portion.	Close proximity to PGRAY 52 and 56. Boundary of Chemical Likely Remediation Zone.	2.0	None indicated Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 10/3/2011	NA	NA
Surface	241	Contaminated Medical/Storage Facility.	Potential radiological contamination resulting from the storage of radioactive sources.	0.5	"5% cobbles concrete and asphalt fragments"	7/22/2011	Primary	SL-241-SA6-SS-0.0-0.5
Subsurface	241	Contaminated Medical/Storage Facility.	Potential radiological contamination resulting from the storage of radioactive sources.	10.0	Fill "silty sand" with "5% subangular gravel" from 0 to 1.75 ft	8/22/2011	Primary Primary	SL-241-SA6-SB-4.0-5.0 SL-241-SA6-SB-9.0-10.0
Surface	242	Contaminated Medical/Storage Facility.	Potential radiological contamination resulting from the storage of radioactive sources.	0.5	"15% gravel fill, concrete and asphalt fragments"	7/22/2011	Primary	SL-242-SA6-SS-0.0-0.5
Subsurface	242	Contaminated Medical/Storage Facility.	Potential radiological contamination resulting from the storage of radioactive sources.	10.0	Fill "silty sand" with " trace gravel" from 0 to 2.0 ft	8/22/2011	Primary Primary	SL-242-SA6-SB-4.0-5.0 SL-242-SA6-SB-9.0-10.0
Surface	243	Contaminated Medical/Storage Facility.	Potential radiological contamination resulting from the storage of radioactive sources.	0.5	None indicated	7/22/2011	Primary	SL-243-SA6-SS-0.0-0.5
Subsurface	243	Contaminated Medical/Storage Facility.	Potential radiological contamination resulting from the storage of radioactive sources.	2.5	None indicated Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 8/24/2011	NA	NA
Surface	244	Old Conservation Yard - North central portion.	Potential radiological contamination resulting from the storage of radioactive sources.	0.5	None indicated	7/22/2011	Primary	SL-244-SA6-SS-0.0-0.5
Subsurface	244	Contaminated Medical/Storage Facility.	Potential radiological contamination resulting from the storage of radioactive sources.	1.5	"trace glass" at 1.0 ft Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 10/3/2011	NA	NA
Surface	245	Old Conservation Yard - North central portion.	Historical photograph. Aerial Photo Feature - Open Storage.	0.5	None indicated	7/25/2011	Primary & Secondary	SL-245-SA6-SS-0.0-0.5

Sample Type	EPA Location ID	Location Description From EPA	EPA Technical Justification for Sample Collection	Boring Total Depth (ft bgs)	Description of Fill Encountered (from EPA Soil Boring Log)	Sample Date	Laboratory Analyses	Co-Located Chemical Sample Number
Subsurface	245	Old Conservation Yard - North central portion.	Historical photograph. Aerial Photo Feature - Open Storage.	2.3	None indicated Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 8/29/2011	NA	NA
Subsurface	246	Old Conservation Yard - North central portion.	Historical photograph. Aerial Photo Feature - Open Storage. Historical data show slightly elevated concentration of U-235.	6.4	Fill "silt with sand" with "some gravel, trace charcoal flecks" from 0 to 3.7 ft "trace charcoal flecks" from 3.7 to 6.0 ft "mottled with yellow and reddish flecks" from 3.7 to 6.4 ft Refusal on sandstone	8/25/2011	TPH Primary & Secondary	SL-246-SA6-SB-4.5 SL-246-SA6-SB-4.0-5.0
Subsurface	247	Old Conservation Yard - North central portion.	Historical photograph. Aerial Photo Feature - Open Storage. Geophysical Anomaly Feature - Magnetometer.	6.5	"mottled (red and yellow) from 0 to 6.5 ft Refusal on siltstone	8/25/2011	TPH Primary & Secondary	SL-247-SA6-SB-2.0 SL-247-SA6-SB-1.5-2.5
Subsurface	249	Old Conservation Yard - North central portion.	Historical photograph.	5.0	Fill "sand silty" into "silty sand with gravel" from 0 to 4.7 ft "5% subrounded fine gravel (fill rock)" from 0 to 2. 7 ft "fibrous material white" at 2 ft "some asphalt debris and drywall (gypsum board)" at 2.5 ft "10% fine subrounded gravel, trace concrete, trace cast iron" from 2.7 to 4.7 ft "concrete debris" at 3.1 ft Refusal on sandstone	8/29/2011	TPH Primary & Secondary	SL-249-SA6-SB-4.5 SL-249-SA6-SB-4.0-5.0
Subsurface	250	Old Conservation Yard - North central portion.	Historical photograph.	4.5	Fill "silt with sand" into "sandy silt" from 0 to 3.8 ft "trace gravel" from 0 to 3.8 ft Refusal on sandstone	8/26/2011	TPH Primary & Secondary	SL-250-SA6-SB-3.5 SL-250-SA6-SB-3.0-4.0
Subsurface	252	Old Conservation Yard - North central portion.	Historical photograph of Old Conservation Yard. Aerial Photo Feature - Open Storage. Geophysical Anomaly Feature - Magnetometer.	5.5	Fill "silt with sand" into "sandy silt" from 0 to 5.5 ft "trace asphalt debris" from 0 to 2.7 ft "garbage-black canvas" at 3.75 ft Refusal on siltstone	8/26/2011	TPH Primary & Secondary	SL-252-SA6-SB-4.5MS SL-252-SA6-SB-4.0-5.0MS
Surface	253	Old Conservation Yard - North central portion.	Historical photograph of Old Conservation Yard. Slightly elevated gamma scanning survey readings.	0.5	"'trace asphalt pieces"	7/25/2011	Primary & Secondary	SL-253-SA6-SS-0.0-0.5
Subsurface	253	Old Conservation Yard - North central portion.	Historical photograph of Old Conservation Yard. Slightly elevated gamma scanning survey readings.	6.0	Fill "sandy silt" into "silty sand" from 0 to 5.0 ft Refusal on sandstone (sandstone occurs at 5.0 ft)	8/29/2011	TPH Primary & Secondary	SL-253-SA6-SB-4.5 SL-253-SA6-SB-4.0-5.0
Surface	254	Old Conservation Yard - North central portion.	Historical photograph of Old Conservation Yard. Slightly elevated gamma scanning survey readings.	0.5	None indicated	7/25/2011	Primary & Secondary	SL-254-SA6-SS-0.0-0.5
Subsurface	254	Old Conservation Yard - North central portion.	Historical photograph of Old Conservation Yard. Slightly elevated gamma scanning survey readings.	3.5	Fill "sand with silt" into "sandy silt" from 0 to 2.0 ft "10% sandstone cobble angular, small glass shard debris" from 0 to 1.0 ft "trace subangular gravel (non native)" from 1.0 to 2.0 ft Refusal on sandstone	10/6/2011	TPH Primary & Secondary	SL-254-SA6-SB-3.0 SL-254-SA6-SB-2.5-3.5
Surface	255	Old Conservation Yard - North central portion.	Historical photograph of Old Conservation Yard. Aerial Photo Feature - Open Storage. Slightly elevated gamma scanning survey readings.	0.5	None indicated	7/25/2011	Primary & Secondary	SL-255-SA6-SS-0.0-0.5

Table 2-2
Soil Samples Collected from HSA Subarea 6

Sample Type	EPA Location ID	Location Description From EPA	EPA Technical Justification for Sample Collection	Boring Total Depth (ft bgs)	Description of Fill Encountered (from EPA Soil Boring Log)	Sample Date	Laboratory Analyses	Co-Located Chemical Sample Number
Subsurface	255	Old Conservation Yard - North central portion.	Historical photograph of Old Conservation Yard. Aerial Photo Feature - Open Storage. Slightly elevated gamma scanning survey readings.	3.0	Fill "sandy silt" with "trace fine subrounded gravel" from 0 to 1.0 ft Refusal on sandstone	8/29/2011	TPH Primary & Secondary	SL-255-SA6-SB-2.5 SL-255-SA6-SB-2.0-3.0
Surface	256	SRE Tarp - North boundary.	Historical photograph of Old Conservation Yard. Aerial Photo Feature - Open Storage. Slightly elevated gamma scanning survey readings.	0.5	None indicated	7/25/2011	Primary & Secondary	SL-256-SA6-SS-0.0-0.5
Subsurface	256	Old Conservation Yard - North central portion.	Historical photograph of Old Conservation Yard. Aerial Photo Feature - Open Storage. Slightly elevated gamma scanning survey readings.	3.7	Fill "silt" into "sandy silt" from 0 to 3.1 ft "trace orange coloring at bottom of unit" at 2.2 ft "angular gravel (<1/4 in) at 3.0 ft" Refusal on sandstone	8/26/2011	TPH Primary & Secondary	SL-256-SA6-SB-3.0 SL-256-SA6-SB-2.5-3.5
Subsurface	257	Old Conservation Yard - North central portion.	Historical photograph of Old Conservation Yard. Aerial Photo Feature - Open Storage.	2.5	Fill "sandy silt" from 0 to 1.6 ft "trace asphalt debris < 1/4 in diameter" form ~ 1.0 to 1.6 ft Refusal on sandstone	8/25/2011	TPH Primary & Secondary	SL-257-SA6-SB-2.0 SL-257-SA6-SB-1.5-2.5
Subsurface	258	Old Conservation Yard - Southeast portion.	Historical photograph of Old Conservation Yard. Aerial Photo Feature - Open Storage.	0.8	Fill "well graded sand with gravel" from 0 to 10 inches Refusal on sandstone	9/1/2011	TPH Primary & Secondary	SL-258-SA6-SB-0.5 SL-258-SA6-SB-0.0-0.83
Subsurface	261	Old Conservation Yard - Southeast portion.	Historical photograph of Old Conservation Yard. Aerial Photo Feature - Open Storage. Geophysical Feature - Ground Penetrating Radar.	10.0	Fill "silty sand" from 0 to 2.0 ft Refusal on sandstone	9/6/2011	TPH Primary & Secondary TPH Primary & Secondary	SL-261-SA6-SB-2.0 SL-261-SA6-SB-1.5-2.5 SL-261-SA6-SB-9.5 SL-261-SA6-SB-9.0-10.0
Subsurface	262	Old Conservation Yard - South portion.	Historical photograph of Old Conservation Yard. Aerial Photo Features - Open Storage and Storage Tank.	6.8	Fill "gravelly well grade sand" with "20% subrounded fine gravel and 30% coarse sand-aggregate base" from 0 to 0.8 ft Refusal on sandstone	9/1/2011	TPH Primary & Secondary	SL-262-SA6-SS-SB-4.5MS SL-262-SA6-SS-SB-4.0-5.0MS
Subsurface	263	Old Conservation Yard - Southeast portion.	Historical photograph of Old Conservation Yard. Aerial Photo Feature - Open Storage. Geophysical Feature - Conductivity.	10.0	Fill "sandy silt" with "trace subangular granitic gravel" from 0 to 1.75	9/6/2011	TPH Primary & Secondary TPH Primary & Secondary	SL-263-SA6-SB-4.5 SL-263-SA6-SB-4.0-5.0 SL-263-SA6-SB-9.5 SL-263-SA6-SB-9.0-10.0
Subsurface	264	Old Conservation Yard - Southeast portion.	Historical photograph of Old Conservation Yard. Aerial Photo Feature - Open Storage. Geophysical Feature - Magnetometer.	1.3	Fill "well graded sand with gravel" from 0 to 0.4 ft Refusal on sandstone	9/1/2011	TPH Primary & Secondary	SL-264-SA6-SB-1.0 SL-264-SA6-SB-0.4-1.4
Subsurface	265	Old Conservation Yard - South portion.	Historical photograph of Old Conservation Yard. Aerial Photo Features - Open Storage and Storage Tank.	5.0	Fill "silty sand with gravel" from 0 to 0.75 ft Refusal on sandstone	10/11/2011	TPH Primary & Secondary	SL-265-SA6-SB-4.5 SL-265-SA6-SB-4.0-5.0
Subsurface	266	Old Conservation Yard - South portion.	Historical photograph of Old Conservation Yard. Aerial Photo Feature - Open Storage. Geophysical Feature - Magnetometer.	7.5	Fill "gravelly well grade sand" with "20% subrounded fine gravel " from 0 to 0.5 ft Fill "sandy silt" from 0.5 to 1.9 ft Refusal on sandstone	9/1/2011	TPH Primary & Secondary	SL-266-SA6-SB-4.5 SL-266-SA6-SB-4.0-5.0

Sample Type	EPA Location ID	Location Description From EPA	EPA Technical Justification for Sample Collection	Boring Total Depth (ft bgs)	Description of Fill Encountered (from EPA Soil Boring Log)	Sample Date	Laboratory Analyses	Co-Located Chemical Sample Number
Subsurface	267	Old Conservation Yard - Northwest portion.	Historical photograph of Old Conservation Yard.	10.0	Fill "sandy silt" into "poorly graded sand with gravel" from 0 to 10.0 ft "asphalt debris 2 in thick" at 1.9 ft "10% angular to subangular sandstone gravel" from 2.5 to 5.0 ft "trace concrete debris" at 3.0 ft	8/30/2011	TPH Primary & Secondary TPH Primary & Secondary	SL-267-SA6-SB-4.5 SL-267-SA6-SB-4.0-5.0 SL-267-SA6-SB-9.5 SL-267-SA6-SB-9.0-10.0
Subsurface	268	Old Conservation Yard - North central portion.	Potential contamination from surface water run-off from the Old Conservation Yard. Historical data elevated concentration of U-235.	6.6	Fill "silty sand" from 0 to 6.6 ft "pieces of asphalt, chalk, concrete with fibrous, black fuzz, metal washer, corroded metal bolt, large fibrous fuzz, layer glass, chunk" from 0 to 1.0 ft "small asphalt flecks (~2mm), chalky debris not abundant" from 2.0 6.5 ft "asphalt debris" at 4.5 ft "granitic gravel (~2mm), subrounded" at 5.5 ft Refusal on sandstone	10/6/2011	TPH Primary & Secondary	SL-268-SA6-SB-4.5 SL-268-SA6-SB-4.0-5.0
Drainage	268	Old Conservation Yard - North central portion.	Potential contamination from surface water run-off from the Old Conservation Yard. Historical data elevated concentration of U-235.	0.5	"10% sandstone rock fragments and asphalt fragments"	7/25/2011	Primary & Secondary	SL-268-SA6-SS-0.0-0.5
Subsurface	269	Northeast corner of the Old Conservation Yard.	Historical photograph of Old Conservation Yard.	3.0	Fill "silty sand" with "5% sub angular fine gravel (fill rock)" from 0 to 1.2 ft Refusal on sandstone	9/12/2011	TPH Primary & Secondary	SL-269-SA6-SB-2.0 SL-269-SA6-SB-1.5-2.5
Subsurface	270	Old Conservation Yard - West central portion.	Former location of bermed soil.	3.3	Fill "clayey silty with sand" with "trace subangular volcanic fine gravel" from 0 to 2.1 ft Refusal on sandstone	8/31/2011	TPH Primary & Secondary	SL-270-SA6-SB-2.5 SL-270-SA6-SB-2.0-3.0
Subsurface	273	SRE Tarp - South boundary.	Boundary of the SRE Tarp.	10.0	Fill "well graded sand with gravel" into "silty sand" & " poorly graded sand" from 0 to 10.0 ft "15% subrounded gravel (fill rock)" from 0 to 1.0 ft "5% sandstone fine to medium angular gravel"f rom 1.0 to 7.2 ft	8/8/2011	TPH Primary, alcohols, Terphenyl, glycols, & TPH TPH Primary, alcohols, Terphenyl, glycols, & TPH	SL-273-SA6-SB-4.5 SL-273-SA6-SB-4.0-5.0 SL-273-SA6-SB-9.5 SL-273-SA6-SB-9.0-10.0
Subsurface	275	SRE Tarp - West boundary.	Boundary of the SRE Tarp.	10.0	Fill "silty sand" into "sandy silt" & "well graded sand" from 0 to 10.0 ft "5% angular fine gravel" from 0 to 2.6 ft "5% angular sandstone gravel" from 2.6 to 7.9 ft "trace angular granitic gravel ~3/4 in diameter" at 5.5 ft "red concrete debris ~1/2 in diameter" at 7.5 ft	7/12/2011	VOCs/1,4 Dioxane/TPH Primary, alcohols, Terphenyl, glycols, & TPH TPH Primary, alcohols, Terphenyl, glycols, & TPH	SL-275-SA6-SB-4.5 SL-275-SA6-SB-4.0-5.0 SL-275-SA6-SB-9.5 SL-275-SA6-SB-9.0-10.0
Subsurface	276	SRE Tarp - West boundary.	Boundary of the SRE Tarp.	10.0	Fill "silty sand with gravel" into "sandy silt" and poorly graded sand" from 0 to 10.0 ft "20% fine to medium gravel (fill rock)" from 0 to 3.1 ft "trace asphalt debris "at 2.7 ft "10% fine angular gravel (fill rock)" from 3.1 to 3.7 ft "trace fine asphalt debris" at 8.9 ft	7/12/2011	VOCs/1,4 Dioxane/TPH Primary, alcohols, Terphenyl, glycols, Formaldehyde, NDMA, & TPH TPH Primary, alcohols, Terphenyl, glycols, Formaldehyde, NDMA, & TPH	SL-276-SA6-SB-4.5 SL-276-SA6-SB-4.0-5.0 SL-276-SA6-SB-9.5 SL-276-SA6-SB-9.0-10.0

Table 2-2
Soil Samples Collected from HSA Subarea 6

Sample Type	EPA Location ID	Location Description From EPA	EPA Technical Justification for Sample Collection	Boring Total Depth (ft bgs)	Description of Fill Encountered (from EPA Soil Boring Log)	Sample Date	Laboratory Analyses	Co-Located Chemical Sample Number
Subsurface	277	SRE Tarp - West boundary.	Boundary of the SRE Tarp.	2.5	Fill "silty sand with gravel" with "10% fine to coarse subangular gravel" from 0 to 1.8 ft Refusal on sandstone	7/19/2011	NA	NA
Surface	278	SRE Tarp - North boundary.	Boundary of the SRE Tarp.	0.5	"15% asphalt and sandstone fragments"	7/13/2011	Primary & Secondary & VOCs/1,4 Dioxane, TPH	SL-278-SA6-SS-0.0-0.5
Subsurface	278	SRE Tarp - North boundary.	Boundary of the SRE Tarp.	0.5	None indicated Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 8/25/2011	NA	NA
Surface	279	SRE Tarp - North boundary.	Boundary of the SRE Tarp. Boundary of Chemical Likely Remediation Zone.	0.5	"25% gravel fill rock ,asphalt and concrete fragments"	7/13/2011	Primary, alcohols, glycols, terphenyls, & TPH	SL-279-SA6-SS-0.0-0.5
Subsurface	279	SRE Tarp - North boundary.	Boundary of the SRE Tarp. Boundary of Chemical Likely Remediation Zone.	10.0	"5% pea gravel, trace carbon pieces" from 0 to 2.0 ft	8/22/2011	VOCs/1,4 Dioxane/TPH Primary & Secondary VOCs/1,4 Dioxane/TPH Primary & Secondary VOCs/1,4 Dioxane/TPH Primary & Secondary	SL-279-SA6-SB-1.5 SL-279-SA6-SB-1.0-2.0 SL-279-SA6-SB-4.5 SL-279-SA6-SB-4.0-5.0 SL-279-SA6-SB-9.5 SL-279-SA6-SB-9.0-10.0
Surface	280	SRE Tarp - North boundary.	Boundary of the SRE Tarp. Aerial Photo Feature - Light Toned Mounded Material. Geophysical Anomaly - Magnetometer.	0.5	"15% gravel fill and concrete cobbles"	7/12/2011	Primary, alcohols, Terphenyl, glycols, NDMA, Formaldehyde & TPH	SL-280-SA6-SS-0.0-0.5
Subsurface	280	SRE Tarp - North boundary.	Boundary of the SRE Tarp. Aerial Photo Feature - Light Toned Mounded Material. Geophysical Anomaly - Magnetometer.	4.5	"10% gravel fill and sandstone fragments" from 0 to 1.0 ft "10% gravel fill and sandstone fragments" from 1.0 to 4.5 ft Refusal on sandstone	8/12/2011	TPH Primary, alcohols, Terphenyl, glycols, NDMA, Formaldehyde & TPH	SL-280-SA6-SB-4.5 SL-280-SA6-SB-4.0-5.0
Surface	281	SRE Tarp - West portion.	Boundary of the SRE Tarp. Aerial Photo Feature - Light Toned Mounded Material. Location of the former cooling tower.	0.5	"20% gravel fill and concrete"	7/12/2011	Primary, alcohols, Terphenyl, glycols, NDMA, Formaldehyde & TPH	SL-281-SA6-SS-0.0-0.5
Subsurface	281	SRE Tarp - North boundary.	Boundary of the SRE Tarp. Aerial Photo Feature - Light Toned Mounded Material. Location of the former cooling tower.	1.2	"20% gravel fill rock, concrete fragments"	No samples collected due to refusal at <2.5 ft bgs 8/12/2011	NA	NA
Surface	282	SRE Tarp - West portion.	Potential radiological contamination from activities associated with the SRE Complex.	0.5	"10% subangular to subrounded fine to coarse gravel"	11/30/2011	Primary, alcohols, glycols, terphenyls, cyanide, & TPH	SL-282-SA6-SS-0.0-0.5

Table 2-2
Soil Samples Collected from HSA Subarea 6

Sample Type	EPA Location ID	Location Description From EPA	EPA Technical Justification for Sample Collection	Boring Total Depth (ft bgs)	Description of Fill Encountered (from EPA Soil Boring Log)	Sample Date	Laboratory Analyses	Co-Located Chemical Sample Number
Subsurface	282	SRE Tarp - West portion.	Potential radiological contamination from activities associated with the SRE Complex.	4.0	Fill "silty sand" with "trace concrete near surface" from 0 to 1.2 ft Refusal on sandstone	11/30/2011	TPH Primary, alcohols, Terphenyl, glycols, cyanide, & TPH	SL-282-SA6-SB-3.0 SL-282-SA6-SB-2.5-3.5
Surface	283	SRE Tarp - South portion.	Potential radiological contamination from activities associated with the SRE Complex.	0.5	"10% angular sandstone fine to medium gravel (1/4 in to 3/4 in diameter)"	11/30/2011	Primary, alcohols, Terphenyl, glycols, cyanide & TPH	SL-283-SA6-SS-0.0-0.5MS
Subsurface	283	SRE Tarp - West portion.	Potential radiological contamination from activities associated with the SRE Complex.	20.0	Fill "silty sand with gravel" with" 10% angular sandstone fine to medium gravel (1/4 in to 3/4 in diameter)" from 0 to 2.5 ft Fill "sandy silt with clay" with "5% fine to medium subangular sandstone gravel" from 2.5 to 5.0 ft "trace carbon specs" from 7.5 to 15.0 ft Refusal on sandstone	11/30/2011	TPH Primary, alcohols, Terphenyl, glycols, cyanide, & TPH TPH Primary, alcohols, Terphenyl, glycols, & TPH TPH Primary, alcohols, Terphenyl, glycols, & TPH	SL-283-SA6-SB-4.5 SL-283-SA6-SB-4.0-5.0 SL-283-SA6-SB-9.5 SL-283-SA6-SB-9.0-10.0 SL-283-SA6-SB-14.5 SL-283-SA6-SB-14.0-15.0 SL-283-SA6-SB-18.5 SL-283-SA6-SB-18.0-19.0
Surface	284	SRE Tarp - South portion.	Potential radiological contamination from activities associated with the SRE Complex.	0.5	Fill "silty sand" with "trace fine to medium sandstone gravel"	11/30/2011	Primary, alcohols, Terphenyl, glycols, cyanide & TPH	SL-284-SA6-SS-0.0-0.5
Subsurface	284	SRE Tarp - South portion.	Potential radiological contamination from activities associated with the SRE Complex.	19.0	Fill "silty sand into clayey silt with sand" from 0 to 10.0 ft "sandstone cobble ~3 in thick" at 4.75 ft "trace brick fragments" from 6.5 to 10.0 ft "trace carbon flakes" at 11.5 ft Refusal on sandstone	11/30/2011	TPH Primary, alcohols, Terphenyl, glycols, cyanide & TPH TPH Primary, alcohols, Terphenyl, glycols, cyanide & TPH TPH Primary, alcohols, Terphenyl, glycols, cyanide & TPH TPH Primary, alcohols, Terphenyl, glycols, cyanide & TPH	SL-284-SA6-SB-4.5 SL-284-SA6-SB-4.0-5.0 SL-284-SA6-SB-9.5 SL-284-SA6-SB-9.0-10.0 SL-284-SA6-SB-14.5 SL-284-SA6-SB-14.0-15.0 SL-284-SA6-SB-16.0 SL-284-SA6-SB-15.5-16.5

Table 2-2
Soil Samples Collected from HSA Subarea 6

Sample Type	EPA Location ID	Location Description From EPA	EPA Technical Justification for Sample Collection	Boring Total Depth (ft bgs)	Description of Fill Encountered (from EPA Soil Boring Log)	Sample Date	Laboratory Analyses	Co-Located Chemical Sample Number
Surface	285	SRE Area - Western portion.	Potential radiological contamination from activities associated with the SRE Complex.	0.5	Fill "silty clay"	11/29/2011	Primary, alcohols, Terphenyl, glycols, cyanide & TPH	SL-285-SA6-SS-0.0-0.5
Subsurface	285	SRE Tarp - South portion.	Potential radiological contamination from activities associated with the SRE Complex.	10.0	Fill "silty clay" from 0 to 1.0 ft Fill "silty sand with gravel" with "15% trace to coarse and angular to subrounded gravel" from 1.0 to 4.0 ft PID= 92 ppm, "not sustained" at 5.0 ft Refusal on sandstone	11/29/2011	VOCS & TPH Primary & Secondary VOCS & TPH Primary & Secondary	SL-285-SA6-SB-4.5 SL-285-SA6-SB-4.0-5.0 SL-285-SA6-SB-7.5 SL-285-SA6-SB-6.0-7.0
Surface	286	SRE Area - Western portion.	PGRAY 1.	0.5	"5% gravel fill rock"	7/15/2011	Primary, alcohols, glycols, terphenyls, & TPH	SL-286-SA6-SS-0.0-0.5MS
Subsurface	286	SRE Area - Western portion.	PGRAY 1.	2.5	"10% sandstone/siltstone rock fragments and concrete fragments" from 0 to 1.0 ft Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 9/6/2011	NA	NA
Surface	289	SRE Area - Northwestern portion.	PGRAY 3.	0.5	None indicated	7/11/2011	Primary, alcohols, glycols, terphenyls, & TPH	SL-289-SA6-SS-0.0-0.5
Subsurface	289	SRE Area - Western portion.	PGRAY 3.	4.5	None indicated Refusal on sandstone	7/25/2011	Primary, alcohols, glycols, terphenyls, & TPH	SL-289-SA6-SB-4.0 SL-289-SA6-SB-3.5-4.5
Surface	290	SRE Area - Northwestern portion.	PGRAY 4.	0.5	None indicated	7/12/2011	Primary, alcohols, glycols, terphenyls, & TPH	SL-290-SA6-SS-0.0-0.5
Subsurface	290	SRE Area - Northwestern portion.	PGRAY 4.	1.5	None indicated Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 8/16/2011	NA	NA
Surface	291	SRE Area - Northwestern portion.	PGRAY 4.	0.5	None indicated	7/11/2011	Primary, alcohols, glycols, terphenyls, & TPH	SL-291-SA6-SS-0.0-0.5
Subsurface	291	SRE Area - Northwestern portion.	PGRAY 4.	2.7	"1 in piece of rubber found (Pancake 65 cpm)" at 1.0 ft "large piece of plastic sheeting found" at 2.0 ft Refusal on sandstone	8/26/2011	TPH Primary, alcohols, Terphenyl, glycols, & TPH	SL-291-SA6-SB-2.5 SL-291-SA6-SB-2.0-3.0
Surface	292	Liquid and Gas Radioactive Storage Tanks Area.	PGRAY 4.	0.5	"5% concrete fragments"	7/11/2011	Primary, alcohols, glycols, terphenyls, & TPH	SL-292-SA6-SS-0.0-0.5
Subsurface	292	SRE Area - Northwestern portion.	PGRAY 4.	1.0	"asphalt (~3 in) at 0.6 ft Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 8/26/2011	NA	NA
Surface	293	SRE Area - Northwestern portion.	PGRAY 5.	0.5	Fill "silty sand"	7/18/2011	Primary, alcohols, glycols, terphenyls, & TPH	SL-293-SA6-SS-0.0-0.5

Sample Type	EPA Location ID	Location Description From EPA	EPA Technical Justification for Sample Collection	Boring Total Depth (ft bgs)	Description of Fill Encountered (from EPA Soil Boring Log)	Sample Date	Laboratory Analyses	Co-Located Chemical Sample Number
Subsurface	293	Liquid and Gas Radioactive Storage Tanks Area.	PGRAY 5.	2.5	Fill "silty sand" into "poorly graded sand with silt" from 0 to 2.5 ft Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 8/2/2011	NA	NA
Surface	297	SRE Area - Northwestern portion.	PGRAY 9.	0.5	None indicated	7/11/2011	Primary, alcohols, glycols, terphenyls, & TPH	SL-297-SA6-SS-0.0-0.5MS
Subsurface	297	SRE Area - Northwestern portion.	PGRAY 9.	1.0	"pieces of metal found, rope and asphalt (3 in thick)" Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 8/25/2011	NA	NA
Surface	298	SRE Area - Northeastern portion.	PGRAY 9.	0.5	"5% plastic pieces, beer can"	7/11/2011	Primary, alcohols, glycols, terphenyls, & TPH	SL-298-SA6-SS-0.0-0.5MS
Subsurface	298	SRE Area - Northwestern portion.	PGRAY 9.	1.6	"Asphalt - 7 in " at 1 ft Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 8/25/2011	NA	NA
Surface	300	Contaminated Laundry Building.	PGRAY 19.	0.5	"5% gravel fill and concrete"	7/12/2011	Primary, alcohols, glycols, terphenyls, NDMA, formaldehyde & TPH	SL-300-SA6-SS-0.0-0.5
Subsurface	300	SRE Area - Northeastern portion.	PGRAY 19.	1.0	"5% concrete pieces and sandstone fragments" from 0 to 1.0 ft Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 8/22/2011	NA	NA
Surface	301	Hot Oil Sodium Cleaning Facility.	PGRAY 21.	0.5	None indicated	7/19/2011	Primary	SL-301-SA6-SS-0.0-0.5
Subsurface	301	Contaminated Laundry Building.	PGRAY 21.	7.3	None indicated Refusal on sandstone	10/5/2011	Primary	SL-301-SA6-SB-4.0-5.0
Surface	302	Steam Sodium Cleaning Pad.	PGRAY 26.	0.5	"trace broken, glass found"	7/15/2011	Primary, alcohols, glycols, terphenyls, & TPH	SL-302-SA6-SS-0.0-0.5
Subsurface	302	Hot Oil Sodium Cleaning Facility.	PGRAY 26.	2.1	Fill "silt with sand" with "cement chunks in upper 4 in of unit" from 0 to 1.3 ft Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 8/9/2011	NA	NA
Surface	303	Steam Sodium Cleaning Pad	PGRAY 28.	0.5	None indicated	7/15/2011	Primary, alcohols, glycols, terphenyls, & TPH	SL-303-SA6-SS-0.0-0.5

Table 2-2
Soil Samples Collected from HSA Subarea 6

Sample Type	EPA Location ID	Location Description From EPA	EPA Technical Justification for Sample Collection	Boring Total Depth (ft bgs)	Description of Fill Encountered (from EPA Soil Boring Log)	Sample Date	Laboratory Analyses	Co-Located Chemical Sample Number
Subsurface	303	Steam Sodium Cleaning Pad.	PGRAY 28.	1.0	None indicated Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 8/25/2011	NA	NA
Surface	304	Fuel Storage Facility.	PGRAY 29.	0.5	None indicated	7/15/2011	Primary, alcohols, glycols, terphenyls, & TPH	SL-304-SA6-SS-0.0-0.5
Subsurface	304	Steam Sodium Cleaning Pad	PGRAY 29.	1.8	"trace charcoal" Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 8/25/2011	NA	NA
Surface	305	East of the Fuel Storage Facility, south of the Contaminated Medical/Storage Facility.	PGRAY 36.	0.5	"15% subrounded fine gravel and asphalt debris"	8/30/2011	Primary, alcohols, glycols, terphenyls, & TPH	SL-305-SA6-SS-0.0-0.5
Subsurface	305	Fuel Storage Facility.	PGRAY 36.	3.0	Fill "sandy clay with gravel" with "trace asphalt" from 0 to 0.6 ft Refusal on siltstone	8/30/2011	TPH Primary	SL-305-SA6-SB-2.5 SL-305-SA6-SB-2.0-3.0
Surface	306	East of the Fuel Storage Facility.	PGRAY 37.	0.5	"10% fill gravel/cobbles"	8/30/2011	Primary & Secondary	SL-306-SA6-SS-0.0-0.5
Subsurface	306	East of the Fuel Storage Facility, south of the Contaminated Medical/Storage Facility.	PGRAY 37.	7.5	Fill "sandy silt" from 0 to 3.2 ft Refusal on sandstone	8/30/2011	Primary	SL-306-SA6-SB-4.0-5.0
Surface	307	East of the Fuel Storage Facility.	PGRAY 38.	0.5	None indicated	7/22/2011	Primary	SL-307-SA6-SS-0.0-0.5
Subsurface	307	East of the Fuel Storage Facility.	PGRAY 38.	1.0	"trace charcoal" Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 10/3/2011	NA	NA
Surface	308	Contaminated Medical/Storage Facility.	PGRAY 39.	0.5	None indicated	7/22/2011	Primary	SL-308-SA6-SS-0.0-0.5
Subsurface	308	East of the Fuel Storage Facility.	PGRAY 39.	2.6	None indicated Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 10/3/2011	NA	NA
Surface	309	New Conservation Yard.	PGRAY 40.	0.5	None indicated	7/22/2011	Primary	SL-309-SA6-SS-0.0-0.5
Subsurface	309	Contaminated Medical/Storage Facility.	PGRAY 40.	2.5	None indicated	No samples collected due to refusal at <2.5 ft bgs 8/24/2011	NA	NA
Surface	310	Old Conservation Yard - East portion.	PGRAY 43.	0.5	None indicated	7/20/2011	Primary	SL-310-SA6-SS-0.0-0.5

Sample Type	EPA Location ID	Location Description From EPA	EPA Technical Justification for Sample Collection	Boring Total Depth (ft bgs)	Description of Fill Encountered (from EPA Soil Boring Log)	Sample Date	Laboratory Analyses	Co-Located Chemical Sample Number
Subsurface	310	New Conservation Yard.	PGRAY 43.	7.0	Fill "sandy silt with gravel" with "10% subangular fine to medium gravel (fill rock)" from 0 to 1.75 ft Refusal on sandstone	8/22/2011	Primary	SL-310-SA6-SB-4.0-5.0
Surface	311	New Conservation Yard.	PGRAY 45.	0.5	"20% gravel fill rock"	7/26/2011	Primary & Secondary	SL-311-SA6-SS-0.0-0.5
Subsurface	311	Old Conservation Yard - East portion.	PGRAY 45.	3.0	None indicated Refusal on sandstone	9/7/2011	TPH Primary & Secondary	SL-311-SA6-SB-2.5 SL-311-SA6-SB-2.0-3.0
Surface	314	New Conservation Yard.	PGRAY 48.	0.5	None indicated	7/21/2011	Primary	SL-314-SA6-SS-0.0-0.5
Subsurface	314	New Conservation Yard.	PGRAY 48.	4.0	None indicated Refusal on sandstone	8/18/2011	Primary	SL-314-SA6-SB-3.0-4.0
Surface	315	New Conservation Yard - Within drainage.	PGRAY 49.	0.5	None indicated	7/21/2011	Primary & Secondary	SL-315-SA6-SS-0.0-0.5
Subsurface	315	New Conservation Yard.	PGRAY 49.	4.0	Fill "silty sand" into "well graded sand with gravel" from 0 to 1.8 ft "trace rootlets and fine subrounded gravel (fill rock)" from 0 to 1.7 ft "25% granitic subangular fine gravel (fill rock)" 2 inches thick at 1.8 ft Refusal on sandstone	8/19/2011	TPH Primary & Secondary	SL-315-SA6-SB-3.5 SL-315-SA6-SB-3.0-4.0
Surface	316	Old Conservation Yard - East portion, near the Edison Substation.	PGRAY 52.	0.5	None indicated	7/21/2011	Primary	SL-316-SA6-SS-0.0-0.5
Subsurface	316	New Conservation Yard - Within drainage.	PGRAY 52.	0.9	None indicated Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 8/19/2011	NA	NA
Surface	317	New Conservation Yard - Within drainage.	PGRAY 55.	0.5	None indicated	7/26/2011	Primary & Secondary	SL-317-SA6-SS-0.0-0.5
Subsurface	317	Old Conservation Yard - East portion, near the Edison Substation.	PGRAY 55.	0.8	None indicated Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 10/5/2011	NA	NA
Surface	318	New Conservation Yard - Within drainage.	PGRAY 56.	0.5	None indicated	7/21/2011	Primary	SL-318-SA6-SS-0.0-0.5
Subsurface	318	New Conservation Yard - Within drainage.	PGRAY 56.	2.0	None indicated Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 8/19/2011	NA	NA
Surface	319	East portion of the Old Conservation Yard.	PGREY 57.	0.5	"5% sandstone, asphalt and concrete pieces"	7/26/2011	Primary & Secondary	SL-319-SA6-SS-0.0-0.5
Subsurface	319	East portion of the Old Conservation Yard.	PGREY 57.	6.8	Fill "silty sand" from 0 to 4.0 ft "large (>1/2 in) charcoal pieces, encountered a 1 in thick asphalt layer" from 0 to 1.0 ft "small charcoal pieces (<1/2 in)" from 0 to 5.5 ft Refusal on sandstone	10/5/2011	TPH Primary & Secondary	SL-319-SA6-SB-4.5MS SL-319-SA6-SB-4.0-5.0MS

Table 2-2
Soil Samples Collected from HSA Subarea 6

Sample Type	EPA Location ID	Location Description From EPA	EPA Technical Justification for Sample Collection	Boring Total Depth (ft bgs)	Description of Fill Encountered (from EPA Soil Boring Log)	Sample Date	Laboratory Analyses	Co-Located Chemical Sample Number
Surface	321	East portion of the Old Conservation Yard.	Location of the former septic tank and leach field. Geophysical Anomaly Feature - Magnetometer.	0.5	"trace asphalt , trace granitic gravel"	7/20/2011	Primary, alcohols, glycols, terphenyls, & TPH	SL-321-SA6-SS-0.0-0.5
Subsurface	321	East portion of the Old Conservation Yard.	Location of the former septic tank and leach field. Geophysical Anomaly Feature - Magnetometer.	3.0	Fill "silty sand with gravel" with "15% fine subangular gravel or concrete debris" from 0 to 1.7 ft Refusal on sandstone	8/16/2011	TPH Primary, alcohols, Terphenyl, glycols, & TPH	SL-321-SA6-SB-2.5 SL-321-SA6-SB-2.0-3.0
Surface	322	East portion of the Old Conservation Yard.	Location of the former septic tank and leach field. Geophysical Anomaly Feature - Magnetometer.	0.5	Fill "silty sand" with "5% subrounded medium granitic and sandstone gravel"	7/20/2011	Primary, alcohols, glycols, terphenyls, & TPH	SL-322-SA6-SS-0.0-0.5
Subsurface	322	East portion of the Old Conservation Yard.	Location of the former septic tank and leach field. Geophysical Anomaly Feature - Magnetometer.	2.5	None indicated Refusal on sandstone	No samples collected due to refusal at <2.5 ft bgs 10/5/2011	NA	NA

Notes:
GPR = Ground Penetrating Radar
NA = not applicable
PGRAY = potential gamma radiation anomaly
SCE = Southern California Edison
TPH-GRO = total petroluem hydrocarbon-gasoline range organics
SRE = Sample 33
Cs-137 = Cesium^{137}
U-235 = Uranium^{235}
cpm = counts per minute
PID = photoionization detector
ppm = parts per million
MS = matrix spike

All surface and drainage samples were to be analyzed for the primary sample analytes (i.e., SVOCs, PAHs, metals [including mercury], hexavalent chromium, pH, fluoride, PCBs/PCTs, dioxins, and perchlorate) and pesticides and herbicides in Subareas 3 and 6. Selected surface and drainage samples in Subarea 6 were to be analyzed for all of the secondary analytes (i.e., total petroleum hydrocarbons - extractable fuel hydrocarbons [TPH-EFH], TPH-gasoline range organics [TPH-GRO], nitrates, formaldehyde, n-Nitrosodimethylamine [NDMA], energetics, cyanide, terphenyls, glycols, and alcohols) or a subset of them as shown in Table 2-2.

2.2 Subsurface Sampling

Most of the subsurface soil sampling was performed by a California-licensed direct push technology (DPT) subcontractor under HGL oversight. The majority of the DPT borings in Subareas 3 and 6 were advanced to a targeted depth of between approximately 5 and 10 feet bgs. Tables 2-1 and 2-2 provide the actual depths achieved at each location.

Soil cores were collected using the Geoprobe® dual-tube sampling method, which consisted of a 2-inch outer steel drive casing and an inner 1 3/4-inch diameter acetate soil sampling sleeve. After the acetate liner was retracted from the core barrel, it was opened lengthwise with a cutting tool. The core was screened for radioactivity using Micro R (for gamma radiation) and Pancake (for alpha and beta radiation) probes, followed by screening with a photoionization detector (PID). Based on the instrument readings and/or visual evidence of possible contamination, the sample depths were determined. If no elevated radiation or PID readings were indicated, samples were collected from the acetate sleeve by the CDM sampler at the default depths of 4 to 5 feet bgs and 9 to 10 feet bgs.

Soil for VOCs, 1,4-dioxane, and TPH-GRO analyses was collected from the acetate sleeve using EnCore® samplers. Subsurface soil for SVOC, PAH, and PCB/PCT analyses was removed from the acetate sleeve in a manner causing minimal soil disturbance and placed into 16-ounce glass jars. Soil for all other analyses was also placed into 16-ounce glass jars. Adhesive sample labels were completed with all sampling information and affixed to each sample jar, and then placed into plastic baggies. The EnCore® samplers were all placed into one of the bags in which they were received, 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 Geoprobe® rig; therefore, these borings were advanced using a hand auger. Each location was augered to the target depth of 5 feet bgs. Each 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 by CDM for chemical analyses at approximately 4 to 5 feet bgs, or in some cases at a shallower depth (see Table 2-1 and 2-2), using a slide hammer with stainless steel sleeves. The EnCore® samplers were filled from one end of the sleeve, and the sleeve was capped and submitted for the SVOC, PAH, and PCB/PCT analyses. Jars were then filled from sample material collected using the hand auger for the remaining analyses. This process was repeated at those locations where a deeper sample (i.e., target depth of 9 to 10 feet bgs) could also be collected. Because sampling using a hand auger was not addressed in the WP/FSAP or in either of the FSAP Addendums for Subareas 3 and 6, this sampling method constitutes a variance from the FSAP (see Section 2.8.1). However, sample collection from hand augered holes was revised effective August 2, 2011 and approved by DTSC, such that when conditions permitted, a six inch sleeve was collected using a slide hammer for the SVOC, PAH, and PCB/PCT analyses, and any EnCore® samples were collected from the bottom of the sleeve.

At the site of the former Sodium Reactor Experiment (SRE) complex in Subarea 6, subsurface borings SL-283, -284, -285, and -286 located on the tarped area (that is protecting mercury containing surface soil from washing downstream) were drilled and sampled using a sonic drilling rig. Split sampling was performed at each of these locations in accordance with *SRE Tarp Split Sampling: Sample Collection for Lancaster and EMAX, Santa Susana Field Laboratory, Ventura County, California* (CDM 2011d). The samples collected from these borings were submitted to both EMAX Laboratories, Inc., (EMAX) located in Torrance, CA and Lancaster Laboratory, Inc. (LLI) for analysis.

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 material was placed on top of the bentonite.

2.3 Sample Handling

All soil samples collected by HGL for chemical analyses were relinquished by the field sampler to CDM's Field Team Leader (FTL). The FTL ensured that the sample labels were completed legibly and correctly. Any discrepancies were discussed with the field samplers and corrections to the sample labels were made as needed. All sample labels were covered with clear tape, the sleeves and jars placed back into their plastic baggie, and refrigerated.

All sampling information was recorded onto one or more chain-of-custody (CoC) forms. Each sampler reviewed the CoC and any discrepancies were corrected by the FTL. 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 in accordance with Section 6.4 of the *Master Work Plan/Field Sampling and Analysis Plan, Co-Located Chemical Sampling at Area IV, Santa Susana Field Laboratory, Ventura County, California* (CDM 2011a).

2.4 Field Quality Control Procedures

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

Only two surface locations were sampled in Subarea 3 and a separate MS/MSD and duplicate sample was not collected. Rather, these surface samples were associated with a surface MS/MSD/duplicate sample collected from Subarea 5D South on the same day. One subsurface duplicate/MS/MSD sample was collected and analyzed for both the primary and secondary analytes.

For Subarea 6, seven duplicate/MS/MSD samples were collected in association with the surface samples and analyzed for primary analytes and pesticides and herbicides. Two of these

duplicate/MS/MSD samples were analyzed for all secondary analytes and three others were analyzed for terphenyls, glycols, alcohols, and TPH (EFH and GRO) only.

2.4.2 Equipment Rinsate Blank Samples

As stated in the Master WP/FSAP, equipment rinsate blanks were to be prepared and submitted for chemical analysis at a minimum frequency of one per 20 parent soil samples collected for each sampling technique and whenever there were changes in the sample collection procedures, sampling decontamination procedures, or sampling equipment. The week of June 20, 2011, during sampling in Subarea 5D North, the frequency of collection of equipment blanks was changed (to align with frequency of collection of equipment blanks performed under the RFI program) to weekly for both surface/drainage and subsurface samples regardless of the number of soil samples collected.

During the period of time Subareas 3 and 6 were sampled, other subareas were being sampled concurrently. Therefore although equipment blanks were labeled with a specific subarea in the sample number, they were in some instances also related to samples collected from other subareas. Equipment blanks that are associated with Subarea 3 soil samples are listed below.

Equipment Blank Number	Equipment Blank Date	Equipment Blank Analyses	Soil Sample Type
EB-SA5DS-SS-092811	9/28/11	Primary, pesticide/herbicides	Surface
EB-SA3-SB-101211	10/12/11	Primary, secondary, VOCs & dioxane	Subsurface
EB-SA7-SB-101311	10/13/11	Primary and secondary	Subsurface
EB-SA5DS-SB-111011	11/10/11	Primary and secondary	Subsurface

The equipment blanks that are associated with the Subarea 6 soil samples are listed below.

Equipment Blank Number	Equipment Blank Date	Equipment Blank Analyses	Soil Sample Type
EB-SA6-SS-071211	7/12/11	Primary, secondary, pesticide/herbicides	Surface
EB-SA6-SB-071311	7/13/11	Primary, secondary, VOCs & dioxane	Subsurface
EB-SA6-SS-071311	7/13/11	VOCs/dioxane/TPH-GRO	Surface
EB-SA6-SS-071911	7/19/11	Primary, secondary, pesticide/herbicides	Surface
EB-SA6-SB-072011	7/20/11	Primary, secondary, VOCs & dioxane	Subsurface
EB-SA6-SS-072611	7/26/11	Primary, secondary, pesticide/herbicides	Surface
EB-SA6-SB-072711	7/27/11	Primary, secondary, VOCs & dioxane	Subsurface
EB-SA6-SB-080211	8/2/11	Primary, secondary, VOCs & dioxane	Subsurface
EB23-SA5DN-SB-080311	8/3/11	Primary, secondary, VOCs & dioxane	Subsurface
EB-SA6-SB-080911	8/9/11	Primary, secondary, VOCs & dioxane	Subsurface
EB-SA5DN-SB-081111	8/11/11	Primary, secondary, VOCs & dioxane	Subsurface
EB-SA6-SB-081711	8/17/11	Primary, secondary, VOCs & dioxane	Subsurface
EB-SA6-SB-082311	8/23/11	Primary, secondary, VOCs & dioxane	Subsurface
EB-SA6-SB-082411	8/24/11	Primary, secondary, VOCs & dioxane	Subsurface
EB-SA6-SB-083011	8/30/11	Primary, secondary	Subsurface
EB-SA6-SB-090711	9/7/11	Primary, secondary, VOCs & dioxane	Subsurface

Equipment Blank Number	Equipment Blank Date	Equipment Blank Analyses	Soil Sample Type
EB-SA7-SB-091411	9/14/11	Primary, secondary, pesticide/herbicides	Surface
EB-SA7-SB-091511	9/15/11	Primary, secondary, VOCs & dioxane	Subsurface
EB-SA6-SB-100511	10/5/11	Primary, secondary, VOCs & dioxane	Subsurface
EB-SA6-SB-100611	10/6/11	Primary, secondary, VOCs & dioxane, pesticides/herbicides	Subsurface
EB-SA3-SB-101211	10/12/11	Primary, secondary	Subsurface
EB-SA7-SB-101311	10/13/11	Primary, secondary	Subsurface
EB-SA6-SB-120111	12/1/11	Primary, secondary, VOCs & dioxane, pesticides/herbicides	Subsurface

Several equipment blanks (consisting of HGL's American Society for Testing and Materials [ASTM] Type II water) were also collected only for NDMA during the period of time sampling was performed in Subareas 3 and 6. Collection of these equipment blanks began when review of equipment blank data indicated that NDMA was being detected in equipment blanks collected in association with soil samples from other subareas of Area IV. The field team was instructed by the project manager to begin collecting equipment blanks using HGL's ASTM Type II water and submitting soil (i.e., baked sand prepared by LLI) and water trip blanks in an effort to determine a possible source of the NDMA other than onsite. Results of all NDMA equipment and trip blank analyses will be discussed in a separate report.

2.4.3 Field Blank Samples

Field blanks were to be collected once for each lot number of ASTM Type II water that HGL used for decontamination. No field blanks were collected during sampling in Subareas 3 and 6.

2.4.4 Decontamination of Sampling Equipment

All drilling equipment was cleaned by HGL and their DPT subcontractor before and after completing each boring. This included the sampling device and drill rods. 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.

Hand sampling equipment used to collect the surface and drainage samples, including shovels, hand trowels, and mixing bowls, were decontaminated as follows:

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

If the sampling device was not used immediately after being decontaminated, it was wrapped in oil-free aluminum foil, or placed in a closed plastic, stainless steel, glass, or Teflon® container.

2.5 Analytical Laboratory Methods and Procedures

2.5.1 Analytical Methods

The analytical methods for the co-located chemical soil samples were divided into two suites of analyses. The primary suite performed on all samples includes:

- Metals using EPA Methods 6010B/6020, 7471A (mercury), and 7199 (chromium VI)
- Soil pH using EPA Method 9045M
- Fluoride using EPA Method 300.0
- SVOCs using EPA Method 8270C and PAHs using Method 8270C selective ion monitoring (SIM)
- PCBs and PCTs using EPA Method 8082
- Dioxins and furans using EPA Method 1613B
- Perchlorate using EPA Method 314.0 (and EPA Method 6850 for verification of non-detects at a rate of 10 percent of the samples submitted)

Surface soil samples only were also to be analyzed for:

- Pesticides using EPA Method 8081A
- Herbicides using EPA Method 8151A

Locations selected for sampling for the secondary suite of analyses were based on several factors including locations with a process history of the specific chemical usage, sample sites with elevated instrument readings, soil fill, waste, or visually contaminated materials. The secondary list of analyses includes:

- Nitrates using EPA Method 300.0
- Formaldehyde using EPA Method 8315A
- TPH-GRO/TPH-EFH/glycols using EPA Method 8015M
- NDMA using EPA Method 1625C
- Energetics using EPA Method 8330A
- Cyanide using EPA Method 9012B
- Alcohols and terphenyls using EPA Method 8015B

Through July 22, 2011, all shallow (i.e., target depth of 4 to 5 feet bgs) subsurface soil samples and any deeper subsurface soil samples at locations where both the primary and secondary suites were to be sampled, were also analyzed for:

- EPA Method 8260B for VOCs and
- EPA Method 8260B SIM for 1,4-dioxane

These analyses were also to be performed on samples collected from deeper target depths at locations that were originally proposed for primary analyses only, but that exhibited elevated instrument readings, soil fill, waste, or visually contaminated materials.

After July 22, 2011, shallow subsurface soil samples were to be analyzed for VOCs and 1,4-dioxane only at locations that exhibited at least one of the following:

- Field instruments indicated the presence of VOCs above background
- Staining or exhibiting organic odors
- Targeting a feature such as a sump or tank known or suspected to have contained VOCs
- RFI data indicate the potential for VOCs to be at the subsurface soil/bedrock interface
- RFI data indicate potential for VOCs to be harbored in clay soil

2.5.2 Analytical Method Modifications

The analytical laboratory used for Subareas 3 and 6 co-located soil sampling effort was LLI of Lancaster, Pennsylvania. LLI was selected by competitive procurement based on their proposed method detection limits (MDLs). Selection of LLI as the co-located soil analytical laboratory was discussed with the community on October 10, 2010. A second laboratory (EMAX) located in Torrance, CA was subcontracted and sample splits collected in Subarea 6 were shipped to EMAX on November 1, 2011, November 30, and December 1, 2011. EMAX performed all analyses with the exception of samples collected for dioxin/furans, formaldehyde and terphenyls. Although the methods performed by EMAX are not identical to the methods performed by LLI in some cases, the methods are equivalent. The sample splits analyzed by EMAX were used to evaluate the reproducibility of the sample results between the two laboratories. A separate TM discussing these results is under production.

The analytical methods identified for the co-located soil sampling were selected to be consistent with the methods used for the RFI. These analytical methods are presented in the *Quality Assurance Project Plan, Santa Susana Field Laboratory RCRA Facility Investigation, Surficial Media Operable Unit* (MECx 2009) (RFI Quality Assurance Project Plan [QAPP]) and are listed in Table 2-3.

For Subareas 3 and 6 sampling, CDM also evaluated the RFI QAPP detection limits relative to risk-based soil criteria. There were several instances where risk-based soil values were lower than the RFI QAPP limits. To determine whether the analytical MDL could be lowered, method modifications were discussed with DTSC and LLI chemists at the time of implementation. The ability of the laboratory to achieve project reporting limits (RLs) and QC goals using these method modifications remains under evaluation by the project chemists. Table 2-3 also identifies methods that have been modified in an effort to lower respective MDLs and RLs.

Table 2-3 Analytical Methods and Method Modifications for Soil

Parameter Group	Analytical Method	Method Modified?
Volatile Organic Compounds	EPA 8260B	No
1,4-Dioxane	EPA 8260B SIM	No
Primary Analytes		
Select SVOCs	EPA 8270C SIM	No
SVOCs	EPA 8270C	No
Metals (including Mercury)	EPA 6010B/6020/7471A	No
Chromium VI	EPA 7199	No
Fluoride	EPA 300.0	No
Perchlorate[1]	EPA 6850	No
Perchlorate	EPA 314.0	No

Table 2-3 Analytical Methods and Method Modifications for Soil

Parameter Group	Analytical Method	Method Modified?
PCBs/PCTs	EPA 8082	Yes
Pesticides	EPA 8081A	Yes
Herbicides	EPA 8151A	Yes
Dioxins/Furans	EPA 1613B	No
Secondary Analytes		
Alcohols	EPA 8015B	Yes
Terphenyls	EPA 8015B	Yes
Glycols	EPA 8015M	Yes
TPH (GRO and EFH)	EPA 8015M	Yes
Formaldehyde	EPA 8315A	Yes
n-Nitrosodimethylamine[2]	EPA 1625C	No
Energetics	EPA 8330A	Yes
Nitrate	EPA 300.0	No
Cyanide	EPA 9012B	No
pH	EPA 9045M	No

[1] Perchlorate by Method EPA 6850 was analyzed on 10 percent of samples analyzed by Method EPA 314.0

[2] n-Nitrosodimethylamine was analyzed by both Methods 8270C and 8270C SIM in addition to 1625C

The method modifications primarily involved increasing the prescribed sample volume (soil mass extracted) and concentrating the resulting extract to a smaller final volume, as follows:

- Method 8082 (PCBs and PCTs) – 60 grams of sample prepared and concentrated 5 fold to a final volume of 2 milliliters (mL)
- Method 8081A (Pesticides) – 60 grams of sample prepared and taken to a final volume of 4 mL (due to extract cleanup techniques)
- Method 8151A (Herbicides) – 60 grams of sample prepared and taken to a final volume of 2 mL
- Method 8330A (Energetics) – 5 grams of sample prepared in 10 mL of solvent
- Method 8315A (Formaldehyde) – 20 grams of sample used to prepare the leachate
- Method 8015M (TPH-EFH) – 60 grams of sample prepared and taken to a final volume of 1 mL
- Method 8015B (Alcohols) – 10 grams of sample prepared and taken to a final volume of 5 mL
- Method 8015M (Glycols) – 10 grams of sample prepared and taken to a final volume of 5 mL
- Method 8015B (Terphenyls) – 60 grams of sample prepared and extract concentrated to a final volume of 5 mL instead of 10 mL

For samples analyzed for glycols, an additional method modification was used. The normal method prescribes water extraction of the soils followed by concentration and then analysis by direct injection of the extract. The extraction procedure was altered by using acetone as the extraction solvent followed by concentration and then direct injection into the gas chromatograph. This modification was developed as a response to observed continuing calibration exceedences that could not be corrected using the standard procedure. These exceedances were due to the analytical column experiencing rapid degradation as a result of injecting water.

2.6 Data Review Processes

Analytical data produced by LLI 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.

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 exceedences, and blank contamination. The laboratory consults with the project chemists on these issues and receives instruction on how to proceed before reporting the sample results.
- Review of the laboratory-specific QC data. These data are provided by the laboratory in summary form. Any unanticipated deviations from the project or method-specific criteria are reconciled with the laboratory at this stage.

2.7 Increased Field and Laboratory Quality Control Measures

Further evaluation of additional quality control items such as the frequency of equipment blank collection and evaluation of low level RLs were identified and implemented during the field sampling and laboratory analytical program. In addition, a second analytical laboratory (EMAX) was contracted in to provide analytical services at the SSFL site. These additional measures of quality control were developed in order to address and monitor these items throughout the sampling program.

The frequency of collection for equipment blanks was changed from the original collection frequency of one per 20 parent soil samples to weekly for both surface/drainage and subsurface samples regardless of the number of soil samples collected. This change was implemented during sampling in Subarea 5D North the week of June 20, 2011, and was initiated in order to align with the frequency of collection of equipment blanks performed under the RFI program.

As discussed above, collection of additional equipment blanks consisting of HGL's ASTM Type II water was initiated when review of equipment blank data indicated that NDMA was being detected in equipment blanks collected from other subareas (e.g., Subarea 5C) of Area IV. During sampling in

Subareas 3 and 6, three equipment blanks (consisting of HGL's ASTM Type II water) were collected for NDMA only.

CDM further evaluated the modified RLs in conjunction with a request by DTSC chemists to verify that LLI was achieving the lower RL, LLI was requested in September 2011 to analyze additional soil QC samples spiked near the RL to verify their RLs and to evaluate precision and accuracy results. The QC samples consisted of MS and laboratory control samples (LCS) that were spiked at the MRL. LCSs consist of an aliquot of blank matrix (sand) to which known quantities of the method analyte and all preservation compounds are added. The LCS is prepared and analyzed in a similar manner as the sample. Results and evaluation of these additional QC samples is on-going.

Sample splits were collected and analyzed by both LLI and EMAX for select locations. These splits serve as a check on LLI and EMAX procedures and results as well an evaluation of the RLs proposed by EMAX. An evaluation of these split sample results will be reported in a separate TM.

2.8 Deviations from the WP/FSAP

During the field sampling and analytical programs, modifications from the procedures detailed in the WP/FSAP (CDM 2011a) were required. These deviations and associated resolutions were discussed with the FTL, the project manager, and in some cases with the DTSC representative prior to implementation. These deviations are described below.

2.8.1 Field Sampling

A total of 10 locations in Subarea 3 (Table 2-1) were to be sampled at one or more depths. Subsurface samples were not collected at two locations (SL-002 and SL-003) due to shallow refusal at less than 2.5 feet.

A total of 244 locations in Subarea 6 (Table 2-2) were to be sampled at one or more depths. No subsurface samples were collected at 83 locations as noted on Table 2-2 due to shallow refusal at less than 2.5 feet bgs, and samples were not collected at SL-140 and SL-141 due to archeological concerns.

Subsurface sampling using a hand auger was not originally planned in the Master WP/FSAP or the FSAP Addendums for Subareas 3 and 6. Two locations in Subarea 3 and 29 locations in Subarea 6 were hand augered as noted in Table 2-1 and Table 2-2, respectively. All locations hand augered in both subareas were sampled using a slide hammer for collection of soil submitted for SVOC, PAH, and PCB/PCT analyses and all required Encore® samplers for VOCs/1,4-dioxane or TPH-GRO analyses were collected from one end of the sleeves.

Review of the data is ongoing to ascertain whether VOC and SVOC results should be qualified based on changes to the planned sampling procedure. The results of this review will be reported in a future revision of this document.

For the surface/drainage samples collected on August 30 (SL-305, SL-306), October 6 (SL-229, SL-230, SL-232, SL-234), November 29 (SL-285), and November 30 (SL-282, SL-283, and SL-284) 2011, no equipment blanks were collected during the weeks these soil samples were collected.

2.8.2 Analytical

As noted in Section 2.5.2, some analytical methods have been modified for this project. All modifications were discussed with DTSC representatives prior to their implementation. Review of the

analytical methods and sample results indicates that the objectives for the project were addressed for all non-modified analyses. All modified analyses are undergoing further studies evaluating the effect of the modifications on precision and accuracy. The RL-LCS and RL-MS QC samples analyzed by LLI are a primary component of these studies. An independent study evaluating the precision and accuracy of the modified herbicide method has been completed. Review of these herbicide results indicate that the method modifications did not achieve precision and accuracy goals at this lower reporting limit for some of the analytes. Data are currently under further review and it is likely that reporting limits may be elevated for some analytes.

Section 3

Area IV Subareas 3 and 6 Soil Sampling Results

Because this TM only provides a presentation of the analytical results, data in this section are presented in a summary fashion. Table 3-1 provides a summary of the Subarea 3 surface and drainage soil data. The table details the chemicals analyzed, their associated frequency of detection, the minimum and maximum detected concentrations, the range of observed detection limits and 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. Table 3-2 provides the same information for Subarea 3 subsurface soil data. This table also indicates at what depth the maximum concentrations were observed. Table 3-3 provides a summary of the Subarea 3 combined surface and subsurface datasets.

For Subarea 6, Table 3-4 provides a summary of the surface soil data, Table 3-5 provides a summary of the subsurface soil data, and Table 3-6 provides a summary of the combined surface and subsurface datasets. In these tables, the sample splits analyzed by EMAX have been identified with the word "split" in the sample type column. All other samples were analyzed by LLI.

When screening criteria are developed to assess the presence/absence of contamination (i.e., above/below the applicable criteria) the Subareas 3 and 6 data will be combined with RFI data to better define the nature and extent of surface soil contamination throughout Subareas 3 and 6.

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. 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).

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Table 3-1
Summary of Analytical Results for Chemicals - Validated Data
Surface Soils - HSA - 3

Group	Chemical	CAS No	Analytic Method	Detection Frequency	Minimum Concentration	Maximum Concentration	Range of Method Detection Limit	Range of Method Reporting Limit	Unit	Location of Maximum Concentration	Depth of Maximum Concentration
Inorganic	Aluminum	7429-90-5	6010B	2 / 2	11300	13700	5.87 - 5.93	19.4 - 19.6	mg/kg	SL-001-SA3	0 - 0.5
Inorganic	Antimony	7440-36-0	6020	2 / 2	0.122 J Q, Z	0.141 J Q, Z	0.0725 - 0.0733	0.196 - 0.198	mg/kg	SL-002-SA3	0 - 0.5
Inorganic	Arsenic	7440-38-2	6020	2 / 2	2.97 J Q	3.15 J Q	0.0784 - 0.0792	0.392 - 0.396	mg/kg	SL-001-SA3	0 - 0.5
Inorganic	Barium	7440-39-3	6020	2 / 2	84.7 J A	86.7 J A	0.104 - 0.105	0.392 - 0.396	mg/kg	SL-002-SA3	0 - 0.5
Inorganic	Beryllium	7440-41-7	6020	2 / 2	0.367	0.458	0.0157 - 0.0158	0.0980 - 0.0990	mg/kg	SL-001-SA3	0 - 0.5
Inorganic	Boron	7440-42-8	6010B	2 / 2	5.61	5.94	0.350 - 0.353	4.85 - 4.90	mg/kg	SL-001-SA3	0 - 0.5
Inorganic	Cadmium	7440-43-9	6020	2 / 2	0.170 J Q	0.217 J Q	0.0431 - 0.0436	0.0980 - 0.0990	mg/kg	SL-002-SA3	0 - 0.5
Inorganic	Calcium	7440-70-2	6010B	2 / 2	2100	2460	2.43 - 2.45	19.4 - 19.6	mg/kg	SL-002-SA3	0 - 0.5
Inorganic	Chromium	7440-47-3	6020	2 / 2	12.0 J A	14.7 J A	0.118 - 0.119	0.392 - 0.396	mg/kg	SL-002-SA3	0 - 0.5
Inorganic	Chromium VI	18540-29-9	7199	0 / 2	-	-	0.20 - 0.20	1.0 - 1.0	mg/kg		-
Inorganic	Cobalt	7440-48-4	6020	2 / 2	3.80	4.31	0.0196 - 0.0198	0.0980 - 0.0990	mg/kg	SL-002-SA3	0 - 0.5
Inorganic	Copper	7440-50-8	6020	2 / 2	6.59 J Q	7.24 J Q	0.0784 - 0.0792	0.392 - 0.396	mg/kg	SL-002-SA3	0 - 0.5
Inorganic	Fluoride	16984-48-8	300.0	1 / 2	1.4 J Q	1.4 J Q	0.79 - 0.80	0.99 - 1.0	mg/kg	SL-002-SA3	0 - 0.5
Inorganic	Iron	7439-89-6	6010B	2 / 2	18200	19300	2.53 - 2.56	19.4 - 19.6	mg/kg	SL-002-SA3	0 - 0.5
Inorganic	Lead	7439-92-1	6020	2 / 2	15.0 J A	15.5 J A	0.0100 - 0.0101	0.196 - 0.198	mg/kg	SL-002-SA3	0 - 0.5
Inorganic	Lithium	7439-93-2	6010B	2 / 2	24.6	25.8	0.60 - 0.61	1.9 - 2.0	mg/kg	SL-002-SA3	0 - 0.5
Inorganic	Magnesium	7439-95-4	6010B	2 / 2	3360	4560	0.427 - 0.431	9.71 - 9.80	mg/kg	SL-002-SA3	0 - 0.5
Inorganic	Manganese	7439-96-5	6010B	2 / 2	284	289	0.0350 - 0.0353	0.485 - 0.490	mg/kg	SL-002-SA3	0 - 0.5
Inorganic	Mercury	7439-97-6	7471A	0 / 2	-	-	0.0069 - 0.0069	0.0982 - 0.0987	mg/kg		-
Inorganic	Molybdenum	7439-98-7	6020	2 / 2	0.429 J Q	0.473 J Q	0.0490 - 0.0495	0.0980 - 0.0990	mg/kg	SL-001-SA3	0 - 0.5
Inorganic	Nickel	7440-02-0	6020	2 / 2	8.35 J Q, A	9.40 J Q, A	0.0980 - 0.0990	0.392 - 0.396	mg/kg	SL-002-SA3	0 - 0.5
Inorganic	Percent Moisture	MOIST	160.3M	0 / 2	-	-	0.50 - 0.50	0.50 - 0.50	%		-
Inorganic	Perchlorate	14797-73-0	314.0	0 / 2	-	-	9.0 - 9.0	30.0 - 30.0	ug/kg		-
Inorganic	pH	pH	9045M	2 / 2	6.16	6.44	0.0100 - 0.0100	0.0100 - 0.0100	pH unit	SL-002-SA3	0 - 0.5
Inorganic	Phosphorus	7723-14-0	6010B	2 / 2	373	470	0.340 - 0.343	9.71 - 9.80	mg/kg	SL-002-SA3	0 - 0.5
Inorganic	Potassium	7440-09-7	6010B	2 / 2	3470	4040	11.0 - 11.1	48.5 - 49.0	mg/kg	SL-001-SA3	0 - 0.5
Inorganic	Selenium	7782-49-2	6020	2 / 2	0.132 J Q, Z	0.145 J Q, Z	0.0569 - 0.0574	0.392 - 0.396	mg/kg	SL-001-SA3	0 - 0.5
Inorganic	Silver	7440-22-4	6020	2 / 2	0.0759 J Q, Z	0.0809 J Q, Z	0.0139 - 0.0141	0.0980 - 0.0990	mg/kg	SL-002-SA3	0 - 0.5
Inorganic	Sodium	7440-23-5	6010B	2 / 2	74.5 J Z	87.8 J Z	5.78 - 5.83	97.1 - 98.0	mg/kg	SL-001-SA3	0 - 0.5
Inorganic	Strontium	7440-24-6	6010B	2 / 2	14.1	18.8	0.0243 - 0.0245	0.485 - 0.490	mg/kg	SL-001-SA3	0 - 0.5
Inorganic	Thallium	7440-28-0	6020	2 / 2	0.237 J Q	0.251 J Q	0.0294 - 0.0297	0.0980 - 0.0990	mg/kg	SL-001-SA3	0 - 0.5
Inorganic	Tin	7440-31-5	6010B	0 / 2	-	-	0.311 - 0.314	9.71 - 9.80	mg/kg		-
Inorganic	Titanium	7440-32-6	6010B	2 / 2	1120	1130	0.0689 - 0.0696	0.971 - 0.980	mg/kg	SL-002-SA3	0 - 0.5
Inorganic	Vanadium	7440-62-2	6020	2 / 2	24.5 J A	31.0 J A	0.0216 - 0.0218	0.0980 - 0.0990	mg/kg	SL-002-SA3	0 - 0.5
Inorganic	Zinc	7440-66-6	6020	2 / 2	86.9 J A	106 J A	0.549 - 0.554	2.94 - 2.97	mg/kg	SL-002-SA3	0 - 0.5
Inorganic	Zirconium	7440-67-7	6010B	0 / 2	-	-	0.447 - 0.451	4.85 - 4.90	mg/kg		-
PCBs and Dioxins	1,2,3,4,6,7,8-HpCDD	35822-46-9	1613B	2 / 2	7.87	7.87	0.0516 - 0.0576	4.82 - 4.94	ng/kg	SL-001-SA3 SL-002-SA3	0 - 0.5 0 - 0.5
PCBs and Dioxins	1,2,3,4,6,7,8-HpCDF	67562-39-4	1613B	2 / 2	2.10 J Z	2.15 J Z	0.0216 - 0.0250	4.82 - 4.94	ng/kg	SL-001-SA3	0 - 0.5
PCBs and Dioxins	1,2,3,4,7,8,9-HpCDF	55673-89-7	1613B	0 / 2	-	-	0.0460 - 0.0563	4.82 - 4.94	ng/kg		-
PCBs and Dioxins	1,2,3,4,7,8-HxCDD	39227-28-6	1613B	2 / 2	0.176 J Z	0.183 J Z	0.0448 - 0.0513	4.82 - 4.94	ng/kg	SL-001-SA3	0 - 0.5
PCBs and Dioxins	1,2,3,4,7,8-HxCDF	70648-26-9	1613B	2 / 2	0.287 J Z	0.465 J Z	0.0378 - 0.0430	4.82 - 4.94	ng/kg	SL-002-SA3	0 - 0.5
PCBs and Dioxins	1,2,3,6,7,8-HxCDD	57653-85-7	1613B	2 / 2	0.460 J Z	0.534 J Z	0.0433 - 0.0473	4.82 - 4.94	ng/kg	SL-001-SA3	0 - 0.5
PCBs and Dioxins	1,2,3,6,7,8-HxCDF	57117-44-9	1613B	2 / 2	0.186 J Z	0.215 J Z	0.0289 - 0.0361	4.82 - 4.94	ng/kg	SL-001-SA3	0 - 0.5
PCBs and Dioxins	1,2,3,7,8,9-HxCDD	19408-74-3	1613B	2 / 2	0.312 J Z	0.450 J Z	0.0404 - 0.0412	4.82 - 4.94	ng/kg	SL-001-SA3	0 - 0.5
PCBs and Dioxins	1,2,3,7,8,9-HxCDF	72918-21-9	1613B	1 / 2	0.147 J Z	0.147 J Z	0.0455 - 0.0486	4.82 - 4.94	ng/kg	SL-001-SA3	0 - 0.5
PCBs and Dioxins	1,2,3,7,8-PeCDD	40321-76-4	1613B	1 / 2	0.142 J Z	0.142 J Z	0.0428 - 0.0471	4.82 - 4.94	ng/kg	SL-001-SA3	0 - 0.5
PCBs and Dioxins	1,2,3,7,8-PeCDF	57117-41-6	1613B	1 / 2	0.176 J Z	0.176 J Z	0.0337 - 0.0459	4.82 - 4.94	ng/kg	SL-002-SA3	0 - 0.5
PCBs and Dioxins	2,3,4,6,7,8-HxCDF	60851-34-5	1613B	2 / 2	0.244 J Z	0.365 J Z	0.0344 - 0.0400	4.82 - 4.94	ng/kg	SL-001-SA3	0 - 0.5
PCBs and Dioxins	2,3,4,7,8-PeCDF	57117-31-4	1613B	0 / 2	-	-	0.0386 - 0.0461	4.82 - 4.94	ng/kg		-
PCBs and Dioxins	2,3,7,8-TCDD	1746-01-6	1613B	1 / 2	0.064 J Z	0.064 J Z	0.0470 - 0.0488	0.964 - 0.987	ng/kg	SL-001-SA3	0 - 0.5
PCBs and Dioxins	2,3,7,8-TCDF	51207-31-9	1613B	2 / 2	0.186 J Z	0.242 J Z	0.0673 - 0.0768	0.964 - 0.987	ng/kg	SL-002-SA3	0 - 0.5
PCBs and Dioxins	Aroclor 1016	12674-11-2	8082	0 / 2	-	-	0.33 - 0.33	1.7 - 1.7	ug/kg		-
PCBs and Dioxins	Aroclor 1221	11104-28-2	8082	0 / 2	-	-	0.33 - 0.33	1.7 - 1.7	ug/kg		-

Table 3-1
Summary of Analytical Results for Chemicals - Validated Data
Surface Soils - HSA - 3

Group	Chemical	CAS No	Analytic Method	Detection Frequency	Minimum Concentration	Maximum Concentration	Range of Method Detection Limit	Range of Method Reporting Limit	Unit	Location of Maximum Concentration	Depth of Maximum Concentration
PCBs and Dioxins	Aroclor 1232	11141-16-5	8082	0 / 2	-	-	0.33 - 0.33	1.7 - 1.7	ug/kg		-
PCBs and Dioxins	Aroclor 1242	53469-21-9	8082	0 / 2	-	-	0.33 - 0.33	1.7 - 1.7	ug/kg		-
PCBs and Dioxins	Aroclor 1248	12672-29-6	8082	0 / 2	-	-	0.33 - 0.33	1.7 - 1.7	ug/kg		-
PCBs and Dioxins	Aroclor 1254	11097-69-1	8082	2 / 2	0.53 J Z	1.3 J Z	0.33 - 0.33	1.7 - 1.7	ug/kg	SL-002-SA3	0 - 0.5
PCBs and Dioxins	Aroclor 1260	11096-82-5	8082	2 / 2	1.3 J Z	2.9	0.39 - 0.39	1.7 - 1.7	ug/kg	SL-002-SA3	0 - 0.5
PCBs and Dioxins	Aroclor 1262	37324-23-5	8082	0 / 2	-	-	0.33 - 0.33	1.7 - 1.7	ug/kg		-
PCBs and Dioxins	Aroclor 1268	11100-14-4	8082	0 / 2	-	-	0.33 - 0.33	1.7 - 1.7	ug/kg		-
PCBs and Dioxins	Aroclor 5432	63496-31-1	8082	0 / 2	-	-	1.0 - 1.0	3.3 - 3.3	ug/kg		-
PCBs and Dioxins	Aroclor 5442	12642-23-8	8082	0 / 2	-	-	1.0 - 1.0	3.3 - 3.3	ug/kg		-
PCBs and Dioxins	Aroclor 5460	11126-42-4	8082	2 / 2	3.0 J Z	3.6	1.0 - 1.0	3.3 - 3.3	ug/kg	SL-002-SA3	0 - 0.5
PCBs and Dioxins	OCDD	3268-87-9	1613B	2 / 2	72.8	81.3	0.0573 - 0.0597	9.64 - 9.87	ng/kg	SL-002-SA3	0 - 0.5
PCBs and Dioxins	OCDF	39001-02-0	1613B	2 / 2	5.56 J Z	6.98 J Z	0.0582 - 0.0765	9.64 - 9.87	ng/kg	SL-002-SA3	0 - 0.5
Pesticides	2,2-Dichlor-Propionic Acid	75-99-0	8151A	0 / 2	-	-	4.4 - 4.4	9.0 - 9.0	ug/kg		-
Pesticides	2,4 DB	94-82-6	8151A	0 / 2	-	-	3.8 - 23	3.8 - 23	ug/kg		-
Pesticides	2,4,5-T	93-76-5	8151A	0 / 2	-	-	0.082 - 0.082	0.17 - 0.17	ug/kg		-
Pesticides	2,4,5-TP	93-72-1	8151A	1 / 2	0.29	0.29	0.075 - 0.075	0.17 - 0.17	ug/kg	SL-002-SA3	0 - 0.5
Pesticides	2,4-D	94-75-7	8151A	1 / 2	2.5 J Z	2.5 J Z	1.2 - 4.7	3.6 - 4.7	ug/kg	SL-002-SA3	0 - 0.5
Pesticides	4,4'-DDD	72-54-8	8081A	0 / 2	-	-	0.066 - 0.32	0.34 - 0.34	ug/kg		-
Pesticides	4,4'-DDE	72-55-9	8081A	2 / 2	0.70 J S	1.5	0.066 - 0.066	0.34 - 0.34	ug/kg	SL-002-SA3	0 - 0.5
Pesticides	4,4'-DDT	50-29-3	8081A	2 / 2	0.91 J S	1.4	0.066 - 0.066	0.34 - 0.34	ug/kg	SL-002-SA3	0 - 0.5
Pesticides	Aldrin	309-00-2	8081A	0 / 2	-	-	0.066 - 0.066	0.17 - 0.17	ug/kg		-
Pesticides	Alpha-BHC	319-84-6	8081A	0 / 2	-	-	0.034 - 0.034	0.17 - 0.17	ug/kg		-
Pesticides	Beta-BHC	319-85-7	8081A	0 / 2	-	-	0.060 - 0.060	0.17 - 0.17	ug/kg		-
Pesticides	Chlordane	57-74-9	8081A	2 / 2	1.7 J Z	2.4 J S, Z	0.80 - 0.80	3.4 - 3.4	ug/kg	SL-001-SA3	0 - 0.5
Pesticides	Delta-BHC	319-86-8	8081A	0 / 2	-	-	0.036 - 0.036	0.17 - 0.17	ug/kg		-
Pesticides	Dicamba	1918-00-9	8151A	0 / 2	-	-	0.40 - 0.40	1.2 - 1.2	ug/kg		-
Pesticides	Dichlorprop	120-36-5	8151A	1 / 2	1.6 J Z	1.6 J Z	0.80 - 0.80	1.7 - 1.7	ug/kg	SL-001-SA3	0 - 0.5
Pesticides	Dieldrin	60-57-1	8081A	0 / 2	-	-	0.066 - 0.093	0.34 - 0.34	ug/kg		-
Pesticides	Dinitrobutyl Phenol	88-85-7	8151A	0 / 2	-	-	0.80 - 0.80	2.4 - 2.4	ug/kg		-
Pesticides	Endosulfan I	959-98-8	8081A	0 / 2	-	-	0.044 - 0.044	0.17 - 0.17	ug/kg		-
Pesticides	Endosulfan II	33213-65-9	8081A	0 / 2	-	-	0.066 - 0.068	0.34 - 0.34	ug/kg		-
Pesticides	Endosulfan Sulfate	1031-07-8	8081A	0 / 2	-	-	0.066 - 0.066	0.34 - 0.34	ug/kg		-
Pesticides	Endrin	72-20-8	8081A	0 / 2	-	-	0.066 - 0.066	0.34 - 0.34	ug/kg		-
Pesticides	Endrin Aldehyde	7421-93-4	8081A	0 / 2	-	-	0.11 - 0.17	0.34 - 0.34	ug/kg		-
Pesticides	Endrin Ketone	53494-70-5	8081A	0 / 2	-	-	0.066 - 0.095	0.34 - 0.34	ug/kg		-
Pesticides	Gamma-BHC (Lindane)	58-89-9	8081A	0 / 2	-	-	0.034 - 0.034	0.17 - 0.17	ug/kg		-
Pesticides	Heptachlor	76-44-8	8081A	0 / 2	-	-	0.060 - 0.060	0.17 - 0.17	ug/kg		-
Pesticides	Heptachlor Epoxide	1024-57-3	8081A	0 / 2	-	-	0.063 - 0.073	0.17 - 0.17	ug/kg		-
Pesticides	MCPA	94-74-6	8151A	0 / 2	-	-	76 - 76	250 - 250	ug/kg		-
Pesticides	MCPP	93-65-2	8151A	0 / 2	-	-	75 - 75	250 - 250	ug/kg		-
Pesticides	Methoxychlor	72-43-5	8081A	0 / 2	-	-	0.34 - 0.34	1.7 - 1.7	ug/kg		-
Pesticides	Mirex	2385-85-5	8081A	0 / 2	-	-	0.066 - 0.12	0.34 - 0.34	ug/kg		-
Pesticides	Toxaphene	8001-35-2	8081A	0 / 2	-	-	2.2 - 4.6	6.6 - 6.6	ug/kg		-
Semivolatiles	1,2,4-Trichlorobenzene	120-82-1	8270C	0 / 2	-	-	17 - 17	170 - 170	ug/kg		-
Semivolatiles	1,2-Dichlorobenzene	95-50-1	8270C	0 / 2	-	-	17 - 17	170 - 170	ug/kg		-
Semivolatiles	1,2-Diphenylhydrazine	122-66-7	8270C	0 / 2	-	-	17 - 17	170 - 170	ug/kg		-
Semivolatiles	1,3-Dichlorobenzene	541-73-1	8270C	0 / 2	-	-	17 - 17	170 - 170	ug/kg		-
Semivolatiles	1,4-Dichlorobenzene	106-46-7	8270C	0 / 2	-	-	17 - 17	170 - 170	ug/kg		-
Semivolatiles	1-Methylnaphthalene	90-12-0	8270C SIM	0 / 2	-	-	0.66 - 0.66	1.6 - 1.7	ug/kg		-
Semivolatiles	2,4,5-Trichlorophenol	95-95-4	8270C	0 / 2	-	-	33 - 33	170 - 170	ug/kg		-
Semivolatiles	2,4,6-Trichlorophenol	88-06-2	8270C	0 / 2	-	-	33 - 33	170 - 170	ug/kg		-
Semivolatiles	2,4-Dichlorophenol	120-83-2	8270C	0 / 2	-	-	17 - 17	170 - 170	ug/kg		-
Semivolatiles	2,4-Dimethylphenol	105-67-9	8270C	0 / 2	-	-	33 - 33	170 - 170	ug/kg		-
Semivolatiles	2,4-Dinitrophenol	51-28-5	8270C	0 / 2	-	-	330 - 330	1000 - 1000	ug/kg		-

Table 3-1
Summary of Analytical Results for Chemicals - Validated Data
Surface Soils - HSA - 3

Group	Chemical	CAS No	Analytic Method	Detection Frequency	Minimum Concentration	Maximum Concentration	Range of Method Detection Limit	Range of Method Reporting Limit	Unit	Location of Maximum Concentration	Depth of Maximum Concentration
Semivolatiles	2,4-Dinitrotoluene	121-14-2	8270C	0 / 2	-	-	33 - 33	170 - 170	ug/kg		-
Semivolatiles	2,6-Dinitrotoluene	606-20-2	8270C	0 / 2	-	-	17 - 17	170 - 170	ug/kg		-
Semivolatiles	2-Chloronaphthalene	91-58-7	8270C	0 / 2	-	-	17 - 17	170 - 170	ug/kg		-
Semivolatiles	2-Chlorophenol	95-57-8	8270C	0 / 2	-	-	17 - 17	170 - 170	ug/kg		-
Semivolatiles	2-Methylnaphthalene	91-57-6	8270C SIM	1 / 2	0.66 J Z	0.66 J Z	0.66 - 0.66	1.6 - 1.7	ug/kg	SL-002-SA3	0 - 0.5
Semivolatiles	2-Methylphenol	95-48-7	8270C	0 / 2	-	-	33 - 33	170 - 170	ug/kg		-
Semivolatiles	2-Nitroaniline	88-74-4	8270C	0 / 2	-	-	17 - 17	170 - 170	ug/kg		-
Semivolatiles	2-Nitrophenol	88-75-5	8270C	0 / 2	-	-	17 - 17	170 - 170	ug/kg		-
Semivolatiles	3,3`-Dichlorobenzidine	91-94-1	8270C	0 / 2	-	-	100 - 100	330 - 330	ug/kg		-
Semivolatiles	3,5-Dimethylphenol	108-68-9	8270C	0 / 2	-	-	33 - 33	170 - 170	ug/kg		-
Semivolatiles	3-Nitroaniline	99-09-2	8270C	0 / 2	-	-	33 - 33	170 - 170	ug/kg		-
Semivolatiles	4,6-Dinitro-2-Methylphenol	534-52-1	8270C	0 / 2	-	-	170 - 170	500 - 500	ug/kg		-
Semivolatiles	4-Bromophenyl Phenyl Ether	101-55-3	8270C	0 / 2	-	-	17 - 17	170 - 170	ug/kg		-
Semivolatiles	4-Chloro-3-Methylphenol	59-50-7	8270C	0 / 2	-	-	33 - 33	170 - 170	ug/kg		-
Semivolatiles	4-Chloroaniline	106-47-8	8270C	0 / 2	-	-	67 - 67	170 - 170	ug/kg		-
Semivolatiles	4-Chlorophenyl Phenylether	7005-72-3	8270C	0 / 2	-	-	33 - 33	170 - 170	ug/kg		-
Semivolatiles	4-Methylphenol	106-44-5	8270C	0 / 2	-	-	33 - 33	170 - 170	ug/kg		-
Semivolatiles	4-Nitroaniline	100-01-6	8270C	0 / 2	-	-	67 - 67	170 - 170	ug/kg		-
Semivolatiles	4-Nitrophenol	100-02-7	8270C	0 / 2	-	-	170 - 170	500 - 500	ug/kg		-
Semivolatiles	Acenaphthene	83-32-9	8270C SIM	0 / 2	-	-	0.66 - 0.66	1.6 - 1.7	ug/kg		-
Semivolatiles	Acenaphthylene	208-96-8	8270C SIM	0 / 2	-	-	0.33 - 0.33	1.6 - 1.7	ug/kg		-
Semivolatiles	Aniline	62-53-3	8270C	0 / 2	-	-	170 - 170	500 - 500	ug/kg		-
Semivolatiles	Anthracene	120-12-7	8270C SIM	1 / 2	0.36 J Z	0.36 J Z	0.33 - 0.33	1.6 - 1.7	ug/kg	SL-002-SA3	0 - 0.5
Semivolatiles	Benzidine	92-87-5	8270C	0 / 2	-	-	1200 - 1200	3300 - 3300	ug/kg		-
Semivolatiles	Benzo(a)anthracene	56-55-3	8270C SIM	1 / 2	1.1 J Z	1.1 J Z	0.66 - 0.66	1.6 - 1.7	ug/kg	SL-002-SA3	0 - 0.5
Semivolatiles	Benzo(a)pyrene	50-32-8	8270C SIM	1 / 2	1.8	1.8	0.66 - 0.66	1.6 - 1.7	ug/kg	SL-002-SA3	0 - 0.5
Semivolatiles	Benzo(b)fluoranthene	205-99-2	8270C SIM	2 / 2	1.8	5.4	0.66 - 0.66	1.6 - 1.7	ug/kg	SL-002-SA3	0 - 0.5
Semivolatiles	Benzo(g,h,i)perylene	191-24-2	8270C SIM	1 / 2	1 J Z	1 J Z	0.66 - 0.66	1.6 - 1.7	ug/kg	SL-002-SA3	0 - 0.5
Semivolatiles	Benzo(k)fluoranthene	207-08-9	8270C SIM	1 / 2	1.1 J Z	1.1 J Z	0.66 - 0.66	1.6 - 1.7	ug/kg	SL-002-SA3	0 - 0.5
Semivolatiles	Benzoic Acid	65-85-0	8270C	0 / 2	-	-	170 - 170	500 - 500	ug/kg		-
Semivolatiles	Benzyl Alcohol	100-51-6	8270C	0 / 2	-	-	170 - 170	500 - 500	ug/kg		-
Semivolatiles	Bis(2-Chloroethoxy) methane	111-91-1	8270C	0 / 2	-	-	17 - 17	170 - 170	ug/kg		-
Semivolatiles	Bis(2-Chloroethyl) ether	111-44-4	8270C	0 / 2	-	-	17 - 17	170 - 170	ug/kg		-
Semivolatiles	bis(2-Chloroisopropyl) ether	39638-32-9	8270C	0 / 2	-	-	17 - 17	170 - 170	ug/kg		-
Semivolatiles	Bis(2-Ethylhexyl) phthalate	117-81-7	8270C	1 / 1	83 J Z	83 J Z	17 - 17	330 - 330	ug/kg	SL-002-SA3	0 - 0.5
Semivolatiles	Bis(2-Ethylhexyl) phthalate	117-81-7	8270C SIM	1 / 1	5.9 J Z	5.9 J Z	5.9 - 5.9	18 - 18	ug/kg	SL-001-SA3	0 - 0.5
Semivolatiles	Butylbenzylphthalate	85-68-7	8270C SIM	0 / 2	-	-	5.9 - 5.9	18 - 18	ug/kg		-
Semivolatiles	Carbazole	86-74-8	8270C	0 / 2	-	-	17 - 17	170 - 170	ug/kg		-
Semivolatiles	Chrysene	218-01-9	8270C SIM	2 / 2	0.97 J Z	2.9	0.33 - 0.33	1.6 - 1.7	ug/kg	SL-002-SA3	0 - 0.5
Semivolatiles	Dibenzo(a,h)anthracene	53-70-3	8270C SIM	0 / 2	-	-	0.66 - 0.66	1.6 - 1.7	ug/kg		-
Semivolatiles	Dibenzofuran	132-64-9	8270C	0 / 2	-	-	17 - 17	170 - 170	ug/kg		-
Semivolatiles	Diethylphthalate	84-66-2	8270C SIM	0 / 2	-	-	5.9 - 5.9	18 - 18	ug/kg		-
Semivolatiles	Dimethylphthalate	131-11-3	8270C SIM	0 / 2	-	-	5.9 - 5.9	18 - 18	ug/kg		-
Semivolatiles	Di-n-Butylphthalate	84-74-2	8270C SIM	0 / 2	-	-	5.9 - 5.9	18 - 18	ug/kg		-
Semivolatiles	Di-N-Octyl Phthalate	117-84-0	8270C SIM	0 / 2	-	-	5.9 - 5.9	18 - 18	ug/kg		-
Semivolatiles	Fluoranthene	206-44-0	8270C SIM	2 / 2	1.2 J Z	3.3	0.66 - 0.66	1.6 - 1.7	ug/kg	SL-002-SA3	0 - 0.5
Semivolatiles	Fluorene	86-73-7	8270C SIM	0 / 2	-	-	0.66 - 0.66	1.6 - 1.7	ug/kg		-
Semivolatiles	Hexachlorobenzene	118-74-1	8270C	0 / 2	-	-	17 - 17	170 - 170	ug/kg		-
Semivolatiles	Hexachlorobutadiene	87-68-3	8270C	0 / 2	-	-	67 - 67	170 - 170	ug/kg		-
Semivolatiles	Hexachlorocyclopentadiene	77-47-4	8270C	0 / 2	-	-	170 - 170	500 - 500	ug/kg		-
Semivolatiles	Hexachloroethane	67-72-1	8270C	0 / 2	-	-	17 - 17	170 - 170	ug/kg		-
Semivolatiles	Indeno(1,2,3-Cd)Pyrene	193-39-5	8270C SIM	1 / 2	0.8 J Z	0.8 J Z	0.66 - 0.66	1.6 - 1.7	ug/kg	SL-002-SA3	0 - 0.5
Semivolatiles	Isophorone	78-59-1	8270C	0 / 2	-	-	17 - 17	170 - 170	ug/kg		-
Semivolatiles	Naphthalene	91-20-3	8270C SIM	1 / 2	1.2 J Z	1.2 J Z	0.66 - 0.66	1.6 - 1.7	ug/kg	SL-002-SA3	0 - 0.5

Table 3-1
Summary of Analytical Results for Chemicals - Validated Data
Surface Soils - HSA - 3

Group	Chemical	CAS No	Analytic Method	Detection Frequency	Minimum Concentration	Maximum Concentration	Range of Method Detection Limit	Range of Method Reporting Limit	Unit	Location of Maximum Concentration	Depth of Maximum Concentration
Semivolatiles	Nitrobenzene	98-95-3	8270C	0 / 2	-	-	17 - 17	170 - 170	ug/kg		-
Semivolatiles	N-Nitrosodimethylamine	62-75-9	8270C SIM	0 / 2	-	-	0.66 - 0.66	1.6 - 1.7	ug/kg		-
Semivolatiles	N-Nitroso-Di-N-Propylamine	621-64-7	8270C	0 / 2	-	-	17 - 17	170 - 170	ug/kg		-
Semivolatiles	N-Nitrosodiphenylamine	86-30-6	8270C	0 / 2	-	-	17 - 17	170 - 170	ug/kg		-
Semivolatiles	Pentachlorophenol	87-86-5	8270C	0 / 2	-	-	170 - 170	500 - 500	ug/kg		-
Semivolatiles	Phenanthrene	85-01-8	8270C SIM	1 / 2	2.1	2.1	0.66 - 0.66	1.6 - 1.7	ug/kg	SL-002-SA3	0 - 0.5
Semivolatiles	Phenol	108-95-2	8270C	0 / 2	-	-	17 - 17	170 - 170	ug/kg		-
Semivolatiles	Pyrene	129-00-0	8270C SIM	2 / 2	1.1 J Z	2.9	0.66 - 0.66	1.6 - 1.7	ug/kg	SL-002-SA3	0 - 0.5

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
FD - Field duplicate results outside of criteria
Z - Analytes reported below the reporting limits and above the method detection limit
- Second column confirmation outside of criteria

Table 3-2
Summary of Analytical Results for Chemicals - Validated Data
Subsurface Soils - HSA - 3

Group	Chemical	CAS No	Analytic Method	Detection Frequency	Minimum Concentration	Maximum Concentration	Range of Method Detection Limit	Range of Method Reporting Limit	Unit	Location of Maximum Concentration	Depth of Maximum Concentration
Inorganic	Aluminum	7429-90-5	6010B	11 / 11	9830	21500	6.00 - 7.14	19.8 - 23.6	mg/kg	SL-006-SA3	4 - 5
Inorganic	Antimony	7440-36-0	6020	5 / 11	0.106 J Q, Z	0.298 J Q	0.0749 - 0.0882	0.202 - 0.238	mg/kg	SL-009-SA3	4 - 5
Inorganic	Arsenic	7440-38-2	6020	11 / 11	3.48	9.87 J E	0.0810 - 0.0954	0.405 - 0.477	mg/kg	SL-009-SA3	4 - 5
Inorganic	Barium	7440-39-3	6020	11 / 11	55.2 J A	136 J A	0.107 - 0.126	0.405 - 0.477	mg/kg	SL-013-SA3	0.5 - 1.5
Inorganic	Beryllium	7440-41-7	6020	11 / 11	0.518 J Q	1.07	0.0162 - 0.0191	0.101 - 0.119	mg/kg	SL-006-SA3	9 - 10
Inorganic	Boron	7440-42-8	6010B	6 / 11	3.35 J Z	5.19	0.357 - 0.425	4.96 - 5.90	mg/kg	SL-013-SA3	0.5 - 1.5
Inorganic	Cadmium	7440-43-9	6020	8 / 11	0.0489 J Z	0.673	0.0445 - 0.0524	0.101 - 0.119	mg/kg	SL-009-SA3	4 - 5
Inorganic	Calcium	7440-70-2	6010B	11 / 11	1080 J Q	5160	2.48 - 2.95	19.8 - 23.6	mg/kg	SL-011-SA3	4 - 5
Inorganic	Chromium	7440-47-3	6020	11 / 11	10.2 J A	27.4 J A	0.121 - 0.143	0.405 - 0.477	mg/kg	SL-013-SA3	0.5 - 1.5
Inorganic	Chromium VI	18540-29-9	7199	5 / 11	0.23 J Z	0.77 J Z	0.20 - 0.23	1.0 - 1.2	mg/kg	SL-006-SA3	4 - 5
Inorganic	Cobalt	7440-48-4	6020	11 / 11	4.22 J E, A	8.62 J E, A	0.0202 - 0.0238	0.101 - 0.119	mg/kg	SL-013-SA3	0.5 - 1.5
Inorganic	Copper	7440-50-8	6020	11 / 11	4.36 J A	1460	0.0810 - 0.814	0.405 - 4.07	mg/kg	SL-010-SA3	3 - 4
Inorganic	Cyanide	57-12-5	9012B	0 / 7	-	-	0.18 - 0.20	0.51 - 0.57	mg/kg		-
Inorganic	Fluoride	16984-48-8	300.0	7 / 11	1.3 J Q	14.8	0.82 - 0.96	1.0 - 1.2	mg/kg	SL-009-SA3	4 - 5
Inorganic	Iron	7439-89-6	6010B	11 / 11	15300 J E	21700	2.59 - 3.08	19.8 - 23.6	mg/kg	SL-010-SA3	3 - 4
Inorganic	Lead	7439-92-1	6020	11 / 11	3.65 J Q, A	49.5	0.0103 - 0.0122	0.202 - 0.238	mg/kg	SL-009-SA3	4 - 5
Inorganic	Lithium	7439-93-2	6010B	11 / 11	18.6	24.9	0.61 - 0.73	2.0 - 2.4	mg/kg	SL-010-SA3	3 - 4
Inorganic	Magnesium	7439-95-4	6010B	11 / 11	2840	5120	0.436 - 0.519	9.91 - 11.8	mg/kg	SL-010-SA3	3 - 4
Inorganic	Manganese	7439-96-5	6010B	11 / 11	137	361	0.0357 - 0.0425	0.496 - 0.590	mg/kg	SL-013-SA3	0.5 - 1.5
Inorganic	Mercury	7439-97-6	7471A	3 / 11	0.011 J Z	0.0712 J Z	0.0070 - 0.0079	0.100 - 0.112	mg/kg	SL-009-SA3	4 - 5
Inorganic	Molybdenum	7439-98-7	6020	11 / 11	0.212	0.932 J E	0.0506 - 0.0596	0.101 - 0.119	mg/kg	SL-009-SA3	4 - 5
Inorganic	Nickel	7440-02-0	6020	11 / 11	7.04 J Q	23.9 J Q	0.101 - 0.119	0.405 - 0.477	mg/kg	SL-009-SA3	4 - 5
Inorganic	Nitrate	14797-55-8	300.0	7 / 7	1.0 J Z	5.1	0.82 - 0.96	1.5 - 1.8	mg/kg	SL-013-SA3	0.5 - 1.5
Inorganic	Percent Moisture	MOIST	160.3M	11 / 11	2.2	16.1	0.50 - 0.50	0.50 - 0.50	%	SL-005-SA3	7.5 - 8.5
Inorganic	Perchlorate	14797-73-0	314.0	0 / 11	-	-	9.2 - 10.7	30.7 - 35.8	ug/kg		-
Inorganic	pH	pH	9045M	11 / 11	6.25	9.61	0.0100 - 0.0100	0.0100 - 0.0100	pH unit	SL-009-SA3	4 - 5
Inorganic	Phosphorus	7723-14-0	6010B	11 / 11	83.8	578	0.347 - 0.413	9.91 - 11.8	mg/kg	SL-013-SA3	0.5 - 1.5
Inorganic	Potassium	7440-09-7	6010B	11 / 11	1560 J Q	3730 J Q	11.2 - 13.3	49.6 - 59.0	mg/kg	SL-013-SA3	0.5 - 1.5
Inorganic	Selenium	7782-49-2	6020	10 / 11	0.0769 J Z	0.172 J Z	0.0587 - 0.0691	0.405 - 0.477	mg/kg	SL-010-SA3	3 - 4
Inorganic	Silver	7440-22-4	6020	11 / 11	0.0206 J Z	0.695 J Q	0.0144 - 0.0169	0.101 - 0.119	mg/kg	SL-013-SA3	0.5 - 1.5
Inorganic	Sodium	7440-23-5	6010B	11 / 11	81.0 J Z	1530	5.90 - 7.02	99.1 - 118	mg/kg	SL-009-SA3	4 - 5
Inorganic	Strontium	7440-24-6	6010B	11 / 11	10.8	23.2	0.0248 - 0.0295	0.496 - 0.590	mg/kg	SL-013-SA3	0.5 - 1.5
Inorganic	Thallium	7440-28-0	6020	11 / 11	0.258	0.409	0.0304 - 0.0358	0.101 - 0.119	mg/kg	SL-004-SA3	7 - 8
Inorganic	Tin	7440-31-5	6010B	0 / 11	-	-	0.317 - 0.378	9.91 - 11.8	mg/kg		-
Inorganic	Titanium	7440-32-6	6010B	11 / 11	956	1210	0.0698 - 0.0838	0.983 - 1.18	mg/kg	SL-005-SA3	4 - 5
Inorganic	Vanadium	7440-62-2	6020	11 / 11	22.7 J Q	49.2 J Q	0.0223 - 0.0262	0.101 - 0.119	mg/kg	SL-013-SA3	0.5 - 1.5
Inorganic	Zinc	7440-66-6	6020	11 / 11	40.3	90.2	0.567 - 0.667	3.04 - 3.58	mg/kg	SL-009-SA3	4 - 5
Inorganic	Zirconium	7440-67-7	6010B	11 / 11	1.06 J Z	3.93 J Z	0.456 - 0.543	4.96 - 5.90	mg/kg	SL-013-SA3	0.5 - 1.5
Misc. Organics	1,3,5-Trinitrobenzene	99-35-4	8330A	0 / 7	-	-	41 - 46	120 - 140	ug/kg		-
Misc. Organics	2,4,6-Trinitrotoluene	118-96-7	8330A	0 / 7	-	-	41 - 46	120 - 140	ug/kg		-
Misc. Organics	2,4-Diamino-6-nitrotoluene	6629-29-4	8330A	0 / 7	-	-	82 - 92	250 - 280	ug/kg		-
Misc. Organics	2,4-Dinitrotoluene	121-14-2	8330A	0 / 7	-	-	41 - 46	120 - 140	ug/kg		-
Misc. Organics	2,6-Diamino-4-nitrotoluene	59229-75-3	8330A	0 / 7	-	-	82 - 92	250 - 280	ug/kg		-
Misc. Organics	2,6-Dinitrotoluene	606-20-2	8330A	0 / 7	-	-	41 - 46	120 - 140	ug/kg		-
Misc. Organics	2-Amino-4,6-Dinitrotoluene	35572-78-2	8330A	0 / 7	-	-	41 - 46	120 - 140	ug/kg		-
Misc. Organics	2-Nitrotoluene	88-72-2	8330A	0 / 7	-	-	82 - 92	120 - 140	ug/kg		-
Misc. Organics	2-Propanol	67-63-0	8015B	0 / 7	-	-	100 - 120	510 - 600	ug/kg		-
Misc. Organics	3-Nitrotoluene	99-08-1	8330A	0 / 7	-	-	100 - 110	120 - 140	ug/kg		-
Misc. Organics	4-Amino-2,6-Dinitrotoluene	19406-51-0	8330A	0 / 7	-	-	61 - 69	120 - 140	ug/kg		-
Misc. Organics	4-Nitrotoluene	99-99-0	8330A	0 / 7	-	-	82 - 92	120 - 140	ug/kg		-
Misc. Organics	Diethylene Glycol	111-46-6	8015M	0 / 7	-	-	5.1 - 6.0	10 - 12	mg/kg		-
Misc. Organics	Ethanol	64-17-5	8015B	0 / 7	-	-	100 - 120	510 - 600	ug/kg		-
Misc. Organics	Ethylene Glycol	107-21-1	8015M	0 / 7	-	-	5.1 - 6.0	10 - 12	mg/kg		-
Misc. Organics	Formaldehyde	50-00-0	8315A	1 / 7	4200	4200	610 - 1300	1500 - 3100	ug/kg	SL-010-SA3	3 - 4

Table 3-2
Summary of Analytical Results for Chemicals - Validated Data
Subsurface Soils - HSA - 3

Group	Chemical	CAS No	Analytic Method	Detection Frequency	Minimum Concentration	Maximum Concentration	Range of Method Detection Limit	Range of Method Reporting Limit	Unit	Location of Maximum Concentration	Depth of Maximum Concentration
Misc. Organics	HMX	2691-41-0	8330A	0 / 7	-	-	100 - 110	310 - 340	ug/kg		-
Misc. Organics	m-Dinitrobenzene	99-65-0	8330A	0 / 7	-	-	41 - 46	120 - 140	ug/kg		-
Misc. Organics	Methanol	67-56-1	8015B	0 / 7	-	-	100 - 120	510 - 600	ug/kg		-
Misc. Organics	m-Terphenyl	92-06-8	8015B	0 / 7	-	-	1.5 - 1.8	3.6 - 4.2	mg/kg		-
Misc. Organics	Nitrobenzene	98-95-3	8330A	0 / 7	-	-	41 - 46	120 - 140	ug/kg		-
Misc. Organics	Nitroglycerin	55-63-0	8330A	0 / 7	-	-	820 - 920	2500 - 2800	ug/kg		-
Misc. Organics	o-Terphenyl	84-15-1	8015B	0 / 7	-	-	1.5 - 1.8	3.6 - 4.2	mg/kg		-
Misc. Organics	PETN	78-11-5	8330A	0 / 7	-	-	820 - 920	2500 - 2800	ug/kg		-
Misc. Organics	Propylene glycol	57-55-6	8015M	0 / 7	-	-	5.1 - 6.0	10 - 12	mg/kg		-
Misc. Organics	p-Terphenyl	92-94-4	8015B	0 / 7	-	-	1.5 - 1.8	3.6 - 4.2	mg/kg		-
Misc. Organics	RDX	121-82-4	8330A	0 / 7	-	-	51 - 57	120 - 140	ug/kg		-
Misc. Organics	Tetryl	479-45-8	8330A	0 / 7	-	-	63 - 70	120 - 140	ug/kg		-
PCBs and Dioxins	1,2,3,4,6,7,8-HpCDD	35822-46-9	1613B	4 / 11	1.37 J Z	218	0.0211 - 0.142	5.00 - 5.80	ng/kg	SL-009-SA3	4 - 5
PCBs and Dioxins	1,2,3,4,6,7,8-HpCDF	67562-39-4	1613B	3 / 11	7.59	20.2	0.0113 - 0.0383	5.00 - 5.80	ng/kg	SL-009-SA3	4 - 5
PCBs and Dioxins	1,2,3,4,7,8,9-HpCDF	55673-89-7	1613B	3 / 11	0.333 J Z	1.29 J Z	0.0156 - 0.0477	5.00 - 5.80	ng/kg	SL-009-SA3	4 - 5
PCBs and Dioxins	1,2,3,4,7,8-HxCDD	39227-28-6	1613B	4 / 11	0.135 J Z	0.602 J Z	0.0197 - 0.0606	5.00 - 5.80	ng/kg	SL-009-SA3	4 - 5
PCBs and Dioxins	1,2,3,4,7,8-HxCDF	70648-26-9	1613B	6 / 11	0.0405 J Z	4.63 J Z	0.0153 - 0.0716	5.00 - 5.80	ng/kg	SL-010-SA3	3 - 4
PCBs and Dioxins	1,2,3,6,7,8-HxCDD	57653-85-7	1613B	9 / 11	0.0516 J Z	6.08	0.0200 - 0.0603	5.00 - 5.80	ng/kg	SL-009-SA3	4 - 5
PCBs and Dioxins	1,2,3,6,7,8-HxCDF	57117-44-9	1613B	5 / 11	0.211 J Z	2.85 J Z	0.0120 - 0.0630	5.00 - 5.80	ng/kg	SL-009-SA3	4 - 5
PCBs and Dioxins	1,2,3,7,8,9-HxCDD	19408-74-3	1613B	6 / 11	0.258 J Z	3.97 J Z	0.0205 - 0.0576	5.00 - 5.80	ng/kg	SL-004-SA3	7 - 8
PCBs and Dioxins	1,2,3,7,8,9-HxCDF	72918-21-9	1613B	5 / 11	0.203 J Z	0.72 J Z	0.0157 - 0.0715	5.00 - 5.80	ng/kg	SL-009-SA3	4 - 5
PCBs and Dioxins	1,2,3,7,8-PeCDD	40321-76-4	1613B	4 / 11	0.0562 J Z	0.56 J Z	0.0240 - 0.215	5.00 - 5.80	ng/kg	SL-009-SA3	4 - 5
PCBs and Dioxins	1,2,3,7,8-PeCDF	57117-41-6	1613B	5 / 11	0.0862 J Z	6.36	0.0130 - 0.0738	5.00 - 5.80	ng/kg	SL-010-SA3	3 - 4
PCBs and Dioxins	2,3,4,6,7,8-HxCDF	60851-34-5	1613B	3 / 11	0.406 J Z	5.33 J Z	0.0132 - 0.0622	5.00 - 5.80	ng/kg	SL-009-SA3	4 - 5
PCBs and Dioxins	2,3,4,7,8-PeCDF	57117-31-4	1613B	5 / 11	0.277 J Z	9.79	0.0130 - 0.0732	5.00 - 5.80	ng/kg	SL-009-SA3	4 - 5
PCBs and Dioxins	2,3,7,8-TCDD	1746-01-6	1613B	4 / 11	0.0717 J Z	0.115 J Z	0.0276 - 0.0616	1.00 - 1.16	ng/kg	SL-006-SA3	9 - 10
PCBs and Dioxins	2,3,7,8-TCDF	51207-31-9	1613B	6 / 11	0.0285 J Z	1.34	0.0220 - 0.109	1.00 - 1.16	ng/kg	SL-009-SA3	4 - 5
PCBs and Dioxins	Aroclor 1016	12674-11-2	8082	0 / 11	-	-	0.34 - 3.5	1.7 - 18	ug/kg		-
PCBs and Dioxins	Aroclor 1221	11104-28-2	8082	0 / 11	-	-	0.34 - 3.5	1.7 - 18	ug/kg		-
PCBs and Dioxins	Aroclor 1232	11141-16-5	8082	0 / 11	-	-	0.34 - 3.5	1.7 - 18	ug/kg		-
PCBs and Dioxins	Aroclor 1242	53469-21-9	8082	0 / 11	-	-	0.34 - 3.5	1.7 - 18	ug/kg		-
PCBs and Dioxins	Aroclor 1248	12672-29-6	8082	0 / 11	-	-	0.34 - 3.5	1.7 - 18	ug/kg		-
PCBs and Dioxins	Aroclor 1254	11097-69-1	8082	2 / 11	15 J Z	96	0.34 - 3.5	1.7 - 18	ug/kg	SL-009-SA3	4 - 5
PCBs and Dioxins	Aroclor 1260	11096-82-5	8082	4 / 11	0.48 J FD, Z	55	0.40 - 4.1	1.7 - 18	ug/kg	SL-009-SA3	4 - 5
PCBs and Dioxins	Aroclor 1262	37324-23-5	8082	0 / 11	-	-	0.34 - 3.5	1.7 - 18	ug/kg		-
PCBs and Dioxins	Aroclor 1268	11100-14-4	8082	0 / 11	-	-	0.34 - 3.5	1.7 - 18	ug/kg		-
PCBs and Dioxins	Aroclor 5432	63496-31-1	8082	0 / 11	-	-	1.0 - 10	3.4 - 35	ug/kg		-
PCBs and Dioxins	Aroclor 5442	12642-23-8	8082	0 / 11	-	-	1.0 - 10	3.4 - 35	ug/kg		-
PCBs and Dioxins	Aroclor 5460	11126-42-4	8082	2 / 11	31 J Z	47	1.0 - 10	3.4 - 35	ug/kg	SL-009-SA3	4 - 5
PCBs and Dioxins	OCDD	3268-87-9	1613B	8 / 11	2.85 J Z	2250	0.0206 - 0.160	10.0 - 11.6	ng/kg	SL-009-SA3	4 - 5
PCBs and Dioxins	OCDF	39001-02-0	1613B	3 / 11	6.07 J Z	58.3	0.0300 - 0.0494	10.0 - 11.6	ng/kg	SL-009-SA3	4 - 5
Semivolatiles	1,2,4-Trichlorobenzene	120-82-1	8270C	0 / 11	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	1,2-Dichlorobenzene	95-50-1	8270C	0 / 11	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	1,2-Diphenylhydrazine	122-66-7	8270C	0 / 11	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	1,3-Dichlorobenzene	541-73-1	8270C	0 / 11	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	1,4-Dichlorobenzene	106-46-7	8270C	0 / 11	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	1-Methylnaphthalene	90-12-0	8270C SIM	0 / 11	-	-	0.67 - 0.79	1.7 - 2.0	ug/kg		-
Semivolatiles	2,4,5-Trichlorophenol	95-95-4	8270C	0 / 11	-	-	34 - 40	170 - 200	ug/kg		-
Semivolatiles	2,4,6-Trichlorophenol	88-06-2	8270C	0 / 11	-	-	34 - 40	170 - 200	ug/kg		-
Semivolatiles	2,4-Dichlorophenol	120-83-2	8270C	0 / 11	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	2,4-Dimethylphenol	105-67-9	8270C	0 / 11	-	-	34 - 40	170 - 200	ug/kg		-
Semivolatiles	2,4-Dinitrophenol	51-28-5	8270C	0 / 11	-	-	340 - 400	1000 - 1200	ug/kg		-
Semivolatiles	2,4-Dinitrotoluene	121-14-2	8270C	0 / 11	-	-	34 - 40	170 - 200	ug/kg		-
Semivolatiles	2,6-Dinitrotoluene	606-20-2	8270C	0 / 11	-	-	17 - 20	170 - 200	ug/kg		-

Table 3-2
Summary of Analytical Results for Chemicals - Validated Data
Subsurface Soils - HSA - 3

Group	Chemical	CAS No	Analytic Method	Detection Frequency	Minimum Concentration	Maximum Concentration	Range of Method Detection Limit	Range of Method Reporting Limit	Unit	Location of Maximum Concentration	Depth of Maximum Concentration
Semivolatiles	2-Chloronaphthalene	91-58-7	8270C	0 / 11	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	2-Chlorophenol	95-57-8	8270C	0 / 11	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	2-Methylnaphthalene	91-57-6	8270C SIM	0 / 11	-	-	0.67 - 0.79	1.7 - 2.0	ug/kg		-
Semivolatiles	2-Methylphenol	95-48-7	8270C	0 / 11	-	-	34 - 40	170 - 200	ug/kg		-
Semivolatiles	2-Nitroaniline	88-74-4	8270C	0 / 11	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	2-Nitrophenol	88-75-5	8270C	0 / 11	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	3,3`-Dichlorobenzidine	91-94-1	8270C	0 / 11	-	-	100 - 120	340 - 400	ug/kg		-
Semivolatiles	3,5-Dimethylphenol	108-68-9	8270C	0 / 11	-	-	34 - 40	170 - 200	ug/kg		-
Semivolatiles	3-Nitroaniline	99-09-2	8270C	0 / 11	-	-	34 - 40	170 - 200	ug/kg		-
Semivolatiles	4,6-Dinitro-2-Methylphenol	534-52-1	8270C	0 / 11	-	-	170 - 200	510 - 590	ug/kg		-
Semivolatiles	4-Bromophenyl Phenyl Ether	101-55-3	8270C	0 / 11	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	4-Chloro-3-Methylphenol	59-50-7	8270C	0 / 11	-	-	34 - 40	170 - 200	ug/kg		-
Semivolatiles	4-Chloroaniline	106-47-8	8270C	0 / 11	-	-	68 - 79	170 - 200	ug/kg		-
Semivolatiles	4-Chlorophenyl Phenylether	7005-72-3	8270C	0 / 11	-	-	34 - 40	170 - 200	ug/kg		-
Semivolatiles	4-Methylphenol	106-44-5	8270C	0 / 11	-	-	34 - 40	170 - 200	ug/kg		-
Semivolatiles	4-Nitroaniline	100-01-6	8270C	0 / 11	-	-	68 - 79	170 - 200	ug/kg		-
Semivolatiles	4-Nitrophenol	100-02-7	8270C	0 / 11	-	-	170 - 200	510 - 590	ug/kg		-
Semivolatiles	Acenaphthene	83-32-9	8270C SIM	0 / 11	-	-	0.67 - 0.79	1.7 - 2.0	ug/kg		-
Semivolatiles	Acenaphthylene	208-96-8	8270C SIM	0 / 11	-	-	0.34 - 0.40	1.7 - 2.0	ug/kg		-
Semivolatiles	Aniline	62-53-3	8270C	0 / 11	-	-	170 - 200	510 - 590	ug/kg		-
Semivolatiles	Anthracene	120-12-7	8270C SIM	0 / 11	-	-	0.34 - 0.40	1.7 - 2.0	ug/kg		-
Semivolatiles	Benzidine	92-87-5	8270C	0 / 11	-	-	1200 - 1400	3400 - 4000	ug/kg		-
Semivolatiles	Benzo(a)anthracene	56-55-3	8270C SIM	2 / 11	0.84 J Z	1 J Z	0.67 - 0.79	1.7 - 2.0	ug/kg	SL-005-SA3	4 - 5
Semivolatiles	Benzo(a)pyrene	50-32-8	8270C SIM	2 / 11	0.96 J Z	1.3 J Z	0.67 - 0.79	1.7 - 2.0	ug/kg	SL-005-SA3	4 - 5
Semivolatiles	Benzo(b)fluoranthene	205-99-2	8270C SIM	4 / 11	0.78 J FD, Z	2.4	0.67 - 0.79	1.7 - 2.0	ug/kg	SL-005-SA3	4 - 5
Semivolatiles	Benzo(g,h,i)perylene	191-24-2	8270C SIM	4 / 11	0.73 J Z	1.4 J Z	0.67 - 0.79	1.7 - 2.0	ug/kg	SL-013-SA3	0.5 - 1.5
Semivolatiles	Benzo(k)fluoranthene	207-08-9	8270C SIM	3 / 11	0.75 J Z	1.3 J Z	0.67 - 0.79	1.7 - 2.0	ug/kg	SL-001-SA3	2 - 3
Semivolatiles	Benzoic Acid	65-85-0	8270C	0 / 11	-	-	170 - 200	510 - 590	ug/kg		-
Semivolatiles	Benzyl Alcohol	100-51-6	8270C	0 / 11	-	-	170 - 200	510 - 590	ug/kg		-
Semivolatiles	Bis(2-Chloroethoxy) methane	111-91-1	8270C	0 / 11	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	Bis(2-Chloroethyl) ether	111-44-4	8270C	0 / 11	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	bis(2-Chloroisopropyl) ether	39638-32-9	8270C	0 / 11	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	Bis(2-Ethylhexyl) phthalate	117-81-7	8270C	1 / 1	45 J Z	45 J Z	17 - 17	350 - 350	ug/kg	SL-013-SA3	0.5 - 1.5
Semivolatiles	Bis(2-Ethylhexyl) phthalate	117-81-7	8270C SIM	8 / 10	9 J Z	30	6.0 - 7.2	18 - 21	ug/kg	SL-010-SA3	3 - 4
Semivolatiles	Butylbenzylphthalate	85-68-7	8270C SIM	1 / 11	7.3 J Z	7.3 J Z	6.0 - 7.2	18 - 21	ug/kg	SL-010-SA3	3 - 4
Semivolatiles	Carbazole	86-74-8	8270C	0 / 11	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	Chrysene	218-01-9	8270C SIM	4 / 11	0.97 J Z	1.9	0.34 - 0.40	1.7 - 2.0	ug/kg	SL-005-SA3 SL-013-SA3	4 - 5 0.5 - 1.5
Semivolatiles	Dibenzo(a,h)anthracene	53-70-3	8270C SIM	0 / 11	-	-	0.67 - 0.79	1.7 - 2.0	ug/kg		-
Semivolatiles	Dibenzofuran	132-64-9	8270C	0 / 11	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	Diethylphthalate	84-66-2	8270C	1 / 1	20 J Z	20 J Z	17 - 17	170 - 170	ug/kg	SL-010-SA3	3 - 4
Semivolatiles	Diethylphthalate	84-66-2	8270C SIM	0 / 10	-	-	6.0 - 7.2	18 - 21	ug/kg		-
Semivolatiles	Dimethylphthalate	131-11-3	8270C SIM	0 / 11	-	-	6.0 - 7.2	18 - 21	ug/kg		-
Semivolatiles	Di-n-Butylphthalate	84-74-2	8270C SIM	4 / 11	7.4 J Z	9.8 J Z	6.0 - 7.2	18 - 21	ug/kg	SL-010-SA3	3 - 4
Semivolatiles	Di-N-Octyl Phthalate	117-84-0	8270C	1 / 1	21 J Z	21 J Z	17 - 17	170 - 170	ug/kg	SL-001-SA3	2 - 3
Semivolatiles	Di-N-Octyl Phthalate	117-84-0	8270C SIM	0 / 11	-	-	6.0 - 7.2	18 - 21	ug/kg		-
Semivolatiles	Fluoranthene	206-44-0	8270C SIM	3 / 11	0.96 J Z	3.9	0.67 - 0.79	1.7 - 2.0	ug/kg	SL-005-SA3	4 - 5
Semivolatiles	Fluorene	86-73-7	8270C SIM	0 / 11	-	-	0.67 - 0.79	1.7 - 2.0	ug/kg		-
Semivolatiles	Hexachlorobenzene	118-74-1	8270C	0 / 11	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	Hexachlorobutadiene	87-68-3	8270C	0 / 11	-	-	68 - 79	170 - 200	ug/kg		-
Semivolatiles	Hexachlorocyclopentadiene	77-47-4	8270C	0 / 11	-	-	170 - 200	510 - 590	ug/kg		-
Semivolatiles	Hexachloroethane	67-72-1	8270C	0 / 11	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	Indeno(1,2,3-Cd)Pyrene	193-39-5	8270C SIM	2 / 11	0.78 J Z	1.1 J Z	0.67 - 0.79	1.7 - 2.0	ug/kg	SL-005-SA3	4 - 5
Semivolatiles	Isophorone	78-59-1	8270C	0 / 11	-	-	17 - 20	170 - 200	ug/kg		-

Table 3-2
Summary of Analytical Results for Chemicals - Validated Data
Subsurface Soils - HSA - 3

Group	Chemical	CAS No	Analytic Method	Detection Frequency	Minimum Concentration	Maximum Concentration	Range of Method Detection Limit	Range of Method Reporting Limit	Unit	Location of Maximum Concentration	Depth of Maximum Concentration
Semivolatiles	Naphthalene	91-20-3	8270C SIM	0 / 11	-	-	0.67 - 0.79	1.7 - 2.0	ug/kg		-
Semivolatiles	Nitrobenzene	98-95-3	8270C	0 / 11	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	N-Nitrosodimethylamine	62-75-9	1625C	0 / 7	-	-	17.0 - 175	34.1 - 349	ng/kg		-
Semivolatiles	N-Nitrosodimethylamine	62-75-9	8270C SIM	0 / 11	-	-	0.67 - 0.79	1.7 - 2.0	ug/kg		-
Semivolatiles	N-Nitroso-Di-N-Propylamine	621-64-7	8270C	0 / 11	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	N-Nitrosodiphenylamine	86-30-6	8270C	0 / 11	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	Pentachlorophenol	87-86-5	8270C	0 / 11	-	-	170 - 200	510 - 590	ug/kg		-
Semivolatiles	Phenanthrene	85-01-8	8270C SIM	3 / 11	1.2 J Z	1.8	0.67 - 0.79	1.7 - 2.0	ug/kg	SL-005-SA3	4 - 5
Semivolatiles	Phenol	108-95-2	8270C	0 / 11	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	Pyrene	129-00-0	8270C SIM	4 / 11	0.73 J Z	2.7	0.67 - 0.79	1.7 - 2.0	ug/kg	SL-005-SA3	4 - 5
Volatiles	EFH (C12-C14)	PHCC12C14	8015M	0 / 7	-	-	0.41 - 4.2	1.2 - 13	mg/kg		-
Volatiles	EFH (C15-C20)	PHCC15C20	8015M	1 / 7	0.45 J Q, Z	0.45 J Q, Z	0.41 - 4.2	1.2 - 13	mg/kg	SL-011-SA3	4 - 5
Volatiles	EFH (C21-C30)	PHCC21C30	8015M	3 / 7	1.7 J Q	18	0.41 - 4.2	1.2 - 13	mg/kg	SL-010-SA3	3 - 4
Volatiles	EFH (C30-C40)	PHCC30C40	8015M	5 / 7	0.58 J Z	170	0.41 - 4.2	1.2 - 13	mg/kg	SL-010-SA3	3 - 4
Volatiles	EFH (C8-C11)	PHCC8C11	8015M	0 / 7	-	-	0.41 - 4.2	1.2 - 13	mg/kg		-
Volatiles	GRO (C5-C12)	GROC5C12	8015M	1 / 6	3.2 J FD	3.2 J FD	0.2 - 0.2	0.9 - 1.2	mg/kg	SL-011-SA3	4 - 5

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
FD - Field duplicate results outside of criteria
Z - Analytes reported below the reporting limits and above the method detection limit
- Second column confirmation outside of criteria

Table 3-3
Summary of Analytical Results for Chemicals - Validated Data
Combined Soils - HSA - 3

Group	Chemical	CAS No	Analytic Method	Detection Frequency	Minimum Concentration	Maximum Concentration	Range of Method Detection Limit	Range of Method Reporting Limit	Unit	Location of Maximum Concentration	Depth of Maximum Concentration
Inorganic	Aluminum	7429-90-5	6010B	13 / 13	9830	21500	5.87 - 7.14	19.4 - 23.6	mg/kg	SL-006-SA3	4 - 5
Inorganic	Antimony	7440-36-0	6020	7 / 13	0.106 J Q, Z	0.298 J Q	0.0725 - 0.0882	0.196 - 0.238	mg/kg	SL-009-SA3	4 - 5
Inorganic	Arsenic	7440-38-2	6020	13 / 13	2.97 J Q	9.87 J E	0.0784 - 0.0954	0.392 - 0.477	mg/kg	SL-009-SA3	4 - 5
Inorganic	Barium	7440-39-3	6020	13 / 13	55.2 J A	136 J A	0.104 - 0.126	0.392 - 0.477	mg/kg	SL-013-SA3	0.5 - 1.5
Inorganic	Beryllium	7440-41-7	6020	13 / 13	0.367	1.07	0.0157 - 0.0191	0.0980 - 0.119	mg/kg	SL-006-SA3	9 - 10
Inorganic	Boron	7440-42-8	6010B	8 / 13	3.35 J Z	5.94	0.350 - 0.425	4.85 - 5.90	mg/kg	SL-001-SA3	0 - 0.5
Inorganic	Cadmium	7440-43-9	6020	10 / 13	0.0489 J Z	0.673	0.0431 - 0.0524	0.0980 - 0.119	mg/kg	SL-009-SA3	4 - 5
Inorganic	Calcium	7440-70-2	6010B	13 / 13	1080 J Q	5160	2.43 - 2.95	19.4 - 23.6	mg/kg	SL-011-SA3	4 - 5
Inorganic	Chromium	7440-47-3	6020	13 / 13	10.2 J A	27.4 J A	0.118 - 0.143	0.392 - 0.477	mg/kg	SL-013-SA3	0.5 - 1.5
Inorganic	Chromium VI	18540-29-9	7199	5 / 13	0.23 J Z	0.77 J Z	0.20 - 0.23	1.0 - 1.2	mg/kg	SL-006-SA3	4 - 5
Inorganic	Cobalt	7440-48-4	6020	13 / 13	3.80	8.62 J E, A	0.0196 - 0.0238	0.0980 - 0.119	mg/kg	SL-013-SA3	0.5 - 1.5
Inorganic	Copper	7440-50-8	6020	13 / 13	4.36 J A	1460	0.0784 - 0.814	0.392 - 4.07	mg/kg	SL-010-SA3	3 - 4
Inorganic	Cyanide	57-12-5	9012B	0 / 7	-	-	0.18 - 0.20	0.51 - 0.57	mg/kg		-
Inorganic	Fluoride	16984-48-8	300.0	8 / 13	1.3 J Q	14.8	0.79 - 0.96	0.99 - 1.2	mg/kg	SL-009-SA3	4 - 5
Inorganic	Iron	7439-89-6	6010B	13 / 13	15300 J E	21700	2.53 - 3.08	19.4 - 23.6	mg/kg	SL-010-SA3	3 - 4
Inorganic	Lead	7439-92-1	6020	13 / 13	3.65 J Q, A	49.5	0.0100 - 0.0122	0.196 - 0.238	mg/kg	SL-009-SA3	4 - 5
Inorganic	Lithium	7439-93-2	6010B	13 / 13	18.6	25.8	0.60 - 0.73	1.9 - 2.4	mg/kg	SL-002-SA3	0 - 0.5
Inorganic	Magnesium	7439-95-4	6010B	13 / 13	2840	5120	0.427 - 0.519	9.71 - 11.8	mg/kg	SL-010-SA3	3 - 4
Inorganic	Manganese	7439-96-5	6010B	13 / 13	137	361	0.0350 - 0.0425	0.485 - 0.590	mg/kg	SL-013-SA3	0.5 - 1.5
Inorganic	Mercury	7439-97-6	7471A	3 / 13	0.011 J Z	0.0712 J Z	0.0069 - 0.0079	0.0982 - 0.112	mg/kg	SL-009-SA3	4 - 5
Inorganic	Molybdenum	7439-98-7	6020	13 / 13	0.212	0.932 J E	0.0490 - 0.0596	0.0980 - 0.119	mg/kg	SL-009-SA3	4 - 5
Inorganic	Nickel	7440-02-0	6020	13 / 13	7.04 J Q	23.9 J Q	0.0980 - 0.119	0.392 - 0.477	mg/kg	SL-009-SA3	4 - 5
Inorganic	Nitrate	14797-55-8	300.0	7 / 7	1.0 J Z	5.1	0.82 - 0.96	1.5 - 1.8	mg/kg	SL-013-SA3	0.5 - 1.5
Inorganic	Percent Moisture	MOIST	160.3M	11 / 13	2.2	16.1	0.50 - 0.50	0.50 - 0.50	%	SL-005-SA3	7.5 - 8.5
Inorganic	Perchlorate	14797-73-0	314.0	0 / 13	-	-	9.0 - 10.7	30.0 - 35.8	ug/kg		-
Inorganic	pH	pH	9045M	13 / 13	6.16	9.61	0.0100 - 0.0100	0.0100 - 0.0100	pH unit	SL-009-SA3	4 - 5
Inorganic	Phosphorus	7723-14-0	6010B	13 / 13	83.8	578	0.340 - 0.413	9.71 - 11.8	mg/kg	SL-013-SA3	0.5 - 1.5
Inorganic	Potassium	7440-09-7	6010B	13 / 13	1560 J Q	4040	11.0 - 13.3	48.5 - 59.0	mg/kg	SL-001-SA3	0 - 0.5
Inorganic	Selenium	7782-49-2	6020	12 / 13	0.0769 J Z	0.172 J Z	0.0569 - 0.0691	0.392 - 0.477	mg/kg	SL-010-SA3	3 - 4
Inorganic	Silver	7440-22-4	6020	13 / 13	0.0206 J Z	0.695 J Q	0.0139 - 0.0169	0.0980 - 0.119	mg/kg	SL-013-SA3	0.5 - 1.5
Inorganic	Sodium	7440-23-5	6010B	13 / 13	74.5 J Z	1530	5.78 - 7.02	97.1 - 118	mg/kg	SL-009-SA3	4 - 5
Inorganic	Strontium	7440-24-6	6010B	13 / 13	10.8	23.2	0.0243 - 0.0295	0.485 - 0.590	mg/kg	SL-013-SA3	0.5 - 1.5
Inorganic	Thallium	7440-28-0	6020	13 / 13	0.237 J Q	0.409	0.0294 - 0.0358	0.0980 - 0.119	mg/kg	SL-004-SA3	7 - 8
Inorganic	Tin	7440-31-5	6010B	0 / 13	-	-	0.311 - 0.378	9.71 - 11.8	mg/kg		-
Inorganic	Titanium	7440-32-6	6010B	13 / 13	956	1210	0.0689 - 0.0838	0.971 - 1.18	mg/kg	SL-005-SA3	4 - 5
Inorganic	Vanadium	7440-62-2	6020	13 / 13	22.7 J Q	49.2 J Q	0.0216 - 0.0262	0.0980 - 0.119	mg/kg	SL-013-SA3	0.5 - 1.5
Inorganic	Zinc	7440-66-6	6020	13 / 13	40.3	106 J A	0.549 - 0.667	2.94 - 3.58	mg/kg	SL-002-SA3	0 - 0.5
Inorganic	Zirconium	7440-67-7	6010B	11 / 13	1.06 J Z	3.93 J Z	0.447 - 0.543	4.85 - 5.90	mg/kg	SL-013-SA3	0.5 - 1.5
Misc. Organics	1,3,5-Trinitrobenzene	99-35-4	8330A	0 / 7	-	-	41 - 46	120 - 140	ug/kg		-
Misc. Organics	2,4,6-Trinitrotoluene	118-96-7	8330A	0 / 7	-	-	41 - 46	120 - 140	ug/kg		-
Misc. Organics	2,4-Diamino-6-nitrotoluene	6629-29-4	8330A	0 / 7	-	-	82 - 92	250 - 280	ug/kg		-
Misc. Organics	2,4-Dinitrotoluene	121-14-2	8330A	0 / 7	-	-	41 - 46	120 - 140	ug/kg		-
Misc. Organics	2,6-Diamino-4-nitrotoluene	59229-75-3	8330A	0 / 7	-	-	82 - 92	250 - 280	ug/kg		-
Misc. Organics	2,6-Dinitrotoluene	606-20-2	8330A	0 / 7	-	-	41 - 46	120 - 140	ug/kg		-
Misc. Organics	2-Amino-4,6-Dinitrotoluene	35572-78-2	8330A	0 / 7	-	-	41 - 46	120 - 140	ug/kg		-
Misc. Organics	2-Nitrotoluene	88-72-2	8330A	0 / 7	-	-	82 - 92	120 - 140	ug/kg		-
Misc. Organics	2-Propanol	67-63-0	8015B	0 / 7	-	-	100 - 120	510 - 600	ug/kg		-
Misc. Organics	3-Nitrotoluene	99-08-1	8330A	0 / 7	-	-	100 - 110	120 - 140	ug/kg		-
Misc. Organics	4-Amino-2,6-Dinitrotoluene	19406-51-0	8330A	0 / 7	-	-	61 - 69	120 - 140	ug/kg		-
Misc. Organics	4-Nitrotoluene	99-99-0	8330A	0 / 7	-	-	82 - 92	120 - 140	ug/kg		-
Misc. Organics	Diethylene Glycol	111-46-6	8015M	0 / 7	-	-	5.1 - 6.0	10 - 12	mg/kg		-
Misc. Organics	Ethanol	64-17-5	8015B	0 / 7	-	-	100 - 120	510 - 600	ug/kg		-
Misc. Organics	Ethylene Glycol	107-21-1	8015M	0 / 7	-	-	5.1 - 6.0	10 - 12	mg/kg		-
Misc. Organics	Formaldehyde	50-00-0	8315A	1 / 7	4200	4200	610 - 1300	1500 - 3100	ug/kg	SL-010-SA3	3 - 4
Misc. Organics	HMX	2691-41-0	8330A	0 / 7	-	-	100 - 110	310 - 340	ug/kg		-

Table 3-3
Summary of Analytical Results for Chemicals - Validated Data
Combined Soils - HSA - 3

Group	Chemical	CAS No	Analytic Method	Detection Frequency	Minimum Concentration	Maximum Concentration	Range of Method Detection Limit	Range of Method Reporting Limit	Unit	Location of Maximum Concentration	Depth of Maximum Concentration
Misc. Organics	m-Dinitrobenzene	99-65-0	8330A	0 / 7	-	-	41 - 46	120 - 140	ug/kg		-
Misc. Organics	Methanol	67-56-1	8015B	0 / 7	-	-	100 - 120	510 - 600	ug/kg		-
Misc. Organics	m-Terphenyl	92-06-8	8015B	0 / 7	-	-	1.5 - 1.8	3.6 - 4.2	mg/kg		-
Misc. Organics	Nitrobenzene	98-95-3	8330A	0 / 7	-	-	41 - 46	120 - 140	ug/kg		-
Misc. Organics	Nitroglycerin	55-63-0	8330A	0 / 7	-	-	820 - 920	2500 - 2800	ug/kg		-
Misc. Organics	o-Terphenyl	84-15-1	8015B	0 / 7	-	-	1.5 - 1.8	3.6 - 4.2	mg/kg		-
Misc. Organics	PETN	78-11-5	8330A	0 / 7	-	-	820 - 920	2500 - 2800	ug/kg		-
Misc. Organics	Propylene glycol	57-55-6	8015M	0 / 7	-	-	5.1 - 6.0	10 - 12	mg/kg		-
Misc. Organics	p-Terphenyl	92-94-4	8015B	0 / 7	-	-	1.5 - 1.8	3.6 - 4.2	mg/kg		-
Misc. Organics	RDX	121-82-4	8330A	0 / 7	-	-	51 - 57	120 - 140	ug/kg		-
Misc. Organics	Tetryl	479-45-8	8330A	0 / 7	-	-	63 - 70	120 - 140	ug/kg		-
PCBs and Dioxins	1,2,3,4,6,7,8-HpCDD	35822-46-9	1613B	6 / 13	1.37 J Z	218	0.0211 - 0.142	4.82 - 5.80	ng/kg	SL-009-SA3	4 - 5
PCBs and Dioxins	1,2,3,4,6,7,8-HpCDF	67562-39-4	1613B	5 / 13	2.1 J Z	20.2	0.0113 - 0.0383	4.82 - 5.80	ng/kg	SL-009-SA3	4 - 5
PCBs and Dioxins	1,2,3,4,7,8,9-HpCDF	55673-89-7	1613B	3 / 13	0.333 J Z	1.29 J Z	0.0156 - 0.0563	4.82 - 5.80	ng/kg	SL-009-SA3	4 - 5
PCBs and Dioxins	1,2,3,4,7,8-HxCDD	39227-28-6	1613B	6 / 13	0.135 J Z	0.602 J Z	0.0197 - 0.0606	4.82 - 5.80	ng/kg	SL-009-SA3	4 - 5
PCBs and Dioxins	1,2,3,4,7,8-HxCDF	70648-26-9	1613B	8 / 13	0.0405 J Z	4.63 J Z	0.0153 - 0.0716	4.82 - 5.80	ng/kg	SL-010-SA3	3 - 4
PCBs and Dioxins	1,2,3,6,7,8-HxCDD	57653-85-7	1613B	11 / 13	0.0516 J Z	6.08	0.0200 - 0.0603	4.82 - 5.80	ng/kg	SL-009-SA3	4 - 5
PCBs and Dioxins	1,2,3,6,7,8-HxCDF	57117-44-9	1613B	7 / 13	0.186 J Z	2.85 J Z	0.0120 - 0.0630	4.82 - 5.80	ng/kg	SL-009-SA3	4 - 5
PCBs and Dioxins	1,2,3,7,8,9-HxCDD	19408-74-3	1613B	8 / 13	0.258 J Z	3.97 J Z	0.0205 - 0.0576	4.82 - 5.80	ng/kg	SL-004-SA3	7 - 8
PCBs and Dioxins	1,2,3,7,8,9-HxCDF	72918-21-9	1613B	6 / 13	0.147 J Z	0.72 J Z	0.0157 - 0.0715	4.82 - 5.80	ng/kg	SL-009-SA3	4 - 5
PCBs and Dioxins	1,2,3,7,8-PeCDD	40321-76-4	1613B	5 / 13	0.0562 J Z	0.56 J Z	0.0240 - 0.215	4.82 - 5.80	ng/kg	SL-009-SA3	4 - 5
PCBs and Dioxins	1,2,3,7,8-PeCDF	57117-41-6	1613B	6 / 13	0.0862 J Z	6.36	0.0130 - 0.0738	4.82 - 5.80	ng/kg	SL-010-SA3	3 - 4
PCBs and Dioxins	2,3,4,6,7,8-HxCDF	60851-34-5	1613B	5 / 13	0.244 J Z	5.33 J Z	0.0132 - 0.0622	4.82 - 5.80	ng/kg	SL-009-SA3	4 - 5
PCBs and Dioxins	2,3,4,7,8-PeCDF	57117-31-4	1613B	5 / 13	0.277 J Z	9.79	0.0130 - 0.0732	4.82 - 5.80	ng/kg	SL-009-SA3	4 - 5
PCBs and Dioxins	2,3,7,8-TCDD	1746-01-6	1613B	5 / 13	0.064 J Z	0.115 J Z	0.0276 - 0.0616	0.964 - 1.16	ng/kg	SL-006-SA3	9 - 10
PCBs and Dioxins	2,3,7,8-TCDF	51207-31-9	1613B	8 / 13	0.0285 J Z	1.34	0.0220 - 0.109	0.964 - 1.16	ng/kg	SL-009-SA3	4 - 5
PCBs and Dioxins	Aroclor 1016	12674-11-2	8082	0 / 13	-	-	0.33 - 3.5	1.7 - 18	ug/kg		-
PCBs and Dioxins	Aroclor 1221	11104-28-2	8082	0 / 13	-	-	0.33 - 3.5	1.7 - 18	ug/kg		-
PCBs and Dioxins	Aroclor 1232	11141-16-5	8082	0 / 13	-	-	0.33 - 3.5	1.7 - 18	ug/kg		-
PCBs and Dioxins	Aroclor 1242	53469-21-9	8082	0 / 13	-	-	0.33 - 3.5	1.7 - 18	ug/kg		-
PCBs and Dioxins	Aroclor 1248	12672-29-6	8082	0 / 13	-	-	0.33 - 3.5	1.7 - 18	ug/kg		-
PCBs and Dioxins	Aroclor 1254	11097-69-1	8082	4 / 13	0.53 J Z	96	0.33 - 3.5	1.7 - 18	ug/kg	SL-009-SA3	4 - 5
PCBs and Dioxins	Aroclor 1260	11096-82-5	8082	6 / 13	0.48 J FD, Z	55	0.39 - 4.1	1.7 - 18	ug/kg	SL-009-SA3	4 - 5
PCBs and Dioxins	Aroclor 1262	37324-23-5	8082	0 / 13	-	-	0.33 - 3.5	1.7 - 18	ug/kg		-
PCBs and Dioxins	Aroclor 1268	11100-14-4	8082	0 / 13	-	-	0.33 - 3.5	1.7 - 18	ug/kg		-
PCBs and Dioxins	Aroclor 5432	63496-31-1	8082	0 / 13	-	-	1.0 - 10	3.3 - 35	ug/kg		-
PCBs and Dioxins	Aroclor 5442	12642-23-8	8082	0 / 13	-	-	1.0 - 10	3.3 - 35	ug/kg		-
PCBs and Dioxins	Aroclor 5460	11126-42-4	8082	4 / 13	3 J Z	47	1.0 - 10	3.3 - 35	ug/kg	SL-009-SA3	4 - 5
PCBs and Dioxins	OCDD	3268-87-9	1613B	10 / 13	2.85 J Z	2250	0.0206 - 0.160	9.64 - 11.6	ng/kg	SL-009-SA3	4 - 5
PCBs and Dioxins	OCDF	39001-02-0	1613B	5 / 13	5.56 J Z	58.3	0.0300 - 0.0765	9.64 - 11.6	ng/kg	SL-009-SA3	4 - 5
Pesticides	2,2-Dichlor-Propionic Acid	75-99-0	8151A	0 / 2	-	-	4.4 - 4.4	9.0 - 9.0	ug/kg		-
Pesticides	2,4 DB	94-82-6	8151A	0 / 2	-	-	3.8 - 23	3.8 - 23	ug/kg		-
Pesticides	2,4,5-T	93-76-5	8151A	0 / 2	-	-	0.082 - 0.082	0.17 - 0.17	ug/kg		-
Pesticides	2,4,5-TP	93-72-1	8151A	1 / 2	0.29	0.29	0.075 - 0.075	0.17 - 0.17	ug/kg	SL-002-SA3	0 - 0.5
Pesticides	2,4-D	94-75-7	8151A	1 / 2	2.5 J Z	2.5 J Z	1.2 - 4.7	3.6 - 4.7	ug/kg	SL-002-SA3	0 - 0.5
Pesticides	4,4'-DDD	72-54-8	8081A	0 / 2	-	-	0.066 - 0.32	0.34 - 0.34	ug/kg		-
Pesticides	4,4'-DDE	72-55-9	8081A	2 / 2	0.70 J S	1.5	0.066 - 0.066	0.34 - 0.34	ug/kg	SL-002-SA3	0 - 0.5
Pesticides	4,4'-DDT	50-29-3	8081A	2 / 2	0.91 J S	1.4	0.066 - 0.066	0.34 - 0.34	ug/kg	SL-002-SA3	0 - 0.5
Pesticides	Aldrin	309-00-2	8081A	0 / 2	-	-	0.066 - 0.066	0.17 - 0.17	ug/kg		-
Pesticides	Alpha-BHC	319-84-6	8081A	0 / 2	-	-	0.034 - 0.034	0.17 - 0.17	ug/kg		-
Pesticides	Beta-BHC	319-85-7	8081A	0 / 2	-	-	0.060 - 0.060	0.17 - 0.17	ug/kg		-
Pesticides	Chlordane	57-74-9	8081A	2 / 2	1.7 J Z	2.4 J S, Z	0.80 - 0.80	3.4 - 3.4	ug/kg	SL-001-SA3	0 - 0.5
Pesticides	Delta-BHC	319-86-8	8081A	0 / 2	-	-	0.036 - 0.036	0.17 - 0.17	ug/kg		-
Pesticides	Dicamba	1918-00-9	8151A	0 / 2	-	-	0.40 - 0.40	1.2 - 1.2	ug/kg		-
Pesticides	Dichlorprop	120-36-5	8151A	1 / 2	1.6 J Z	1.6 J Z	0.80 - 0.80	1.7 - 1.7	ug/kg	SL-001-SA3	0 - 0.5

Table 3-3
Summary of Analytical Results for Chemicals - Validated Data
Combined Soils - HSA - 3

Group	Chemical	CAS No	Analytic Method	Detection Frequency	Minimum Concentration	Maximum Concentration	Range of Method Detection Limit	Range of Method Reporting Limit	Unit	Location of Maximum Concentration	Depth of Maximum Concentration
Pesticides	Dieldrin	60-57-1	8081A	0 / 2	-	-	0.066 - 0.093	0.34 - 0.34	ug/kg		-
Pesticides	Dinitrobutyl Phenol	88-85-7	8151A	0 / 2	-	-	0.80 - 0.80	2.4 - 2.4	ug/kg		-
Pesticides	Endosulfan I	959-98-8	8081A	0 / 2	-	-	0.044 - 0.044	0.17 - 0.17	ug/kg		-
Pesticides	Endosulfan II	33213-65-9	8081A	0 / 2	-	-	0.066 - 0.068	0.34 - 0.34	ug/kg		-
Pesticides	Endosulfan Sulfate	1031-07-8	8081A	0 / 2	-	-	0.066 - 0.066	0.34 - 0.34	ug/kg		-
Pesticides	Endrin	72-20-8	8081A	0 / 2	-	-	0.066 - 0.066	0.34 - 0.34	ug/kg		-
Pesticides	Endrin Aldehyde	7421-93-4	8081A	0 / 2	-	-	0.11 - 0.17	0.34 - 0.34	ug/kg		-
Pesticides	Endrin Ketone	53494-70-5	8081A	0 / 2	-	-	0.066 - 0.095	0.34 - 0.34	ug/kg		-
Pesticides	Gamma-BHC (Lindane)	58-89-9	8081A	0 / 2	-	-	0.034 - 0.034	0.17 - 0.17	ug/kg		-
Pesticides	Heptachlor	76-44-8	8081A	0 / 2	-	-	0.060 - 0.060	0.17 - 0.17	ug/kg		-
Pesticides	Heptachlor Epoxide	1024-57-3	8081A	0 / 2	-	-	0.063 - 0.073	0.17 - 0.17	ug/kg		-
Pesticides	MCPA	94-74-6	8151A	0 / 2	-	-	76 - 76	250 - 250	ug/kg		-
Pesticides	MCPP	93-65-2	8151A	0 / 2	-	-	75 - 75	250 - 250	ug/kg		-
Pesticides	Methoxychlor	72-43-5	8081A	0 / 2	-	-	0.34 - 0.34	1.7 - 1.7	ug/kg		-
Pesticides	Mirex	2385-85-5	8081A	0 / 2	-	-	0.066 - 0.12	0.34 - 0.34	ug/kg		-
Pesticides	Toxaphene	8001-35-2	8081A	0 / 2	-	-	2.2 - 4.6	6.6 - 6.6	ug/kg		-
Semivolatiles	1,2,4-Trichlorobenzene	120-82-1	8270C	0 / 13	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	1,2-Dichlorobenzene	95-50-1	8270C	0 / 13	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	1,2-Diphenylhydrazine	122-66-7	8270C	0 / 13	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	1,3-Dichlorobenzene	541-73-1	8270C	0 / 13	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	1,4-Dichlorobenzene	106-46-7	8270C	0 / 13	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	1-Methylnaphthalene	90-12-0	8270C SIM	0 / 13	-	-	0.66 - 0.79	1.6 - 2.0	ug/kg		-
Semivolatiles	2,4,5-Trichlorophenol	95-95-4	8270C	0 / 13	-	-	33 - 40	170 - 200	ug/kg		-
Semivolatiles	2,4,6-Trichlorophenol	88-06-2	8270C	0 / 13	-	-	33 - 40	170 - 200	ug/kg		-
Semivolatiles	2,4-Dichlorophenol	120-83-2	8270C	0 / 13	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	2,4-Dimethylphenol	105-67-9	8270C	0 / 13	-	-	33 - 40	170 - 200	ug/kg		-
Semivolatiles	2,4-Dinitrophenol	51-28-5	8270C	0 / 13	-	-	330 - 400	1000 - 1200	ug/kg		-
Semivolatiles	2,4-Dinitrotoluene	121-14-2	8270C	0 / 13	-	-	33 - 40	170 - 200	ug/kg		-
Semivolatiles	2,6-Dinitrotoluene	606-20-2	8270C	0 / 13	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	2-Chloronaphthalene	91-58-7	8270C	0 / 13	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	2-Chlorophenol	95-57-8	8270C	0 / 13	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	2-Methylnaphthalene	91-57-6	8270C SIM	1 / 13	0.66 J Z	0.66 J Z	0.66 - 0.79	1.6 - 2.0	ug/kg	SL-002-SA3	0 - 0.5
Semivolatiles	2-Methylphenol	95-48-7	8270C	0 / 13	-	-	33 - 40	170 - 200	ug/kg		-
Semivolatiles	2-Nitroaniline	88-74-4	8270C	0 / 13	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	2-Nitrophenol	88-75-5	8270C	0 / 13	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	3,3`-Dichlorobenzidine	91-94-1	8270C	0 / 13	-	-	100 - 120	330 - 400	ug/kg		-
Semivolatiles	3,5-Dimethylphenol	108-68-9	8270C	0 / 13	-	-	33 - 40	170 - 200	ug/kg		-
Semivolatiles	3-Nitroaniline	99-09-2	8270C	0 / 13	-	-	33 - 40	170 - 200	ug/kg		-
Semivolatiles	4,6-Dinitro-2-Methylphenol	534-52-1	8270C	0 / 13	-	-	170 - 200	500 - 590	ug/kg		-
Semivolatiles	4-Bromophenyl Phenyl Ether	101-55-3	8270C	0 / 13	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	4-Chloro-3-Methylphenol	59-50-7	8270C	0 / 13	-	-	33 - 40	170 - 200	ug/kg		-
Semivolatiles	4-Chloroaniline	106-47-8	8270C	0 / 13	-	-	67 - 79	170 - 200	ug/kg		-
Semivolatiles	4-Chlorophenyl Phenylether	7005-72-3	8270C	0 / 13	-	-	33 - 40	170 - 200	ug/kg		-
Semivolatiles	4-Methylphenol	106-44-5	8270C	0 / 13	-	-	33 - 40	170 - 200	ug/kg		-
Semivolatiles	4-Nitroaniline	100-01-6	8270C	0 / 13	-	-	67 - 79	170 - 200	ug/kg		-
Semivolatiles	4-Nitrophenol	100-02-7	8270C	0 / 13	-	-	170 - 200	500 - 590	ug/kg		-
Semivolatiles	Acenaphthene	83-32-9	8270C SIM	0 / 13	-	-	0.66 - 0.79	1.6 - 2.0	ug/kg		-
Semivolatiles	Acenaphthylene	208-96-8	8270C SIM	0 / 13	-	-	0.33 - 0.40	1.6 - 2.0	ug/kg		-
Semivolatiles	Aniline	62-53-3	8270C	0 / 13	-	-	170 - 200	500 - 590	ug/kg		-
Semivolatiles	Anthracene	120-12-7	8270C SIM	1 / 13	0.36 J Z	0.36 J Z	0.33 - 0.40	1.6 - 2.0	ug/kg	SL-002-SA3	0 - 0.5
Semivolatiles	Benzidine	92-87-5	8270C	0 / 13	-	-	1200 - 1400	3300 - 4000	ug/kg		-
Semivolatiles	Benzo(a)anthracene	56-55-3	8270C SIM	3 / 13	0.84 J Z	1.1 J Z	0.66 - 0.79	1.6 - 2.0	ug/kg	SL-002-SA3	0 - 0.5
Semivolatiles	Benzo(a)pyrene	50-32-8	8270C SIM	3 / 13	0.96 J Z	1.8	0.66 - 0.79	1.6 - 2.0	ug/kg	SL-002-SA3	0 - 0.5
Semivolatiles	Benzo(b)fluoranthene	205-99-2	8270C SIM	6 / 13	0.78 J FD, Z	5.4	0.66 - 0.79	1.6 - 2.0	ug/kg	SL-002-SA3	0 - 0.5
Semivolatiles	Benzo(g,h,i)perylene	191-24-2	8270C SIM	5 / 13	0.73 J Z	1.4 J Z	0.66 - 0.79	1.6 - 2.0	ug/kg	SL-013-SA3	0.5 - 1.5

Table 3-3
Summary of Analytical Results for Chemicals - Validated Data
Combined Soils - HSA - 3

Group	Chemical	CAS No	Analytic Method	Detection Frequency	Minimum Concentration	Maximum Concentration	Range of Method Detection Limit	Range of Method Reporting Limit	Unit	Location of Maximum Concentration	Depth of Maximum Concentration
Semivolatiles	Benzo(k)fluoranthene	207-08-9	8270C SIM	4 / 13	0.75 J Z	1.3 J Z	0.66 - 0.79	1.6 - 2.0	ug/kg	SL-001-SA3	2 - 3
Semivolatiles	Benzoic Acid	65-85-0	8270C	0 / 13	-	-	170 - 200	500 - 590	ug/kg		-
Semivolatiles	Benzyl Alcohol	100-51-6	8270C	0 / 13	-	-	170 - 200	500 - 590	ug/kg		-
Semivolatiles	Bis(2-Chloroethoxy) methane	111-91-1	8270C	0 / 13	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	Bis(2-Chloroethyl) ether	111-44-4	8270C	0 / 13	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	bis(2-Chloroisopropyl) ether	39638-32-9	8270C	0 / 13	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	Bis(2-Ethylhexyl) phthalate	117-81-7	8270C	2 / 2	45 J Z	83 J Z	17 - 17	330 - 350	ug/kg	SL-002-SA3	0 - 0.5
Semivolatiles	Bis(2-Ethylhexyl) phthalate	117-81-7	8270C SIM	9 / 11	5.9 J Z	30	5.9 - 7.2	18 - 21	ug/kg	SL-010-SA3	3 - 4
Semivolatiles	Butylbenzylphthalate	85-68-7	8270C SIM	1 / 13	7.3 J Z	7.3 J Z	5.9 - 7.2	18 - 21	ug/kg	SL-010-SA3	3 - 4
Semivolatiles	Carbazole	86-74-8	8270C	0 / 13	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	Chrysene	218-01-9	8270C SIM	6 / 13	0.97 J Z	2.9	0.33 - 0.40	1.6 - 2.0	ug/kg	SL-002-SA3	0 - 0.5
Semivolatiles	Dibenzo(a,h)anthracene	53-70-3	8270C SIM	0 / 13	-	-	0.66 - 0.79	1.6 - 2.0	ug/kg		-
Semivolatiles	Dibenzofuran	132-64-9	8270C	0 / 13	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	Diethylphthalate	84-66-2	8270C	1 / 1	20 J Z	20 J Z	17 - 17	170 - 170	ug/kg	SL-010-SA3	3 - 4
Semivolatiles	Diethylphthalate	84-66-2	8270C SIM	0 / 12	-	-	5.9 - 7.2	18 - 21	ug/kg		-
Semivolatiles	Dimethylphthalate	131-11-3	8270C SIM	0 / 13	-	-	5.9 - 7.2	18 - 21	ug/kg		-
Semivolatiles	Di-n-Butylphthalate	84-74-2	8270C SIM	4 / 13	7.4 J Z	9.8 J Z	5.9 - 7.2	18 - 21	ug/kg	SL-010-SA3	3 - 4
Semivolatiles	Di-N-Octyl Phthalate	117-84-0	8270C	1 / 1	21 J Z	21 J Z	17 - 17	170 - 170	ug/kg	SL-001-SA3	2 - 3
Semivolatiles	Di-N-Octyl Phthalate	117-84-0	8270C SIM	0 / 13	-	-	5.9 - 7.2	18 - 21	ug/kg		-
Semivolatiles	Fluoranthene	206-44-0	8270C SIM	5 / 13	0.96 J Z	3.9	0.66 - 0.79	1.6 - 2.0	ug/kg	SL-005-SA3	4 - 5
Semivolatiles	Fluorene	86-73-7	8270C SIM	0 / 13	-	-	0.66 - 0.79	1.6 - 2.0	ug/kg		-
Semivolatiles	Hexachlorobenzene	118-74-1	8270C	0 / 13	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	Hexachlorobutadiene	87-68-3	8270C	0 / 13	-	-	67 - 79	170 - 200	ug/kg		-
Semivolatiles	Hexachlorocyclopentadiene	77-47-4	8270C	0 / 13	-	-	170 - 200	500 - 590	ug/kg		-
Semivolatiles	Hexachloroethane	67-72-1	8270C	0 / 13	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	Indeno(1,2,3-Cd)Pyrene	193-39-5	8270C SIM	3 / 13	0.78 J Z	1.1 J Z	0.66 - 0.79	1.6 - 2.0	ug/kg	SL-005-SA3	4 - 5
Semivolatiles	Isophorone	78-59-1	8270C	0 / 13	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	Naphthalene	91-20-3	8270C SIM	1 / 13	1.2 J Z	1.2 J Z	0.66 - 0.79	1.6 - 2.0	ug/kg	SL-002-SA3	0 - 0.5
Semivolatiles	Nitrobenzene	98-95-3	8270C	0 / 13	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	N-Nitrosodimethylamine	62-75-9	1625C	0 / 7	-	-	17.0 - 175	34.1 - 349	ng/kg		-
Semivolatiles	N-Nitrosodimethylamine	62-75-9	8270C SIM	0 / 13	-	-	0.66 - 0.79	1.6 - 2.0	ug/kg		-
Semivolatiles	N-Nitroso-Di-N-Propylamine	621-64-7	8270C	0 / 13	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	N-Nitrosodiphenylamine	86-30-6	8270C	0 / 13	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	Pentachlorophenol	87-86-5	8270C	0 / 13	-	-	170 - 200	500 - 590	ug/kg		-
Semivolatiles	Phenanthrene	85-01-8	8270C SIM	4 / 13	1.2 J Z	2.1	0.66 - 0.79	1.6 - 2.0	ug/kg	SL-002-SA3	0 - 0.5
Semivolatiles	Phenol	108-95-2	8270C	0 / 13	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	Pyrene	129-00-0	8270C SIM	6 / 13	0.73 J Z	2.9	0.66 - 0.79	1.6 - 2.0	ug/kg	SL-002-SA3	0 - 0.5
Volatiles	EFH (C12-C14)	PHCC12C14	8015M	0 / 7	-	-	0.41 - 4.2	1.2 - 13	mg/kg		-
Volatiles	EFH (C15-C20)	PHCC15C20	8015M	1 / 7	0.45 J Q, Z	0.45 J Q, Z	0.41 - 4.2	1.2 - 13	mg/kg	SL-011-SA3	4 - 5
Volatiles	EFH (C21-C30)	PHCC21C30	8015M	3 / 7	1.7 J Q	18	0.41 - 4.2	1.2 - 13	mg/kg	SL-010-SA3	3 - 4
Volatiles	EFH (C30-C40)	PHCC30C40	8015M	5 / 7	0.58 J Z	170	0.41 - 4.2	1.2 - 13	mg/kg	SL-010-SA3	3 - 4
Volatiles	EFH (C8-C11)	PHCC8C11	8015M	0 / 7	-	-	0.41 - 4.2	1.2 - 13	mg/kg		-
Volatiles	GRO (C5-C12)	GROC5C12	8015M	1 / 6	3.2 J FD	3.2 J FD	0.2 - 0.2	0.9 - 1.2	mg/kg	SL-011-SA3	4 - 5

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
FD - Field duplicate results outside of criteria
Z - Analytes reported below the reporting limits and above the method detection limit
- Second column confirmation outside of criteria

Table 3-4
Summary of Analytical Results for Chemicals - Validated Data
Surface Soils - HSA - 6

Group	Chemical	CAS No	Analytic Method	Sample Type	Detection Frequency	Minimum Concentration	Maximum Concentration	Range of Method Detection Limit	Range of Method Reporting Limit	Unit	Location of Maximum Concentration	Depth of Maximum Concentration
Inorganic	Aluminum	7429-90-5	6010B	N	147 / 147	7110 J E	31500	5.82 - 29.6	19.2 - 98.0	mg/kg	SL-217-SA6	0 - 0.5
Inorganic	Aluminum	7429-90-5	6020	Split	4 / 4	10200	11000	12.3 - 12.6	24.6 - 25.2	mg/kg	SL-283-SA6	0 - 0.5
Inorganic	Antimony	7440-36-0	6020	N	118 / 147	0.0753 J Q, Z	3.22 J Q, E	0.0711 - 0.0814	0.192 - 0.220	mg/kg	SL-291-SA6	0 - 0.5
Inorganic	Antimony	7440-36-0	6020	Split	4 / 4	0.219 J Q	0.281 J Q	0.103 - 0.105	0.205 - 0.210	mg/kg	SL-285-SA6	0 - 0.5
Inorganic	Arsenic	7440-38-2	6020	N	147 / 147	2.97 J E	17.2 J E, Q	0.0768 - 0.0880	0.384 - 0.440	mg/kg	SL-165-SA6	0 - 0.5
Inorganic	Arsenic	7440-38-2	6020	Split	4 / 4	3.90	5.17	0.205 - 0.210	0.411 - 0.419	mg/kg	SL-282-SA6	0 - 0.5
Inorganic	Barium	7440-39-3	6020	N	147 / 147	50.6 J E, A	176 J E, A	0.102 - 0.269	0.384 - 1.02	mg/kg	SL-165-SA6	0 - 0.5
Inorganic	Barium	7440-39-3	6020	Split	4 / 4	74.9 J Q	87.3 J Q	0.205 - 0.210	0.411 - 0.419	mg/kg	SL-283-SA6	0 - 0.5
Inorganic	Beryllium	7440-41-7	6020	N	147 / 147	0.300	1.33 J E, Q	0.0154 - 0.0176	0.0961 - 0.110	mg/kg	SL-215-SA6	0 - 0.5
Inorganic	Beryllium	7440-41-7	6020	Split	4 / 4	0.451	0.481	0.0513 - 0.0524	0.103 - 0.105	mg/kg	SL-285-SA6	0 - 0.5
Inorganic	Boron	7440-42-8	6010B	N	71 / 147	0.534 J Z	9.13	0.346 - 0.725	4.81 - 10.1	mg/kg	SL-291-SA6	0 - 0.5
Inorganic	Boron	7440-42-8	6020	Split	0 / 4	-	-	2.57 - 2.62	5.13 - 5.24	mg/kg		-
Inorganic	Cadmium	7440-43-9	6020	N	147 / 147	0.0784 J FD, Q, Z	3.97 J Q	0.0423 - 0.0484	0.0961 - 0.110	mg/kg	SL-215-SA6	0 - 0.5
Inorganic	Cadmium	7440-43-9	6020	Split	4 / 4	0.315	0.590	0.0513 - 0.0524	0.103 - 0.105	mg/kg	SL-285-SA6	0 - 0.5
Inorganic	Calcium	7440-70-2	6010B	N	147 / 147	1590 J E	22000	2.41 - 12.2	19.3 - 98.0	mg/kg	SL-213-SA6	0 - 0.5
Inorganic	Calcium	7440-70-2	6020	Split	4 / 4	5000 J I	6530 J I	10.3 - 10.5	20.5 - 21.0	mg/kg	SL-282-SA6	0 - 0.5
Inorganic	Chromium	7440-47-3	6020	N	147 / 147	10.6 J E, Q	344	0.115 - 0.597	0.384 - 1.99	mg/kg	SL-278-SA6	0 - 0.5
Inorganic	Chromium	7440-47-3	6020	Split	4 / 4	15.5 J Q, E	55.6 J Q, E	0.205 - 0.210	0.411 - 0.419	mg/kg	SL-285-SA6	0 - 0.5
Inorganic	Chromium VI	18540-29-9	7199	N	100 / 147	0.28 J Z	4.8	0.20 - 0.23	0.98 - 1.1	mg/kg	SL-297-SA6	0 - 0.5
Inorganic	Chromium VI	18540-29-9	7199	Split	0 / 4	-	-	0.530 - 0.548	1.06 - 1.10	mg/kg		-
Inorganic	Cobalt	7440-48-4	6020	N	147 / 147	3.20 J E	16.3 J Q, E, A J E, Q	0.0192 - 0.0220	0.0961 - 0.110	mg/kg	SL-291-SA6 SL-215-SA6	0 - 0.5 0 - 0.5
Inorganic	Cobalt	7440-48-4	6020	Split	4 / 4	5.05	6.72	0.0513 - 0.0524	0.103 - 0.105	mg/kg	SL-282-SA6	0 - 0.5
Inorganic	Copper	7440-50-8	6020	N	147 / 147	4.29 J Q	88.0	0.0768 - 0.0880	0.384 - 0.440	mg/kg	SL-314-SA6	0 - 0.5
Inorganic	Copper	7440-50-8	6020	Split	4 / 4	9.88	14.9	0.205 - 0.210	0.411 - 0.419	mg/kg	SL-285-SA6	0 - 0.5
Inorganic	Cyanide	57-12-5	9012B	N	0 / 45	-	-	0.17 - 0.20	0.48 - 0.54	mg/kg		-
Inorganic	Cyanide	57-12-5	9014	Split	0 / 4	-	-	0.265 - 0.274	0.530 - 0.548	mg/kg		-
Inorganic	Fluoride	16984-48-8	300.0	N	88 / 147	0.91 J Z	4.4 J Q	0.78 - 0.89	0.98 - 1.1	mg/kg	SL-213-SA6	0 - 0.5
Inorganic	Fluoride	16984-48-8	300.0	Split	4 / 4	1.17	2.02	0.530 - 0.548	1.06 - 1.10	mg/kg	SL-285-SA6	0 - 0.5
Inorganic	Iron	7439-89-6	6010B	N	147 / 147	14200	46000 J E	2.52 - 13.6	19.3 - 104	mg/kg	SL-122-SA6	0 - 0.5
Inorganic	Iron	7439-89-6	6020	Split	4 / 4	18300 J I	20400 J I	10.3 - 10.5	20.5 - 21.0	mg/kg	SL-282-SA6	0 - 0.5
Inorganic	Lead	7439-92-1	6020	N	147 / 147	2.92 J Q, E, A	3080 J Q	0.0098 - 0.499	0.192 - 9.79	mg/kg	SL-268-SA6	0 - 0.5
Inorganic	Lead	7439-92-1	6020	Split	4 / 4	7.20	28.8	0.103 - 0.105	0.205 - 0.210	mg/kg	SL-285-SA6	0 - 0.5
Inorganic	Lithium	7439-93-2	6010B	N	147 / 147	7.1	50.3	0.60 - 3.0	1.9 - 9.8	mg/kg	SL-059-SA6	0 - 0.5
Inorganic	Lithium	7439-93-2	6020	Split	4 / 4	18.5	20.9	1.03 - 1.05	2.05 - 2.10	mg/kg	SL-285-SA6	0 - 0.5
Inorganic	Magnesium	7439-95-4	6010B	N	147 / 147	3080	8010	0.424 - 2.16	9.64 - 49.0	mg/kg	SL-217-SA6	0 - 0.5
Inorganic	Magnesium	7439-95-4	6020	Split	4 / 4	3960	4740	5.13 - 5.24	10.3 - 10.5	mg/kg	SL-283-SA6	0 - 0.5
Inorganic	Manganese	7439-96-5	6010B	N	147 / 147	175	764 J Q	0.0346 - 0.176	0.481 - 2.45	mg/kg	SL-063-SA6	0 - 0.5
Inorganic	Manganese	7439-96-5	6020	Split	4 / 4	238	258	0.257 - 0.262	0.513 - 0.524	mg/kg	SL-282-SA6 SL-285-SA6	0 - 0.5 0 - 0.5
Inorganic	Mercury	7439-97-6	7471A	N	120 / 147	0.0071 J Z	3.16	0.0066 - 0.0728	0.0940 - 1.04	mg/kg	SL-028-SA6	0 - 0.5
Inorganic	Mercury	7439-97-6	7471A	Split	4 / 4	0.221	2.85	0.0523 - 0.546	0.105 - 1.09	mg/kg	SL-284-SA6	0 - 0.5
Inorganic	Molybdenum	7439-98-7	6020	N	147 / 147	0.294	23.2 J Q, E	0.0480 - 0.0550	0.0961 - 0.110	mg/kg	SL-291-SA6	0 - 0.5
Inorganic	Molybdenum	7439-98-7	6020	Split	4 / 4	0.522	2.55	0.0513 - 0.0524	0.103 - 0.105	mg/kg	SL-284-SA6	0 - 0.5
Inorganic	Nickel	7440-02-0	6020	N	147 / 147	7.32	84.5 J E, A	0.0961 - 0.110	0.384 - 0.440	mg/kg	SL-233-SA6	0 - 0.5
Inorganic	Nickel	7440-02-0	6020	Split	4 / 4	9.60 J Q, E	29.8 J Q, E	0.205 - 0.210	0.411 - 0.419	mg/kg	SL-285-SA6	0 - 0.5
Inorganic	Nitrate	14797-55-8	300.0	N	38 / 41	0.88 J Z	9.1	0.79 - 0.85	1.5 - 1.6	mg/kg	SL-060-SA6	0 - 0.5
Inorganic	Percent Moisture	MOIST	160.3M	N	145 / 147	0.51	11.7	0.50 - 0.50	0.50 - 0.50	%	SL-232-SA6	0 - 0.5
Inorganic	Perchlorate	14797-73-0	314.0	N	0 / 147	-	-	9.0 - 45.5	30.0 - 152	ug/kg		-
Inorganic	Perchlorate	14797-73-0	314.0	Split	0 / 4	-	-	10.6 - 21.9	21.2 - 43.9	ug/kg		-
Inorganic	Perchlorate	14797-73-0	6850	N	1 / 16	2.6 J Z	2.6 J Z	2.1 - 2.2	5.0 - 5.3	ug/kg	SL-219-SA6	0 - 0.5
Inorganic	pH	pH	9045D	Split	4 / 4	8.31	8.59	0.1 - 0.1	0.1 - 0.1	pH unit	SL-283-SA6	0 - 0.5
Inorganic	pH	pH	9045M	N	147 / 147	5.15	8.84	0.0100 - 0.0100	0.0100 - 0.0100	pH unit	SL-122-SA6	0 - 0.5
Inorganic	Phosphorus	7723-14-0	6010B	N	147 / 147	224	1780 J Q, E	0.337 - 1.71	9.62 - 49.0	mg/kg	SL-281-SA6	0 - 0.5
Inorganic	Phosphorus	7723-14-0	6020	Split	4 / 4	346	470	6.16 - 6.29	12.3 - 12.6	mg/kg	SL-284-SA6	0 - 0.5

Table 3-4
Summary of Analytical Results for Chemicals - Validated Data
Surface Soils - HSA - 6

Group	Chemical	CAS No	Analytic Method	Sample Type	Detection Frequency	Minimum Concentration	Maximum Concentration	Range of Method Detection Limit	Range of Method Reporting Limit	Unit	Location of Maximum Concentration	Depth of Maximum Concentration
Inorganic	Potassium	7440-09-7	6010B	N	147 / 147	1920 J Q	6820	10.9 - 55.4	48.2 - 245	mg/kg	SL-217-SA6	0 - 0.5
Inorganic	Potassium	7440-09-7	6020	Split	4 / 4	2460	2810	30.8 - 31.4	61.6 - 62.9	mg/kg	SL-282-SA6	0 - 0.5
Inorganic	Selenium	7782-49-2	6020	N	144 / 147	0.067 J Z	0.777 J E	0.0557 - 0.0638	0.384 - 0.440	mg/kg	SL-291-SA6	0 - 0.5
Inorganic	Selenium	7782-49-2	6020	Split	1 / 4	0.609	0.609	0.205 - 0.210	0.411 - 0.419	mg/kg	SL-284-SA6	0 - 0.5
Inorganic	Silver	7440-22-4	6020	N	146 / 147	0.0194 J Z	9.62 J E, Q	0.0136 - 0.0156	0.0961 - 0.110	mg/kg	SL-215-SA6	0 - 0.5
Inorganic	Silver	7440-22-4	6020	Split	2 / 4	0.0842 J Z	0.123	0.0513 - 0.0524	0.103 - 0.105	mg/kg	SL-285-SA6	0 - 0.5
Inorganic	Sodium	7440-23-5	6010B	N	144 / 147	51.7 J Z	272	5.72 - 29.1	96.2 - 490	mg/kg	SL-278-SA6	0 - 0.5
Inorganic	Sodium	7440-23-5	6020	Split	4 / 4	127 J I	179 J I	51.3 - 52.4	103 - 105	mg/kg	SL-284-SA6	0 - 0.5
Inorganic	Strontium	7440-24-6	6010B	N	147 / 147	7.02	56.7	0.0241 - 0.122	0.481 - 2.45	mg/kg	SL-182-SA6	0 - 0.5
Inorganic	Strontium	7440-24-6	6020	Split	4 / 4	21.7	27.2	0.257 - 0.262	0.513 - 0.524	mg/kg	SL-284-SA6	0 - 0.5
Inorganic	Thallium	7440-28-0	6020	N	145 / 147	0.145	0.628 J Q	0.0288 - 0.0330	0.0961 - 0.110	mg/kg	SL-215-SA6	0 - 0.5
Inorganic	Thallium	7440-28-0	6020	Split	0 / 4	-	-	0.0513 - 0.0524	0.103 - 0.105	mg/kg		-
Inorganic	Tin	7440-31-5	6010B	N	1 / 147	11.5 J FD	11.5 J FD	0.308 - 1.57	9.62 - 49.0	mg/kg	SL-284-SA6	0 - 0.5
Inorganic	Tin	7440-31-5	6020	Split	0 / 4	-	-	5.13 - 5.24	10.3 - 10.5	mg/kg		-
Inorganic	Titanium	7440-32-6	6010B	N	147 / 147	630 J A	1550	0.0682 - 0.143	0.961 - 2.01	mg/kg	SL-164-SA6	0 - 0.5
Inorganic	Titanium	7440-32-6	6020	Split	4 / 4	775	909	0.513 - 0.524	1.03 - 1.05	mg/kg	SL-283-SA6	0 - 0.5
Inorganic	Vanadium	7440-62-2	6020	N	147 / 147	19.9 J Q	91.2 J Q, E, A	0.0211 - 0.0242	0.0961 - 0.110	mg/kg	SL-109-SA6	0 - 0.5
Inorganic	Vanadium	7440-62-2	6020	Split	4 / 4	30.3	34.5	0.0513 - 0.0524	0.103 - 0.105	mg/kg	SL-283-SA6	0 - 0.5
Inorganic	Zinc	7440-66-6	6020	N	147 / 147	42.3 J E	796 J A	0.538 - 5.76	2.88 - 30.8	mg/kg	SL-297-SA6	0 - 0.5
Inorganic	Zinc	7440-66-6	6020	Split	4 / 4	64.6	115	1.54 - 1.57	3.08 - 3.14	mg/kg	SL-285-SA6	0 - 0.5
Inorganic	Zirconium	7440-67-7	6010B	N	46 / 147	1.52 J Z	11.6	0.443 - 2.25	4.81 - 24.5	mg/kg	SL-241-SA6	0 - 0.5
Inorganic	Zirconium	7440-67-7	6020	Split	1 / 4	3.19 J Z	3.19 J Z	2.57 - 2.62	5.13 - 5.24	mg/kg	SL-282-SA6	0 - 0.5
Misc. Organics	1,3,5-Trinitrobenzene	99-35-4	8330A	N	0 / 41	-	-	37 - 43	110 - 130	ug/kg		-
Misc. Organics	2,4,6-Trinitrotoluene	118-96-7	8330A	N	0 / 41	-	-	37 - 43	110 - 130	ug/kg		-
Misc. Organics	2,4-Diamino-6-nitrotoluene	6629-29-4	8330A	N	0 / 41	-	-	73 - 85	220 - 260	ug/kg		-
Misc. Organics	2,4-Dinitrotoluene	121-14-2	8330A	N	0 / 41	-	-	37 - 43	110 - 130	ug/kg		-
Misc. Organics	2,6-Diamino-4-nitrotoluene	59229-75-3	8330A	N	0 / 41	-	-	73 - 85	220 - 260	ug/kg		-
Misc. Organics	2,6-Dinitrotoluene	606-20-2	8330A	N	0 / 41	-	-	37 - 43	110 - 130	ug/kg		-
Misc. Organics	2-Amino-4,6-Dinitrotoluene	35572-78-2	8330A	N	0 / 41	-	-	37 - 43	110 - 130	ug/kg		-
Misc. Organics	2-Nitrotoluene	88-72-2	8330A	N	0 / 41	-	-	73 - 85	110 - 130	ug/kg		-
Misc. Organics	2-Propanol	67-63-0	8015B	N	14 / 104	100 J Z	280 J Z	100 - 110	500 - 550	ug/kg	SL-049-SA6	0 - 0.5
Misc. Organics	2-Propanol	67-63-0	8015B	Split	0 / 4	-	-	260 - 270	530 - 550	ug/kg		-
Misc. Organics	3-Nitrotoluene	99-08-1	8330A	N	0 / 41	-	-	92 - 110	110 - 130	ug/kg		-
Misc. Organics	4-Amino-2,6-Dinitrotoluene	19406-51-0	8330A	N	0 / 41	-	-	55 - 64	110 - 130	ug/kg		-
Misc. Organics	4-Nitrotoluene	99-99-0	8330A	N	0 / 41	-	-	73 - 85	110 - 130	ug/kg		-
Misc. Organics	Diethylene Glycol	111-46-6	8015M	N	0 / 104	-	-	5.0 - 5.5	10 - 11	mg/kg		-
Misc. Organics	Diethylene Glycol	111-46-6	8015M	Split	0 / 4	-	-	7.9 - 8.2	16 - 16	mg/kg		-
Misc. Organics	Ethanol	64-17-5	8015B	N	8 / 104	110 J Z	4400	100 - 110	500 - 550	ug/kg	SL-064-SA6	0 - 0.5
Misc. Organics	Ethanol	64-17-5	8015B	Split	0 / 4	-	-	260 - 270	530 - 550	ug/kg		-
Misc. Organics	Ethylene Glycol	107-21-1	8015M	N	0 / 104	-	-	5.0 - 5.5	10 - 11	mg/kg		-
Misc. Organics	Ethylene Glycol	107-21-1	8015M	Split	0 / 4	-	-	5.3 - 5.5	11 - 11	mg/kg		-
Misc. Organics	Formaldehyde	50-00-0	8315A	N	7 / 44	640 J Z	910 J Z	590 - 1300	1500 - 3200	ug/kg	SL-063-SA6	0 - 0.5
Misc. Organics	HMX	2691-41-0	8330A	N	0 / 41	-	-	92 - 110	280 - 320	ug/kg		-
Misc. Organics	m-Dinitrobenzene	99-65-0	8330A	N	0 / 41	-	-	37 - 43	110 - 130	ug/kg		-
Misc. Organics	Methanol	67-56-1	8015B	N	8 / 104	130 J Z	1100	100 - 110	500 - 550	ug/kg	SL-148-SA6	0 - 0.5
Misc. Organics	Methanol	67-56-1	8015B	Split	0 / 4	-	-	260 - 270	530 - 550	ug/kg		-
Misc. Organics	m-Terphenyl	92-06-8	8015B	N	0 / 101	-	-	1.5 - 1.6	3.5 - 3.8	mg/kg		-
Misc. Organics	Nitrobenzene	98-95-3	8330A	N	0 / 41	-	-	37 - 43	110 - 130	ug/kg		-
Misc. Organics	Nitroglycerin	55-63-0	8330A	N	0 / 41	-	-	730 - 850	2200 - 2600	ug/kg		-
Misc. Organics	o-Terphenyl	84-15-1	8015B	N	0 / 101	-	-	1.5 - 1.6	3.5 - 3.8	mg/kg		-
Misc. Organics	PETN	78-11-5	8330A	N	0 / 41	-	-	730 - 850	2200 - 2600	ug/kg		-
Misc. Organics	Propylene glycol	57-55-6	8015M	N	0 / 104	-	-	5.0 - 5.5	10 - 11	mg/kg		-
Misc. Organics	Propylene glycol	57-55-6	8015M	Split	0 / 4	-	-	5.3 - 5.5	11 - 11	mg/kg		-
Misc. Organics	p-Terphenyl	92-94-4	8015B	N	0 / 101	-	-	1.5 - 1.6	3.5 - 3.8	mg/kg		-
Misc. Organics	RDX	121-82-4	8330A	N	1 / 41	56 J Z	56 J Z	46 - 53	110 - 130	ug/kg	SL-054-SA6	0 - 0.5

Table 3-4
Summary of Analytical Results for Chemicals - Validated Data
Surface Soils - HSA - 6

Group	Chemical	CAS No	Analytic Method	Sample Type	Detection Frequency	Minimum Concentration	Maximum Concentration	Range of Method Detection Limit	Range of Method Reporting Limit	Unit	Location of Maximum Concentration	Depth of Maximum Concentration
Misc. Organics	Tetryl	479-45-8	8330A	N	0 / 41	-	-	56 - 65	110 - 130	ug/kg		-
PCBs and Dioxins	1,2,3,4,6,7,8-HpCDD	35822-46-9	1613B	N	140 / 147	3.64 J Z	25500 J #	0.0155 - 3.04	2.49 - 46.2	ng/kg	SL-314-SA6	0 - 0.5
PCBs and Dioxins	1,2,3,4,6,7,8-HpCDF	67562-39-4	1613B	N	145 / 147	0.564 J Z	4420	0.00525 - 0.645	2.49 - 46.2	ng/kg	SL-315-SA6	0 - 0.5
PCBs and Dioxins	1,2,3,4,7,8,9-HpCDF	55673-89-7	1613B	N	125 / 147	0.108 J Z	588	0.0134 - 1.39	2.49 - 46.2	ng/kg	SL-315-SA6	0 - 0.5
PCBs and Dioxins	1,2,3,4,7,8-HxCDD	39227-28-6	1613B	N	118 / 147	0.13 J Z	761	0.0185 - 1.44	2.49 - 46.2	ng/kg	SL-280-SA6	0 - 0.5
PCBs and Dioxins	1,2,3,4,7,8-HxCDF	70648-26-9	1613B	N	134 / 147	0.212 J Z	193	0.0149 - 0.907	2.49 - 46.2	ng/kg	SL-315-SA6	0 - 0.5
PCBs and Dioxins	1,2,3,6,7,8-HxCDD	57653-85-7	1613B	N	140 / 147	0.247 J Z	1250	0.0190 - 1.43	2.49 - 46.2	ng/kg	SL-314-SA6	0 - 0.5
PCBs and Dioxins	1,2,3,6,7,8-HxCDF	57117-44-9	1613B	N	127 / 147	0.143 J Z	209	0.0127 - 0.778	2.49 - 46.2	ng/kg	SL-315-SA6	0 - 0.5
PCBs and Dioxins	1,2,3,7,8,9-HxCDD	19408-74-3	1613B	N	136 / 147	0.291 J Z	769	0.0173 - 1.22	2.49 - 46.2	ng/kg	SL-314-SA6	0 - 0.5
PCBs and Dioxins	1,2,3,7,8,9-HxCDF	72918-21-9	1613B	N	93 / 147	0.0996 J Z	36.7 J Z	0.0157 - 1.15	2.49 - 46.2	ng/kg	SL-315-SA6	0 - 0.5
PCBs and Dioxins	1,2,3,7,8-PeCDD	40321-76-4	1613B	N	119 / 147	0.122 J Z	448	0.0137 - 0.670	2.49 - 46.2	ng/kg	SL-315-SA6	0 - 0.5
PCBs and Dioxins	1,2,3,7,8-PeCDF	57117-41-6	1613B	N	124 / 147	0.0282 J Z	34.8	0.00963 - 0.373	2.49 - 46.2	ng/kg	SL-030-SA6	0 - 0.5
PCBs and Dioxins	2,3,4,6,7,8-HxCDF	60851-34-5	1613B	N	127 / 147	0.117 J Z	336	0.0124 - 0.781	2.49 - 46.2	ng/kg	SL-315-SA6	0 - 0.5
PCBs and Dioxins	2,3,4,7,8-PeCDF	57117-31-4	1613B	N	117 / 147	0.277 J Z	40.7 J Z	0.0104 - 0.343	2.49 - 46.2	ng/kg	SL-314-SA6	0 - 0.5
PCBs and Dioxins	2,3,7,8-TCDD	1746-01-6	1613B	N	111 / 147	0.0237 J Z	59.5	0.00990 - 0.699	0.498 - 9.25	ng/kg	SL-314-SA6	0 - 0.5
PCBs and Dioxins	2,3,7,8-TCDF	51207-31-9	1613B	N	123 / 147	0.0661 J Z	22.9	0.0174 - 0.833	0.498 - 9.25	ng/kg	SL-020-SA6	0 - 0.5
PCBs and Dioxins	Aroclor 1016	12674-11-2	8082	N	0 / 147	-	-	0.33 - 68	1.7 - 350	ug/kg		-
PCBs and Dioxins	Aroclor 1016	12674-11-2	8082	Split	0 / 4	-	-	0.90 - 0.93	1.8 - 1.9	ug/kg		-
PCBs and Dioxins	Aroclor 1221	11104-28-2	8082	N	0 / 147	-	-	0.33 - 68	1.7 - 350	ug/kg		-
PCBs and Dioxins	Aroclor 1221	11104-28-2	8082	Split	0 / 4	-	-	0.90 - 0.93	1.8 - 1.9	ug/kg		-
PCBs and Dioxins	Aroclor 1232	11141-16-5	8082	N	0 / 147	-	-	0.33 - 68	1.7 - 350	ug/kg		-
PCBs and Dioxins	Aroclor 1232	11141-16-5	8082	Split	0 / 4	-	-	0.90 - 0.93	1.8 - 1.9	ug/kg		-
PCBs and Dioxins	Aroclor 1242	53469-21-9	8082	N	1 / 147	0.58 J Z	0.58 J Z	0.33 - 68	1.7 - 350	ug/kg	SL-113-SA6	0 - 0.5
PCBs and Dioxins	Aroclor 1242	53469-21-9	8082	Split	0 / 4	-	-	0.90 - 0.93	1.8 - 1.9	ug/kg		-
PCBs and Dioxins	Aroclor 1248	12672-29-6	8082	N	4 / 147	16	660	0.33 - 68	1.7 - 350	ug/kg	SL-109-SA6	0 - 0.5
PCBs and Dioxins	Aroclor 1248	12672-29-6	8082	Split	0 / 4	-	-	0.90 - 0.93	1.8 - 1.9	ug/kg		-
PCBs and Dioxins	Aroclor 1254	11097-69-1	8082	N	97 / 147	0.52 J Z	2600 J FD	0.33 - 68	1.7 - 350	ug/kg	SL-297-SA6	0 - 0.5
PCBs and Dioxins	Aroclor 1254	11097-69-1	8082	Split	0 / 4	-	-	0.90 - 0.93	1.8 - 1.9	ug/kg		-
PCBs and Dioxins	Aroclor 1260	11096-82-5	8082	N	73 / 147	0.48 J Z	1800	0.39 - 81	1.7 - 350	ug/kg	SL-020-SA6	0 - 0.5
PCBs and Dioxins	Aroclor 1260	11096-82-5	8082	Split	2 / 4	4.6 J FD	12	0.90 - 0.93	1.8 - 1.9	ug/kg	SL-282-SA6	0 - 0.5
PCBs and Dioxins	Aroclor 1262	37324-23-5	8082	N	0 / 147	-	-	0.33 - 68	1.7 - 350	ug/kg		-
PCBs and Dioxins	Aroclor 1262	37324-23-5	8082	Split	0 / 4	-	-	0.90 - 0.93	1.8 - 1.9	ug/kg		-
PCBs and Dioxins	Aroclor 1268	11100-14-4	8082	N	0 / 147	-	-	0.33 - 68	1.7 - 350	ug/kg		-
PCBs and Dioxins	Aroclor 1268	11100-14-4	8082	Split	0 / 4	-	-	0.90 - 0.93	1.8 - 1.9	ug/kg		-
PCBs and Dioxins	Aroclor 5432	63496-31-1	8082	N	0 / 147	-	-	1.0 - 210	3.3 - 680	ug/kg		-
PCBs and Dioxins	Aroclor 5432	63496-31-1	8082	Split	0 / 4	-	-	1.8 - 1.9	3.5 - 3.6	ug/kg		-
PCBs and Dioxins	Aroclor 5442	12642-23-8	8082	N	0 / 147	-	-	1.0 - 210	3.3 - 680	ug/kg		-
PCBs and Dioxins	Aroclor 5442	12642-23-8	8082	Split	0 / 4	-	-	1.8 - 1.9	3.5 - 3.6	ug/kg		-
PCBs and Dioxins	Aroclor 5460	11126-42-4	8082	N	100 / 147	1.1 J Z	4200	1.0 - 210	3.3 - 680	ug/kg	SL-058-SA6	0 - 0.5
PCBs and Dioxins	Aroclor 5460	11126-42-4	8082	Split	2 / 4	9.4	36	1.8 - 1.9	3.5 - 3.6	ug/kg	SL-282-SA6	0 - 0.5
PCBs and Dioxins	OCDD	3268-87-9	1613B	N	143 / 147	20.8	289000 J #	0.0114 - 2.06	4.98 - 92.5	ng/kg	SL-315-SA6	0 - 0.5
PCBs and Dioxins	OCDF	39001-02-0	1613B	N	146 / 147	1.06 J Z	10800	0.0146 - 0.691	4.98 - 92.5	ng/kg	SL-315-SA6	0 - 0.5
Pesticides	2,2-Dichlor-Propionic Acid	75-99-0	8151A	N	0 / 146	-	-	4.4 - 44	9.0 - 90	ug/kg		-
Pesticides	2,2-Dichlor-Propionic Acid	75-99-0	8151A	Split	0 / 4	-	-	4.8 - 4.9	9.5 - 9.9	ug/kg		-
Pesticides	2,4 DB	94-82-6	8151A	N	54 / 146	0.64 J Z	15	0.62 - 25	1.7 - 25	ug/kg	SL-219-SA6	0 - 0.5
Pesticides	2,4 DB	94-82-6	8151A	Split	0 / 4	-	-	0.90 - 0.93	1.8 - 1.9	ug/kg		-
Pesticides	2,4,5-T	93-76-5	8151A	N	16 / 146	0.091 J Z	0.77	0.082 - 1.7	0.17 - 1.7	ug/kg	SL-292-SA6	0 - 0.5
Pesticides	2,4,5-T	93-76-5	8151A	Split	0 / 4	-	-	0.090 - 0.093	0.18 - 0.19	ug/kg		-
Pesticides	2,4,5-TP	93-72-1	8151A	N	27 / 146	0.077 J Z	0.84	0.075 - 0.38	0.17 - 0.86	ug/kg	SL-310-SA6	0 - 0.5
Pesticides	2,4,5-TP	93-72-1	8151A	Split	0 / 4	-	-	0.090 - 0.093	0.18 - 0.19	ug/kg		-
Pesticides	2,4-D	94-75-7	8151A	N	9 / 146	1.3 J Z	11	1.2 - 5.2	3.6 - 5.2	ug/kg	SL-303-SA6	0 - 0.5
Pesticides	2,4-D	94-75-7	8151A	Split	0 / 4	-	-	1.9 - 2.0	3.8 - 3.9	ug/kg		-
Pesticides	4,4'-DDD	72-54-8	8081A	N	13 / 146	0.14 J S, Z	44	0.066 - 12	0.34 - 35	ug/kg	SL-314-SA6	0 - 0.5
Pesticides	4,4'-DDD	72-54-8	8081A	Split	0 / 4	-	-	0.18 - 0.19	0.36 - 0.37	ug/kg		-
Pesticides	4,4'-DDE	72-55-9	8081A	N	62 / 146	0.071 J Z	1600	0.066 - 120	0.34 - 340	ug/kg	SL-314-SA6	0 - 0.5

Table 3-4
Summary of Analytical Results for Chemicals - Validated Data
Surface Soils - HSA - 6

Group	Chemical	CAS No	Analytic Method	Sample Type	Detection Frequency	Minimum Concentration	Maximum Concentration	Range of Method Detection Limit	Range of Method Reporting Limit	Unit	Location of Maximum Concentration	Depth of Maximum Concentration
Pesticides	4,4'-DDE	72-55-9	8081A	Split	0 / 4	-	-	0.18 - 0.19	0.36 - 0.37	ug/kg		-
Pesticides	4,4'-DDT	50-29-3	8081A	N	109 / 146	0.12 J Z	780	0.066 - 130	0.34 - 340	ug/kg	SL-314-SA6	0 - 0.5
Pesticides	4,4'-DDT	50-29-3	8081A	Split	4 / 4	3.6 J #	16 J #	0.36 - 0.93	0.72 - 1.9	ug/kg	SL-285-SA6	0 - 0.5
Pesticides	Aldrin	309-00-2	8081A	N	1 / 146	0.073 J S, Z, #	0.073 J S, Z, #	0.066 - 6.8	0.17 - 17	ug/kg	SL-278-SA6	0 - 0.5
Pesticides	Aldrin	309-00-2	8081A	Split	0 / 4	-	-	0.090 - 0.093	0.18 - 0.19	ug/kg		-
Pesticides	Alpha-BHC	319-84-6	8081A	N	5 / 146	0.045 J Z	0.14 J Z	0.034 - 3.5	0.17 - 17	ug/kg	SL-254-SA6	0 - 0.5
Pesticides	Alpha-BHC	319-84-6	8081A	Split	0 / 4	-	-	0.090 - 0.093	0.18 - 0.19	ug/kg		-
Pesticides	Beta-BHC	319-85-7	8081A	N	6 / 146	0.077 J S, Z	0.66	0.060 - 6.2	0.17 - 17	ug/kg	SL-317-SA6	0 - 0.5
Pesticides	Beta-BHC	319-85-7	8081A	Split	0 / 4	-	-	0.090 - 0.093	0.18 - 0.19	ug/kg		-
Pesticides	Chlordane	57-74-9	8081A	N	63 / 146	1.1 J Z	150	0.80 - 83	3.4 - 350	ug/kg	SL-109-SA6	0 - 0.5
Pesticides	Chlordane (technical)	12789-03-6	8081A	Split	0 / 4	-	-	1.8 - 1.9	3.6 - 3.7	ug/kg		-
Pesticides	Delta-BHC	319-86-8	8081A	N	22 / 146	0.037 J H, Z	4.7	0.036 - 3.7	0.17 - 17	ug/kg	SL-314-SA6	0 - 0.5
Pesticides	Delta-BHC	319-86-8	8081A	Split	0 / 4	-	-	0.090 - 0.093	0.18 - 0.19	ug/kg		-
Pesticides	Dicamba	1918-00-9	8151A	N	16 / 146	0.47 J Z	1.6 J #	0.40 - 0.71	1.2 - 1.4	ug/kg	SL-219-SA6	0 - 0.5
Pesticides	Dicamba	1918-00-9	8151A	Split	0 / 4	-	-	0.64 - 0.66	1.3 - 1.3	ug/kg		-
Pesticides	Dichlorprop	120-36-5	8151A	N	5 / 146	0.85 J Z, #	7.2 J S	0.80 - 3.2	1.7 - 3.2	ug/kg	SL-318-SA6	0 - 0.5
Pesticides	Dichlorprop	120-36-5	8151A	Split	0 / 4	-	-	1.3 - 1.3	2.5 - 2.6	ug/kg		-
Pesticides	Dieldrin	60-57-1	8081A	N	27 / 146	0.085 J Z	60 J FD	0.066 - 49	0.34 - 69	ug/kg	SL-297-SA6	0 - 0.5
Pesticides	Dieldrin	60-57-1	8081A	Split	1 / 4	4.1 J Z, #	4.1 J Z, #	0.18 - 0.91	0.36 - 1.8	ug/kg	SL-285-SA6	0 - 0.5
Pesticides	Dinitrobutyl Phenol	88-85-7	8151A	N	1 / 146	0.81 J L, Z	0.81 J L, Z	0.80 - 24	2.4 - 24	ug/kg	SL-128-SA6	0 - 0.5
Pesticides	Dinitrobutyl Phenol	88-85-7	8151A	Split	0 / 4	-	-	0.90 - 0.93	1.8 - 1.9	ug/kg		-
Pesticides	Endosulfan I	959-98-8	8081A	N	1 / 146	0.049 J S, Q, Z	0.049 J S, Q, Z	0.044 - 4.6	0.17 - 17	ug/kg	SL-305-SA6	0 - 0.5
Pesticides	Endosulfan I	959-98-8	8081A	Split	0 / 4	-	-	0.090 - 0.093	0.18 - 0.19	ug/kg		-
Pesticides	Endosulfan II	33213-65-9	8081A	N	15 / 146	0.11 J S, Z	22	0.066 - 24	0.34 - 35	ug/kg	SL-311-SA6	0 - 0.5
Pesticides	Endosulfan II	33213-65-9	8081A	Split	0 / 4	-	-	0.18 - 0.19	0.36 - 0.37	ug/kg		-
Pesticides	Endosulfan Sulfate	1031-07-8	8081A	N	3 / 146	0.27 J S, Q, Z	2.6 J Z	0.066 - 21	0.34 - 35	ug/kg	SL-315-SA6	0 - 0.5
Pesticides	Endosulfan Sulfate	1031-07-8	8081A	Split	0 / 4	-	-	0.18 - 0.19	0.36 - 0.37	ug/kg		-
Pesticides	Endrin	72-20-8	8081A	N	2 / 146	0.074 J S, Z	0.47	0.066 - 27	0.34 - 35	ug/kg	SL-168-SA6	0 - 0.5
Pesticides	Endrin	72-20-8	8081A	Split	1 / 4	2.2 J S, C	2.2 J S, C	0.18 - 0.19	0.36 - 0.37	ug/kg	SL-285-SA6	0 - 0.5
Pesticides	Endrin Aldehyde	7421-93-4	8081A	N	21 / 146	0.09 J S, Z	14 J Z	0.066 - 14	0.34 - 35	ug/kg	SL-291-SA6	0 - 0.5
Pesticides	Endrin Aldehyde	7421-93-4	8081A	Split	0 / 4	-	-	0.18 - 0.19	0.36 - 0.37	ug/kg		-
Pesticides	Endrin Ketone	53494-70-5	8081A	N	11 / 146	0.093 J Z	1.4 J S, Q	0.066 - 6.8	0.34 - 35	ug/kg	SL-305-SA6	0 - 0.5
Pesticides	Endrin Ketone	53494-70-5	8081A	Split	0 / 4	-	-	0.18 - 0.19	0.36 - 0.37	ug/kg		-
Pesticides	Gamma-BHC (Lindane)	58-89-9	8081A	N	26 / 146	0.036 J Z	0.86 J Z	0.034 - 3.5	0.17 - 17	ug/kg	SL-109-SA6	0 - 0.5
Pesticides	Gamma-BHC (Lindane)	58-89-9	8081A	Split	0 / 4	-	-	0.090 - 0.093	0.18 - 0.19	ug/kg		-
Pesticides	Heptachlor	76-44-8	8081A	N	14 / 146	0.064 J Z	6.8	0.060 - 6.2	0.16 - 17	ug/kg	SL-109-SA6	0 - 0.5
Pesticides	Heptachlor	76-44-8	8081A	Split	0 / 4	-	-	0.090 - 0.093	0.18 - 0.19	ug/kg		-
Pesticides	Heptachlor Epoxide	1024-57-3	8081A	N	16 / 146	0.039 J Z	0.71 J H	0.034 - 31	0.17 - 33	ug/kg	SL-056-SA6	0 - 0.5
Pesticides	Heptachlor Epoxide	1024-57-3	8081A	Split	1 / 4	1.1 J S, C, #	1.1 J S, C, #	0.090 - 0.093	0.18 - 0.19	ug/kg	SL-285-SA6	0 - 0.5
Pesticides	MCPA	94-74-6	8151A	N	24 / 146	100 J Z	2100	76 - 3600	250 - 3600	ug/kg	SL-217-SA6	0 - 0.5
Pesticides	MCPA	94-74-6	8151A	Split	0 / 4	-	-	130 - 140	260 - 270	ug/kg		-
Pesticides	MCPP	93-65-2	8151A	N	13 / 146	110 J Z	2000 J #	75 - 600	250 - 600	ug/kg	SL-216-SA6	0 - 0.5
Pesticides	MCPP	93-65-2	8151A	Split	0 / 4	-	-	130 - 140	260 - 270	ug/kg		-
Pesticides	Methoxychlor	72-43-5	8081A	N	2 / 146	0.38 J Z, C, #	2.3	0.34 - 35	1.7 - 170	ug/kg	SL-168-SA6	0 - 0.5
Pesticides	Methoxychlor	72-43-5	8081A	Split	0 / 4	-	-	0.90 - 0.93	1.8 - 1.9	ug/kg		-
Pesticides	Mirex	2385-85-5	8081A	N	13 / 146	0.094 J Z	3.8 J Z	0.066 - 9.6	0.34 - 35	ug/kg	SL-109-SA6	0 - 0.5
Pesticides	Mirex	2385-85-5	8081A	Split	1 / 4	2.4 J S, #	2.4 J S, #	0.18 - 0.19	0.36 - 0.37	ug/kg	SL-285-SA6	0 - 0.5
Pesticides	Toxaphene	8001-35-2	8081A	N	2 / 146	2.4 J Z	14 J S	2.2 - 2000	6.6 - 2000	ug/kg	SL-037-SA6	0 - 0.5
Pesticides	Toxaphene	8001-35-2	8081A	Split	0 / 4	-	-	3.5 - 3.6	7.0 - 7.2	ug/kg		-
Semivolatiles	1,2,4-Trichlorobenzene	120-82-1	8270C	N	0 / 147	-	-	17 - 350	170 - 3500	ug/kg		-
Semivolatiles	1,2,4-Trichlorobenzene	120-82-1	8270C	Split	0 / 4	-	-	90 - 180	180 - 370	ug/kg		-
Semivolatiles	1,2-Dichlorobenzene	95-50-1	8270C	N	0 / 147	-	-	17 - 350	170 - 3500	ug/kg		-
Semivolatiles	1,2-Dichlorobenzene	95-50-1	8270C	Split	0 / 4	-	-	90 - 180	180 - 370	ug/kg		-
Semivolatiles	1,2-Diphenylhydrazine	122-66-7	8270C	N	0 / 147	-	-	17 - 350	170 - 3500	ug/kg		-
Semivolatiles	1,2-Diphenylhydrazine	122-66-7	8270C	Split	0 / 4	-	-	90 - 180	180 - 370	ug/kg		-

Table 3-4
Summary of Analytical Results for Chemicals - Validated Data
Surface Soils - HSA - 6

Group	Chemical	CAS No	Analytic Method	Sample Type	Detection Frequency	Minimum Concentration	Maximum Concentration	Range of Method Detection Limit	Range of Method Reporting Limit	Unit	Location of Maximum Concentration	Depth of Maximum Concentration
Semivolatiles	1,3-Dichlorobenzene	541-73-1	8270C	N	0 / 147	-	-	17 - 350	170 - 3500	ug/kg		-
Semivolatiles	1,3-Dichlorobenzene	541-73-1	8270C	Split	0 / 4	-	-	90 - 180	180 - 370	ug/kg		-
Semivolatiles	1,4-Dichlorobenzene	106-46-7	8270C	N	0 / 147	-	-	17 - 350	170 - 3500	ug/kg		-
Semivolatiles	1,4-Dichlorobenzene	106-46-7	8270C	Split	0 / 4	-	-	90 - 180	180 - 370	ug/kg		-
Semivolatiles	1-Methylnaphthalene	90-12-0	8270C	N	0 / 2	-	-	91 - 180	910 - 1800	ug/kg		-
Semivolatiles	1-Methylnaphthalene	90-12-0	8270C	Split	0 / 4	-	-	90 - 180	180 - 370	ug/kg		-
Semivolatiles	1-Methylnaphthalene	90-12-0	8270C SIM	N	12 / 145	0.69 J Z	20	0.66 - 35	1.7 - 87	ug/kg	SL-214-SA6 SL-220-SA6	0 - 0.5 0 - 0.5
Semivolatiles	1-Methylnaphthalene	90-12-0	8270C SIM	Split	0 / 4	-	-	0.91 - 1.9	1.8 - 3.7	ug/kg		-
Semivolatiles	2,4,5-Trichlorophenol	95-95-4	8270C	N	0 / 147	-	-	33 - 700	170 - 3500	ug/kg		-
Semivolatiles	2,4,5-Trichlorophenol	95-95-4	8270C	Split	0 / 4	-	-	90 - 180	180 - 370	ug/kg		-
Semivolatiles	2,4,6-Trichlorophenol	88-06-2	8270C	N	0 / 147	-	-	33 - 700	170 - 3500	ug/kg		-
Semivolatiles	2,4,6-Trichlorophenol	88-06-2	8270C	Split	0 / 4	-	-	90 - 180	180 - 370	ug/kg		-
Semivolatiles	2,4-Dichlorophenol	120-83-2	8270C	N	0 / 147	-	-	17 - 350	170 - 3500	ug/kg		-
Semivolatiles	2,4-Dichlorophenol	120-83-2	8270C	Split	0 / 4	-	-	90 - 180	180 - 370	ug/kg		-
Semivolatiles	2,4-Dimethylphenol	105-67-9	8270C	N	0 / 147	-	-	33 - 700	170 - 3500	ug/kg		-
Semivolatiles	2,4-Dimethylphenol	105-67-9	8270C	Split	0 / 4	-	-	90 - 180	180 - 370	ug/kg		-
Semivolatiles	2,4-Dinitrophenol	51-28-5	8270C	N	0 / 147	-	-	330 - 7000	990 - 21000	ug/kg		-
Semivolatiles	2,4-Dinitrophenol	51-28-5	8270C	Split	0 / 4	-	-	180 - 370	360 - 730	ug/kg		-
Semivolatiles	2,4-Dinitrotoluene	121-14-2	8270C	N	1 / 147	180	180	33 - 700	170 - 3500	ug/kg	SL-035-SA6	0 - 0.5
Semivolatiles	2,4-Dinitrotoluene	121-14-2	8270C	Split	0 / 4	-	-	90 - 180	180 - 370	ug/kg		-
Semivolatiles	2,6-Dinitrotoluene	606-20-2	8270C	N	0 / 147	-	-	17 - 350	170 - 3500	ug/kg		-
Semivolatiles	2,6-Dinitrotoluene	606-20-2	8270C	Split	0 / 4	-	-	90 - 180	180 - 370	ug/kg		-
Semivolatiles	2-butoxy-Ethanol	111-76-2	8270C	Split	0 / 4	-	-	180 - 370	180 - 370	ug/kg		-
Semivolatiles	2-Chloronaphthalene	91-58-7	8270C	N	0 / 147	-	-	17 - 350	170 - 3500	ug/kg		-
Semivolatiles	2-Chloronaphthalene	91-58-7	8270C	Split	0 / 4	-	-	90 - 180	180 - 370	ug/kg		-
Semivolatiles	2-Chlorophenol	95-57-8	8270C	N	0 / 147	-	-	17 - 350	170 - 3500	ug/kg		-
Semivolatiles	2-Chlorophenol	95-57-8	8270C	Split	0 / 4	-	-	90 - 180	180 - 370	ug/kg		-
Semivolatiles	2-Methylnaphthalene	91-57-6	8270C	N	0 / 2	-	-	91 - 180	910 - 1800	ug/kg		-
Semivolatiles	2-Methylnaphthalene	91-57-6	8270C	Split	0 / 4	-	-	90 - 180	180 - 370	ug/kg		-
Semivolatiles	2-Methylnaphthalene	91-57-6	8270C SIM	N	16 / 145	0.81 J Z	21	0.66 - 35	1.7 - 87	ug/kg	SL-220-SA6	0 - 0.5
Semivolatiles	2-Methylnaphthalene	91-57-6	8270C SIM	Split	0 / 4	-	-	0.91 - 1.9	1.8 - 3.7	ug/kg		-
Semivolatiles	2-Methylphenol	95-48-7	8270C	N	0 / 147	-	-	33 - 700	170 - 3500	ug/kg		-
Semivolatiles	2-Methylphenol	95-48-7	8270C	Split	0 / 4	-	-	90 - 180	180 - 370	ug/kg		-
Semivolatiles	2-Nitroaniline	88-74-4	8270C	N	0 / 147	-	-	17 - 350	170 - 3500	ug/kg		-
Semivolatiles	2-Nitroaniline	88-74-4	8270C	Split	0 / 4	-	-	90 - 180	180 - 370	ug/kg		-
Semivolatiles	2-Nitrophenol	88-75-5	8270C	N	0 / 147	-	-	17 - 350	170 - 3500	ug/kg		-
Semivolatiles	2-Nitrophenol	88-75-5	8270C	Split	0 / 4	-	-	90 - 180	180 - 370	ug/kg		-
Semivolatiles	2-phenoxy-Ethanol	122-99-6	8270C	Split	0 / 4	-	-	180 - 370	180 - 370	ug/kg		-
Semivolatiles	3,3`-Dichlorobenzidine	91-94-1	8270C	N	0 / 147	-	-	99 - 2100	330 - 7000	ug/kg		-
Semivolatiles	3,3`-Dichlorobenzidine	91-94-1	8270C	Split	0 / 4	-	-	90 - 180	180 - 370	ug/kg		-
Semivolatiles	3,5-Dimethylphenol	108-68-9	8270C	N	0 / 147	-	-	33 - 700	170 - 3500	ug/kg		-
Semivolatiles	3,5-Dimethylphenol	108-68-9	8270C	Split	0 / 4	-	-	90 - 180	180 - 370	ug/kg		-
Semivolatiles	3-Nitroaniline	99-09-2	8270C	N	0 / 147	-	-	33 - 700	170 - 3500	ug/kg		-
Semivolatiles	3-Nitroaniline	99-09-2	8270C	Split	0 / 4	-	-	90 - 180	180 - 370	ug/kg		-
Semivolatiles	4,6-Dinitro-2-Methylphenol	534-52-1	8270C	N	0 / 147	-	-	170 - 3500	500 - 11000	ug/kg		-
Semivolatiles	4,6-Dinitro-2-Methylphenol	534-52-1	8270C	Split	0 / 4	-	-	180 - 370	360 - 730	ug/kg		-
Semivolatiles	4-Bromophenyl Phenyl Ether	101-55-3	8270C	N	0 / 147	-	-	17 - 350	170 - 3500	ug/kg		-
Semivolatiles	4-Bromophenyl Phenyl Ether	101-55-3	8270C	Split	0 / 4	-	-	90 - 180	180 - 370	ug/kg		-
Semivolatiles	4-Chloro-3-Methylphenol	59-50-7	8270C	N	0 / 147	-	-	33 - 700	170 - 3500	ug/kg		-
Semivolatiles	4-Chloro-3-Methylphenol	59-50-7	8270C	Split	0 / 4	-	-	90 - 180	180 - 370	ug/kg		-
Semivolatiles	4-Chloroaniline	106-47-8	8270C	N	0 / 147	-	-	66 - 1400	170 - 3500	ug/kg		-
Semivolatiles	4-Chloroaniline	106-47-8	8270C	Split	0 / 4	-	-	90 - 180	180 - 370	ug/kg		-
Semivolatiles	4-Chlorophenyl Phenylether	7005-72-3	8270C	N	0 / 147	-	-	33 - 700	170 - 3500	ug/kg		-
Semivolatiles	4-Chlorophenyl Phenylether	7005-72-3	8270C	Split	0 / 4	-	-	90 - 180	180 - 370	ug/kg		-

Table 3-4
Summary of Analytical Results for Chemicals - Validated Data
Surface Soils - HSA - 6

Group	Chemical	CAS No	Analytic Method	Sample Type	Detection Frequency	Minimum Concentration	Maximum Concentration	Range of Method Detection Limit	Range of Method Reporting Limit	Unit	Location of Maximum Concentration	Depth of Maximum Concentration
Semivolatiles	4-Methylphenol	106-44-5	8270C	N	0 / 147	-	-	33 - 700	170 - 3500	ug/kg		-
Semivolatiles	4-Methylphenol	106-44-5	8270C	Split	0 / 4	-	-	90 - 180	180 - 370	ug/kg		-
Semivolatiles	4-Nitroaniline	100-01-6	8270C	N	0 / 147	-	-	66 - 1400	170 - 3500	ug/kg		-
Semivolatiles	4-Nitroaniline	100-01-6	8270C	Split	0 / 4	-	-	90 - 180	180 - 370	ug/kg		-
Semivolatiles	4-Nitrophenol	100-02-7	8270C	N	0 / 147	-	-	170 - 3500	500 - 11000	ug/kg		-
Semivolatiles	4-Nitrophenol	100-02-7	8270C	Split	0 / 4	-	-	180 - 370	360 - 730	ug/kg		-
Semivolatiles	Acenaphthene	83-32-9	8270C	N	3 / 5	29 J Z	66 J Z	17 - 180	170 - 1800	ug/kg	SL-292-SA6	0 - 0.5
Semivolatiles	Acenaphthene	83-32-9	8270C	Split	0 / 4	-	-	90 - 180	180 - 370	ug/kg		-
Semivolatiles	Acenaphthene	83-32-9	8270C SIM	N	14 / 142	0.76 J Z	150	0.66 - 35	1.7 - 87	ug/kg	SL-291-SA6	0 - 0.5
Semivolatiles	Acenaphthene	83-32-9	8270C SIM	Split	0 / 4	-	-	0.91 - 1.9	1.8 - 3.7	ug/kg		-
Semivolatiles	Acenaphthylene	208-96-8	8270C	N	2 / 4	32 J Z	41 J Z	17 - 180	170 - 1800	ug/kg	SL-292-SA6	0 - 0.5
Semivolatiles	Acenaphthylene	208-96-8	8270C	Split	0 / 4	-	-	90 - 180	180 - 370	ug/kg		-
Semivolatiles	Acenaphthylene	208-96-8	8270C SIM	N	28 / 143	0.35 J Z	59	0.33 - 17	1.7 - 87	ug/kg	SL-178-SA6	0 - 0.5
Semivolatiles	Acenaphthylene	208-96-8	8270C SIM	Split	0 / 4	-	-	0.91 - 1.9	1.8 - 3.7	ug/kg		-
Semivolatiles	Aniline	62-53-3	8270C	N	0 / 147	-	-	170 - 3500	500 - 11000	ug/kg		-
Semivolatiles	Aniline	62-53-3	8270C	Split	0 / 4	-	-	180 - 370	360 - 730	ug/kg		-
Semivolatiles	Anthracene	120-12-7	8270C	N	4 / 6	52 J Z	240	17 - 180	170 - 1800	ug/kg	SL-292-SA6	0 - 0.5
Semivolatiles	Anthracene	120-12-7	8270C	Split	0 / 4	-	-	90 - 180	180 - 370	ug/kg		-
Semivolatiles	Anthracene	120-12-7	8270C SIM	N	60 / 141	0.41 J L, Z	230	0.33 - 17	1.7 - 87	ug/kg	SL-291-SA6	0 - 0.5
Semivolatiles	Anthracene	120-12-7	8270C SIM	Split	0 / 4	-	-	0.91 - 1.9	1.8 - 3.7	ug/kg		-
Semivolatiles	Benzidine	92-87-5	8270C	N	0 / 147	-	-	1200 - 25000	3300 - 70000	ug/kg		-
Semivolatiles	Benzidine	92-87-5	8270C	Split	0 / 4	-	-	530 - 1100	1100 - 2200	ug/kg		-
Semivolatiles	Benzo(a)anthracene	56-55-3	8270C	N	17 / 19	17 J Z	1000	17 - 180	170 - 1800	ug/kg	SL-292-SA6	0 - 0.5
Semivolatiles	Benzo(a)anthracene	56-55-3	8270C	Split	0 / 4	-	-	90 - 180	180 - 370	ug/kg		-
Semivolatiles	Benzo(a)anthracene	56-55-3	8270C SIM	N	64 / 128	0.68 J Z	390	0.66 - 35	1.7 - 87	ug/kg	SL-297-SA6	0 - 0.5
Semivolatiles	Benzo(a)anthracene	56-55-3	8270C SIM	Split	1 / 4	9	9	0.91 - 1.9	1.8 - 3.7	ug/kg	SL-282-SA6	0 - 0.5
Semivolatiles	Benzo(a)pyrene	50-32-8	8270C	N	25 / 27	18 J Z	930	17 - 180	170 - 1800	ug/kg	SL-292-SA6	0 - 0.5
Semivolatiles	Benzo(a)pyrene	50-32-8	8270C	Split	0 / 4	-	-	90 - 180	180 - 370	ug/kg		-
Semivolatiles	Benzo(a)pyrene	50-32-8	8270C SIM	N	68 / 120	0.74 J Z	770	0.66 - 35	1.7 - 87	ug/kg	SL-142-SA6	0 - 0.5
Semivolatiles	Benzo(a)pyrene	50-32-8	8270C SIM	Split	1 / 4	13	13	0.91 - 1.9	1.8 - 3.7	ug/kg	SL-282-SA6	0 - 0.5
Semivolatiles	Benzo(b)fluoranthene	205-99-2	8270C	N	27 / 29	17 J Z	1400	17 - 180	170 - 1800	ug/kg	SL-292-SA6	0 - 0.5
Semivolatiles	Benzo(b)fluoranthene	205-99-2	8270C	Split	0 / 4	-	-	90 - 180	180 - 370	ug/kg		-
Semivolatiles	Benzo(b)fluoranthene	205-99-2	8270C SIM	N	90 / 118	0.88 J L, Z	1500	0.66 - 35	1.7 - 87	ug/kg	SL-142-SA6	0 - 0.5
Semivolatiles	Benzo(b)fluoranthene	205-99-2	8270C SIM	Split	1 / 4	18	18	0.91 - 1.9	1.8 - 3.7	ug/kg	SL-282-SA6	0 - 0.5
Semivolatiles	Benzo(g,h,i)perylene	191-24-2	8270C	N	35 / 37	17 J Z	660	17 - 180	170 - 1800	ug/kg	SL-292-SA6	0 - 0.5
Semivolatiles	Benzo(g,h,i)perylene	191-24-2	8270C	Split	0 / 4	-	-	90 - 180	180 - 370	ug/kg		-
Semivolatiles	Benzo(g,h,i)perylene	191-24-2	8270C SIM	N	68 / 110	0.69 J Z	540	0.66 - 35	1.7 - 87	ug/kg	SL-297-SA6	0 - 0.5
Semivolatiles	Benzo(g,h,i)perylene	191-24-2	8270C SIM	Split	1 / 4	21	21	0.91 - 1.9	1.8 - 3.7	ug/kg	SL-282-SA6	0 - 0.5
Semivolatiles	Benzo(k)fluoranthene	207-08-9	8270C	N	16 / 18	20 J Z	620	17 - 180	170 - 1800	ug/kg	SL-292-SA6	0 - 0.5
Semivolatiles	Benzo(k)fluoranthene	207-08-9	8270C	Split	0 / 4	-	-	90 - 180	180 - 370	ug/kg		-
Semivolatiles	Benzo(k)fluoranthene	207-08-9	8270C SIM	N	74 / 129	0.68 J Z	630	0.66 - 35	1.7 - 87	ug/kg	SL-142-SA6	0 - 0.5
Semivolatiles	Benzo(k)fluoranthene	207-08-9	8270C SIM	Split	1 / 4	5.3	5.3	0.91 - 1.9	1.8 - 3.7	ug/kg	SL-282-SA6	0 - 0.5
Semivolatiles	Benzoic Acid	65-85-0	8270C	N	0 / 147	-	-	170 - 3500	500 - 11000	ug/kg		-
Semivolatiles	Benzoic Acid	65-85-0	8270C	Split	0 / 4	-	-	360 - 730	710 - 1500	ug/kg		-
Semivolatiles	Benzyl Alcohol	100-51-6	8270C	N	0 / 147	-	-	170 - 3500	500 - 11000	ug/kg		-
Semivolatiles	Benzyl Alcohol	100-51-6	8270C	Split	0 / 4	-	-	90 - 180	180 - 370	ug/kg		-
Semivolatiles	Bis(2-Chloroethoxy) methane	111-91-1	8270C	N	0 / 147	-	-	17 - 350	170 - 3500	ug/kg		-
Semivolatiles	Bis(2-Chloroethoxy) methane	111-91-1	8270C	Split	0 / 4	-	-	90 - 180	180 - 370	ug/kg		-
Semivolatiles	Bis(2-Chloroethyl) ether	111-44-4	8270C	N	0 / 147	-	-	17 - 350	170 - 3500	ug/kg		-
Semivolatiles	Bis(2-Chloroethyl) ether	111-44-4	8270C	Split	0 / 4	-	-	90 - 180	180 - 370	ug/kg		-
Semivolatiles	bis(2-Chloroisopropyl) ether	39638-32-9	8270C	N	0 / 147	-	-	17 - 350	170 - 3500	ug/kg		-
Semivolatiles	bis(2-Chloroisopropyl) ether	39638-32-9	8270C	Split	0 / 4	-	-	90 - 180	180 - 370	ug/kg		-
Semivolatiles	Bis(2-Ethylhexyl) phthalate	117-81-7	8270C	N	61 / 80	17 J Z	3200	17 - 180	330 - 3500	ug/kg	SL-298-SA6	0 - 0.5
Semivolatiles	Bis(2-Ethylhexyl) phthalate	117-81-7	8270C	Split	0 / 4	-	-	90 - 180	180 - 370	ug/kg		-
Semivolatiles	Bis(2-Ethylhexyl) phthalate	117-81-7	8270C SIM	N	29 / 69	6.3 J Z	400	5.9 - 310	18 - 920	ug/kg	SL-134-SA6	0 - 0.5

Table 3-4
Summary of Analytical Results for Chemicals - Validated Data
Surface Soils - HSA - 6

Group	Chemical	CAS No	Analytic Method	Sample Type	Detection Frequency	Minimum Concentration	Maximum Concentration	Range of Method Detection Limit	Range of Method Reporting Limit	Unit	Location of Maximum Concentration	Depth of Maximum Concentration
Semivolatiles	Bis(2-Ethylhexyl) phthalate	117-81-7	8270C SIM	Split	0 / 4	-	-	9.0 - 18	18 - 37	ug/kg		-
Semivolatiles	Butylbenzylphthalate	85-68-7	8270C	N	8 / 54	18 J Z	41000	17 - 340	170 - 3400	ug/kg	SL-166-SA6	0 - 0.5
Semivolatiles	Butylbenzylphthalate	85-68-7	8270C	Split	0 / 4	-	-	90 - 180	180 - 370	ug/kg		-
Semivolatiles	Butylbenzylphthalate	85-68-7	8270C SIM	N	31 / 93	6 J Z	69 J Z	5.9 - 160	18 - 480	ug/kg	SL-149-SA6	0 - 0.5
Semivolatiles	Butylbenzylphthalate	85-68-7	8270C SIM	Split	0 / 4	-	-	9.0 - 18	18 - 37	ug/kg		-
Semivolatiles	Carbazole	86-74-8	8270C	N	8 / 147	27 J FD, Z	210	17 - 350	170 - 3500	ug/kg	SL-292-SA6	0 - 0.5
Semivolatiles	Carbazole	86-74-8	8270C	Split	0 / 4	-	-	90 - 180	180 - 370	ug/kg		-
Semivolatiles	Chrysene	218-01-9	8270C	N	28 / 30	17 J L, Z J Z	1100	17 - 180	170 - 1800	ug/kg	SL-292-SA6	0 - 0.5
Semivolatiles	Chrysene	218-01-9	8270C	Split	0 / 4	-	-	90 - 180	180 - 370	ug/kg		-
Semivolatiles	Chrysene	218-01-9	8270C SIM	N	108 / 117	0.38 J L, Z J Z	640	0.33 - 17	1.7 - 87	ug/kg	SL-220-SA6	0 - 0.5
Semivolatiles	Chrysene	218-01-9	8270C SIM	Split	1 / 4	6.6	6.6	0.91 - 1.9	1.8 - 3.7	ug/kg	SL-282-SA6	0 - 0.5
Semivolatiles	Dibenzo(a,h)anthracene	53-70-3	8270C	N	9 / 11	24 J Z	180	17 - 180	170 - 1800	ug/kg	SL-292-SA6	0 - 0.5
Semivolatiles	Dibenzo(a,h)anthracene	53-70-3	8270C	Split	0 / 4	-	-	90 - 180	180 - 370	ug/kg		-
Semivolatiles	Dibenzo(a,h)anthracene	53-70-3	8270C SIM	N	29 / 136	0.7 J Z	100	0.66 - 35	1.7 - 87	ug/kg	SL-142-SA6	0 - 0.5
Semivolatiles	Dibenzo(a,h)anthracene	53-70-3	8270C SIM	Split	1 / 4	5	5	0.91 - 1.9	1.8 - 3.7	ug/kg	SL-282-SA6	0 - 0.5
Semivolatiles	Dibenzofuran	132-64-9	8270C	N	5 / 147	21 J Z	32 J Z	17 - 350	170 - 3500	ug/kg	SL-291-SA6	0 - 0.5
Semivolatiles	Dibenzofuran	132-64-9	8270C	Split	0 / 4	-	-	90 - 180	180 - 370	ug/kg		-
Semivolatiles	Diethylphthalate	84-66-2	8270C	N	0 / 56	-	-	17 - 180	170 - 1800	ug/kg		-
Semivolatiles	Diethylphthalate	84-66-2	8270C	Split	0 / 4	-	-	90 - 180	180 - 370	ug/kg		-
Semivolatiles	Diethylphthalate	84-66-2	8270C SIM	N	2 / 91	7.7 J Z	46 J Z	5.9 - 160	18 - 480	ug/kg	SL-254-SA6	0 - 0.5
Semivolatiles	Diethylphthalate	84-66-2	8270C SIM	Split	0 / 4	-	-	9.0 - 18	18 - 37	ug/kg		-
Semivolatiles	Dimethylphthalate	131-11-3	8270C	N	0 / 57	-	-	17 - 180	170 - 1800	ug/kg		-
Semivolatiles	Dimethylphthalate	131-11-3	8270C	Split	0 / 4	-	-	90 - 180	180 - 370	ug/kg		-
Semivolatiles	Dimethylphthalate	131-11-3	8270C SIM	N	2 / 90	8.4 J Z	11 J Z	5.9 - 160	18 - 480	ug/kg	SL-218-SA6	0 - 0.5
Semivolatiles	Dimethylphthalate	131-11-3	8270C SIM	Split	0 / 4	-	-	9.0 - 18	18 - 37	ug/kg		-
Semivolatiles	Di-n-Butylphthalate	84-74-2	8270C	N	10 / 53	17 J Z	270	17 - 180	170 - 1800	ug/kg	SL-166-SA6	0 - 0.5
Semivolatiles	Di-n-Butylphthalate	84-74-2	8270C	Split	0 / 4	-	-	90 - 180	180 - 370	ug/kg		-
Semivolatiles	Di-n-Butylphthalate	84-74-2	8270C SIM	N	25 / 94	6.2 J Z	2100	5.9 - 300	18 - 910	ug/kg	SL-005-SA6	0 - 0.5
Semivolatiles	Di-n-Butylphthalate	84-74-2	8270C SIM	Split	0 / 4	-	-	9.0 - 18	18 - 37	ug/kg		-
Semivolatiles	Di-N-Octyl Phthalate	117-84-0	8270C	N	6 / 54	20 J Z	180	17 - 180	170 - 1800	ug/kg	SL-298-SA6	0 - 0.5
Semivolatiles	Di-N-Octyl Phthalate	117-84-0	8270C	Split	0 / 4	-	-	90 - 180	180 - 370	ug/kg		-
Semivolatiles	Di-N-Octyl Phthalate	117-84-0	8270C SIM	N	31 / 93	6.2 J Z	170 J Z	5.9 - 160	18 - 480	ug/kg	SL-278-SA6	0 - 0.5
Semivolatiles	Di-N-Octyl Phthalate	117-84-0	8270C SIM	Split	0 / 4	-	-	9.0 - 18	18 - 37	ug/kg		-
Semivolatiles	Fluoranthene	206-44-0	8270C	N	27 / 29	18 J Z	3000	17 - 180	170 - 1800	ug/kg	SL-292-SA6	0 - 0.5
Semivolatiles	Fluoranthene	206-44-0	8270C	Split	0 / 4	-	-	90 - 180	180 - 370	ug/kg		-
Semivolatiles	Fluoranthene	206-44-0	8270C SIM	N	84 / 118	0.73 J Z	1900	0.66 - 35	1.7 - 87	ug/kg	SL-291-SA6 SL-220-SA6	0 - 0.5 0 - 0.5
Semivolatiles	Fluoranthene	206-44-0	8270C SIM	Split	1 / 4	7.1	7.1	0.91 - 1.9	1.8 - 3.7	ug/kg	SL-282-SA6	0 - 0.5
Semivolatiles	Fluorene	86-73-7	8270C	N	3 / 6	27 J Z	60 J Z	17 - 180	170 - 1800	ug/kg	SL-292-SA6	0 - 0.5
Semivolatiles	Fluorene	86-73-7	8270C	Split	0 / 4	-	-	90 - 180	180 - 370	ug/kg		-
Semivolatiles	Fluorene	86-73-7	8270C SIM	N	21 / 142	0.7 J Z	81	0.66 - 35	1.7 - 87	ug/kg	SL-291-SA6	0 - 0.5
Semivolatiles	Fluorene	86-73-7	8270C SIM	Split	0 / 4	-	-	0.91 - 1.9	1.8 - 3.7	ug/kg		-
Semivolatiles	Hexachlorobenzene	118-74-1	8270C	N	0 / 147	-	-	17 - 350	170 - 3500	ug/kg		-
Semivolatiles	Hexachlorobenzene	118-74-1	8270C	Split	0 / 4	-	-	90 - 180	180 - 370	ug/kg		-
Semivolatiles	Hexachlorobutadiene	87-68-3	8270C	N	0 / 147	-	-	66 - 1400	170 - 3500	ug/kg		-
Semivolatiles	Hexachlorobutadiene	87-68-3	8270C	Split	0 / 4	-	-	90 - 180	180 - 370	ug/kg		-
Semivolatiles	Hexachlorocyclopentadiene	77-47-4	8270C	N	0 / 147	-	-	170 - 3500	500 - 11000	ug/kg		-
Semivolatiles	Hexachlorocyclopentadiene	77-47-4	8270C	Split	0 / 4	-	-	360 - 730	710 - 1500	ug/kg		-
Semivolatiles	Hexachloroethane	67-72-1	8270C	N	0 / 147	-	-	17 - 350	170 - 3500	ug/kg		-
Semivolatiles	Hexachloroethane	67-72-1	8270C	Split	0 / 4	-	-	90 - 180	180 - 370	ug/kg		-
Semivolatiles	Indeno(1,2,3-Cd)Pyrene	193-39-5	8270C	N	21 / 23	17 J Z	650	17 - 180	170 - 1800	ug/kg	SL-292-SA6	0 - 0.5
Semivolatiles	Indeno(1,2,3-Cd)Pyrene	193-39-5	8270C	Split	0 / 4	-	-	90 - 180	180 - 370	ug/kg		-
Semivolatiles	Indeno(1,2,3-Cd)Pyrene	193-39-5	8270C SIM	N	46 / 124	0.81 J Z	450	0.66 - 35	1.7 - 87	ug/kg	SL-297-SA6	0 - 0.5

Table 3-4
Summary of Analytical Results for Chemicals - Validated Data
Surface Soils - HSA - 6

Group	Chemical	CAS No	Analytic Method	Sample Type	Detection Frequency	Minimum Concentration	Maximum Concentration	Range of Method Detection Limit	Range of Method Reporting Limit	Unit	Location of Maximum Concentration	Depth of Maximum Concentration
Semivolatiles	Indeno(1,2,3-Cd)Pyrene	193-39-5	8270C SIM	Split	1 / 4	8.9	8.9	0.91 - 1.9	1.8 - 3.7	ug/kg	SL-282-SA6	0 - 0.5
Semivolatiles	Isophorone	78-59-1	8270C	N	0 / 147	-	-	17 - 350	170 - 3500	ug/kg		-
Semivolatiles	Isophorone	78-59-1	8270C	Split	0 / 4	-	-	90 - 180	180 - 370	ug/kg		-
Semivolatiles	Naphthalene	91-20-3	8270C	N	0 / 2	-	-	91 - 180	910 - 1800	ug/kg		-
Semivolatiles	Naphthalene	91-20-3	8270C	Split	0 / 4	-	-	90 - 180	180 - 370	ug/kg		-
Semivolatiles	Naphthalene	91-20-3	8270C SIM	N	36 / 145	0.68 J Z	26	0.66 - 35	1.7 - 87	ug/kg	SL-122-SA6	0 - 0.5
Semivolatiles	Naphthalene	91-20-3	8270C SIM	Split	0 / 4	-	-	0.91 - 1.9	1.8 - 3.7	ug/kg		-
Semivolatiles	Nitrobenzene	98-95-3	8270C	N	0 / 147	-	-	17 - 350	170 - 3500	ug/kg		-
Semivolatiles	Nitrobenzene	98-95-3	8270C	Split	0 / 4	-	-	90 - 180	180 - 370	ug/kg		-
Semivolatiles	N-Nitrosodimethylamine	62-75-9	1625C	N	1 / 44	18.5 J Z	18.5 J Z	16.5 - 1710	33.0 - 3420	ng/kg	SL-317-SA6	0 - 0.5
Semivolatiles	N-Nitrosodimethylamine	62-75-9	8270C SIM	N	0 / 145	-	-	0.66 - 35	1.7 - 87	ug/kg		-
Semivolatiles	N-Nitrosodimethylamine	62-75-9	8270C SIM	Split	0 / 4	-	-	0.91 - 1.9	1.8 - 3.7	ug/kg		-
Semivolatiles	N-Nitroso-Di-N-Propylamine	621-64-7	8270C	N	0 / 147	-	-	17 - 350	170 - 3500	ug/kg		-
Semivolatiles	N-Nitroso-Di-N-Propylamine	621-64-7	8270C	Split	0 / 4	-	-	90 - 180	180 - 370	ug/kg		-
Semivolatiles	N-Nitrosodiphenylamine	86-30-6	8270C	N	0 / 147	-	-	17 - 350	170 - 3500	ug/kg		-
Semivolatiles	N-Nitrosodiphenylamine	86-30-6	8270C	Split	0 / 4	-	-	90 - 180	180 - 370	ug/kg		-
Semivolatiles	Pentachlorophenol	87-86-5	8270C	N	3 / 147	190 J Z	410 J Z	170 - 3500	500 - 11000	ug/kg	SL-214-SA6 SL-220-SA6	0 - 0.5 0 - 0.5
Semivolatiles	Pentachlorophenol	87-86-5	8270C	Split	0 / 4	-	-	180 - 370	360 - 730	ug/kg		-
Semivolatiles	Phenanthrene	85-01-8	8270C	N	19 / 21	18 J Z	1600	17 - 180	170 - 1800	ug/kg	SL-292-SA6	0 - 0.5
Semivolatiles	Phenanthrene	85-01-8	8270C	Split	0 / 4	-	-	90 - 180	180 - 370	ug/kg		-
Semivolatiles	Phenanthrene	85-01-8	8270C SIM	N	72 / 126	0.72 J Z	1300	0.66 - 35	1.7 - 87	ug/kg	SL-220-SA6	0 - 0.5
Semivolatiles	Phenanthrene	85-01-8	8270C SIM	Split	0 / 4	-	-	0.91 - 1.9	1.8 - 3.7	ug/kg		-
Semivolatiles	Phenol	108-95-2	8270C	N	0 / 147	-	-	17 - 350	170 - 3500	ug/kg		-
Semivolatiles	Phenol	108-95-2	8270C	Split	0 / 4	-	-	90 - 180	180 - 370	ug/kg		-
Semivolatiles	Pyrene	129-00-0	8270C	N	31 / 34	18 J Z	2200	17 - 180	170 - 1800	ug/kg	SL-292-SA6	0 - 0.5
Semivolatiles	Pyrene	129-00-0	8270C	Split	0 / 4	-	-	90 - 180	180 - 370	ug/kg		-
Semivolatiles	Pyrene	129-00-0	8270C SIM	N	76 / 114	0.71 J Z	1500	0.66 - 35	1.7 - 87	ug/kg	SL-291-SA6	0 - 0.5
Semivolatiles	Pyrene	129-00-0	8270C SIM	Split	1 / 4	7.2	7.2	0.91 - 1.9	1.8 - 3.7	ug/kg	SL-282-SA6	0 - 0.5
Semivolatiles	Tetralin	119-64-2	8270C	N	0 / 147	-	-	170 - 3500	170 - 3500	ug/kg		-
Semivolatiles	Tetralin	119-64-2	8270C	Split	0 / 4	-	-	180 - 370	180 - 370	ug/kg		-
Volatiles	1,1,1,2-Tetrachloroethane	630-20-6	8260B	N	0 / 1	-	-	0.12 - 0.12	4.2 - 4.2	ug/kg		-
Volatiles	1,1,1-Trichloroethane	71-55-6	8260B	N	0 / 1	-	-	0.21 - 0.21	4.2 - 4.2	ug/kg		-
Volatiles	1,1,2,2-Tetrachloroethane	79-34-5	8260B	N	0 / 1	-	-	0.24 - 0.24	4.2 - 4.2	ug/kg		-
Volatiles	1,1,2-Trichloroethane	79-00-5	8260B	N	0 / 1	-	-	0.28 - 0.28	4.2 - 4.2	ug/kg		-
Volatiles	1,1-Dichloroethane	75-34-3	8260B	N	0 / 1	-	-	0.11 - 0.11	4.2 - 4.2	ug/kg		-
Volatiles	1,1-Dichloroethene	75-35-4	8260B	N	0 / 1	-	-	0.41 - 0.41	4.2 - 4.2	ug/kg		-
Volatiles	1,1-Dichloropropene	563-58-6	8260B	N	0 / 1	-	-	0.14 - 0.14	4.2 - 4.2	ug/kg		-
Volatiles	1,2,3-Trichlorobenzene	87-61-6	8260B	N	0 / 1	-	-	0.15 - 0.15	4.2 - 4.2	ug/kg		-
Volatiles	1,2,3-Trichloropropane	96-18-4	8260B	N	0 / 1	-	-	0.35 - 0.35	4.2 - 4.2	ug/kg		-
Volatiles	1,2,4-Trichlorobenzene	120-82-1	8260B	N	0 / 1	-	-	0.19 - 0.19	4.2 - 4.2	ug/kg		-
Volatiles	1,2,4-Trimethylbenzene	95-63-6	8260B	N	0 / 1	-	-	0.42 - 0.42	4.2 - 4.2	ug/kg		-
Volatiles	1,2-Dibromo-3-chloropropane	96-12-8	8260B	N	0 / 1	-	-	0.74 - 0.74	4.2 - 4.2	ug/kg		-
Volatiles	1,2-Dibromoethane	106-93-4	8260B	N	0 / 1	-	-	0.18 - 0.18	4.2 - 4.2	ug/kg		-
Volatiles	1,2-Dichlorobenzene	95-50-1	8260B	N	0 / 1	-	-	0.09 - 0.09	4.2 - 4.2	ug/kg		-
Volatiles	1,2-Dichloroethane	107-06-2	8260B	N	0 / 1	-	-	0.16 - 0.16	4.2 - 4.2	ug/kg		-
Volatiles	1,2-Dichloropropane	78-87-5	8260B	N	0 / 1	-	-	0.18 - 0.18	4.2 - 4.2	ug/kg		-
Volatiles	1,3,5-Trimethylbenzene	108-67-8	8260B	N	0 / 1	-	-	0.11 - 0.11	4.2 - 4.2	ug/kg		-
Volatiles	1,3-Dichlorobenzene	541-73-1	8260B	N	0 / 1	-	-	0.13 - 0.13	4.2 - 4.2	ug/kg		-
Volatiles	1,3-Dichloropropane	142-28-9	8260B	N	0 / 1	-	-	0.08 - 0.08	4.2 - 4.2	ug/kg		-
Volatiles	1,4-Dichlorobenzene	106-46-7	8260B	N	0 / 1	-	-	0.17 - 0.17	4.2 - 4.2	ug/kg		-
Volatiles	1,4-Dioxane	123-91-1	8260B SIM	N	0 / 1	-	-	5.4 - 5.4	16 - 16	ug/kg		-
Volatiles	2,2-Dichloropropane	594-20-7	8260B	N	0 / 1	-	-	0.18 - 0.18	4.2 - 4.2	ug/kg		-
Volatiles	2-Butanone	78-93-3	8260B	N	0 / 1	-	-	1.3 - 1.3	8.4 - 8.4	ug/kg		-
Volatiles	2-Chloroethyl Vinyl Ether	110-75-8	8260B	N	0 / 1	-	-	0.32 - 0.32	4.2 - 4.2	ug/kg		-

Table 3-4
Summary of Analytical Results for Chemicals - Validated Data
Surface Soils - HSA - 6

Group	Chemical	CAS No	Analytic Method	Sample Type	Detection Frequency	Minimum Concentration	Maximum Concentration	Range of Method Detection Limit	Range of Method Reporting Limit	Unit	Location of Maximum Concentration	Depth of Maximum Concentration
Volatiles	2-Chlorotoluene	95-49-8	8260B	N	0 / 1	-	-	0.15 - 0.15	4.2 - 4.2	ug/kg		-
Volatiles	2-Hexanone	591-78-6	8260B	N	0 / 1	-	-	1.7 - 1.7	8.4 - 8.4	ug/kg		-
Volatiles	4-Chlorotoluene	106-43-4	8260B	N	0 / 1	-	-	0.15 - 0.15	4.2 - 4.2	ug/kg		-
Volatiles	4-Methyl-2-Pentanone	108-10-1	8260B	N	0 / 1	-	-	0.41 - 0.41	8.4 - 8.4	ug/kg		-
Volatiles	Acetone	67-64-1	8260B	N	0 / 1	-	-	7.0 - 7.0	8.4 - 8.4	ug/kg		-
Volatiles	Benzene	71-43-2	8260B	N	0 / 1	-	-	0.11 - 0.11	4.2 - 4.2	ug/kg		-
Volatiles	Bromobenzene	108-86-1	8260B	N	0 / 1	-	-	0.14 - 0.14	4.2 - 4.2	ug/kg		-
Volatiles	Bromochloromethane	74-97-5	8260B	N	0 / 1	-	-	0.35 - 0.35	4.2 - 4.2	ug/kg		-
Volatiles	Bromodichloromethane	75-27-4	8260B	N	0 / 1	-	-	0.08 - 0.08	4.2 - 4.2	ug/kg		-
Volatiles	Bromoform	75-25-2	8260B	N	0 / 1	-	-	0.42 - 0.42	4.2 - 4.2	ug/kg		-
Volatiles	Bromomethane	74-83-9	8260B	N	0 / 1	-	-	0.26 - 0.26	4.2 - 4.2	ug/kg		-
Volatiles	Carbon tetrachloride	56-23-5	8260B	N	0 / 1	-	-	0.15 - 0.15	4.2 - 4.2	ug/kg		-
Volatiles	Chlorobenzene	108-90-7	8260B	N	0 / 1	-	-	0.12 - 0.12	4.2 - 4.2	ug/kg		-
Volatiles	Chloroethane	75-00-3	8260B	N	0 / 1	-	-	0.14 - 0.14	4.2 - 4.2	ug/kg		-
Volatiles	Chloroform	67-66-3	8260B	N	0 / 1	-	-	0.13 - 0.13	4.2 - 4.2	ug/kg		-
Volatiles	Chloromethane	74-87-3	8260B	N	0 / 1	-	-	0.35 - 0.35	4.2 - 4.2	ug/kg		-
Volatiles	Chlorotrifluoroethene	79-38-9	8260B	N	0 / 1	-	-	0.53 - 0.53	5.3 - 5.3	ug/kg		-
Volatiles	cis-1,2-Dichloroethene	156-59-2	8260B	N	0 / 1	-	-	0.20 - 0.20	4.2 - 4.2	ug/kg		-
Volatiles	cis-1,3-Dichloropropene	10061-01-5	8260B	N	0 / 1	-	-	0.17 - 0.17	4.2 - 4.2	ug/kg		-
Volatiles	Dibromochloromethane	124-48-1	8260B	N	0 / 1	-	-	0.21 - 0.21	4.2 - 4.2	ug/kg		-
Volatiles	Dibromomethane	74-95-3	8260B	N	0 / 1	-	-	0.25 - 0.25	4.2 - 4.2	ug/kg		-
Volatiles	Dichlorodifluoromethane	75-71-8	8260B	N	0 / 1	-	-	0.13 - 0.13	4.2 - 4.2	ug/kg		-
Volatiles	EFH (C12-C14)	PHCC12C14	8015B EFH	Split	0 / 4	-	-	5.3 - 5.5	11 - 11	mg/kg		-
Volatiles	EFH (C12-C14)	PHCC12C14	8015M	N	3 / 104	0.46 J Z	0.99 J Z	0.40 - 210	1.2 - 640	mg/kg	SL-037-SA6	0 - 0.5
Volatiles	EFH (C15-C20)	PHCC15C20	8015B EFH	Split	0 / 4	-	-	5.3 - 5.5	11 - 11	mg/kg		-
Volatiles	EFH (C15-C20)	PHCC15C20	8015M	N	79 / 104	0.52 J Z	190	0.40 - 210	1.2 - 640	mg/kg	SL-113-SA6	0 - 0.5
Volatiles	EFH (C21-C30)	PHCC21C30	8015B EFH	Split	4 / 4	15	89	5.3 - 5.5	11 - 11	mg/kg	SL-283-SA6	0 - 0.5
Volatiles	EFH (C21-C30)	PHCC21C30	8015M	N	104 / 104	4.0	1900	0.40 - 210	1.2 - 640	mg/kg	SL-113-SA6	0 - 0.5
Volatiles	EFH (C30-C40)	PHCC30C40	8015B EFH	Split	4 / 4	19	120	5.3 - 5.5	11 - 11	mg/kg	SL-283-SA6	0 - 0.5
Volatiles	EFH (C30-C40)	PHCC30C40	8015M	N	104 / 104	9.1	5100	0.40 - 210	1.2 - 640	mg/kg	SL-278-SA6 SL-305-SA6	0 - 0.5 0 - 0.5
Volatiles	EFH (C8-C11)	PHCC8C11	8015B EFH	Split	0 / 4	-	-	5.3 - 5.5	11 - 11	mg/kg		-
Volatiles	EFH (C8-C11)	PHCC8C11	8015M	N	26 / 104	0.41 J Z	4.1 J Z	0.40 - 210	1.2 - 640	mg/kg	SL-051-SA6	0 - 0.5
Volatiles	Ethylbenzene	100-41-4	8260B	N	0 / 1	-	-	0.06 - 0.06	4.2 - 4.2	ug/kg		-
Volatiles	Freon 113	76-13-1	8260B	N	0 / 1	-	-	0.12 - 0.12	4.2 - 4.2	ug/kg		-
Volatiles	Freon 113a	75-88-7	8260B	N	0 / 1	-	-	0.53 - 0.53	5.3 - 5.3	ug/kg		-
Volatiles	GRO (C5-C12)	GROC5C12	8015M	N	0 / 2	-	-	0.2 - 2.3	1.0 - 12	mg/kg		-
Volatiles	Hexachlorobutadiene	87-68-3	8260B	N	0 / 1	-	-	0.15 - 0.15	4.2 - 4.2	ug/kg		-
Volatiles	Isopropylbenzene	98-82-8	8260B	N	1 / 1	0.29 J Z	0.29 J Z	0.06 - 0.06	4.2 - 4.2	ug/kg	SL-278-SA6	0 - 0.5
Volatiles	Isopropyltoluene	99-87-6	8260B	N	0 / 1	-	-	0.12 - 0.12	4.2 - 4.2	ug/kg		-
Volatiles	m,p-Xylene	179601-23-1	8260B	N	0 / 1	-	-	0.18 - 0.18	4.2 - 4.2	ug/kg		-
Volatiles	Methyl tert-Butyl Ether	1634-04-4	8260B	N	0 / 1	-	-	0.22 - 0.22	4.2 - 4.2	ug/kg		-
Volatiles	Methylene chloride	75-09-2	8260B	N	0 / 1	-	-	0.25 - 0.25	4.2 - 4.2	ug/kg		-
Volatiles	N-Butylbenzene	104-51-8	8260B	N	0 / 1	-	-	0.13 - 0.13	4.2 - 4.2	ug/kg		-
Volatiles	N-Propylbenzene	103-65-1	8260B	N	0 / 1	-	-	0.07 - 0.07	4.2 - 4.2	ug/kg		-
Volatiles	o-Xylene	95-47-6	8260B	N	0 / 1	-	-	0.18 - 0.18	4.2 - 4.2	ug/kg		-
Volatiles	sec-Butylbenzene	135-98-8	8260B	N	0 / 1	-	-	0.06 - 0.06	4.2 - 4.2	ug/kg		-
Volatiles	Styrene	100-42-5	8260B	N	0 / 1	-	-	0.11 - 0.11	4.2 - 4.2	ug/kg		-
Volatiles	tert-Butylbenzene	98-06-6	8260B	N	0 / 1	-	-	0.17 - 0.17	4.2 - 4.2	ug/kg		-
Volatiles	Tetrachloroethene	127-18-4	8260B	N	0 / 1	-	-	0.21 - 0.21	4.2 - 4.2	ug/kg		-
Volatiles	Toluene	108-88-3	8260B	N	0 / 1	-	-	0.08 - 0.08	4.2 - 4.2	ug/kg		-
Volatiles	trans-1,2-Dichloroethene	156-60-5	8260B	N	0 / 1	-	-	0.13 - 0.13	4.2 - 4.2	ug/kg		-
Volatiles	trans-1,3-Dichloropropene	10061-02-6	8260B	N	0 / 1	-	-	0.18 - 0.18	4.2 - 4.2	ug/kg		-
Volatiles	Trichloroethene	79-01-6	8260B	N	0 / 1	-	-	0.16 - 0.16	4.2 - 4.2	ug/kg		-
Volatiles	Trichlorofluoromethane	75-69-4	8260B	N	0 / 1	-	-	0.31 - 0.31	4.2 - 4.2	ug/kg		-

Table 3-4
Summary of Analytical Results for Chemicals - Validated Data
Surface Soils - HSA - 6

Group	Chemical	CAS No	Analytic Method	Sample Type	Detection Frequency	Minimum Concentration	Maximum Concentration	Range of Method Detection Limit	Range of Method Reporting Limit	Unit	Location of Maximum Concentration	Depth of Maximum Concentration
Volatiles	Vinyl Chloride	75-01-4	8260B	N	0 / 1	-	-	0.21 - 0.21	4.2 - 4.2	ug/kg		-

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
FD - Field duplicate results outside of criteria
Z - Analytes reported below the reporting limits and above the method detection limit
- Second column confirmation outside of criteria

Table 3-5
Summary of Analytical Results for Chemicals - Validated Data
Subsurface Soils - HSA - 6

Group	Chemical	CAS No	Analytic Method	Sample Type	Detection Frequency	Minimum Concentration	Maximum Concentration	Range of Method Detection Limit	Range of Method Reporting Limit	Unit	Location of Maximum Concentration	Depth of Maximum Concentration
Inorganic	Aluminum	7429-90-5	6010B	N	226 / 226	7240	29600	5.92 - 33.0	19.6 - 109	mg/kg	SL-198-SA6	4 - 5
Inorganic	Aluminum	7429-90-5	6020	Split	11 / 11	7870	19400	12.0 - 13.4	24.1 - 26.9	mg/kg	SL-282-SA6	2.5 - 3.5
Inorganic	Antimony	7440-36-0	6020	N	97 / 226	0.0797 J Q, E, Z	8.45 J FD, E	0.0733 - 0.0878	0.198 - 0.237	mg/kg	SL-252-SA6	4 - 5
Inorganic	Antimony	7440-36-0	6020	Split	9 / 11	0.107 J Q, Z	0.337 J Q	0.100 - 0.112	0.200 - 0.224	mg/kg	SL-282-SA6	2.5 - 3.5
Inorganic	Arsenic	7440-38-2	6020	N	226 / 226	1.53 J Q	87.1 J Q	0.0792 - 0.0949	0.396 - 0.474	mg/kg	SL-071-SA6	4 - 5
Inorganic	Arsenic	7440-38-2	6020	Split	11 / 11	3.22	9.48	0.200 - 0.224	0.401 - 0.448	mg/kg	SL-282-SA6	2.5 - 3.5
Inorganic	Barium	7440-39-3	6020	N	226 / 226	38.8	192 J E	0.105 - 0.291	0.396 - 1.10	mg/kg	SL-024-SA6	9 - 10
Inorganic	Barium	7440-39-3	6020	Split	11 / 11	49.2 J Q	105 J Q	0.200 - 0.224	0.401 - 0.448	mg/kg	SL-282-SA6	2.5 - 3.5
Inorganic	Beryllium	7440-41-7	6020	N	226 / 226	0.212	1.39 J Q	0.0158 - 0.0190	0.0990 - 0.119	mg/kg	SL-305-SA6	2 - 3
Inorganic	Beryllium	7440-41-7	6020	Split	11 / 11	0.360	1.06	0.0501 - 0.0560	0.100 - 0.112	mg/kg	SL-282-SA6	2.5 - 3.5
Inorganic	Boron	7440-42-8	6010B	N	139 / 226	0.652 J Z	25.7 J FD, Z	0.352 - 2.07	4.89 - 28.7	mg/kg	SL-224-SA6	3 - 4
Inorganic	Boron	7440-42-8	6020	Split	0 / 11	-	-	2.51 - 2.80	5.01 - 5.60	mg/kg		-
Inorganic	Cadmium	7440-43-9	6020	N	192 / 226	0.0466 J Z	3.54 J FD, Q, E	0.0436 - 0.0522	0.0990 - 0.119	mg/kg	SL-252-SA6	4 - 5
Inorganic	Cadmium	7440-43-9	6020	Split	11 / 11	0.0976 J Z	0.157	0.0501 - 0.0560	0.100 - 0.112	mg/kg	SL-283-SA6	4 - 5
Inorganic	Calcium	7440-70-2	6010B	N	226 / 226	855	62100	2.45 - 13.9	19.6 - 112	mg/kg	SL-003-SA6	4 - 5
Inorganic	Calcium	7440-70-2	6020	Split	11 / 11	1520 J I	8670 J I	10.0 - 11.2	20.0 - 22.4	mg/kg	SL-285-SA6	4 - 5
Inorganic	Chromium	7440-47-3	6020	N	226 / 226	6.21 J E	131 J FD, E	0.119 - 0.142	0.396 - 0.474	mg/kg	SL-252-SA6	4 - 5
Inorganic	Chromium	7440-47-3	6020	Split	11 / 11	11.4 J Q, E	24.0 J I, Q, E	0.200 - 0.224	0.401 - 0.448	mg/kg	SL-282-SA6	2.5 - 3.5
Inorganic	Chromium VI	18540-29-9	7199	N	149 / 226	0.21 J Z	3.9	0.20 - 0.25	1.0 - 1.2	mg/kg	SL-291-SA6	2 - 3
Inorganic	Chromium VI	18540-29-9	7199	Split	0 / 11	-	-	0.524 - 0.569	1.05 - 1.14	mg/kg		-
Inorganic	Cobalt	7440-48-4	6020	N	226 / 226	2.12 J Q, A	60.8 J Q, E, A	0.0198 - 0.0237	0.0990 - 0.119	mg/kg	SL-084-SA6	9 - 10
Inorganic	Cobalt	7440-48-4	6020	Split	11 / 11	4.10	9.42	0.0501 - 0.0560	0.100 - 0.112	mg/kg	SL-282-SA6	2.5 - 3.5
Inorganic	Copper	7440-50-8	6020	N	226 / 226	2.93 J E, A	96.3 J FD, E, A	0.0792 - 0.0949	0.396 - 0.474	mg/kg	SL-252-SA6	4 - 5
Inorganic	Copper	7440-50-8	6020	Split	11 / 11	4.17	10.8 J I	0.200 - 0.224	0.401 - 0.448	mg/kg	SL-282-SA6	2.5 - 3.5
Inorganic	Cyanide	57-12-5	9012B	N	0 / 74	-	-	0.18 - 0.21	0.49 - 0.59	mg/kg		-
Inorganic	Cyanide	57-12-5	9014	Split	0 / 11	-	-	0.262 - 0.284	0.524 - 0.569	mg/kg		-
Inorganic	Fluoride	16984-48-8	300.0	N	193 / 226	0.87 J Q, Z	20.1 J Q	0.81 - 1.0	1.0 - 1.3	mg/kg	SL-255-SA6	2 - 3
Inorganic	Fluoride	16984-48-8	300.0	Split	10 / 11	0.578 J Z	2.8	0.524 - 0.569	1.05 - 1.14	mg/kg	SL-284-SA6	4 - 5
Inorganic	Iron	7439-89-6	6010B	N	226 / 226	13300	86400	2.57 - 15.6	19.7 - 120	mg/kg	SL-071-SA6	4 - 5
Inorganic	Iron	7439-89-6	6020	Split	11 / 11	15800 J I	36200 J I	10.0 - 11.2	20.0 - 22.4	mg/kg	SL-282-SA6	2.5 - 3.5
Inorganic	Lead	7439-92-1	6020	N	226 / 226	2.55 J Q	88.0 J FD, A	0.0101 - 0.0548	0.198 - 1.07	mg/kg	SL-252-SA6	4 - 5
Inorganic	Lead	7439-92-1	6020	Split	11 / 11	2.93	10.2	0.100 - 0.112	0.200 - 0.224	mg/kg	SL-282-SA6	2.5 - 3.5
Inorganic	Lithium	7439-93-2	6010B	N	226 / 226	7.1	51.9	0.61 - 0.74	2.0 - 2.4	mg/kg	SL-258-SA6	0 - 0.83
Inorganic	Lithium	7439-93-2	6020	Split	11 / 11	17.5	40.3	1.00 - 1.12	2.00 - 2.24	mg/kg	SL-282-SA6	2.5 - 3.5
Inorganic	Magnesium	7439-95-4	6010B	N	226 / 226	2280	10800	0.430 - 0.527	9.78 - 12.0	mg/kg	SL-258-SA6	0 - 0.83
Inorganic	Magnesium	7439-95-4	6020	Split	11 / 11	3330	7540	5.01 - 5.60	10.0 - 11.2	mg/kg	SL-282-SA6	2.5 - 3.5
Inorganic	Manganese	7439-96-5	6010B	N	226 / 226	113	1560	0.0352 - 0.0432	0.489 - 0.599	mg/kg	SL-217-SA6	4 - 5
Inorganic	Manganese	7439-96-5	6020	Split	11 / 11	154	400	0.251 - 0.280	0.501 - 0.560	mg/kg	SL-282-SA6	2.5 - 3.5
Inorganic	Mercury	7439-97-6	7471A	N	77 / 226	0.0074 J Z	7.2	0.0068 - 0.150	0.0973 - 2.14	mg/kg	SL-073-SA6	4 - 5
Inorganic	Mercury	7439-97-6	7471A	Split	0 / 11	-	-	0.0517 - 0.0575	0.103 - 0.115	mg/kg		-
Inorganic	Molybdenum	7439-98-7	6020	N	225 / 226	0.213	7.66	0.0495 - 0.0593	0.0990 - 0.119	mg/kg	SL-261-SA6	1.5 - 2.5
Inorganic	Molybdenum	7439-98-7	6020	Split	11 / 11	0.213	0.989	0.0501 - 0.0560	0.100 - 0.112	mg/kg	SL-283-SA6	9 - 10
Inorganic	Nickel	7440-02-0	6020	N	226 / 226	3.71 J E, A	90.4	0.0990 - 0.119	0.396 - 0.474	mg/kg	SL-261-SA6	1.5 - 2.5
Inorganic	Nickel	7440-02-0	6020	Split	11 / 11	5.54 J Q, E	13.8 J I, Q, E	0.200 - 0.224	0.401 - 0.448	mg/kg	SL-282-SA6	2.5 - 3.5
Inorganic	Nitrate	14797-55-8	300.0	N	58 / 74	0.86 J Z	69.9	0.81 - 4.2	1.5 - 7.9	mg/kg	SL-285-SA6	6 - 7
Inorganic	Nitrate	14797-55-8	300.0	Split	3 / 3	13.2	381	0.785 - 7.99	1.57 - 16.0	mg/kg	SL-285-SA6	6 - 7
Inorganic	Percent Moisture	MOIST	160.3M	N	226 / 226	1.5	17.4	0.50 - 0.50	0.50 - 0.50	%	SL-217-SA6	4 - 5
Inorganic	Perchlorate	14797-73-0	314.0	N	1 / 226	99.6	99.6	9.1 - 10.9	30.5 - 36.3	ug/kg	SL-192-SA6	9 - 10
Inorganic	Perchlorate	14797-73-0	314.0	Split	0 / 11	-	-	10.5 - 55.0	20.9 - 110	ug/kg		-
Inorganic	Perchlorate	14797-73-0	6850	N	3 / 44	4 J Z	78	2.1 - 3.1	5.1 - 6.1	ug/kg	SL-103-SA6	9 - 10
Inorganic	pH	pH	9045D	Split	11 / 11	6.38	8.79	0.1 - 0.1	0.1 - 0.1	pH unit	SL-285-SA6	4 - 5
Inorganic	pH	pH	9045M	N	226 / 226	5.04	11.7	0.0100 - 0.0100	0.0100 - 0.0100	pH unit	SL-084-SA6 SL-124-SA6	4 - 5 12.5 - 13.5
Inorganic	Phosphorus	7723-14-0	6010B	N	226 / 226	59.5 J E	1020 J E	0.342 - 1.91	9.78 - 54.5	mg/kg	SL-305-SA6	2 - 3
Inorganic	Phosphorus	7723-14-0	6020	Split	11 / 11	143	461	6.01 - 6.72	12.0 - 13.4	mg/kg	SL-282-SA6	2.5 - 3.5

Table 3-5
Summary of Analytical Results for Chemicals - Validated Data
Subsurface Soils - HSA - 6

Group	Chemical	CAS No	Analytic Method	Sample Type	Detection Frequency	Minimum Concentration	Maximum Concentration	Range of Method Detection Limit	Range of Method Reporting Limit	Unit	Location of Maximum Concentration	Depth of Maximum Concentration
Inorganic	Potassium	7440-09-7	6010B	N	226 / 226	1140 J Q	6130	11.1 - 61.6	48.9 - 273	mg/kg	SL-217-SA6	4 - 5
Inorganic	Potassium	7440-09-7	6020	Split	11 / 11	1580 J I	2850	30.1 - 33.6	60.1 - 67.2	mg/kg	SL-284-SA6 SL-285-SA6	9 - 10 4 - 5
Inorganic	Selenium	7782-49-2	6020	N	194 / 226	0.0608 J Z	0.407	0.0574 - 0.0688	0.396 - 0.474	mg/kg	SL-201-SA6	2 - 3
Inorganic	Selenium	7782-49-2	6020	Split	1 / 11	0.209 J Z	0.209 J Z	0.200 - 0.224	0.401 - 0.448	mg/kg	SL-285-SA6	6 - 7
Inorganic	Silver	7440-22-4	6020	N	211 / 226	0.0149 J Z	7.26	0.0141 - 0.0168	0.0990 - 0.119	mg/kg	SL-261-SA6	1.5 - 2.5
Inorganic	Silver	7440-22-4	6020	Split	1 / 11	0.0552 J Z	0.055 J Z	0.0501 - 0.0560	0.100 - 0.112	mg/kg	SL-284-SA6	14 - 15
Inorganic	Sodium	7440-23-5	6010B	N	226 / 226	56.2 J Z	848	5.82 - 7.13	97.8 - 120	mg/kg	SL-221-SA6	1 - 2
Inorganic	Sodium	7440-23-5	6020	Split	11 / 11	86.2 J I, Z	170 J I	50.1 - 56.0	100 - 112	mg/kg	SL-282-SA6	2.5 - 3.5
Inorganic	Strontium	7440-24-6	6010B	N	226 / 226	7.92	114	0.0245 - 0.0300	0.489 - 0.599	mg/kg	SL-080-SA6	3.5 - 4.5
Inorganic	Strontium	7440-24-6	6020	Split	11 / 11	13.1	24.1	0.251 - 0.280	0.501 - 0.560	mg/kg	SL-282-SA6	2.5 - 3.5
Inorganic	Thallium	7440-28-0	6020	N	226 / 226	0.104 J Q, Z	0.636 J Q, E	0.0297 - 0.161	0.0990 - 0.537	mg/kg	SL-282-SA6	2.5 - 3.5
Inorganic	Thallium	7440-28-0	6020	Split	0 / 11	-	-	0.0501 - 0.0560	0.100 - 0.112	mg/kg		-
Inorganic	Tin	7440-31-5	6010B	N	0 / 226	-	-	0.313 - 0.384	9.78 - 12.0	mg/kg		-
Inorganic	Tin	7440-31-5	6020	Split	0 / 11	-	-	5.01 - 5.60	10.0 - 11.2	mg/kg		-
Inorganic	Titanium	7440-32-6	6010B	N	226 / 226	347 J E	1970	0.0700 - 0.387	0.986 - 5.45	mg/kg	SL-258-SA6	0 - 0.83
Inorganic	Titanium	7440-32-6	6020	Split	11 / 11	805	1760 Z	0.501 - 2.73	1.00 - 5.46	mg/kg	SL-282-SA6	2.5 - 3.5
Inorganic	Vanadium	7440-62-2	6020	N	226 / 226	14.7	75.7 J Q	0.0218 - 0.0261	0.0990 - 0.119	mg/kg	SL-258-SA6	0 - 0.83
Inorganic	Vanadium	7440-62-2	6020	Split	11 / 11	23.4	53.3 J I	0.0501 - 0.0560	0.100 - 0.112	mg/kg	SL-282-SA6	2.5 - 3.5
Inorganic	Zinc	7440-66-6	6020	N	226 / 226	27.1	471 J FD, E	0.554 - 2.89	2.97 - 15.5	mg/kg	SL-252-SA6	4 - 5
Inorganic	Zinc	7440-66-6	6020	Split	11 / 11	42.0	82.0	1.50 - 1.68	3.01 - 3.36	mg/kg	SL-282-SA6	2.5 - 3.5
Inorganic	Zirconium	7440-67-7	6010B	N	172 / 226	0.577 J Z	7.71	0.450 - 0.551	4.89 - 5.99	mg/kg	SL-217-SA6	4 - 5
Inorganic	Zirconium	7440-67-7	6020	Split	0 / 11	-	-	2.51 - 2.80	5.01 - 5.60	mg/kg		-
Misc. Organics	1,3,5-Trinitrobenzene	99-35-4	8330A	N	0 / 66	-	-	38 - 47	120 - 140	ug/kg		-
Misc. Organics	1,3,5-Trinitrobenzene	99-35-4	8330A	Split	0 / 3	-	-	50 - 50	99 - 100	ug/kg		-
Misc. Organics	2,4,6-Trinitrotoluene	118-96-7	8330A	N	0 / 66	-	-	38 - 47	120 - 140	ug/kg		-
Misc. Organics	2,4,6-Trinitrotoluene	118-96-7	8330A	Split	0 / 3	-	-	50 - 50	99 - 100	ug/kg		-
Misc. Organics	2,4-Diamino-6-nitrotoluene	6629-29-4	8330A	N	0 / 66	-	-	77 - 95	230 - 280	ug/kg		-
Misc. Organics	2,4-Diamino-6-nitrotoluene	6629-29-4	8330A	Split	0 / 3	-	-	99 - 100	200 - 200	ug/kg		-
Misc. Organics	2,4-Dinitrotoluene	121-14-2	8330A	N	0 / 66	-	-	38 - 47	120 - 140	ug/kg		-
Misc. Organics	2,4-Dinitrotoluene	121-14-2	8330A	Split	0 / 3	-	-	50 - 50	99 - 100	ug/kg		-
Misc. Organics	2,6-Diamino-4-nitrotoluene	59229-75-3	8330A	N	0 / 66	-	-	77 - 95	230 - 280	ug/kg		-
Misc. Organics	2,6-Diamino-4-nitrotoluene	59229-75-3	8330A	Split	0 / 3	-	-	99 - 100	200 - 200	ug/kg		-
Misc. Organics	2,6-Dinitrotoluene	606-20-2	8330A	N	0 / 66	-	-	38 - 47	120 - 140	ug/kg		-
Misc. Organics	2,6-Dinitrotoluene	606-20-2	8330A	Split	0 / 3	-	-	50 - 50	99 - 100	ug/kg		-
Misc. Organics	2-Amino-4,6-Dinitrotoluene	35572-78-2	8330A	N	0 / 66	-	-	38 - 47	120 - 140	ug/kg		-
Misc. Organics	2-Amino-4,6-Dinitrotoluene	35572-78-2	8330A	Split	0 / 3	-	-	50 - 50	99 - 100	ug/kg		-
Misc. Organics	2-Nitrotoluene	88-72-2	8330A	N	0 / 66	-	-	77 - 95	120 - 140	ug/kg		-
Misc. Organics	2-Nitrotoluene	88-72-2	8330A	Split	0 / 3	-	-	50 - 50	99 - 100	ug/kg		-
Misc. Organics	2-Propanol	67-63-0	8015B	N	0 / 180	-	-	100 - 120	510 - 610	ug/kg		-
Misc. Organics	2-Propanol	67-63-0	8015B	Split	0 / 11	-	-	260 - 280	520 - 570	ug/kg		-
Misc. Organics	3-Nitrotoluene	99-08-1	8330A	N	0 / 66	-	-	96 - 120	120 - 140	ug/kg		-
Misc. Organics	3-Nitrotoluene	99-08-1	8330A	Split	0 / 3	-	-	50 - 50	99 - 100	ug/kg		-
Misc. Organics	4-Amino-2,6-Dinitrotoluene	19406-51-0	8330A	N	0 / 66	-	-	58 - 71	120 - 140	ug/kg		-
Misc. Organics	4-Amino-2,6-Dinitrotoluene	19406-51-0	8330A	Split	0 / 3	-	-	50 - 50	99 - 100	ug/kg		-
Misc. Organics	4-Nitrotoluene	99-99-0	8330A	N	0 / 66	-	-	77 - 95	120 - 140	ug/kg		-
Misc. Organics	4-Nitrotoluene	99-99-0	8330A	Split	0 / 3	-	-	50 - 50	99 - 100	ug/kg		-
Misc. Organics	Diethylene Glycol	111-46-6	8015M	N	0 / 180	-	-	5.1 - 6.1	10 - 12	mg/kg		-
Misc. Organics	Diethylene Glycol	111-46-6	8015M	Split	0 / 11	-	-	7.9 - 8.5	16 - 17	mg/kg		-
Misc. Organics	Ethanol	64-17-5	8015B	N	3 / 180	120 J Z	160 J FD, Z	100 - 120	510 - 610	ug/kg	SL-224-SA6	3 - 4
Misc. Organics	Ethanol	64-17-5	8015B	Split	0 / 11	-	-	260 - 280	520 - 570	ug/kg		-
Misc. Organics	Ethylene Glycol	107-21-1	8015M	N	1 / 180	5.5 J Z	5.5 J Z	5.1 - 6.1	10 - 12	mg/kg	SL-265-SA6	4 - 5
Misc. Organics	Ethylene Glycol	107-21-1	8015M	Split	0 / 11	-	-	5.2 - 5.7	10 - 11	mg/kg		-
Misc. Organics	Formaldehyde	50-00-0	8315A	N	5 / 69	810 J Z	5900	610 - 1300	1500 - 3100	ug/kg	SL-192-SA6	9 - 10
Misc. Organics	HMX	2691-41-0	8330A	N	0 / 66	-	-	96 - 120	290 - 360	ug/kg		-

Table 3-5
Summary of Analytical Results for Chemicals - Validated Data
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Group	Chemical	CAS No	Analytic Method	Sample Type	Detection Frequency	Minimum Concentration	Maximum Concentration	Range of Method Detection Limit	Range of Method Reporting Limit	Unit	Location of Maximum Concentration	Depth of Maximum Concentration
Misc. Organics	HMX	2691-41-0	8330A	Split	0 / 3	-	-	50 - 50	99 - 100	ug/kg		-
Misc. Organics	m-Dinitrobenzene	99-65-0	8330A	N	0 / 66	-	-	38 - 47	120 - 140	ug/kg		-
Misc. Organics	m-Dinitrobenzene	99-65-0	8330A	Split	0 / 3	-	-	50 - 50	99 - 100	ug/kg		-
Misc. Organics	Methanol	67-56-1	8015B	N	9 / 180	200 J Z	580	100 - 120	510 - 610	ug/kg	SL-084-SA6	4 - 5
Misc. Organics	Methanol	67-56-1	8015B	Split	0 / 11	-	-	260 - 280	520 - 570	ug/kg		-
Misc. Organics	m-Terphenyl	92-06-8	8015B	N	0 / 173	-	-	1.5 - 1.8	3.5 - 4.2	mg/kg		-
Misc. Organics	Nitrobenzene	98-95-3	8330A	N	0 / 66	-	-	38 - 47	120 - 140	ug/kg		-
Misc. Organics	Nitrobenzene	98-95-3	8330A	Split	0 / 3	-	-	50 - 50	99 - 100	ug/kg		-
Misc. Organics	Nitroglycerin	55-63-0	8330A	N	0 / 66	-	-	770 - 950	2300 - 2800	ug/kg		-
Misc. Organics	Nitroglycerin	55-63-0	8332	Split	0 / 3	-	-	490 - 500	990 - 1000	ug/kg		-
Misc. Organics	o-Terphenyl	84-15-1	8015B	N	0 / 173	-	-	1.5 - 1.8	3.5 - 4.2	mg/kg		-
Misc. Organics	PETN	78-11-5	8330A	N	0 / 66	-	-	770 - 950	2300 - 2800	ug/kg		-
Misc. Organics	PETN	78-11-5	8332	Split	0 / 3	-	-	490 - 500	990 - 1000	ug/kg		-
Misc. Organics	Propylene glycol	57-55-6	8015M	N	0 / 180	-	-	5.1 - 6.1	10 - 12	mg/kg		-
Misc. Organics	Propylene glycol	57-55-6	8015M	Split	0 / 11	-	-	5.2 - 5.7	10 - 11	mg/kg		-
Misc. Organics	p-Terphenyl	92-94-4	8015B	N	0 / 173	-	-	1.5 - 1.8	3.5 - 4.2	mg/kg		-
Misc. Organics	RDX	121-82-4	8330A	N	0 / 66	-	-	48 - 59	120 - 140	ug/kg		-
Misc. Organics	RDX	121-82-4	8330A	Split	0 / 3	-	-	50 - 50	99 - 100	ug/kg		-
Misc. Organics	Tetryl	479-45-8	8330A	N	0 / 66	-	-	59 - 73	120 - 140	ug/kg		-
Misc. Organics	Tetryl	479-45-8	8330A	Split	0 / 3	-	-	50 - 50	99 - 100	ug/kg		-
PCBs and Dioxins	1,2,3,4,6,7,8-HpCDD	35822-46-9	1613B	N	109 / 226	1.04 J Z	2210 J FD	0.0103 - 0.468	4.91 - 6.05	ng/kg	SL-252-SA6	4 - 5
PCBs and Dioxins	1,2,3,4,6,7,8-HpCDF	67562-39-4	1613B	N	102 / 226	0.218 J Z	214 J FD, Q	0.00478 - 0.165	4.91 - 6.05	ng/kg	SL-252-SA6	4 - 5
PCBs and Dioxins	1,2,3,4,7,8,9-HpCDF	55673-89-7	1613B	N	88 / 226	0.0183 J Z	19.2	0.00769 - 0.195	4.91 - 6.05	ng/kg	SL-252-SA6	4 - 5
PCBs and Dioxins	1,2,3,4,7,8-HxCDD	39227-28-6	1613B	N	82 / 226	0.0109 J Z	3900	0.00842 - 0.308	4.91 - 6.05	ng/kg	SL-280-SA6	4 - 5
PCBs and Dioxins	1,2,3,4,7,8-HxCDF	70648-26-9	1613B	N	103 / 226	0.0213 J Z	25.1	0.00676 - 0.187	4.91 - 6.05	ng/kg	SL-022-SA6	0 - 1
PCBs and Dioxins	1,2,3,6,7,8-HxCDD	57653-85-7	1613B	N	137 / 226	0.0255 J Z	70.8	0.00875 - 0.306	4.91 - 6.05	ng/kg	SL-280-SA6	4 - 5
PCBs and Dioxins	1,2,3,6,7,8-HxCDF	57117-44-9	1613B	N	103 / 226	0.022 J Z	14.1	0.00454 - 0.178	4.91 - 6.05	ng/kg	SL-252-SA6	4 - 5
PCBs and Dioxins	1,2,3,7,8,9-HxCDD	19408-74-3	1613B	N	108 / 226	0.0467 J Z	24.2	0.00864 - 0.292	4.91 - 6.05	ng/kg	SL-030-SA6	9 - 10
PCBs and Dioxins	1,2,3,7,8,9-HxCDF	72918-21-9	1613B	N	70 / 226	0.0353 J Z	5.35	0.00786 - 0.201	4.91 - 6.05	ng/kg	SL-022-SA6	0 - 1
PCBs and Dioxins	1,2,3,7,8-PeCDD	40321-76-4	1613B	N	94 / 226	0.0247 J Z	25.7	0.00971 - 0.311	4.91 - 6.05	ng/kg	SL-280-SA6	4 - 5
PCBs and Dioxins	1,2,3,7,8-PeCDF	57117-41-6	1613B	N	128 / 226	0.0288 J Z	23.9	0.00595 - 0.240	4.91 - 6.05	ng/kg	SL-252-SA6	4 - 5
PCBs and Dioxins	2,3,4,6,7,8-HxCDF	60851-34-5	1613B	N	81 / 226	0.0398 J Z	16.7	0.00554 - 0.165	4.91 - 6.05	ng/kg	SL-252-SA6	4 - 5
PCBs and Dioxins	2,3,4,7,8-PeCDF	57117-31-4	1613B	N	71 / 226	0.0657 J Z	15.7	0.00595 - 0.222	4.91 - 6.05	ng/kg	SL-022-SA6	0 - 1
PCBs and Dioxins	2,3,7,8-TCDD	1746-01-6	1613B	N	95 / 226	0.0138 J Z	8.38	0.00939 - 0.156	0.983 - 1.21	ng/kg	SL-280-SA6	4 - 5
PCBs and Dioxins	2,3,7,8-TCDF	51207-31-9	1613B	N	110 / 226	0.0168 J Z	8.25 J FD	0.00856 - 0.600	0.983 - 1.21	ng/kg	SL-252-SA6	4 - 5
PCBs and Dioxins	Aroclor 1016	12674-11-2	8082	N	0 / 226	-	-	0.33 - 170	1.7 - 890	ug/kg		-
PCBs and Dioxins	Aroclor 1016	12674-11-2	8082	Split	0 / 11	-	-	0.89 - 0.97	1.8 - 1.9	ug/kg		-
PCBs and Dioxins	Aroclor 1221	11104-28-2	8082	N	0 / 226	-	-	0.33 - 170	1.7 - 890	ug/kg		-
PCBs and Dioxins	Aroclor 1221	11104-28-2	8082	Split	0 / 11	-	-	0.89 - 0.97	1.8 - 1.9	ug/kg		-
PCBs and Dioxins	Aroclor 1232	11141-16-5	8082	N	0 / 226	-	-	0.33 - 170	1.7 - 890	ug/kg		-
PCBs and Dioxins	Aroclor 1232	11141-16-5	8082	Split	0 / 11	-	-	0.89 - 0.97	1.8 - 1.9	ug/kg		-
PCBs and Dioxins	Aroclor 1242	53469-21-9	8082	N	1 / 226	2.5	2.5	0.33 - 170	1.7 - 890	ug/kg	SL-275-SA6	4 - 5
PCBs and Dioxins	Aroclor 1242	53469-21-9	8082	Split	0 / 11	-	-	0.89 - 0.97	1.8 - 1.9	ug/kg		-
PCBs and Dioxins	Aroclor 1248	12672-29-6	8082	N	6 / 226	1.6 J Z	1800	0.33 - 170	1.7 - 890	ug/kg	SL-257-SA6	1.5 - 2.5
PCBs and Dioxins	Aroclor 1248	12672-29-6	8082	Split	0 / 11	-	-	0.89 - 0.97	1.8 - 1.9	ug/kg		-
PCBs and Dioxins	Aroclor 1254	11097-69-1	8082	N	105 / 226	0.36 J Z	1100 J FD	0.33 - 170	1.7 - 890	ug/kg	SL-252-SA6	4 - 5
PCBs and Dioxins	Aroclor 1254	11097-69-1	8082	Split	0 / 11	-	-	0.89 - 0.97	1.8 - 1.9	ug/kg		-
PCBs and Dioxins	Aroclor 1260	11096-82-5	8082	N	56 / 226	0.45 J Z	1500 J FD	0.39 - 200	1.7 - 890	ug/kg	SL-252-SA6	4 - 5
PCBs and Dioxins	Aroclor 1260	11096-82-5	8082	Split	0 / 11	-	-	0.89 - 0.97	1.8 - 1.9	ug/kg		-
PCBs and Dioxins	Aroclor 1262	37324-23-5	8082	N	0 / 226	-	-	0.33 - 170	1.7 - 890	ug/kg		-
PCBs and Dioxins	Aroclor 1262	37324-23-5	8082	Split	0 / 11	-	-	0.89 - 0.97	1.8 - 1.9	ug/kg		-
PCBs and Dioxins	Aroclor 1268	11100-14-4	8082	N	0 / 226	-	-	0.33 - 170	1.7 - 890	ug/kg		-
PCBs and Dioxins	Aroclor 1268	11100-14-4	8082	Split	0 / 11	-	-	0.89 - 0.97	1.8 - 1.9	ug/kg		-
PCBs and Dioxins	Aroclor 5432	63496-31-1	8082	N	0 / 226	-	-	1.0 - 520	3.3 - 1700	ug/kg		-
PCBs and Dioxins	Aroclor 5432	63496-31-1	8082	Split	0 / 11	-	-	1.8 - 1.9	3.5 - 3.8	ug/kg		-

Table 3-5
Summary of Analytical Results for Chemicals - Validated Data
Subsurface Soils - HSA - 6

Group	Chemical	CAS No	Analytic Method	Sample Type	Detection Frequency	Minimum Concentration	Maximum Concentration	Range of Method Detection Limit	Range of Method Reporting Limit	Unit	Location of Maximum Concentration	Depth of Maximum Concentration
PCBs and Dioxins	Aroclor 5442	12642-23-8	8082	N	0 / 226	-	-	1.0 - 520	3.3 - 1700	ug/kg		-
PCBs and Dioxins	Aroclor 5442	12642-23-8	8082	Split	0 / 11	-	-	1.8 - 1.9	3.5 - 3.8	ug/kg		-
PCBs and Dioxins	Aroclor 5460	11126-42-4	8082	N	64 / 226	1.2 J S, Z	1800	1.0 - 520	3.3 - 1700	ug/kg	SL-069-SA6	9 - 10
PCBs and Dioxins	Aroclor 5460	11126-42-4	8082	Split	0 / 11	-	-	1.8 - 1.9	3.5 - 3.8	ug/kg		-
PCBs and Dioxins	OCDD	3268-87-9	1613B	N	143 / 226	1.45 J Z	26000 J FD	0.00956 - 0.288	9.83 - 12.1	ng/kg	SL-252-SA6	4 - 5
PCBs and Dioxins	OCDF	39001-02-0	1613B	N	120 / 226	0.076 J Z	452 J FD, Q	0.0121 - 0.163	9.83 - 12.1	ng/kg	SL-252-SA6	4 - 5
Pesticides	2,2-Dichlor-Propionic Acid	75-99-0	8151A	Split	0 / 1	-	-	5.1 - 5.1	10 - 10	ug/kg		-
Pesticides	2,4 DB	94-82-6	8151A	Split	0 / 1	-	-	0.97 - 0.97	1.9 - 1.9	ug/kg		-
Pesticides	2,4,5-T	93-76-5	8151A	Split	0 / 1	-	-	0.097 - 0.097	0.19 - 0.19	ug/kg		-
Pesticides	2,4,5-TP	93-72-1	8151A	Split	0 / 1	-	-	0.097 - 0.097	0.19 - 0.19	ug/kg		-
Pesticides	2,4-D	94-75-7	8151A	Split	0 / 1	-	-	2.0 - 2.0	4.1 - 4.1	ug/kg		-
Pesticides	4,4'-DDD	72-54-8	8081A	Split	0 / 2	-	-	0.19 - 0.39	0.39 - 0.77	ug/kg		-
Pesticides	4,4'-DDE	72-55-9	8081A	Split	0 / 2	-	-	0.19 - 0.39	0.39 - 0.77	ug/kg		-
Pesticides	4,4'-DDT	50-29-3	8081A	Split	0 / 2	-	-	0.19 - 0.39	0.39 - 0.77	ug/kg		-
Pesticides	Aldrin	309-00-2	8081A	Split	0 / 2	-	-	0.097 - 0.19	0.19 - 0.39	ug/kg		-
Pesticides	Alpha-BHC	319-84-6	8081A	Split	0 / 2	-	-	0.097 - 0.19	0.19 - 0.39	ug/kg		-
Pesticides	Beta-BHC	319-85-7	8081A	Split	0 / 2	-	-	0.097 - 0.19	0.19 - 0.39	ug/kg		-
Pesticides	Chlordane (technical)	12789-03-6	8081A	Split	0 / 2	-	-	1.9 - 3.9	3.9 - 7.7	ug/kg		-
Pesticides	Delta-BHC	319-86-8	8081A	Split	0 / 2	-	-	0.097 - 0.19	0.19 - 0.39	ug/kg		-
Pesticides	Dicamba	1918-00-9	8151A	Split	0 / 1	-	-	0.68 - 0.68	1.4 - 1.4	ug/kg		-
Pesticides	Dichlorprop	120-36-5	8151A	Split	0 / 1	-	-	1.4 - 1.4	2.7 - 2.7	ug/kg		-
Pesticides	Dieldrin	60-57-1	8081A	Split	0 / 2	-	-	0.19 - 0.39	0.39 - 0.77	ug/kg		-
Pesticides	Dinitrobutyl Phenol	88-85-7	8151A	Split	0 / 1	-	-	0.97 - 0.97	1.9 - 1.9	ug/kg		-
Pesticides	Endosulfan I	959-98-8	8081A	Split	0 / 2	-	-	0.097 - 0.19	0.19 - 0.39	ug/kg		-
Pesticides	Endosulfan II	33213-65-9	8081A	Split	0 / 2	-	-	0.19 - 0.39	0.39 - 0.77	ug/kg		-
Pesticides	Endosulfan Sulfate	1031-07-8	8081A	Split	0 / 2	-	-	0.19 - 0.39	0.39 - 0.77	ug/kg		-
Pesticides	Endrin	72-20-8	8081A	Split	0 / 2	-	-	0.19 - 0.39	0.39 - 0.77	ug/kg		-
Pesticides	Endrin Aldehyde	7421-93-4	8081A	Split	0 / 2	-	-	0.19 - 0.39	0.39 - 0.77	ug/kg		-
Pesticides	Endrin Ketone	53494-70-5	8081A	Split	0 / 2	-	-	0.19 - 0.39	0.39 - 0.77	ug/kg		-
Pesticides	Gamma-BHC (Lindane)	58-89-9	8081A	Split	0 / 2	-	-	0.097 - 0.19	0.19 - 0.39	ug/kg		-
Pesticides	Heptachlor	76-44-8	8081A	Split	0 / 2	-	-	0.097 - 0.19	0.19 - 0.39	ug/kg		-
Pesticides	Heptachlor Epoxide	1024-57-3	8081A	Split	0 / 2	-	-	0.097 - 0.19	0.19 - 0.39	ug/kg		-
Pesticides	MCPA	94-74-6	8151A	Split	0 / 1	-	-	140 - 140	280 - 280	ug/kg		-
Pesticides	MCPP	93-65-2	8151A	Split	0 / 1	-	-	140 - 140	280 - 280	ug/kg		-
Pesticides	Methoxychlor	72-43-5	8081A	Split	0 / 2	-	-	0.97 - 1.9	1.9 - 3.9	ug/kg		-
Pesticides	Mirex	2385-85-5	8081A	Split	0 / 2	-	-	0.19 - 0.39	0.39 - 0.77	ug/kg		-
Pesticides	Toxaphene	8001-35-2	8081A	Split	0 / 2	-	-	3.7 - 7.5	7.5 - 15	ug/kg		-
Semivolatiles	1,2,4-Trichlorobenzene	120-82-1	8270C	N	0 / 226	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	1,2,4-Trichlorobenzene	120-82-1	8270C	Split	0 / 11	-	-	88 - 96	170 - 190	ug/kg		-
Semivolatiles	1,2-Dichlorobenzene	95-50-1	8270C	N	0 / 226	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	1,2-Dichlorobenzene	95-50-1	8270C	Split	0 / 11	-	-	88 - 96	170 - 190	ug/kg		-
Semivolatiles	1,2-Diphenylhydrazine	122-66-7	8270C	N	0 / 226	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	1,2-Diphenylhydrazine	122-66-7	8270C	Split	0 / 11	-	-	88 - 96	170 - 190	ug/kg		-
Semivolatiles	1,3-Dichlorobenzene	541-73-1	8270C	N	0 / 226	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	1,3-Dichlorobenzene	541-73-1	8270C	Split	0 / 11	-	-	88 - 96	170 - 190	ug/kg		-
Semivolatiles	1,4-Dichlorobenzene	106-46-7	8270C	N	0 / 226	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	1,4-Dichlorobenzene	106-46-7	8270C	Split	0 / 11	-	-	88 - 96	170 - 190	ug/kg		-
Semivolatiles	1-Methylnaphthalene	90-12-0	8270C	N	0 / 1	-	-	18 - 18	180 - 180	ug/kg		-
Semivolatiles	1-Methylnaphthalene	90-12-0	8270C	Split	0 / 11	-	-	88 - 96	170 - 190	ug/kg		-
Semivolatiles	1-Methylnaphthalene	90-12-0	8270C SIM	N	8 / 225	0.79 J Z	19	0.67 - 7.3	1.7 - 18	ug/kg	SL-125-SA6	20 - 21
Semivolatiles	1-Methylnaphthalene	90-12-0	8270C SIM	Split	0 / 11	-	-	0.89 - 0.97	1.8 - 1.9	ug/kg		-
Semivolatiles	2,4,5-Trichlorophenol	95-95-4	8270C	N	0 / 226	-	-	33 - 40	170 - 200	ug/kg		-
Semivolatiles	2,4,5-Trichlorophenol	95-95-4	8270C	Split	0 / 11	-	-	88 - 96	170 - 190	ug/kg		-
Semivolatiles	2,4,6-Trichlorophenol	88-06-2	8270C	N	0 / 226	-	-	33 - 40	170 - 200	ug/kg		-
Semivolatiles	2,4,6-Trichlorophenol	88-06-2	8270C	Split	0 / 11	-	-	88 - 96	170 - 190	ug/kg		-

Table 3-5
Summary of Analytical Results for Chemicals - Validated Data
Subsurface Soils - HSA - 6

Group	Chemical	CAS No	Analytic Method	Sample Type	Detection Frequency	Minimum Concentration	Maximum Concentration	Range of Method Detection Limit	Range of Method Reporting Limit	Unit	Location of Maximum Concentration	Depth of Maximum Concentration
Semivolatiles	2,4-Dichlorophenol	120-83-2	8270C	N	0 / 226	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	2,4-Dichlorophenol	120-83-2	8270C	Split	0 / 11	-	-	88 - 96	170 - 190	ug/kg		-
Semivolatiles	2,4-Dimethylphenol	105-67-9	8270C	N	0 / 226	-	-	33 - 40	170 - 200	ug/kg		-
Semivolatiles	2,4-Dimethylphenol	105-67-9	8270C	Split	0 / 11	-	-	88 - 96	170 - 190	ug/kg		-
Semivolatiles	2,4-Dinitrophenol	51-28-5	8270C	N	0 / 226	-	-	330 - 400	1000 - 1200	ug/kg		-
Semivolatiles	2,4-Dinitrophenol	51-28-5	8270C	Split	0 / 11	-	-	170 - 190	350 - 380	ug/kg		-
Semivolatiles	2,4-Dinitrotoluene	121-14-2	8270C	N	0 / 226	-	-	33 - 40	170 - 200	ug/kg		-
Semivolatiles	2,4-Dinitrotoluene	121-14-2	8270C	Split	0 / 11	-	-	88 - 96	170 - 190	ug/kg		-
Semivolatiles	2,6-Dinitrotoluene	606-20-2	8270C	N	0 / 226	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	2,6-Dinitrotoluene	606-20-2	8270C	Split	0 / 11	-	-	88 - 96	170 - 190	ug/kg		-
Semivolatiles	2-butoxy-Ethanol	111-76-2	8270C	Split	0 / 11	-	-	170 - 190	170 - 190	ug/kg		-
Semivolatiles	2-Chloronaphthalene	91-58-7	8270C	N	0 / 226	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	2-Chloronaphthalene	91-58-7	8270C	Split	0 / 11	-	-	88 - 96	170 - 190	ug/kg		-
Semivolatiles	2-Chlorophenol	95-57-8	8270C	N	0 / 226	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	2-Chlorophenol	95-57-8	8270C	Split	0 / 11	-	-	88 - 96	170 - 190	ug/kg		-
Semivolatiles	2-Methylnaphthalene	91-57-6	8270C	N	0 / 1	-	-	18 - 18	180 - 180	ug/kg		-
Semivolatiles	2-Methylnaphthalene	91-57-6	8270C	Split	0 / 11	-	-	88 - 96	170 - 190	ug/kg		-
Semivolatiles	2-Methylnaphthalene	91-57-6	8270C SIM	N	11 / 225	0.83 J Z	28	0.67 - 7.3	1.7 - 18	ug/kg	SL-125-SA6	20 - 21
Semivolatiles	2-Methylnaphthalene	91-57-6	8270C SIM	Split	0 / 11	-	-	0.89 - 0.97	1.8 - 1.9	ug/kg		-
Semivolatiles	2-Methylphenol	95-48-7	8270C	N	0 / 226	-	-	33 - 40	170 - 200	ug/kg		-
Semivolatiles	2-Methylphenol	95-48-7	8270C	Split	0 / 11	-	-	88 - 96	170 - 190	ug/kg		-
Semivolatiles	2-Nitroaniline	88-74-4	8270C	N	0 / 225	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	2-Nitroaniline	88-74-4	8270C	Split	0 / 11	-	-	88 - 96	170 - 190	ug/kg		-
Semivolatiles	2-Nitrophenol	88-75-5	8270C	N	0 / 226	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	2-Nitrophenol	88-75-5	8270C	Split	0 / 11	-	-	88 - 96	170 - 190	ug/kg		-
Semivolatiles	2-phenoxy-Ethanol	122-99-6	8270C	Split	0 / 11	-	-	170 - 190	170 - 190	ug/kg		-
Semivolatiles	3,3`-Dichlorobenzidine	91-94-1	8270C	N	0 / 226	-	-	100 - 120	330 - 400	ug/kg		-
Semivolatiles	3,3`-Dichlorobenzidine	91-94-1	8270C	Split	0 / 11	-	-	88 - 96	170 - 190	ug/kg		-
Semivolatiles	3,5-Dimethylphenol	108-68-9	8270C	N	0 / 226	-	-	33 - 40	170 - 200	ug/kg		-
Semivolatiles	3,5-Dimethylphenol	108-68-9	8270C	Split	0 / 11	-	-	88 - 96	170 - 190	ug/kg		-
Semivolatiles	3-Nitroaniline	99-09-2	8270C	N	0 / 226	-	-	33 - 40	170 - 200	ug/kg		-
Semivolatiles	3-Nitroaniline	99-09-2	8270C	Split	0 / 11	-	-	88 - 96	170 - 190	ug/kg		-
Semivolatiles	4,6-Dinitro-2-Methylphenol	534-52-1	8270C	N	0 / 226	-	-	170 - 200	500 - 610	ug/kg		-
Semivolatiles	4,6-Dinitro-2-Methylphenol	534-52-1	8270C	Split	0 / 11	-	-	170 - 190	350 - 380	ug/kg		-
Semivolatiles	4-Bromophenyl Phenyl Ether	101-55-3	8270C	N	0 / 226	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	4-Bromophenyl Phenyl Ether	101-55-3	8270C	Split	0 / 11	-	-	88 - 96	170 - 190	ug/kg		-
Semivolatiles	4-Chloro-3-Methylphenol	59-50-7	8270C	N	0 / 226	-	-	33 - 40	170 - 200	ug/kg		-
Semivolatiles	4-Chloro-3-Methylphenol	59-50-7	8270C	Split	0 / 11	-	-	88 - 96	170 - 190	ug/kg		-
Semivolatiles	4-Chloroaniline	106-47-8	8270C	N	0 / 226	-	-	67 - 81	170 - 200	ug/kg		-
Semivolatiles	4-Chloroaniline	106-47-8	8270C	Split	0 / 11	-	-	88 - 96	170 - 190	ug/kg		-
Semivolatiles	4-Chlorophenyl Phenylether	7005-72-3	8270C	N	0 / 226	-	-	33 - 40	170 - 200	ug/kg		-
Semivolatiles	4-Chlorophenyl Phenylether	7005-72-3	8270C	Split	0 / 11	-	-	88 - 96	170 - 190	ug/kg		-
Semivolatiles	4-Methylphenol	106-44-5	8270C	N	0 / 226	-	-	33 - 40	170 - 200	ug/kg		-
Semivolatiles	4-Methylphenol	106-44-5	8270C	Split	0 / 11	-	-	88 - 96	170 - 190	ug/kg		-
Semivolatiles	4-Nitroaniline	100-01-6	8270C	N	0 / 226	-	-	67 - 81	170 - 200	ug/kg		-
Semivolatiles	4-Nitroaniline	100-01-6	8270C	Split	0 / 11	-	-	88 - 96	170 - 190	ug/kg		-
Semivolatiles	4-Nitrophenol	100-02-7	8270C	N	0 / 226	-	-	170 - 200	500 - 610	ug/kg		-
Semivolatiles	4-Nitrophenol	100-02-7	8270C	Split	0 / 11	-	-	170 - 190	350 - 380	ug/kg		-
Semivolatiles	Acenaphthene	83-32-9	8270C	N	0 / 2	-	-	18 - 18	180 - 180	ug/kg		-
Semivolatiles	Acenaphthene	83-32-9	8270C	Split	0 / 11	-	-	88 - 96	170 - 190	ug/kg		-
Semivolatiles	Acenaphthene	83-32-9	8270C SIM	N	14 / 225	0.68 J Z	130	0.67 - 7.3	1.7 - 18	ug/kg	SL-291-SA6	2 - 3
Semivolatiles	Acenaphthene	83-32-9	8270C SIM	Split	0 / 11	-	-	0.89 - 0.97	1.8 - 1.9	ug/kg		-
Semivolatiles	Acenaphthylene	208-96-8	8270C	N	0 / 1	-	-	18 - 18	180 - 180	ug/kg		-
Semivolatiles	Acenaphthylene	208-96-8	8270C	Split	0 / 11	-	-	88 - 96	170 - 190	ug/kg		-
Semivolatiles	Acenaphthylene	208-96-8	8270C SIM	N	18 / 225	0.38 J Z	9.3	0.34 - 3.6	1.7 - 18	ug/kg	SL-114-SA6	4 - 5

Table 3-5
Summary of Analytical Results for Chemicals - Validated Data
Subsurface Soils - HSA - 6

Group	Chemical	CAS No	Analytic Method	Sample Type	Detection Frequency	Minimum Concentration	Maximum Concentration	Range of Method Detection Limit	Range of Method Reporting Limit	Unit	Location of Maximum Concentration	Depth of Maximum Concentration
Semivolatiles	Acenaphthylene	208-96-8	8270C SIM	Split	0 / 11	-	-	0.89 - 0.97	1.8 - 1.9	ug/kg		-
Semivolatiles	Aniline	62-53-3	8270C	N	0 / 226	-	-	170 - 200	500 - 610	ug/kg		-
Semivolatiles	Aniline	62-53-3	8270C	Split	0 / 11	-	-	170 - 190	350 - 380	ug/kg		-
Semivolatiles	Anthracene	120-12-7	8270C	N	3 / 4	22 J Z	35 J Z	18 - 19	180 - 190	ug/kg	SL-084-SA6	4 - 5
Semivolatiles	Anthracene	120-12-7	8270C	Split	0 / 11	-	-	88 - 96	170 - 190	ug/kg		-
Semivolatiles	Anthracene	120-12-7	8270C SIM	N	42 / 222	0.38 J Z	730 J FD	0.34 - 3.6	1.7 - 18	ug/kg	SL-125-SA6	4 - 5
Semivolatiles	Anthracene	120-12-7	8270C SIM	Split	0 / 11	-	-	0.89 - 0.97	1.8 - 1.9	ug/kg		-
Semivolatiles	Benzidine	92-87-5	8270C	N	0 / 226	-	-	1200 - 1400	3300 - 4000	ug/kg		-
Semivolatiles	Benzidine	92-87-5	8270C	Split	0 / 11	-	-	520 - 570	1000 - 1100	ug/kg		-
Semivolatiles	Benzo(a)anthracene	56-55-3	8270C	N	12 / 13	23 J Z	150 J Z	17 - 20	170 - 200	ug/kg	SL-083-SA6	4 - 5
Semivolatiles	Benzo(a)anthracene	56-55-3	8270C	Split	0 / 11	-	-	88 - 96	170 - 190	ug/kg		-
Semivolatiles	Benzo(a)anthracene	56-55-3	8270C SIM	N	48 / 213	0.78 J Z	960	0.67 - 7.3	1.7 - 18	ug/kg	SL-125-SA6	4 - 5
Semivolatiles	Benzo(a)anthracene	56-55-3	8270C SIM	Split	0 / 11	-	-	0.89 - 0.97	1.8 - 1.9	ug/kg		-
Semivolatiles	Benzo(a)pyrene	50-32-8	8270C	N	17 / 18	20 J Z	160 J Z	17 - 20	170 - 200	ug/kg	SL-083-SA6	4 - 5
Semivolatiles	Benzo(a)pyrene	50-32-8	8270C	Split	0 / 11	-	-	88 - 96	170 - 190	ug/kg		-
Semivolatiles	Benzo(a)pyrene	50-32-8	8270C SIM	N	46 / 208	0.78 J Z J L, Z	550	0.67 - 3.9	1.7 - 9.8	ug/kg	SL-125-SA6	4 - 5
Semivolatiles	Benzo(a)pyrene	50-32-8	8270C SIM	Split	0 / 11	-	-	0.89 - 0.97	1.8 - 1.9	ug/kg		-
Semivolatiles	Benzo(b)fluoranthene	205-99-2	8270C	N	14 / 15	20 J Z	180	17 - 20	170 - 200	ug/kg	SL-083-SA6	4 - 5
Semivolatiles	Benzo(b)fluoranthene	205-99-2	8270C	Split	0 / 11	-	-	88 - 96	170 - 190	ug/kg		-
Semivolatiles	Benzo(b)fluoranthene	205-99-2	8270C SIM	N	76 / 211	0.84 J Z J L, Z	930	0.67 - 7.3	1.7 - 18	ug/kg	SL-125-SA6	4 - 5
Semivolatiles	Benzo(b)fluoranthene	205-99-2	8270C SIM	Split	1 / 11	1 J Z	1 J Z	0.89 - 0.97	1.8 - 1.9	ug/kg	SL-285-SA6	6 - 7
Semivolatiles	Benzo(g,h,i)perylene	191-24-2	8270C	N	19 / 20	23 J Z	110 J Z	17 - 20	170 - 200	ug/kg	SL-114-SA6	4 - 5
Semivolatiles	Benzo(g,h,i)perylene	191-24-2	8270C	Split	0 / 11	-	-	88 - 96	170 - 190	ug/kg		-
Semivolatiles	Benzo(g,h,i)perylene	191-24-2	8270C SIM	N	42 / 206	0.72 J Z	300	0.67 - 3.9	1.7 - 9.8	ug/kg	SL-125-SA6	4 - 5
Semivolatiles	Benzo(g,h,i)perylene	191-24-2	8270C SIM	Split	0 / 11	-	-	0.89 - 0.97	1.8 - 1.9	ug/kg		-
Semivolatiles	Benzo(k)fluoranthene	207-08-9	8270C	N	11 / 12	24 J Z	89 J Z	17 - 20	170 - 200	ug/kg	SL-083-SA6	4 - 5
Semivolatiles	Benzo(k)fluoranthene	207-08-9	8270C	Split	0 / 11	-	-	88 - 96	170 - 190	ug/kg		-
Semivolatiles	Benzo(k)fluoranthene	207-08-9	8270C SIM	N	49 / 214	0.78 J Z	420	0.67 - 7.3	1.7 - 18	ug/kg	SL-125-SA6	4 - 5
Semivolatiles	Benzo(k)fluoranthene	207-08-9	8270C SIM	Split	0 / 11	-	-	0.89 - 0.97	1.8 - 1.9	ug/kg		-
Semivolatiles	Benzoic Acid	65-85-0	8270C	N	0 / 226	-	-	170 - 200	500 - 610	ug/kg		-
Semivolatiles	Benzoic Acid	65-85-0	8270C	Split	0 / 11	-	-	350 - 380	700 - 760	ug/kg		-
Semivolatiles	Benzyl Alcohol	100-51-6	8270C	N	0 / 226	-	-	170 - 200	500 - 610	ug/kg		-
Semivolatiles	Benzyl Alcohol	100-51-6	8270C	Split	0 / 11	-	-	88 - 96	170 - 190	ug/kg		-
Semivolatiles	Bis(2-Chloroethoxy) methane	111-91-1	8270C	N	0 / 226	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	Bis(2-Chloroethoxy) methane	111-91-1	8270C	Split	0 / 11	-	-	88 - 96	170 - 190	ug/kg		-
Semivolatiles	Bis(2-Chloroethyl) ether	111-44-4	8270C	N	0 / 226	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	Bis(2-Chloroethyl) ether	111-44-4	8270C	Split	0 / 11	-	-	88 - 96	170 - 190	ug/kg		-
Semivolatiles	bis(2-Chloroisopropyl) ether	39638-32-9	8270C	N	0 / 226	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	bis(2-Chloroisopropyl) ether	39638-32-9	8270C	Split	0 / 11	-	-	88 - 96	170 - 190	ug/kg		-
Semivolatiles	Bis(2-Ethylhexyl) phthalate	117-81-7	8270C	N	25 / 47	18 J Z	570	17 - 20	330 - 400	ug/kg	SL-001-SA6	0 - 1
Semivolatiles	Bis(2-Ethylhexyl) phthalate	117-81-7	8270C	Split	0 / 11	-	-	88 - 96	170 - 190	ug/kg		-
Semivolatiles	Bis(2-Ethylhexyl) phthalate	117-81-7	8270C SIM	N	50 / 179	6.7 J Z	300	6.1 - 35	18 - 100	ug/kg	SL-252-SA6	4 - 5
Semivolatiles	Bis(2-Ethylhexyl) phthalate	117-81-7	8270C SIM	Split	2 / 11	11 J Z	12 J Z	8.8 - 9.6	17 - 19	ug/kg	SL-284-SA6	9 - 10
Semivolatiles	Butylbenzylphthalate	85-68-7	8270C	N	0 / 30	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	Butylbenzylphthalate	85-68-7	8270C	Split	0 / 11	-	-	88 - 96	170 - 190	ug/kg		-
Semivolatiles	Butylbenzylphthalate	85-68-7	8270C SIM	N	10 / 196	6.6 J Z	140	6.1 - 33	18 - 98	ug/kg	SL-019-SA6	9 - 10
Semivolatiles	Butylbenzylphthalate	85-68-7	8270C SIM	Split	0 / 11	-	-	8.8 - 9.6	17 - 19	ug/kg		-
Semivolatiles	Carbazole	86-74-8	8270C	N	2 / 226	22 J Z	30 J Z	17 - 20	170 - 200	ug/kg	SL-084-SA6	4 - 5
Semivolatiles	Carbazole	86-74-8	8270C	Split	0 / 11	-	-	88 - 96	170 - 190	ug/kg		-
Semivolatiles	Chrysene	218-01-9	8270C	N	14 / 15	18 J Z	170 J Z	17 - 20	170 - 200	ug/kg	SL-083-SA6	4 - 5
Semivolatiles	Chrysene	218-01-9	8270C	Split	0 / 11	-	-	88 - 96	170 - 190	ug/kg		-
Semivolatiles	Chrysene	218-01-9	8270C SIM	N	86 / 211	0.36 J Z	750	0.34 - 3.6	1.7 - 18	ug/kg	SL-125-SA6	4 - 5
Semivolatiles	Chrysene	218-01-9	8270C SIM	Split	0 / 11	-	-	0.89 - 0.97	1.8 - 1.9	ug/kg		-

Table 3-5
Summary of Analytical Results for Chemicals - Validated Data
Subsurface Soils - HSA - 6

Group	Chemical	CAS No	Analytic Method	Sample Type	Detection Frequency	Minimum Concentration	Maximum Concentration	Range of Method Detection Limit	Range of Method Reporting Limit	Unit	Location of Maximum Concentration	Depth of Maximum Concentration
Semivolatiles	Dibenzo(a,h)anthracene	53-70-3	8270C	N	5 / 6	17 J Z	34 J Z	17 - 18	170 - 180	ug/kg	SL-083-SA6	4 - 5
Semivolatiles	Dibenzo(a,h)anthracene	53-70-3	8270C	Split	0 / 11	-	-	88 - 96	170 - 190	ug/kg		-
Semivolatiles	Dibenzo(a,h)anthracene	53-70-3	8270C SIM	N	30 / 220	0.75 J Z	69 J FD	0.67 - 7.3	1.7 - 18	ug/kg	SL-125-SA6	4 - 5
Semivolatiles	Dibenzo(a,h)anthracene	53-70-3	8270C SIM	Split	0 / 11	-	-	0.89 - 0.97	1.8 - 1.9	ug/kg		-
Semivolatiles	Dibenzofuran	132-64-9	8270C	N	1 / 226	23 J Z	23 J Z	17 - 20	170 - 200	ug/kg	SL-073-SA6	4 - 5
Semivolatiles	Dibenzofuran	132-64-9	8270C	Split	0 / 11	-	-	88 - 96	170 - 190	ug/kg		-
Semivolatiles	Diethylphthalate	84-66-2	8270C	N	0 / 33	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	Diethylphthalate	84-66-2	8270C	Split	0 / 11	-	-	88 - 96	170 - 190	ug/kg		-
Semivolatiles	Diethylphthalate	84-66-2	8270C SIM	N	5 / 193	7.4 J Z	14 J Z	6.1 - 7.2	18 - 22	ug/kg	SL-065-SA6	1.5 - 2.5
Semivolatiles	Diethylphthalate	84-66-2	8270C SIM	Split	0 / 11	-	-	8.8 - 9.6	17 - 19	ug/kg		-
Semivolatiles	Dimethylphthalate	131-11-3	8270C	N	0 / 34	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	Dimethylphthalate	131-11-3	8270C	Split	0 / 11	-	-	88 - 96	170 - 190	ug/kg		-
Semivolatiles	Dimethylphthalate	131-11-3	8270C SIM	N	0 / 193	-	-	6.1 - 7.2	18 - 22	ug/kg		-
Semivolatiles	Dimethylphthalate	131-11-3	8270C SIM	Split	0 / 11	-	-	8.8 - 9.6	17 - 19	ug/kg		-
Semivolatiles	Di-n-Butylphthalate	84-74-2	8270C	N	0 / 42	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	Di-n-Butylphthalate	84-74-2	8270C	Split	0 / 11	-	-	88 - 96	170 - 190	ug/kg		-
Semivolatiles	Di-n-Butylphthalate	84-74-2	8270C SIM	N	12 / 184	11 J Z	70 J Z	6.1 - 35	18 - 100	ug/kg	SL-123-SA6	7 - 8
Semivolatiles	Di-n-Butylphthalate	84-74-2	8270C SIM	Split	1 / 11	9.4 J Z	9.4 J Z	8.8 - 9.6	17 - 19	ug/kg	SL-283-SA6	4 - 5
Semivolatiles	Di-N-Octyl Phthalate	117-84-0	8270C	N	1 / 29	49 J Z	49 J Z	17 - 20	170 - 200	ug/kg	SL-155-SA6	4 - 5
Semivolatiles	Di-N-Octyl Phthalate	117-84-0	8270C	Split	0 / 11	-	-	88 - 96	170 - 190	ug/kg		-
Semivolatiles	Di-N-Octyl Phthalate	117-84-0	8270C SIM	N	15 / 197	6.6 J Z	64 J L, Z	6.1 - 33	18 - 98	ug/kg	SL-289-SA6	3.5 - 4.5
Semivolatiles	Di-N-Octyl Phthalate	117-84-0	8270C SIM	Split	0 / 11	-	-	8.8 - 9.6	17 - 19	ug/kg		-
Semivolatiles	Fluoranthene	206-44-0	8270C	N	13 / 15	20 J Z	240	17 - 20	170 - 200	ug/kg	SL-084-SA6	4 - 5
Semivolatiles	Fluoranthene	206-44-0	8270C	Split	0 / 11	-	-	88 - 96	170 - 190	ug/kg		-
Semivolatiles	Fluoranthene	206-44-0	8270C SIM	N	61 / 212	0.74 J Z	3100	0.67 - 18	1.7 - 46	ug/kg	SL-125-SA6	4 - 5
Semivolatiles	Fluoranthene	206-44-0	8270C SIM	Split	0 / 11	-	-	0.89 - 0.97	1.8 - 1.9	ug/kg		-
Semivolatiles	Fluorene	86-73-7	8270C	N	0 / 1	-	-	18 - 18	180 - 180	ug/kg		-
Semivolatiles	Fluorene	86-73-7	8270C	Split	0 / 11	-	-	88 - 96	170 - 190	ug/kg		-
Semivolatiles	Fluorene	86-73-7	8270C SIM	N	16 / 225	0.8 J FD, Z	110 J FD	0.67 - 7.3	1.7 - 18	ug/kg	SL-125-SA6	4 - 5
Semivolatiles	Fluorene	86-73-7	8270C SIM	Split	0 / 11	-	-	0.89 - 0.97	1.8 - 1.9	ug/kg		-
Semivolatiles	Hexachlorobenzene	118-74-1	8270C	N	0 / 226	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	Hexachlorobenzene	118-74-1	8270C	Split	0 / 11	-	-	88 - 96	170 - 190	ug/kg		-
Semivolatiles	Hexachlorobutadiene	87-68-3	8270C	N	0 / 226	-	-	67 - 81	170 - 200	ug/kg		-
Semivolatiles	Hexachlorobutadiene	87-68-3	8270C	Split	0 / 11	-	-	88 - 96	170 - 190	ug/kg		-
Semivolatiles	Hexachlorocyclopentadiene	77-47-4	8270C	N	0 / 226	-	-	170 - 200	500 - 610	ug/kg		-
Semivolatiles	Hexachlorocyclopentadiene	77-47-4	8270C	Split	0 / 11	-	-	350 - 380	700 - 760	ug/kg		-
Semivolatiles	Hexachloroethane	67-72-1	8270C	N	0 / 226	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	Hexachloroethane	67-72-1	8270C	Split	0 / 11	-	-	88 - 96	170 - 190	ug/kg		-
Semivolatiles	Indeno(1,2,3-Cd)Pyrene	193-39-5	8270C	N	15 / 16	19 J L, Z	110 J Z	17 - 20	170 - 200	ug/kg	SL-114-SA6	4 - 5
Semivolatiles	Indeno(1,2,3-Cd)Pyrene	193-39-5	8270C	Split	0 / 11	-	-	88 - 96	170 - 190	ug/kg		-
Semivolatiles	Indeno(1,2,3-Cd)Pyrene	193-39-5	8270C SIM	N	34 / 210	0.74 J FD, Q, Z	280	0.67 - 3.9	1.7 - 9.8	ug/kg	SL-125-SA6	4 - 5
Semivolatiles	Indeno(1,2,3-Cd)Pyrene	193-39-5	8270C SIM	Split	0 / 11	-	-	0.89 - 0.97	1.8 - 1.9	ug/kg		-
Semivolatiles	Isophorone	78-59-1	8270C	N	0 / 226	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	Isophorone	78-59-1	8270C	Split	0 / 11	-	-	88 - 96	170 - 190	ug/kg		-
Semivolatiles	Naphthalene	91-20-3	8270C	N	1 / 2	24 J Z	24 J Z	18 - 18	180 - 180	ug/kg	SL-083-SA6	4 - 5
Semivolatiles	Naphthalene	91-20-3	8270C	Split	0 / 11	-	-	88 - 96	170 - 190	ug/kg		-
Semivolatiles	Naphthalene	91-20-3	8270C SIM	N	19 / 224	0.74 J Z	36	0.67 - 7.3	1.7 - 18	ug/kg	SL-074-SA6	9 - 10
Semivolatiles	Naphthalene	91-20-3	8270C SIM	Split	1 / 11	1.1 J Z	1.1 J Z	0.89 - 0.97	1.8 - 1.9	ug/kg	SL-284-SA6	14 - 15
Semivolatiles	Nitrobenzene	98-95-3	8270C	N	0 / 226	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	Nitrobenzene	98-95-3	8270C	Split	0 / 11	-	-	88 - 96	170 - 190	ug/kg		-
Semivolatiles	N-Nitrosodimethylamine	62-75-9	1625C	N	6 / 69	34.5 J Z	846	16.6 - 199	33.3 - 397	ng/kg	SL-253-SA6	4 - 5
Semivolatiles	N-Nitrosodimethylamine	62-75-9	8270C SIM	N	1 / 225	58	58	0.67 - 7.3	1.7 - 18	ug/kg	SL-114-SA6	4 - 5
Semivolatiles	N-Nitrosodimethylamine	62-75-9	8270C SIM	Split	0 / 11	-	-	0.89 - 0.97	1.8 - 1.9	ug/kg		-
Semivolatiles	N-Nitroso-Di-N-Propylamine	621-64-7	8270C	N	0 / 226	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	N-Nitroso-Di-N-Propylamine	621-64-7	8270C	Split	0 / 11	-	-	88 - 96	170 - 190	ug/kg		-

Table 3-5
Summary of Analytical Results for Chemicals - Validated Data
Subsurface Soils - HSA - 6

Group	Chemical	CAS No	Analytic Method	Sample Type	Detection Frequency	Minimum Concentration	Maximum Concentration	Range of Method Detection Limit	Range of Method Reporting Limit	Unit	Location of Maximum Concentration	Depth of Maximum Concentration
Semivolatiles	N-Nitrosodiphenylamine	86-30-6	8270C	N	0 / 226	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	N-Nitrosodiphenylamine	86-30-6	8270C	Split	0 / 11	-	-	88 - 96	170 - 190	ug/kg		-
Semivolatiles	Pentachlorophenol	87-86-5	8270C	N	0 / 226	-	-	170 - 200	500 - 610	ug/kg		-
Semivolatiles	Pentachlorophenol	87-86-5	8270C	Split	0 / 11	-	-	170 - 190	350 - 380	ug/kg		-
Semivolatiles	Phenanthrene	85-01-8	8270C	N	6 / 7	32 J Z	200	17 - 19	170 - 190	ug/kg	SL-084-SA6	4 - 5
Semivolatiles	Phenanthrene	85-01-8	8270C	Split	0 / 11	-	-	88 - 96	170 - 190	ug/kg		-
Semivolatiles	Phenanthrene	85-01-8	8270C SIM	N	52 / 219	0.73 J Z	2600	0.67 - 18	1.7 - 46	ug/kg	SL-125-SA6	4 - 5
Semivolatiles	Phenanthrene	85-01-8	8270C SIM	Split	0 / 11	-	-	0.89 - 0.97	1.8 - 1.9	ug/kg		-
Semivolatiles	Phenol	108-95-2	8270C	N	0 / 226	-	-	17 - 20	170 - 200	ug/kg		-
Semivolatiles	Phenol	108-95-2	8270C	Split	0 / 11	-	-	88 - 96	170 - 190	ug/kg		-
Semivolatiles	Pyrene	129-00-0	8270C	N	19 / 20	17 J Z	190	17 - 20	170 - 200	ug/kg	SL-084-SA6	4 - 5
Semivolatiles	Pyrene	129-00-0	8270C	Split	0 / 11	-	-	88 - 96	170 - 190	ug/kg		-
Semivolatiles	Pyrene	129-00-0	8270C SIM	N	58 / 206	0.76 J Z	1900	0.67 - 18	1.7 - 46	ug/kg	SL-125-SA6	4 - 5
Semivolatiles	Pyrene	129-00-0	8270C SIM	Split	0 / 11	-	-	0.89 - 0.97	1.8 - 1.9	ug/kg		-
Semivolatiles	Tetralin	119-64-2	8270C	N	0 / 226	-	-	170 - 200	170 - 200	ug/kg		-
Semivolatiles	Tetralin	119-64-2	8270C	Split	0 / 11	-	-	170 - 190	170 - 190	ug/kg		-
Volatiles	1,1,1,2-Tetrachloroethane	630-20-6	8260B	N	0 / 34	-	-	0.10 - 0.99	3.8 - 4.9	ug/kg		-
Volatiles	1,1,1-Trichloroethane	71-55-6	8260B	N	0 / 34	-	-	0.19 - 0.99	3.8 - 4.9	ug/kg		-
Volatiles	1,1,2,2-Tetrachloroethane	79-34-5	8260B	N	0 / 34	-	-	0.22 - 0.99	3.8 - 4.9	ug/kg		-
Volatiles	1,1,2-Trichloroethane	79-00-5	8260B	N	0 / 34	-	-	0.25 - 0.99	3.8 - 4.9	ug/kg		-
Volatiles	1,1-Dichloroethane	75-34-3	8260B	N	0 / 34	-	-	0.09 - 0.99	3.8 - 4.9	ug/kg		-
Volatiles	1,1-Dichloroethene	75-35-4	8260B	N	0 / 34	-	-	0.37 - 0.99	3.8 - 4.9	ug/kg		-
Volatiles	1,1-Dichloropropene	563-58-6	8260B	N	0 / 34	-	-	0.12 - 0.99	3.8 - 4.9	ug/kg		-
Volatiles	1,2,3-Trichlorobenzene	87-61-6	8260B	N	0 / 34	-	-	0.13 - 2.0	3.8 - 4.9	ug/kg		-
Volatiles	1,2,3-Trichloropropane	96-18-4	8260B	N	0 / 34	-	-	0.31 - 2.0	3.8 - 4.9	ug/kg		-
Volatiles	1,2,4-Trichlorobenzene	120-82-1	8260B	N	0 / 34	-	-	0.17 - 2.0	3.8 - 4.9	ug/kg		-
Volatiles	1,2,4-Trimethylbenzene	95-63-6	8260B	N	0 / 34	-	-	0.38 - 0.99	3.8 - 4.9	ug/kg		-
Volatiles	1,2-Dibromo-3-chloropropane	96-12-8	8260B	N	0 / 34	-	-	0.66 - 2.0	3.8 - 4.9	ug/kg		-
Volatiles	1,2-Dibromoethane	106-93-4	8260B	N	0 / 34	-	-	0.16 - 0.99	3.8 - 4.9	ug/kg		-
Volatiles	1,2-Dichlorobenzene	95-50-1	8260B	N	0 / 34	-	-	0.08 - 0.99	3.8 - 4.9	ug/kg		-
Volatiles	1,2-Dichloroethane	107-06-2	8260B	N	1 / 34	2.5 J Z	2.5 J Z	0.14 - 0.99	3.8 - 4.9	ug/kg	SL-084-SA6	4 - 5
Volatiles	1,2-Dichloropropane	78-87-5	8260B	N	0 / 34	-	-	0.16 - 0.99	3.8 - 4.9	ug/kg		-
Volatiles	1,3,5-Trimethylbenzene	108-67-8	8260B	N	0 / 34	-	-	0.09 - 0.99	3.8 - 4.9	ug/kg		-
Volatiles	1,3-Dichlorobenzene	541-73-1	8260B	N	0 / 34	-	-	0.11 - 0.99	3.8 - 4.9	ug/kg		-
Volatiles	1,3-Dichloropropane	142-28-9	8260B	N	0 / 34	-	-	0.07 - 0.99	3.8 - 4.9	ug/kg		-
Volatiles	1,4-Dichlorobenzene	106-46-7	8260B	N	1 / 34	0.33 J Z	0.33 J Z	0.15 - 0.99	3.8 - 4.9	ug/kg	SL-030-SA6	9 - 10
Volatiles	1,4-Dioxane	123-91-1	8260B SIM	N	0 / 34	-	-	4.6 - 7.6	9.7 - 23	ug/kg		-
Volatiles	2,2-Dichloropropane	594-20-7	8260B	N	0 / 34	-	-	0.16 - 2.0	3.8 - 4.9	ug/kg		-
Volatiles	2-Butanone	78-93-3	8260B	N	2 / 34	5.1 J Z	13	1.1 - 4.9	7.5 - 9.9	ug/kg	SL-030-SA6	9 - 10
Volatiles	2-Chloroethyl Vinyl Ether	110-75-8	8260B	N	0 / 34	-	-	0.28 - 2.0	3.8 - 4.9	ug/kg		-
Volatiles	2-Chlorotoluene	95-49-8	8260B	N	0 / 34	-	-	0.13 - 0.99	3.8 - 4.9	ug/kg		-
Volatiles	2-Hexanone	591-78-6	8260B	N	0 / 34	-	-	1.5 - 4.9	7.5 - 9.9	ug/kg		-
Volatiles	4-Chlorotoluene	106-43-4	8260B	N	0 / 34	-	-	0.13 - 0.99	3.8 - 4.9	ug/kg		-
Volatiles	4-Methyl-2-Pentanone	108-10-1	8260B	N	0 / 34	-	-	0.37 - 4.9	7.5 - 9.9	ug/kg		-
Volatiles	Acetone	67-64-1	8260B	N	7 / 34	7.3 J Z	17	4.9 - 7.6	7.5 - 9.9	ug/kg	SL-285-SA6	7.5 - 7.5
Volatiles	Benzene	71-43-2	8260B	N	0 / 34	-	-	0.09 - 0.99	3.8 - 4.9	ug/kg		-
Volatiles	Bromobenzene	108-86-1	8260B	N	0 / 34	-	-	0.12 - 0.99	3.8 - 4.9	ug/kg		-
Volatiles	Bromochloromethane	74-97-5	8260B	N	0 / 34	-	-	0.31 - 0.99	3.8 - 4.9	ug/kg		-
Volatiles	Bromodichloromethane	75-27-4	8260B	N	0 / 34	-	-	0.07 - 0.99	3.8 - 4.9	ug/kg		-
Volatiles	Bromoform	75-25-2	8260B	N	0 / 34	-	-	0.38 - 2.0	3.8 - 4.9	ug/kg		-
Volatiles	Bromomethane	74-83-9	8260B	N	0 / 34	-	-	0.24 - 2.0	3.8 - 4.9	ug/kg		-
Volatiles	Carbon tetrachloride	56-23-5	8260B	N	0 / 34	-	-	0.13 - 0.99	3.8 - 4.9	ug/kg		-
Volatiles	Chlorobenzene	108-90-7	8260B	N	0 / 34	-	-	0.10 - 0.99	3.8 - 4.9	ug/kg		-
Volatiles	Chloroethane	75-00-3	8260B	N	0 / 34	-	-	0.12 - 2.0	3.8 - 4.9	ug/kg		-
Volatiles	Chloroform	67-66-3	8260B	N	2 / 34	0.12 J Z	0.17 J FD, Z	0.11 - 0.99	3.8 - 4.9	ug/kg	SL-074-SA6	4 - 5

Table 3-5
Summary of Analytical Results for Chemicals - Validated Data
Subsurface Soils - HSA - 6

Group	Chemical	CAS No	Analytic Method	Sample Type	Detection Frequency	Minimum Concentration	Maximum Concentration	Range of Method Detection Limit	Range of Method Reporting Limit	Unit	Location of Maximum Concentration	Depth of Maximum Concentration
Volatiles	Chloromethane	74-87-3	8260B	N	0 / 34	-	-	0.31 - 2.0	3.8 - 4.9	ug/kg		-
Volatiles	Chlorotrifluoroethene	79-38-9	8260B	N	0 / 34	-	-	0.47 - 2.0	4.7 - 5.7	ug/kg		-
Volatiles	cis-1,2-Dichloroethene	156-59-2	8260B	N	0 / 34	-	-	0.18 - 0.99	3.8 - 4.9	ug/kg		-
Volatiles	cis-1,3-Dichloropropene	10061-01-5	8260B	N	0 / 34	-	-	0.15 - 0.99	3.8 - 4.9	ug/kg		-
Volatiles	Dibromochloromethane	124-48-1	8260B	N	0 / 34	-	-	0.19 - 0.99	3.8 - 4.9	ug/kg		-
Volatiles	Dibromomethane	74-95-3	8260B	N	0 / 34	-	-	0.23 - 0.99	3.8 - 4.9	ug/kg		-
Volatiles	Dichlorodifluoromethane	75-71-8	8260B	N	0 / 34	-	-	0.11 - 2.0	3.8 - 4.9	ug/kg		-
Volatiles	EFH (C12-C14)	PHCC12C14	8015B EFH	Split	0 / 11	-	-	0.52 - 0.57	1.0 - 1.1	mg/kg		-
Volatiles	EFH (C12-C14)	PHCC12C14	8015M	N	4 / 180	0.62 J L, Z	36 J FD	0.41 - 100	1.2 - 310	mg/kg	SL-252-SA6	4 - 5
Volatiles	EFH (C15-C20)	PHCC15C20	8015B EFH	Split	1 / 11	1.3	1.3	0.52 - 0.57	1.0 - 1.1	mg/kg	SL-285-SA6	6 - 7
Volatiles	EFH (C15-C20)	PHCC15C20	8015M	N	50 / 180	0.42 J H, Z	350 J FD	0.41 - 100	1.2 - 310	mg/kg	SL-252-SA6	4 - 5
Volatiles	EFH (C21-C30)	PHCC21C30	8015B EFH	Split	6 / 11	0.6 J Z	26	0.52 - 0.57	1.0 - 1.1	mg/kg	SL-285-SA6	6 - 7
Volatiles	EFH (C21-C30)	PHCC21C30	8015M	N	127 / 180	0.45 J Z	1800	0.41 - 100	1.2 - 310	mg/kg	SL-249-SA6	4 - 5
Volatiles	EFH (C30-C40)	PHCC30C40	8015B EFH	Split	3 / 11	0.63 J Z	17	0.52 - 0.57	1.0 - 1.1	mg/kg	SL-285-SA6	6 - 7
Volatiles	EFH (C30-C40)	PHCC30C40	8015M	N	163 / 180	0.56 J Z	4200	0.41 - 100	1.2 - 310	mg/kg	SL-249-SA6	4 - 5
Volatiles	EFH (C8-C11)	PHCC8C11	8015B EFH	Split	10 / 11	0.59 J Z	2.6	0.52 - 0.57	1.0 - 1.1	mg/kg	SL-285-SA6	6 - 7
Volatiles	EFH (C8-C11)	PHCC8C11	8015M	N	2 / 180	0.64 J Z	2.9 J Z	0.41 - 100	1.2 - 310	mg/kg	SL-279-SA6	1 - 2
Volatiles	Ethylbenzene	100-41-4	8260B	N	1 / 34	0.07 J Z	0.07 J Z	0.06 - 0.99	3.8 - 4.9	ug/kg	SL-065-SA6	1.5 - 2.5
Volatiles	Freon 113	76-13-1	8260B	N	0 / 34	-	-	0.10 - 2.0	3.8 - 4.9	ug/kg		-
Volatiles	Freon 113a	75-88-7	8260B	N	0 / 34	-	-	0.47 - 2.0	4.7 - 5.7	ug/kg		-
Volatiles	GRO (C5-C12)	GROC5C12	8015B GRO	N	0 / 11	-	-	0.50 - 0.56	0.99 - 1.1	mg/kg		-
Volatiles	GRO (C5-C12)	GROC5C12	8015B GRO	Split	0 / 1	-	-	0.55 - 0.55	1.1 - 1.1	mg/kg		-
Volatiles	GRO (C5-C12)	GROC5C12	8015M	N	3 / 181	0.3 J Z	0.6 J Z	0.2 - 8.9	0.9 - 44	mg/kg	SL-284-SA6	9 - 10
Volatiles	Hexachlorobutadiene	87-68-3	8260B	N	0 / 34	-	-	0.13 - 2.0	3.8 - 4.9	ug/kg		-
Volatiles	Isopropylbenzene	98-82-8	8260B	N	0 / 34	-	-	0.06 - 0.99	3.8 - 4.9	ug/kg		-
Volatiles	Isopropyltoluene	99-87-6	8260B	N	0 / 34	-	-	0.10 - 0.99	3.8 - 4.9	ug/kg		-
Volatiles	m,p-Xylene	179601-23-1	8260B	N	1 / 34	0.21 J Z	0.21 J Z	0.16 - 2.0	3.8 - 4.9	ug/kg	SL-065-SA6	1.5 - 2.5
Volatiles	Methyl tert-Butyl Ether	1634-04-4	8260B	N	0 / 34	-	-	0.20 - 0.99	3.8 - 4.9	ug/kg		-
Volatiles	Methylene chloride	75-09-2	8260B	N	2 / 34	65	82 J FD, Q	0.23 - 2.0	3.8 - 4.9	ug/kg	SL-074-SA6	4 - 5
Volatiles	N-Butylbenzene	104-51-8	8260B	N	0 / 34	-	-	0.11 - 0.99	3.8 - 4.9	ug/kg		-
Volatiles	N-Propylbenzene	103-65-1	8260B	N	0 / 34	-	-	0.07 - 0.99	3.8 - 4.9	ug/kg		-
Volatiles	o-Xylene	95-47-6	8260B	N	0 / 34	-	-	0.16 - 0.99	3.8 - 4.9	ug/kg		-
Volatiles	sec-Butylbenzene	135-98-8	8260B	N	0 / 34	-	-	0.06 - 0.99	3.8 - 4.9	ug/kg		-
Volatiles	Styrene	100-42-5	8260B	N	0 / 34	-	-	0.09 - 0.99	3.8 - 4.9	ug/kg		-
Volatiles	tert-Butylbenzene	98-06-6	8260B	N	0 / 34	-	-	0.15 - 0.99	3.8 - 4.9	ug/kg		-
Volatiles	Tetrachloroethene	127-18-4	8260B	N	0 / 34	-	-	0.19 - 0.99	3.8 - 4.9	ug/kg		-
Volatiles	Toluene	108-88-3	8260B	N	18 / 34	0.09 J Z	0.38 J Z	0.07 - 0.99	3.8 - 4.9	ug/kg	SL-065-SA6	1.5 - 2.5
Volatiles	trans-1,2-Dichloroethene	156-60-5	8260B	N	0 / 34	-	-	0.11 - 0.99	3.8 - 4.9	ug/kg		-
Volatiles	trans-1,3-Dichloropropene	10061-02-6	8260B	N	0 / 34	-	-	0.16 - 0.99	3.8 - 4.9	ug/kg		-
Volatiles	Trichloroethene	79-01-6	8260B	N	0 / 34	-	-	0.14 - 0.99	3.8 - 4.9	ug/kg		-
Volatiles	Trichlorofluoromethane	75-69-4	8260B	N	0 / 34	-	-	0.27 - 2.0	3.8 - 4.9	ug/kg		-
Volatiles	Vinyl Chloride	75-01-4	8260B	N	0 / 34	-	-	0.19 - 2.0	3.8 - 4.9	ug/kg		-

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
FD - Field duplicate results outside of criteria
Z - Analytes reported below the reporting limits and above the method detection limit
- Second column confirmation outside of criteria

Table 3-6
Summary of Analytical Results for Chemicals - Validated Data
Combined Soils - HSA - 6

Group	Chemical	CAS No	Analytic Method	Sample Type	Detection Frequency	Minimum Concentration	Maximum Concentration	Range of Method Detection Limit	Range of Method Reporting Limit	Unit	Location of Maximum Concentration	Depth of Maximum Concentration
Inorganic	Aluminum	7429-90-5	6010B	N	373 / 373	7110 J E	31500	5.82 - 33.0	19.2 - 109	mg/kg	SL-217-SA6	0 - 0.5
Inorganic	Aluminum	7429-90-5	6020	Split	15 / 15	7870	19400	12.0 - 13.4	24.1 - 26.9	mg/kg	SL-282-SA6	2.5 - 3.5
Inorganic	Antimony	7440-36-0	6020	N	215 / 373	0.0753 J Q, Z	8.45 J FD, E	0.0711 - 0.0878	0.192 - 0.237	mg/kg	SL-252-SA6	4 - 5
Inorganic	Antimony	7440-36-0	6020	Split	13 / 15	0.107 J Q, Z	0.337 J Q	0.100 - 0.112	0.200 - 0.224	mg/kg	SL-282-SA6	2.5 - 3.5
Inorganic	Arsenic	7440-38-2	6020	N	373 / 373	1.53 J Q	87.1 J Q	0.0768 - 0.0949	0.384 - 0.474	mg/kg	SL-071-SA6	4 - 5
Inorganic	Arsenic	7440-38-2	6020	Split	15 / 15	3.22	9.48	0.200 - 0.224	0.401 - 0.448	mg/kg	SL-282-SA6	2.5 - 3.5
Inorganic	Barium	7440-39-3	6020	N	373 / 373	38.8	192 J E	0.102 - 0.291	0.384 - 1.10	mg/kg	SL-024-SA6	9 - 10
Inorganic	Barium	7440-39-3	6020	Split	15 / 15	49.2 J Q	105 J Q	0.200 - 0.224	0.401 - 0.448	mg/kg	SL-282-SA6	2.5 - 3.5
Inorganic	Beryllium	7440-41-7	6020	N	373 / 373	0.212	1.39 J Q	0.0154 - 0.0190	0.0961 - 0.119	mg/kg	SL-305-SA6	2 - 3
Inorganic	Beryllium	7440-41-7	6020	Split	15 / 15	0.360	1.06	0.0501 - 0.0191	0.100 - 0.112	mg/kg	SL-282-SA6	2.5 - 3.5
Inorganic	Boron	7440-42-8	6010B	N	210 / 373	0.534 J Z	25.7 J FD, Z	0.346 - 0.0192	4.81 - 28.7	mg/kg	SL-224-SA6	3 - 4
Inorganic	Boron	7440-42-8	6020	Split	0 / 15	-	-	2.51 - 0.0193	5.01 - 5.60	mg/kg		-
Inorganic	Cadmium	7440-43-9	6020	N	339 / 373	0.0466 J Z	3.97 J Q	0.0423 - 0.0194	0.0961 - 0.119	mg/kg	SL-215-SA6	0 - 0.5
Inorganic	Cadmium	7440-43-9	6020	Split	15 / 15	0.0976 J Z	0.590	0.0501 - 0.0195	0.100 - 0.112	mg/kg	SL-285-SA6	0 - 0.5
Inorganic	Calcium	7440-70-2	6010B	N	373 / 373	855	62100	2.41 - 0.0196	19.3 - 112	mg/kg	SL-003-SA6	4 - 5
Inorganic	Calcium	7440-70-2	6020	Split	15 / 15	1520 J I	8670 J I	10.0 - 0.0197	20.0 - 22.4	mg/kg	SL-285-SA6	4 - 5
Inorganic	Chromium	7440-47-3	6020	N	373 / 373	6.21 J E	344	0.115 - 0.0198	0.384 - 1.99	mg/kg	SL-278-SA6	0 - 0.5
Inorganic	Chromium	7440-47-3	6020	Split	15 / 15	11.4 J Q, E	55.6 J Q, E	0.200 - 0.0199	0.401 - 0.448	mg/kg	SL-285-SA6	0 - 0.5
Inorganic	Chromium VI	18540-29-9	7199	N	249 / 373	0.21 J Z	4.8	0.20 - 0.0200	0.98 - 1.2	mg/kg	SL-297-SA6	0 - 0.5
Inorganic	Chromium VI	18540-29-9	7199	Split	0 / 15	-	-	0.524 - 0.0201	1.05 - 1.14	mg/kg		-
Inorganic	Cobalt	7440-48-4	6020	N	373 / 373	2.12 J Q, A	60.8 J Q, E, A	0.0192 - 0.0202	0.0961 - 0.119	mg/kg	SL-084-SA6	9 - 10
Inorganic	Cobalt	7440-48-4	6020	Split	15 / 15	4.10	9.42	0.0501 - 0.0203	0.100 - 0.112	mg/kg	SL-282-SA6	2.5 - 3.5
Inorganic	Copper	7440-50-8	6020	N	373 / 373	2.93 J E, A	96.3 J FD, E, A	0.0768 - 0.0204	0.384 - 0.474	mg/kg	SL-252-SA6	4 - 5
Inorganic	Copper	7440-50-8	6020	Split	15 / 15	4.17	14.9	0.200 - 0.0205	0.401 - 0.448	mg/kg	SL-285-SA6	0 - 0.5
Inorganic	Cyanide	57-12-5	9012B	N	0 / 119	-	-	0.17 - 0.0206	0.48 - 0.59	mg/kg		-
Inorganic	Cyanide	57-12-5	9014	Split	0 / 15	-	-	0.262 - 0.0207	0.524 - 0.569	mg/kg		-
Inorganic	Fluoride	16984-48-8	300.0	N	281 / 373	0.87 J Q, Z	20.1 J Q	0.78 - 0.0208	0.98 - 1.3	mg/kg	SL-255-SA6	2 - 3
Inorganic	Fluoride	16984-48-8	300.0	Split	14 / 15	0.578 J Z	2.8	0.524 - 0.0209	1.05 - 1.14	mg/kg	SL-284-SA6	4 - 5
Inorganic	Iron	7439-89-6	6010B	N	373 / 373	13300	86400	2.52 - 0.0210	19.3 - 120	mg/kg	SL-071-SA6	4 - 5
Inorganic	Iron	7439-89-6	6020	Split	15 / 15	15800 J I	36200 J I	10.0 - 0.0211	20.0 - 22.4	mg/kg	SL-282-SA6	2.5 - 3.5
Inorganic	Lead	7439-92-1	6020	N	373 / 373	2.55 J Q	3080 J Q	0.0098 - 0.0212	0.192 - 9.79	mg/kg	SL-268-SA6	0 - 0.5
Inorganic	Lead	7439-92-1	6020	Split	15 / 15	2.93	28.8	0.100 - 0.0213	0.200 - 0.224	mg/kg	SL-285-SA6	0 - 0.5
Inorganic	Lithium	7439-93-2	6010B	N	373 / 373	7.1	51.9	0.60 - 0.0214	1.9 - 9.8	mg/kg	SL-258-SA6	0 - 0.83
Inorganic	Lithium	7439-93-2	6020	Split	15 / 15	17.5	40.3	1.00 - 0.0215	2.00 - 2.24	mg/kg	SL-282-SA6	2.5 - 3.5
Inorganic	Magnesium	7439-95-4	6010B	N	373 / 373	2280	10800	0.424 - 0.0216	9.64 - 49.0	mg/kg	SL-258-SA6	0 - 0.83
Inorganic	Magnesium	7439-95-4	6020	Split	15 / 15	3330	7540	5.01 - 0.0217	10.0 - 11.2	mg/kg	SL-282-SA6	2.5 - 3.5
Inorganic	Manganese	7439-96-5	6010B	N	373 / 373	113	1560	0.0346 - 0.0218	0.481 - 2.45	mg/kg	SL-217-SA6	4 - 5
Inorganic	Manganese	7439-96-5	6020	Split	15 / 15	154	400	0.251 - 0.0219	0.501 - 0.560	mg/kg	SL-282-SA6	2.5 - 3.5
Inorganic	Mercury	7439-97-6	7471A	N	197 / 373	0.0071 J Z	7.2	0.0066 - 0.0220	0.0940 - 2.14	mg/kg	SL-073-SA6	4 - 5
Inorganic	Mercury	7439-97-6	7471A	Split	4 / 15	0.221	2.85	0.0517 - 0.0221	0.103 - 1.09	mg/kg	SL-284-SA6	0 - 0.5
Inorganic	Molybdenum	7439-98-7	6020	N	372 / 373	0.213	23.2 J Q, E	0.0480 - 0.0222	0.0961 - 0.119	mg/kg	SL-291-SA6	0 - 0.5
Inorganic	Molybdenum	7439-98-7	6020	Split	15 / 15	0.213	2.55	0.0501 - 0.0223	0.100 - 0.112	mg/kg	SL-284-SA6	0 - 0.5
Inorganic	Nickel	7440-02-0	6020	N	373 / 373	3.71 J E, A	90.4	0.0961 - 0.0224	0.384 - 0.474	mg/kg	SL-261-SA6	1.5 - 2.5
Inorganic	Nickel	7440-02-0	6020	Split	15 / 15	5.54 J Q, E	29.8 J Q, E	0.200 - 0.0225	0.401 - 0.448	mg/kg	SL-285-SA6	0 - 0.5
Inorganic	Nitrate	14797-55-8	300.0	N	96 / 115	0.86 J Z	69.9	0.79 - 0.0226	1.5 - 7.9	mg/kg	SL-285-SA6	6 - 7
Inorganic	Nitrate	14797-55-8	300.0	Split	3 / 3	13.2	381	0.785 - 0.0227	1.57 - 16.0	mg/kg	SL-285-SA6	6 - 7
Inorganic	Percent Moisture	MOIST	160.3M	N	372 / 373	0.51	17.4	0.50 - 0.0228	0.50 - 0.50	%	SL-217-SA6	4 - 5
Inorganic	Perchlorate	14797-73-0	314.0	N	1 / 373	99.6	99.6	9.0 - 0.0229	30.0 - 152	ug/kg	SL-192-SA6	9 - 10
Inorganic	Perchlorate	14797-73-0	314.0	Split	0 / 15	-	-	10.5 - 0.0230	20.9 - 110	ug/kg		-
Inorganic	Perchlorate	14797-73-0	6850	N	4 / 60	2.6 J Z	78	2.1 - 0.0231	5.0 - 6.1	ug/kg	SL-103-SA6	9 - 10
Inorganic	pH	pH	9045D	Split	15 / 15	6.38	8.79	0.1 - 0.0232	0.1 - 0.1	pH unit	SL-285-SA6	4 - 5
Inorganic	pH	pH	9045M	N	373 / 373	5.04	11.7	0.0100 - 0.0233	0.0100 - 0.0100	pH unit	SL-084-SA6 SL-124-SA6	4 - 5 12.5 - 13.5
Inorganic	Phosphorus	7723-14-0	6010B	N	373 / 373	59.5 J E	1780 J Q, E	0.337 - 0.0234	9.62 - 54.5	mg/kg	SL-281-SA6	0 - 0.5
Inorganic	Phosphorus	7723-14-0	6020	Split	15 / 15	143	470	6.01 - 0.0235	12.0 - 13.4	mg/kg	SL-284-SA6	0 - 0.5

Table 3-6
Summary of Analytical Results for Chemicals - Validated Data
Combined Soils - HSA - 6

Group	Chemical	CAS No	Analytic Method	Sample Type	Detection Frequency	Minimum Concentration	Maximum Concentration	Range of Method Detection Limit	Range of Method Reporting Limit	Unit	Location of Maximum Concentration	Depth of Maximum Concentration
Inorganic	Potassium	7440-09-7	6010B	N	373 / 373	1140 J Q	6820	10.9 - 0.0236	48.2 - 273	mg/kg	SL-217-SA6	0 - 0.5
Inorganic	Potassium	7440-09-7	6020	Split	15 / 15	1580 J I	2850	30.1 - 0.0237	60.1 - 67.2	mg/kg	SL-284-SA6 SL-285-SA6	9 - 10 4 - 5
Inorganic	Selenium	7782-49-2	6020	N	338 / 373	0.0608 J Z	0.777 J E	0.0557 - 0.0238	0.384 - 0.474	mg/kg	SL-291-SA6	0 - 0.5
Inorganic	Selenium	7782-49-2	6020	Split	2 / 15	0.209 J Z	0.609	0.200 - 0.0239	0.401 - 0.448	mg/kg	SL-284-SA6	0 - 0.5
Inorganic	Silver	7440-22-4	6020	N	357 / 373	0.0149 J Z	9.62 J E, Q	0.0136 - 0.0240	0.0961 - 0.119	mg/kg	SL-215-SA6	0 - 0.5
Inorganic	Silver	7440-22-4	6020	Split	3 / 15	0.0552 J Z	0.123	0.0501 - 0.0241	0.100 - 0.112	mg/kg	SL-285-SA6	0 - 0.5
Inorganic	Sodium	7440-23-5	6010B	N	370 / 373	51.7 J Z	848	5.72 - 0.0242	96.2 - 490	mg/kg	SL-221-SA6	1 - 2
Inorganic	Sodium	7440-23-5	6020	Split	15 / 15	86.2 J I, Z	179 J I	50.1 - 0.0243	100 - 112	mg/kg	SL-284-SA6	0 - 0.5
Inorganic	Strontium	7440-24-6	6010B	N	373 / 373	7.02	114	0.0241 - 0.0244	0.481 - 2.45	mg/kg	SL-080-SA6	3.5 - 4.5
Inorganic	Strontium	7440-24-6	6020	Split	15 / 15	13.1	27.2	0.251 - 0.0245	0.501 - 0.560	mg/kg	SL-284-SA6	0 - 0.5
Inorganic	Thallium	7440-28-0	6020	N	371 / 373	0.104 J Q, Z	0.636 J Q, E	0.0288 - 0.0246	0.0961 - 0.537	mg/kg	SL-282-SA6	2.5 - 3.5
Inorganic	Thallium	7440-28-0	6020	Split	0 / 15	-	-	0.0501 - 0.0247	0.100 - 0.112	mg/kg		-
Inorganic	Tin	7440-31-5	6010B	N	1 / 373	11.5 J FD	11.5 J FD	0.308 - 0.0248	9.62 - 49.0	mg/kg	SL-284-SA6	0 - 0.5
Inorganic	Tin	7440-31-5	6020	Split	0 / 15	-	-	5.01 - 0.0249	10.0 - 11.2	mg/kg		-
Inorganic	Titanium	7440-32-6	6010B	N	373 / 373	347 J E	1970	0.0682 - 0.0250	0.961 - 5.45	mg/kg	SL-258-SA6	0 - 0.83
Inorganic	Titanium	7440-32-6	6020	Split	15 / 15	775	1760 Z	0.501 - 0.0251	1.00 - 5.46	mg/kg	SL-282-SA6	2.5 - 3.5
Inorganic	Vanadium	7440-62-2	6020	N	373 / 373	14.7	91.2 J Q, E, A	0.0211 - 0.0252	0.0961 - 0.119	mg/kg	SL-109-SA6	0 - 0.5
Inorganic	Vanadium	7440-62-2	6020	Split	15 / 15	23.4	53.3 J I	0.0501 - 0.0253	0.100 - 0.112	mg/kg	SL-282-SA6	2.5 - 3.5
Inorganic	Zinc	7440-66-6	6020	N	373 / 373	27.1	796 J A	0.538 - 0.0254	2.88 - 30.8	mg/kg	SL-297-SA6	0 - 0.5
Inorganic	Zinc	7440-66-6	6020	Split	15 / 15	42.0	115	1.50 - 0.0255	3.01 - 3.36	mg/kg	SL-285-SA6	0 - 0.5
Inorganic	Zirconium	7440-67-7	6010B	N	218 / 373	0.577 J Z	11.6	0.443 - 0.0256	4.81 - 24.5	mg/kg	SL-241-SA6	0 - 0.5
Inorganic	Zirconium	7440-67-7	6020	Split	1 / 15	3.19 J Z	3.19 J Z	2.51 - 0.0257	5.01 - 5.60	mg/kg	SL-282-SA6	0 - 0.5
Misc. Organics	1,3,5-Trinitrobenzene	99-35-4	8330A	N	0 / 107	-	-	37 - 0.0258	110 - 140	ug/kg		-
Misc. Organics	1,3,5-Trinitrobenzene	99-35-4	8330A	Split	0 / 3	-	-	50 - 0.0259	99 - 100	ug/kg		-
Misc. Organics	2,4,6-Trinitrotoluene	118-96-7	8330A	N	0 / 107	-	-	37 - 0.0260	110 - 140	ug/kg		-
Misc. Organics	2,4,6-Trinitrotoluene	118-96-7	8330A	Split	0 / 3	-	-	50 - 0.0261	99 - 100	ug/kg		-
Misc. Organics	2,4-Diamino-6-nitrotoluene	6629-29-4	8330A	N	0 / 107	-	-	73 - 0.0262	220 - 280	ug/kg		-
Misc. Organics	2,4-Diamino-6-nitrotoluene	6629-29-4	8330A	Split	0 / 3	-	-	99 - 0.0263	200 - 200	ug/kg		-
Misc. Organics	2,4-Dinitrotoluene	121-14-2	8330A	N	0 / 107	-	-	37 - 0.0264	110 - 140	ug/kg		-
Misc. Organics	2,4-Dinitrotoluene	121-14-2	8330A	Split	0 / 3	-	-	50 - 0.0265	99 - 100	ug/kg		-
Misc. Organics	2,6-Diamino-4-nitrotoluene	59229-75-3	8330A	N	0 / 107	-	-	73 - 0.0266	220 - 280	ug/kg		-
Misc. Organics	2,6-Diamino-4-nitrotoluene	59229-75-3	8330A	Split	0 / 3	-	-	99 - 0.0267	200 - 200	ug/kg		-
Misc. Organics	2,6-Dinitrotoluene	606-20-2	8330A	N	0 / 107	-	-	37 - 0.0268	110 - 140	ug/kg		-
Misc. Organics	2,6-Dinitrotoluene	606-20-2	8330A	Split	0 / 3	-	-	50 - 0.0269	99 - 100	ug/kg		-
Misc. Organics	2-Amino-4,6-Dinitrotoluene	35572-78-2	8330A	N	0 / 107	-	-	37 - 0.0270	110 - 140	ug/kg		-
Misc. Organics	2-Amino-4,6-Dinitrotoluene	35572-78-2	8330A	Split	0 / 3	-	-	50 - 0.0271	99 - 100	ug/kg		-
Misc. Organics	2-Nitrotoluene	88-72-2	8330A	N	0 / 107	-	-	73 - 0.0272	110 - 140	ug/kg		-
Misc. Organics	2-Nitrotoluene	88-72-2	8330A	Split	0 / 3	-	-	50 - 0.0273	99 - 100	ug/kg		-
Misc. Organics	2-Propanol	67-63-0	8015B	N	14 / 284	100 J Z	280 J Z	100 - 0.0274	500 - 610	ug/kg	SL-049-SA6	0 - 0.5
Misc. Organics	2-Propanol	67-63-0	8015B	Split	0 / 15	-	-	260 - 0.0275	520 - 570	ug/kg		-
Misc. Organics	3-Nitrotoluene	99-08-1	8330A	N	0 / 107	-	-	92 - 0.0276	110 - 140	ug/kg		-
Misc. Organics	3-Nitrotoluene	99-08-1	8330A	Split	0 / 3	-	-	50 - 0.0277	99 - 100	ug/kg		-
Misc. Organics	4-Amino-2,6-Dinitrotoluene	19406-51-0	8330A	N	0 / 107	-	-	55 - 0.0278	110 - 140	ug/kg		-
Misc. Organics	4-Amino-2,6-Dinitrotoluene	19406-51-0	8330A	Split	0 / 3	-	-	50 - 0.0279	99 - 100	ug/kg		-
Misc. Organics	4-Nitrotoluene	99-99-0	8330A	N	0 / 107	-	-	73 - 0.0280	110 - 140	ug/kg		-
Misc. Organics	4-Nitrotoluene	99-99-0	8330A	Split	0 / 3	-	-	50 - 0.0281	99 - 100	ug/kg		-
Misc. Organics	Diethylene Glycol	111-46-6	8015M	N	0 / 284	-	-	5.0 - 0.0282	10 - 12	mg/kg		-
Misc. Organics	Diethylene Glycol	111-46-6	8015M	Split	0 / 15	-	-	7.9 - 0.0283	16 - 17	mg/kg		-
Misc. Organics	Ethanol	64-17-5	8015B	N	11 / 284	110 J Z	4400	100 - 0.0284	500 - 610	ug/kg	SL-064-SA6	0 - 0.5
Misc. Organics	Ethanol	64-17-5	8015B	Split	0 / 15	-	-	260 - 0.0285	520 - 570	ug/kg		-
Misc. Organics	Ethylene Glycol	107-21-1	8015M	N	1 / 284	5.5 J Z	5.5 J Z	5.0 - 0.0286	10 - 12	mg/kg	SL-265-SA6	4 - 5
Misc. Organics	Ethylene Glycol	107-21-1	8015M	Split	0 / 15	-	-	5.2 - 0.0287	10 - 11	mg/kg		-
Misc. Organics	Formaldehyde	50-00-0	8315A	N	12 / 113	640 J Z	5900	590 - 0.0288	1500 - 3200	ug/kg	SL-192-SA6	9 - 10
Misc. Organics	HMX	2691-41-0	8330A	N	0 / 107	-	-	92 - 0.0289	280 - 360	ug/kg		-

Table 3-6
Summary of Analytical Results for Chemicals - Validated Data
Combined Soils - HSA - 6

Group	Chemical	CAS No	Analytic Method	Sample Type	Detection Frequency	Minimum Concentration	Maximum Concentration	Range of Method Detection Limit	Range of Method Reporting Limit	Unit	Location of Maximum Concentration	Depth of Maximum Concentration
Misc. Organics	HMX	2691-41-0	8330A	Split	0 / 3	-	-	50 - 0.0290	99 - 100	ug/kg		-
Misc. Organics	m-Dinitrobenzene	99-65-0	8330A	N	0 / 107	-	-	37 - 0.0291	110 - 140	ug/kg		-
Misc. Organics	m-Dinitrobenzene	99-65-0	8330A	Split	0 / 3	-	-	50 - 0.0292	99 - 100	ug/kg		-
Misc. Organics	Methanol	67-56-1	8015B	N	17 / 284	130 J Z	1100	100 - 0.0293	500 - 610	ug/kg	SL-148-SA6	0 - 0.5
Misc. Organics	Methanol	67-56-1	8015B	Split	0 / 15	-	-	260 - 0.0294	520 - 570	ug/kg		-
Misc. Organics	m-Terphenyl	92-06-8	8015B	N	0 / 274	-	-	1.5 - 0.0295	3.5 - 4.2	mg/kg		-
Misc. Organics	Nitrobenzene	98-95-3	8330A	N	0 / 107	-	-	37 - 0.0296	110 - 140	ug/kg		-
Misc. Organics	Nitrobenzene	98-95-3	8330A	Split	0 / 3	-	-	50 - 0.0297	99 - 100	ug/kg		-
Misc. Organics	Nitroglycerin	55-63-0	8330A	N	0 / 107	-	-	730 - 0.0298	2200 - 2800	ug/kg		-
Misc. Organics	Nitroglycerin	55-63-0	8332	Split	0 / 3	-	-	490 - 0.0299	990 - 1000	ug/kg		-
Misc. Organics	o-Terphenyl	84-15-1	8015B	N	0 / 274	-	-	1.5 - 0.0300	3.5 - 4.2	mg/kg		-
Misc. Organics	PETN	78-11-5	8330A	N	0 / 107	-	-	730 - 0.0301	2200 - 2800	ug/kg		-
Misc. Organics	PETN	78-11-5	8332	Split	0 / 3	-	-	490 - 0.0302	990 - 1000	ug/kg		-
Misc. Organics	Propylene glycol	57-55-6	8015M	N	0 / 284	-	-	5.0 - 0.0303	10 - 12	mg/kg		-
Misc. Organics	Propylene glycol	57-55-6	8015M	Split	0 / 15	-	-	5.2 - 0.0304	10 - 11	mg/kg		-
Misc. Organics	p-Terphenyl	92-94-4	8015B	N	0 / 274	-	-	1.5 - 0.0305	3.5 - 4.2	mg/kg		-
Misc. Organics	RDX	121-82-4	8330A	N	1 / 107	56 J Z	56 J Z	46 - 0.0306	110 - 140	ug/kg	SL-054-SA6	0 - 0.5
Misc. Organics	RDX	121-82-4	8330A	Split	0 / 3	-	-	50 - 0.0307	99 - 100	ug/kg		-
Misc. Organics	Tetryl	479-45-8	8330A	N	0 / 107	-	-	56 - 0.0308	110 - 140	ug/kg		-
Misc. Organics	Tetryl	479-45-8	8330A	Split	0 / 3	-	-	50 - 0.0309	99 - 100	ug/kg		-
PCBs and Dioxins	1,2,3,4,6,7,8-HpCDD	35822-46-9	1613B	N	249 / 373	1.04 J Z	25500 J #	0.0103 - 0.0310	2.49 - 46.2	ng/kg	SL-314-SA6	0 - 0.5
PCBs and Dioxins	1,2,3,4,6,7,8-HpCDF	67562-39-4	1613B	N	247 / 373	0.218 J Z	4420	0.00478 - 0.0311	2.49 - 46.2	ng/kg	SL-315-SA6	0 - 0.5
PCBs and Dioxins	1,2,3,4,7,8,9-HpCDF	55673-89-7	1613B	N	213 / 373	0.0183 J Z	588	0.00769 - 0.0312	2.49 - 46.2	ng/kg	SL-315-SA6	0 - 0.5
PCBs and Dioxins	1,2,3,4,7,8-HxCDD	39227-28-6	1613B	N	200 / 373	0.0109 J Z	3900	0.00842 - 0.0313	2.49 - 46.2	ng/kg	SL-280-SA6	4 - 5
PCBs and Dioxins	1,2,3,4,7,8-HxCDF	70648-26-9	1613B	N	237 / 373	0.0213 J Z	193	0.00676 - 0.0314	2.49 - 46.2	ng/kg	SL-315-SA6	0 - 0.5
PCBs and Dioxins	1,2,3,6,7,8-HxCDD	57653-85-7	1613B	N	277 / 373	0.0255 J Z	1250	0.00875 - 0.0315	2.49 - 46.2	ng/kg	SL-314-SA6	0 - 0.5
PCBs and Dioxins	1,2,3,6,7,8-HxCDF	57117-44-9	1613B	N	230 / 373	0.022 J Z	209	0.00454 - 0.0316	2.49 - 46.2	ng/kg	SL-315-SA6	0 - 0.5
PCBs and Dioxins	1,2,3,7,8,9-HxCDD	19408-74-3	1613B	N	244 / 373	0.0467 J Z	769	0.00864 - 0.0317	2.49 - 46.2	ng/kg	SL-314-SA6	0 - 0.5
PCBs and Dioxins	1,2,3,7,8,9-HxCDF	72918-21-9	1613B	N	163 / 373	0.0353 J Z	36.7 J Z	0.00786 - 0.0318	2.49 - 46.2	ng/kg	SL-315-SA6	0 - 0.5
PCBs and Dioxins	1,2,3,7,8-PeCDD	40321-76-4	1613B	N	213 / 373	0.0247 J Z	448	0.00971 - 0.0319	2.49 - 46.2	ng/kg	SL-315-SA6	0 - 0.5
PCBs and Dioxins	1,2,3,7,8-PeCDF	57117-41-6	1613B	N	252 / 373	0.0282 J Z	34.8	0.00595 - 0.0320	2.49 - 46.2	ng/kg	SL-030-SA6	0 - 0.5
PCBs and Dioxins	2,3,4,6,7,8-HxCDF	60851-34-5	1613B	N	208 / 373	0.0398 J Z	336	0.00554 - 0.0321	2.49 - 46.2	ng/kg	SL-315-SA6	0 - 0.5
PCBs and Dioxins	2,3,4,7,8-PeCDF	57117-31-4	1613B	N	188 / 373	0.0657 J Z	40.7 J Z	0.00595 - 0.0322	2.49 - 46.2	ng/kg	SL-314-SA6	0 - 0.5
PCBs and Dioxins	2,3,7,8-TCDD	1746-01-6	1613B	N	206 / 373	0.0138 J Z	59.5	0.00939 - 0.0323	0.498 - 9.25	ng/kg	SL-314-SA6	0 - 0.5
PCBs and Dioxins	2,3,7,8-TCDF	51207-31-9	1613B	N	233 / 373	0.0168 J Z	22.9	0.00856 - 0.0324	0.498 - 9.25	ng/kg	SL-020-SA6	0 - 0.5
PCBs and Dioxins	Aroclor 1016	12674-11-2	8082	N	0 / 373	-	-	0.33 - 170	1.7 - 890	ug/kg		-
PCBs and Dioxins	Aroclor 1016	12674-11-2	8082	Split	0 / 15	-	-	0.89 - 0.97	1.8 - 1.9	ug/kg		-
PCBs and Dioxins	Aroclor 1221	11104-28-2	8082	N	0 / 373	-	-	0.33 - 170	1.7 - 890	ug/kg		-
PCBs and Dioxins	Aroclor 1221	11104-28-2	8082	Split	0 / 15	-	-	0.89 - 0.97	1.8 - 1.9	ug/kg		-
PCBs and Dioxins	Aroclor 1232	11141-16-5	8082	N	0 / 373	-	-	0.33 - 170	1.7 - 890	ug/kg		-
PCBs and Dioxins	Aroclor 1232	11141-16-5	8082	Split	0 / 15	-	-	0.89 - 0.97	1.8 - 1.9	ug/kg		-
PCBs and Dioxins	Aroclor 1242	53469-21-9	8082	N	2 / 373	0.58 J Z	2.5	0.33 - 170	1.7 - 890	ug/kg	SL-275-SA6	4 - 5
PCBs and Dioxins	Aroclor 1242	53469-21-9	8082	Split	0 / 15	-	-	0.89 - 0.97	1.8 - 1.9	ug/kg		-
PCBs and Dioxins	Aroclor 1248	12672-29-6	8082	N	10 / 373	1.6 J Z	1800	0.33 - 170	1.7 - 890	ug/kg	SL-257-SA6	1.5 - 2.5
PCBs and Dioxins	Aroclor 1248	12672-29-6	8082	Split	0 / 15	-	-	0.89 - 0.97	1.8 - 1.9	ug/kg		-
PCBs and Dioxins	Aroclor 1254	11097-69-1	8082	N	202 / 373	0.36 J Z	2600 J FD	0.33 - 170	1.7 - 890	ug/kg	SL-297-SA6	0 - 0.5
PCBs and Dioxins	Aroclor 1254	11097-69-1	8082	Split	0 / 15	-	-	0.89 - 0.97	1.8 - 1.9	ug/kg		-
PCBs and Dioxins	Aroclor 1260	11096-82-5	8082	N	129 / 373	0.45 J Z	1800	0.39 - 200	1.7 - 890	ug/kg	SL-020-SA6	0 - 0.5
PCBs and Dioxins	Aroclor 1260	11096-82-5	8082	Split	2 / 15	4.6 J FD	12	0.89 - 0.97	1.8 - 1.9	ug/kg	SL-282-SA6	0 - 0.5
PCBs and Dioxins	Aroclor 1262	37324-23-5	8082	N	0 / 373	-	-	0.33 - 170	1.7 - 890	ug/kg		-
PCBs and Dioxins	Aroclor 1262	37324-23-5	8082	Split	0 / 15	-	-	0.89 - 0.97	1.8 - 1.9	ug/kg		-
PCBs and Dioxins	Aroclor 1268	11100-14-4	8082	N	0 / 373	-	-	0.33 - 170	1.7 - 890	ug/kg		-
PCBs and Dioxins	Aroclor 1268	11100-14-4	8082	Split	0 / 15	-	-	0.89 - 0.97	1.8 - 1.9	ug/kg		-
PCBs and Dioxins	Aroclor 5432	63496-31-1	8082	N	0 / 373	-	-	1.0 - 520	3.3 - 1700	ug/kg		-
PCBs and Dioxins	Aroclor 5432	63496-31-1	8082	Split	0 / 15	-	-	1.8 - 1.9	3.5 - 3.8	ug/kg		-

Table 3-6
Summary of Analytical Results for Chemicals - Validated Data
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Group	Chemical	CAS No	Analytic Method	Sample Type	Detection Frequency	Minimum Concentration	Maximum Concentration	Range of Method Detection Limit	Range of Method Reporting Limit	Unit	Location of Maximum Concentration	Depth of Maximum Concentration
PCBs and Dioxins	Aroclor 5442	12642-23-8	8082	N	0 / 373	-	-	1.0 - 520	3.3 - 1700	ug/kg		-
PCBs and Dioxins	Aroclor 5442	12642-23-8	8082	Split	0 / 15	-	-	1.8 - 1.9	3.5 - 3.8	ug/kg		-
PCBs and Dioxins	Aroclor 5460	11126-42-4	8082	N	164 / 373	1.1 J Z	4200	1.0 - 520	3.3 - 1700	ug/kg	SL-058-SA6	0 - 0.5
PCBs and Dioxins	Aroclor 5460	11126-42-4	8082	Split	2 / 15	9.4	36	1.8 - 1.9	3.5 - 3.8	ug/kg	SL-282-SA6	0 - 0.5
PCBs and Dioxins	OCDD	3268-87-9	1613B	N	286 / 373	1.45 J Z	289000 J #	0.00956 - 0.0349	4.98 - 92.5	ng/kg	SL-315-SA6	0 - 0.5
PCBs and Dioxins	OCDF	39001-02-0	1613B	N	266 / 373	0.076 J Z	10800	0.0121 - 0.0350	4.98 - 92.5	ng/kg	SL-315-SA6	0 - 0.5
Pesticides	2,2-Dichlor-Propionic Acid	75-99-0	8151A	N	0 / 146	-	-	4.4 - 0.0351	9.0 - 90	ug/kg		-
Pesticides	2,2-Dichlor-Propionic Acid	75-99-0	8151A	Split	0 / 5	-	-	4.8 - 0.0352	9.5 - 10	ug/kg		-
Pesticides	2,4 DB	94-82-6	8151A	N	54 / 146	0.64 J Z	15	0.62 - 0.0353	1.7 - 25	ug/kg	SL-219-SA6	0 - 0.5
Pesticides	2,4 DB	94-82-6	8151A	Split	0 / 5	-	-	0.90 - 0.0354	1.8 - 1.9	ug/kg		-
Pesticides	2,4,5-T	93-76-5	8151A	N	16 / 146	0.091 J Z	0.77	0.082 - 0.0355	0.17 - 1.7	ug/kg	SL-292-SA6	0 - 0.5
Pesticides	2,4,5-T	93-76-5	8151A	Split	0 / 5	-	-	0.090 - 0.0356	0.18 - 0.19	ug/kg		-
Pesticides	2,4,5-TP	93-72-1	8151A	N	27 / 146	0.077 J Z	0.84	0.075 - 0.0357	0.17 - 0.86	ug/kg	SL-310-SA6	0 - 0.5
Pesticides	2,4,5-TP	93-72-1	8151A	Split	0 / 5	-	-	0.090 - 0.0358	0.18 - 0.19	ug/kg		-
Pesticides	2,4-D	94-75-7	8151A	N	9 / 146	1.3 J Z	11	1.2 - 0.0359	3.6 - 5.2	ug/kg	SL-303-SA6	0 - 0.5
Pesticides	2,4-D	94-75-7	8151A	Split	0 / 5	-	-	1.9 - 0.0360	3.8 - 4.1	ug/kg		-
Pesticides	4,4'-DDD	72-54-8	8081A	N	13 / 146	0.14 J S, Z	44	0.066 - 0.0361	0.34 - 35	ug/kg	SL-314-SA6	0 - 0.5
Pesticides	4,4'-DDD	72-54-8	8081A	Split	0 / 6	-	-	0.18 - 0.0362	0.36 - 0.77	ug/kg		-
Pesticides	4,4'-DDE	72-55-9	8081A	N	62 / 146	0.071 J Z	1600	0.066 - 0.0363	0.34 - 340	ug/kg	SL-314-SA6	0 - 0.5
Pesticides	4,4'-DDE	72-55-9	8081A	Split	0 / 6	-	-	0.18 - 0.0364	0.36 - 0.77	ug/kg		-
Pesticides	4,4'-DDT	50-29-3	8081A	N	109 / 146	0.12 J Z	780	0.066 - 0.0365	0.34 - 340	ug/kg	SL-314-SA6	0 - 0.5
Pesticides	4,4'-DDT	50-29-3	8081A	Split	4 / 6	3.6 J #	16 J #	0.19 - 0.0366	0.39 - 1.9	ug/kg	SL-285-SA6	0 - 0.5
Pesticides	Aldrin	309-00-2	8081A	N	1 / 146	0.073 J S, Z, #	0.073 J S, Z, #	0.066 - 0.0367	0.17 - 17	ug/kg	SL-278-SA6	0 - 0.5
Pesticides	Aldrin	309-00-2	8081A	Split	0 / 6	-	-	0.090 - 0.0368	0.18 - 0.39	ug/kg		-
Pesticides	Alpha-BHC	319-84-6	8081A	N	5 / 146	0.045 J Z	0.14 J Z	0.034 - 0.0369	0.17 - 17	ug/kg	SL-254-SA6	0 - 0.5
Pesticides	Alpha-BHC	319-84-6	8081A	Split	0 / 6	-	-	0.090 - 0.0370	0.18 - 0.39	ug/kg		-
Pesticides	Beta-BHC	319-85-7	8081A	N	6 / 146	0.077 J S, Z	0.66	0.060 - 0.0371	0.17 - 17	ug/kg	SL-317-SA6	0 - 0.5
Pesticides	Beta-BHC	319-85-7	8081A	Split	0 / 6	-	-	0.090 - 0.0372	0.18 - 0.39	ug/kg		-
Pesticides	Chlordane	57-74-9	8081A	N	63 / 146	1.1 J Z	150	0.80 - 0.0373	3.4 - 350	ug/kg	SL-109-SA6	0 - 0.5
Pesticides	Chlordane (technical)	12789-03-6	8081A	Split	0 / 6	-	-	1.8 - 0.0374	3.6 - 7.7	ug/kg		-
Pesticides	Delta-BHC	319-86-8	8081A	N	22 / 146	0.037 J H, Z	4.7	0.036 - 0.0375	0.17 - 17	ug/kg	SL-314-SA6	0 - 0.5
Pesticides	Delta-BHC	319-86-8	8081A	Split	0 / 6	-	-	0.090 - 0.0376	0.18 - 0.39	ug/kg		-
Pesticides	Dicamba	1918-00-9	8151A	N	16 / 146	0.47 J Z	1.6 J #	0.40 - 0.0377	1.2 - 1.4	ug/kg	SL-219-SA6	0 - 0.5
Pesticides	Dicamba	1918-00-9	8151A	Split	0 / 5	-	-	0.64 - 0.0378	1.3 - 1.4	ug/kg		-
Pesticides	Dichlorprop	120-36-5	8151A	N	5 / 146	0.85 J Z, #	7.2 J S	0.80 - 0.0379	1.7 - 3.2	ug/kg	SL-318-SA6	0 - 0.5
Pesticides	Dichlorprop	120-36-5	8151A	Split	0 / 5	-	-	1.3 - 0.0380	2.5 - 2.7	ug/kg		-
Pesticides	Dieldrin	60-57-1	8081A	N	27 / 146	0.085 J Z	60 J FD	0.066 - 0.0381	0.34 - 69	ug/kg	SL-297-SA6	0 - 0.5
Pesticides	Dieldrin	60-57-1	8081A	Split	1 / 6	4.1 J Z, #	4.1 J Z, #	0.18 - 0.0382	0.36 - 1.8	ug/kg	SL-285-SA6	0 - 0.5
Pesticides	Dinitrobutyl Phenol	88-85-7	8151A	N	1 / 146	0.81 J L, Z	0.81 J L, Z	0.80 - 0.0383	2.4 - 24	ug/kg	SL-128-SA6	0 - 0.5
Pesticides	Dinitrobutyl Phenol	88-85-7	8151A	Split	0 / 5	-	-	0.90 - 0.0384	1.8 - 1.9	ug/kg		-
Pesticides	Endosulfan I	959-98-8	8081A	N	1 / 146	0.049 J S, Q, Z	0.049 J S, Q, Z	0.044 - 0.0385	0.17 - 17	ug/kg	SL-305-SA6	0 - 0.5
Pesticides	Endosulfan I	959-98-8	8081A	Split	0 / 6	-	-	0.090 - 0.0386	0.18 - 0.39	ug/kg		-
Pesticides	Endosulfan II	33213-65-9	8081A	N	15 / 146	0.11 J S, Z	22	0.066 - 0.0387	0.34 - 35	ug/kg	SL-311-SA6	0 - 0.5
Pesticides	Endosulfan II	33213-65-9	8081A	Split	0 / 6	-	-	0.18 - 0.0388	0.36 - 0.77	ug/kg		-
Pesticides	Endosulfan Sulfate	1031-07-8	8081A	N	3 / 146	0.27 J S, Q, Z	2.6 J Z	0.066 - 0.0389	0.34 - 35	ug/kg	SL-315-SA6	0 - 0.5
Pesticides	Endosulfan Sulfate	1031-07-8	8081A	Split	0 / 6	-	-	0.18 - 0.0390	0.36 - 0.77	ug/kg		-
Pesticides	Endrin	72-20-8	8081A	N	2 / 146	0.074 J S, Z	0.47	0.066 - 0.0391	0.34 - 35	ug/kg	SL-168-SA6	0 - 0.5
Pesticides	Endrin	72-20-8	8081A	Split	1 / 6	2.2 J S, C	2.2 J S, C	0.18 - 0.0392	0.36 - 0.77	ug/kg	SL-285-SA6	0 - 0.5
Pesticides	Endrin Aldehyde	7421-93-4	8081A	N	21 / 146	0.09 J S, Z	14 J Z	0.066 - 0.0393	0.34 - 35	ug/kg	SL-291-SA6	0 - 0.5
Pesticides	Endrin Aldehyde	7421-93-4	8081A	Split	0 / 6	-	-	0.18 - 0.0394	0.36 - 0.77	ug/kg		-
Pesticides	Endrin Ketone	53494-70-5	8081A	N	11 / 146	0.093 J Z	1.4 J S, Q	0.066 - 0.0395	0.34 - 35	ug/kg	SL-305-SA6	0 - 0.5
Pesticides	Endrin Ketone	53494-70-5	8081A	Split	0 / 6	-	-	0.18 - 0.0396	0.36 - 0.77	ug/kg		-
Pesticides	Gamma-BHC (Lindane)	58-89-9	8081A	N	26 / 146	0.036 J Z	0.86 J Z	0.034 - 0.0397	0.17 - 17	ug/kg	SL-109-SA6	0 - 0.5
Pesticides	Gamma-BHC (Lindane)	58-89-9	8081A	Split	0 / 6	-	-	0.090 - 0.0398	0.18 - 0.39	ug/kg		-
Pesticides	Heptachlor	76-44-8	8081A	N	14 / 146	0.064 J Z	6.8	0.060 - 0.0399	0.16 - 17	ug/kg	SL-109-SA6	0 - 0.5

Table 3-6
Summary of Analytical Results for Chemicals - Validated Data
Combined Soils - HSA - 6

Group	Chemical	CAS No	Analytic Method	Sample Type	Detection Frequency	Minimum Concentration	Maximum Concentration	Range of Method Detection Limit	Range of Method Reporting Limit	Unit	Location of Maximum Concentration	Depth of Maximum Concentration
Pesticides	Heptachlor	76-44-8	8081A	Split	0 / 6	-	-	0.090 - 0.0400	0.18 - 0.39	ug/kg		-
Pesticides	Heptachlor Epoxide	1024-57-3	8081A	N	16 / 146	0.039 J Z	0.71 J H	0.034 - 0.0401	0.17 - 33	ug/kg	SL-056-SA6	0 - 0.5
Pesticides	Heptachlor Epoxide	1024-57-3	8081A	Split	1 / 6	1.1 J S, C, #	1.1 J S, C, #	0.090 - 0.0402	0.18 - 0.39	ug/kg	SL-285-SA6	0 - 0.5
Pesticides	MCPA	94-74-6	8151A	N	24 / 146	100 J Z	2100	76 - 0.0403	250 - 3600	ug/kg	SL-217-SA6	0 - 0.5
Pesticides	MCPA	94-74-6	8151A	Split	0 / 5	-	-	130 - 0.0404	260 - 280	ug/kg		-
Pesticides	MCPP	93-65-2	8151A	N	13 / 146	110 J Z	2000 J #	75 - 0.0405	250 - 600	ug/kg	SL-216-SA6	0 - 0.5
Pesticides	MCPP	93-65-2	8151A	Split	0 / 5	-	-	130 - 0.0406	260 - 280	ug/kg		-
Pesticides	Methoxychlor	72-43-5	8081A	N	2 / 146	0.38 J Z, C, #	2.3	0.34 - 0.0407	1.7 - 170	ug/kg	SL-168-SA6	0 - 0.5
Pesticides	Methoxychlor	72-43-5	8081A	Split	0 / 6	-	-	0.90 - 0.0408	1.8 - 3.9	ug/kg		-
Pesticides	Mirex	2385-85-5	8081A	N	13 / 146	0.094 J Z	3.8 J Z	0.066 - 0.0409	0.34 - 35	ug/kg	SL-109-SA6	0 - 0.5
Pesticides	Mirex	2385-85-5	8081A	Split	1 / 6	2.4 J S, #	2.4 J S, #	0.18 - 0.0410	0.36 - 0.77	ug/kg	SL-285-SA6	0 - 0.5
Pesticides	Toxaphene	8001-35-2	8081A	N	2 / 146	2.4 J Z	14 J S	2.2 - 0.0411	6.6 - 2000	ug/kg	SL-037-SA6	0 - 0.5
Pesticides	Toxaphene	8001-35-2	8081A	Split	0 / 6	-	-	3.5 - 0.0412	7.0 - 15	ug/kg		-
Semivolatiles	1,2,4-Trichlorobenzene	120-82-1	8270C	N	0 / 373	-	-	17 - 0.0413	170 - 3500	ug/kg		-
Semivolatiles	1,2,4-Trichlorobenzene	120-82-1	8270C	Split	0 / 15	-	-	88 - 0.0414	170 - 370	ug/kg		-
Semivolatiles	1,2-Dichlorobenzene	95-50-1	8270C	N	0 / 373	-	-	17 - 0.0415	170 - 3500	ug/kg		-
Semivolatiles	1,2-Dichlorobenzene	95-50-1	8270C	Split	0 / 15	-	-	88 - 0.0416	170 - 370	ug/kg		-
Semivolatiles	1,2-Diphenylhydrazine	122-66-7	8270C	N	0 / 373	-	-	17 - 0.0417	170 - 3500	ug/kg		-
Semivolatiles	1,2-Diphenylhydrazine	122-66-7	8270C	Split	0 / 15	-	-	88 - 0.0418	170 - 370	ug/kg		-
Semivolatiles	1,3-Dichlorobenzene	541-73-1	8270C	N	0 / 373	-	-	17 - 0.0419	170 - 3500	ug/kg		-
Semivolatiles	1,3-Dichlorobenzene	541-73-1	8270C	Split	0 / 15	-	-	88 - 0.0420	170 - 370	ug/kg		-
Semivolatiles	1,4-Dichlorobenzene	106-46-7	8270C	N	0 / 373	-	-	17 - 0.0421	170 - 3500	ug/kg		-
Semivolatiles	1,4-Dichlorobenzene	106-46-7	8270C	Split	0 / 15	-	-	88 - 0.0422	170 - 370	ug/kg		-
Semivolatiles	1-Methylnaphthalene	90-12-0	8270C	N	0 / 3	-	-	18 - 0.0423	180 - 1800	ug/kg		-
Semivolatiles	1-Methylnaphthalene	90-12-0	8270C	Split	0 / 15	-	-	88 - 0.0424	170 - 370	ug/kg		-
Semivolatiles	1-Methylnaphthalene	90-12-0	8270C SIM	N	20 / 370	0.69 J Z	20	0.66 - 0.0425	1.7 - 87	ug/kg	SL-214-SA6 SL-220-SA6	0 - 0.5 0 - 0.5
Semivolatiles	1-Methylnaphthalene	90-12-0	8270C SIM	Split	0 / 15	-	-	0.89 - 0.0426	1.8 - 3.7	ug/kg		-
Semivolatiles	2,4,5-Trichlorophenol	95-95-4	8270C	N	0 / 373	-	-	33 - 0.0427	170 - 3500	ug/kg		-
Semivolatiles	2,4,5-Trichlorophenol	95-95-4	8270C	Split	0 / 15	-	-	88 - 0.0428	170 - 370	ug/kg		-
Semivolatiles	2,4,6-Trichlorophenol	88-06-2	8270C	N	0 / 373	-	-	33 - 0.0429	170 - 3500	ug/kg		-
Semivolatiles	2,4,6-Trichlorophenol	88-06-2	8270C	Split	0 / 15	-	-	88 - 0.0430	170 - 370	ug/kg		-
Semivolatiles	2,4-Dichlorophenol	120-83-2	8270C	N	0 / 373	-	-	17 - 0.0431	170 - 3500	ug/kg		-
Semivolatiles	2,4-Dichlorophenol	120-83-2	8270C	Split	0 / 15	-	-	88 - 0.0432	170 - 370	ug/kg		-
Semivolatiles	2,4-Dimethylphenol	105-67-9	8270C	N	0 / 373	-	-	33 - 0.0433	170 - 3500	ug/kg		-
Semivolatiles	2,4-Dimethylphenol	105-67-9	8270C	Split	0 / 15	-	-	88 - 0.0434	170 - 370	ug/kg		-
Semivolatiles	2,4-Dinitrophenol	51-28-5	8270C	N	0 / 373	-	-	330 - 0.0435	990 - 21000	ug/kg		-
Semivolatiles	2,4-Dinitrophenol	51-28-5	8270C	Split	0 / 15	-	-	170 - 0.0436	350 - 730	ug/kg		-
Semivolatiles	2,4-Dinitrotoluene	121-14-2	8270C	N	1 / 373	180	180	33 - 0.0437	170 - 3500	ug/kg	SL-035-SA6	0 - 0.5
Semivolatiles	2,4-Dinitrotoluene	121-14-2	8270C	Split	0 / 15	-	-	88 - 0.0438	170 - 370	ug/kg		-
Semivolatiles	2,6-Dinitrotoluene	606-20-2	8270C	N	0 / 373	-	-	17 - 0.0439	170 - 3500	ug/kg		-
Semivolatiles	2,6-Dinitrotoluene	606-20-2	8270C	Split	0 / 15	-	-	88 - 0.0440	170 - 370	ug/kg		-
Semivolatiles	2-butoxy-Ethanol	111-76-2	8270C	Split	0 / 15	-	-	170 - 0.0441	170 - 370	ug/kg		-
Semivolatiles	2-Chloronaphthalene	91-58-7	8270C	N	0 / 373	-	-	17 - 0.0442	170 - 3500	ug/kg		-
Semivolatiles	2-Chloronaphthalene	91-58-7	8270C	Split	0 / 15	-	-	88 - 0.0443	170 - 370	ug/kg		-
Semivolatiles	2-Chlorophenol	95-57-8	8270C	N	0 / 373	-	-	17 - 0.0444	170 - 3500	ug/kg		-
Semivolatiles	2-Chlorophenol	95-57-8	8270C	Split	0 / 15	-	-	88 - 0.0445	170 - 370	ug/kg		-
Semivolatiles	2-Methylnaphthalene	91-57-6	8270C	N	0 / 3	-	-	18 - 0.0446	180 - 1800	ug/kg		-
Semivolatiles	2-Methylnaphthalene	91-57-6	8270C	Split	0 / 15	-	-	88 - 0.0447	170 - 370	ug/kg		-
Semivolatiles	2-Methylnaphthalene	91-57-6	8270C SIM	N	27 / 370	0.81 J Z	28	0.66 - 0.0448	1.7 - 87	ug/kg	SL-125-SA6	20 - 21
Semivolatiles	2-Methylnaphthalene	91-57-6	8270C SIM	Split	0 / 15	-	-	0.89 - 0.0449	1.8 - 3.7	ug/kg		-
Semivolatiles	2-Methylphenol	95-48-7	8270C	N	0 / 373	-	-	33 - 0.0450	170 - 3500	ug/kg		-
Semivolatiles	2-Methylphenol	95-48-7	8270C	Split	0 / 15	-	-	88 - 0.0451	170 - 370	ug/kg		-
Semivolatiles	2-Nitroaniline	88-74-4	8270C	N	0 / 372	-	-	17 - 0.0452	170 - 3500	ug/kg		-
Semivolatiles	2-Nitroaniline	88-74-4	8270C	Split	0 / 15	-	-	88 - 0.0453	170 - 370	ug/kg		-

Table 3-6
Summary of Analytical Results for Chemicals - Validated Data
Combined Soils - HSA - 6

Group	Chemical	CAS No	Analytic Method	Sample Type	Detection Frequency	Minimum Concentration	Maximum Concentration	Range of Method Detection Limit	Range of Method Reporting Limit	Unit	Location of Maximum Concentration	Depth of Maximum Concentration
Semivolatiles	2-Nitrophenol	88-75-5	8270C	N	0 / 373	-	-	17 - 0.0454	170 - 3500	ug/kg		-
Semivolatiles	2-Nitrophenol	88-75-5	8270C	Split	0 / 15	-	-	88 - 0.0455	170 - 370	ug/kg		-
Semivolatiles	2-phenoxy-Ethanol	122-99-6	8270C	Split	0 / 15	-	-	170 - 0.0456	170 - 370	ug/kg		-
Semivolatiles	3,3`-Dichlorobenzidine	91-94-1	8270C	N	0 / 373	-	-	99 - 0.0457	330 - 7000	ug/kg		-
Semivolatiles	3,3`-Dichlorobenzidine	91-94-1	8270C	Split	0 / 15	-	-	88 - 0.0458	170 - 370	ug/kg		-
Semivolatiles	3,5-Dimethylphenol	108-68-9	8270C	N	0 / 373	-	-	33 - 0.0459	170 - 3500	ug/kg		-
Semivolatiles	3,5-Dimethylphenol	108-68-9	8270C	Split	0 / 15	-	-	88 - 0.0460	170 - 370	ug/kg		-
Semivolatiles	3-Nitroaniline	99-09-2	8270C	N	0 / 373	-	-	33 - 0.0461	170 - 3500	ug/kg		-
Semivolatiles	3-Nitroaniline	99-09-2	8270C	Split	0 / 15	-	-	88 - 0.0462	170 - 370	ug/kg		-
Semivolatiles	4,6-Dinitro-2-Methylphenol	534-52-1	8270C	N	0 / 373	-	-	170 - 0.0463	500 - 11000	ug/kg		-
Semivolatiles	4,6-Dinitro-2-Methylphenol	534-52-1	8270C	Split	0 / 15	-	-	170 - 0.0464	350 - 730	ug/kg		-
Semivolatiles	4-Bromophenyl Phenyl Ether	101-55-3	8270C	N	0 / 373	-	-	17 - 0.0465	170 - 3500	ug/kg		-
Semivolatiles	4-Bromophenyl Phenyl Ether	101-55-3	8270C	Split	0 / 15	-	-	88 - 0.0466	170 - 370	ug/kg		-
Semivolatiles	4-Chloro-3-Methylphenol	59-50-7	8270C	N	0 / 373	-	-	33 - 0.0467	170 - 3500	ug/kg		-
Semivolatiles	4-Chloro-3-Methylphenol	59-50-7	8270C	Split	0 / 15	-	-	88 - 0.0468	170 - 370	ug/kg		-
Semivolatiles	4-Chloroaniline	106-47-8	8270C	N	0 / 373	-	-	66 - 0.0469	170 - 3500	ug/kg		-
Semivolatiles	4-Chloroaniline	106-47-8	8270C	Split	0 / 15	-	-	88 - 0.0470	170 - 370	ug/kg		-
Semivolatiles	4-Chlorophenyl Phenylether	7005-72-3	8270C	N	0 / 373	-	-	33 - 0.0471	170 - 3500	ug/kg		-
Semivolatiles	4-Chlorophenyl Phenylether	7005-72-3	8270C	Split	0 / 15	-	-	88 - 0.0472	170 - 370	ug/kg		-
Semivolatiles	4-Methylphenol	106-44-5	8270C	N	0 / 373	-	-	33 - 0.0473	170 - 3500	ug/kg		-
Semivolatiles	4-Methylphenol	106-44-5	8270C	Split	0 / 15	-	-	88 - 0.0474	170 - 370	ug/kg		-
Semivolatiles	4-Nitroaniline	100-01-6	8270C	N	0 / 373	-	-	66 - 0.0475	170 - 3500	ug/kg		-
Semivolatiles	4-Nitroaniline	100-01-6	8270C	Split	0 / 15	-	-	88 - 0.0476	170 - 370	ug/kg		-
Semivolatiles	4-Nitrophenol	100-02-7	8270C	N	0 / 373	-	-	170 - 0.0477	500 - 11000	ug/kg		-
Semivolatiles	4-Nitrophenol	100-02-7	8270C	Split	0 / 15	-	-	170 - 0.0478	350 - 730	ug/kg		-
Semivolatiles	Acenaphthene	83-32-9	8270C	N	3 / 7	29 J Z	66 J Z	17 - 0.0479	170 - 1800	ug/kg	SL-292-SA6	0 - 0.5
Semivolatiles	Acenaphthene	83-32-9	8270C	Split	0 / 15	-	-	88 - 0.0480	170 - 370	ug/kg		-
Semivolatiles	Acenaphthene	83-32-9	8270C SIM	N	28 / 367	0.68 J Z	150	0.66 - 0.0481	1.7 - 87	ug/kg	SL-291-SA6	0 - 0.5
Semivolatiles	Acenaphthene	83-32-9	8270C SIM	Split	0 / 15	-	-	0.89 - 0.0482	1.8 - 3.7	ug/kg		-
Semivolatiles	Acenaphthylene	208-96-8	8270C	N	2 / 5	32 J Z	41 J Z	17 - 0.0483	170 - 1800	ug/kg	SL-292-SA6	0 - 0.5
Semivolatiles	Acenaphthylene	208-96-8	8270C	Split	0 / 15	-	-	88 - 0.0484	170 - 370	ug/kg		-
Semivolatiles	Acenaphthylene	208-96-8	8270C SIM	N	46 / 368	0.35 J Z	59	0.33 - 0.0485	1.7 - 87	ug/kg	SL-178-SA6	0 - 0.5
Semivolatiles	Acenaphthylene	208-96-8	8270C SIM	Split	0 / 15	-	-	0.89 - 0.0486	1.8 - 3.7	ug/kg		-
Semivolatiles	Aniline	62-53-3	8270C	N	0 / 373	-	-	170 - 0.0487	500 - 11000	ug/kg		-
Semivolatiles	Aniline	62-53-3	8270C	Split	0 / 15	-	-	170 - 0.0488	350 - 730	ug/kg		-
Semivolatiles	Anthracene	120-12-7	8270C	N	7 / 10	22 J Z	240	17 - 0.0489	170 - 1800	ug/kg	SL-292-SA6	0 - 0.5
Semivolatiles	Anthracene	120-12-7	8270C	Split	0 / 15	-	-	88 - 0.0490	170 - 370	ug/kg		-
Semivolatiles	Anthracene	120-12-7	8270C SIM	N	102 / 363	0.38 J Z	730 J FD	0.33 - 0.0491	1.7 - 87	ug/kg	SL-125-SA6	4 - 5
Semivolatiles	Anthracene	120-12-7	8270C SIM	Split	0 / 15	-	-	0.89 - 0.0492	1.8 - 3.7	ug/kg		-
Semivolatiles	Benzidine	92-87-5	8270C	N	0 / 373	-	-	1200 - 0.0493	3300 - 70000	ug/kg		-
Semivolatiles	Benzidine	92-87-5	8270C	Split	0 / 15	-	-	520 - 0.0494	1000 - 2200	ug/kg		-
Semivolatiles	Benzo(a)anthracene	56-55-3	8270C	N	29 / 32	17 J Z	1000	17 - 0.0495	170 - 1800	ug/kg	SL-292-SA6	0 - 0.5
Semivolatiles	Benzo(a)anthracene	56-55-3	8270C	Split	0 / 15	-	-	88 - 0.0496	170 - 370	ug/kg		-
Semivolatiles	Benzo(a)anthracene	56-55-3	8270C SIM	N	112 / 341	0.68 J Z	960	0.66 - 0.0497	1.7 - 87	ug/kg	SL-125-SA6	4 - 5
Semivolatiles	Benzo(a)anthracene	56-55-3	8270C SIM	Split	1 / 15	9	9	0.89 - 0.0498	1.8 - 3.7	ug/kg	SL-282-SA6	0 - 0.5
Semivolatiles	Benzo(a)pyrene	50-32-8	8270C	N	42 / 45	18 J Z	930	17 - 0.0499	170 - 1800	ug/kg	SL-292-SA6	0 - 0.5
Semivolatiles	Benzo(a)pyrene	50-32-8	8270C	Split	0 / 15	-	-	88 - 0.0500	170 - 370	ug/kg		-
Semivolatiles	Benzo(a)pyrene	50-32-8	8270C SIM	N	114 / 328	0.74 J Z	770	0.66 - 0.0501	1.7 - 87	ug/kg	SL-142-SA6	0 - 0.5
Semivolatiles	Benzo(a)pyrene	50-32-8	8270C SIM	Split	1 / 15	13	13	0.89 - 0.0502	1.8 - 3.7	ug/kg	SL-282-SA6	0 - 0.5
Semivolatiles	Benzo(b)fluoranthene	205-99-2	8270C	N	41 / 44	17 J Z	1400	17 - 0.0503	170 - 1800	ug/kg	SL-292-SA6	0 - 0.5
Semivolatiles	Benzo(b)fluoranthene	205-99-2	8270C	Split	0 / 15	-	-	88 - 0.0504	170 - 370	ug/kg		-
Semivolatiles	Benzo(b)fluoranthene	205-99-2	8270C SIM	N	166 / 329	0.84 J Z	1500	0.66 - 0.0505	1.7 - 87	ug/kg	SL-142-SA6	0 - 0.5
Semivolatiles	Benzo(b)fluoranthene	205-99-2	8270C SIM	Split	2 / 15	1 J Z	18	0.89 - 0.0506	1.8 - 3.7	ug/kg	SL-282-SA6	0 - 0.5
Semivolatiles	Benzo(g,h,i)perylene	191-24-2	8270C	N	54 / 57	17 J Z	660	17 - 0.0507	170 - 1800	ug/kg	SL-292-SA6	0 - 0.5
Semivolatiles	Benzo(g,h,i)perylene	191-24-2	8270C	Split	0 / 15	-	-	88 - 0.0508	170 - 370	ug/kg		-

Table 3-6
Summary of Analytical Results for Chemicals - Validated Data
Combined Soils - HSA - 6

Group	Chemical	CAS No	Analytic Method	Sample Type	Detection Frequency	Minimum Concentration	Maximum Concentration	Range of Method Detection Limit	Range of Method Reporting Limit	Unit	Location of Maximum Concentration	Depth of Maximum Concentration
Semivolatiles	Benzo(g,h,i)perylene	191-24-2	8270C SIM	N	110 / 316	0.69 J Z	540	0.66 - 0.0509	1.7 - 87	ug/kg	SL-297-SA6	0 - 0.5
Semivolatiles	Benzo(g,h,i)perylene	191-24-2	8270C SIM	Split	1 / 15	21	21	0.89 - 0.0510	1.8 - 3.7	ug/kg	SL-282-SA6	0 - 0.5
Semivolatiles	Benzo(k)fluoranthene	207-08-9	8270C	N	27 / 30	20 J Z	620	17 - 0.0511	170 - 1800	ug/kg	SL-292-SA6	0 - 0.5
Semivolatiles	Benzo(k)fluoranthene	207-08-9	8270C	Split	0 / 15	-	-	88 - 0.0512	170 - 370	ug/kg		-
Semivolatiles	Benzo(k)fluoranthene	207-08-9	8270C SIM	N	123 / 343	0.68 J Z	630	0.66 - 0.0513	1.7 - 87	ug/kg	SL-142-SA6	0 - 0.5
Semivolatiles	Benzo(k)fluoranthene	207-08-9	8270C SIM	Split	1 / 15	5.3	5.3	0.89 - 0.0514	1.8 - 3.7	ug/kg	SL-282-SA6	0 - 0.5
Semivolatiles	Benzoic Acid	65-85-0	8270C	N	0 / 373	-	-	170 - 0.0515	500 - 11000	ug/kg		-
Semivolatiles	Benzoic Acid	65-85-0	8270C	Split	0 / 15	-	-	350 - 0.0516	700 - 1500	ug/kg		-
Semivolatiles	Benzyl Alcohol	100-51-6	8270C	N	0 / 373	-	-	170 - 0.0517	500 - 11000	ug/kg		-
Semivolatiles	Benzyl Alcohol	100-51-6	8270C	Split	0 / 15	-	-	88 - 0.0518	170 - 370	ug/kg		-
Semivolatiles	Bis(2-Chloroethoxy) methane	111-91-1	8270C	N	0 / 373	-	-	17 - 0.0519	170 - 3500	ug/kg		-
Semivolatiles	Bis(2-Chloroethoxy) methane	111-91-1	8270C	Split	0 / 15	-	-	88 - 0.0520	170 - 370	ug/kg		-
Semivolatiles	Bis(2-Chloroethyl) ether	111-44-4	8270C	N	0 / 373	-	-	17 - 0.0521	170 - 3500	ug/kg		-
Semivolatiles	Bis(2-Chloroethyl) ether	111-44-4	8270C	Split	0 / 15	-	-	88 - 0.0522	170 - 370	ug/kg		-
Semivolatiles	bis(2-Chloroisopropyl) ether	39638-32-9	8270C	N	0 / 373	-	-	17 - 0.0523	170 - 3500	ug/kg		-
Semivolatiles	bis(2-Chloroisopropyl) ether	39638-32-9	8270C	Split	0 / 15	-	-	88 - 0.0524	170 - 370	ug/kg		-
Semivolatiles	Bis(2-Ethylhexyl) phthalate	117-81-7	8270C	N	86 / 127	17 J Z	3200	17 - 0.0525	330 - 3500	ug/kg	SL-298-SA6	0 - 0.5
Semivolatiles	Bis(2-Ethylhexyl) phthalate	117-81-7	8270C	Split	0 / 15	-	-	88 - 0.0526	170 - 370	ug/kg		-
Semivolatiles	Bis(2-Ethylhexyl) phthalate	117-81-7	8270C SIM	N	79 / 248	6.3 J Z	400	5.9 - 0.0527	18 - 920	ug/kg	SL-134-SA6	0 - 0.5
Semivolatiles	Bis(2-Ethylhexyl) phthalate	117-81-7	8270C SIM	Split	2 / 15	11 J Z	12 J Z	8.8 - 0.0528	17 - 37	ug/kg	SL-284-SA6	9 - 10
Semivolatiles	Butylbenzylphthalate	85-68-7	8270C	N	8 / 84	18 J Z	41000	17 - 0.0529	170 - 3400	ug/kg	SL-166-SA6	0 - 0.5
Semivolatiles	Butylbenzylphthalate	85-68-7	8270C	Split	0 / 15	-	-	88 - 0.0530	170 - 370	ug/kg		-
Semivolatiles	Butylbenzylphthalate	85-68-7	8270C SIM	N	41 / 289	6 J Z	140	5.9 - 0.0531	18 - 480	ug/kg	SL-019-SA6	9 - 10
Semivolatiles	Butylbenzylphthalate	85-68-7	8270C SIM	Split	0 / 15	-	-	8.8 - 0.0532	17 - 37	ug/kg		-
Semivolatiles	Carbazole	86-74-8	8270C	N	10 / 373	22 J Z	210	17 - 0.0533	170 - 3500	ug/kg	SL-292-SA6	0 - 0.5
Semivolatiles	Carbazole	86-74-8	8270C	Split	0 / 15	-	-	88 - 0.0534	170 - 370	ug/kg		-
Semivolatiles	Chrysene	218-01-9	8270C	N	42 / 45	17 J L, Z J Z	1100	17 - 0.0535	170 - 1800	ug/kg	SL-292-SA6	0 - 0.5
Semivolatiles	Chrysene	218-01-9	8270C	Split	0 / 15	-	-	88 - 0.0536	170 - 370	ug/kg		-
Semivolatiles	Chrysene	218-01-9	8270C SIM	N	194 / 328	0.36 J Z	750	0.33 - 0.0537	1.7 - 87	ug/kg	SL-125-SA6	4 - 5
Semivolatiles	Chrysene	218-01-9	8270C SIM	Split	1 / 15	6.6	6.6	0.89 - 0.0538	1.8 - 3.7	ug/kg	SL-282-SA6	0 - 0.5
Semivolatiles	Dibenzo(a,h)anthracene	53-70-3	8270C	N	14 / 17	17 J Z	180	17 - 0.0539	170 - 1800	ug/kg	SL-292-SA6	0 - 0.5
Semivolatiles	Dibenzo(a,h)anthracene	53-70-3	8270C	Split	0 / 15	-	-	88 - 0.0540	170 - 370	ug/kg		-
Semivolatiles	Dibenzo(a,h)anthracene	53-70-3	8270C SIM	N	59 / 356	0.7 J Z	100	0.66 - 0.0541	1.7 - 87	ug/kg	SL-142-SA6	0 - 0.5
Semivolatiles	Dibenzo(a,h)anthracene	53-70-3	8270C SIM	Split	1 / 15	5	5	0.89 - 0.0542	1.8 - 3.7	ug/kg	SL-282-SA6	0 - 0.5
Semivolatiles	Dibenzofuran	132-64-9	8270C	N	6 / 373	21 J Z	32 J Z	17 - 0.0543	170 - 3500	ug/kg	SL-291-SA6	0 - 0.5
Semivolatiles	Dibenzofuran	132-64-9	8270C	Split	0 / 15	-	-	88 - 0.0544	170 - 370	ug/kg		-
Semivolatiles	Diethylphthalate	84-66-2	8270C	N	0 / 89	-	-	17 - 0.0545	170 - 1800	ug/kg		-
Semivolatiles	Diethylphthalate	84-66-2	8270C	Split	0 / 15	-	-	88 - 0.0546	170 - 370	ug/kg		-
Semivolatiles	Diethylphthalate	84-66-2	8270C SIM	N	7 / 284	7.4 J Z	46 J Z	5.9 - 0.0547	18 - 480	ug/kg	SL-254-SA6	0 - 0.5
Semivolatiles	Diethylphthalate	84-66-2	8270C SIM	Split	0 / 15	-	-	8.8 - 0.0548	17 - 37	ug/kg		-
Semivolatiles	Dimethylphthalate	131-11-3	8270C	N	0 / 91	-	-	17 - 0.0549	170 - 1800	ug/kg		-
Semivolatiles	Dimethylphthalate	131-11-3	8270C	Split	0 / 15	-	-	88 - 0.0550	170 - 370	ug/kg		-
Semivolatiles	Dimethylphthalate	131-11-3	8270C SIM	N	2 / 283	8.4 J Z	11 J Z	5.9 - 0.0551	18 - 480	ug/kg	SL-218-SA6	0 - 0.5
Semivolatiles	Dimethylphthalate	131-11-3	8270C SIM	Split	0 / 15	-	-	8.8 - 0.0552	17 - 37	ug/kg		-
Semivolatiles	Di-n-Butylphthalate	84-74-2	8270C	N	10 / 95	17 J Z	270	17 - 0.0553	170 - 1800	ug/kg	SL-166-SA6	0 - 0.5
Semivolatiles	Di-n-Butylphthalate	84-74-2	8270C	Split	0 / 15	-	-	88 - 0.0554	170 - 370	ug/kg		-
Semivolatiles	Di-n-Butylphthalate	84-74-2	8270C SIM	N	37 / 278	6.2 J Z	2100	5.9 - 0.0555	18 - 910	ug/kg	SL-005-SA6	0 - 0.5
Semivolatiles	Di-n-Butylphthalate	84-74-2	8270C SIM	Split	1 / 15	9.4 J Z	9.4 J Z	8.8 - 0.0556	17 - 37	ug/kg	SL-283-SA6	4 - 5
Semivolatiles	Di-N-Octyl Phthalate	117-84-0	8270C	N	7 / 83	20 J Z	180	17 - 0.0557	170 - 1800	ug/kg	SL-298-SA6	0 - 0.5
Semivolatiles	Di-N-Octyl Phthalate	117-84-0	8270C	Split	0 / 15	-	-	88 - 0.0558	170 - 370	ug/kg		-
Semivolatiles	Di-N-Octyl Phthalate	117-84-0	8270C SIM	N	46 / 290	6.2 J Z	170 J Z	5.9 - 0.0559	18 - 480	ug/kg	SL-278-SA6	0 - 0.5
Semivolatiles	Di-N-Octyl Phthalate	117-84-0	8270C SIM	Split	0 / 15	-	-	8.8 - 0.0560	17 - 37	ug/kg		-
Semivolatiles	Fluoranthene	206-44-0	8270C	N	40 / 44	18 J Z	3000	17 - 0.0561	170 - 1800	ug/kg	SL-292-SA6	0 - 0.5
Semivolatiles	Fluoranthene	206-44-0	8270C	Split	0 / 15	-	-	88 - 0.0562	170 - 370	ug/kg		-

Table 3-6
Summary of Analytical Results for Chemicals - Validated Data
Combined Soils - HSA - 6

Group	Chemical	CAS No	Analytic Method	Sample Type	Detection Frequency	Minimum Concentration	Maximum Concentration	Range of Method Detection Limit	Range of Method Reporting Limit	Unit	Location of Maximum Concentration	Depth of Maximum Concentration
Semivolatiles	Fluoranthene	206-44-0	8270C SIM	N	145 / 330	0.73 J Z	3100	0.66 - 0.0563	1.7 - 87	ug/kg	SL-125-SA6	4 - 5
Semivolatiles	Fluoranthene	206-44-0	8270C SIM	Split	1 / 15	7.1	7.1	0.89 - 0.0564	1.8 - 3.7	ug/kg	SL-282-SA6	0 - 0.5
Semivolatiles	Fluorene	86-73-7	8270C	N	3 / 7	27 J Z	60 J Z	17 - 0.0565	170 - 1800	ug/kg	SL-292-SA6	0 - 0.5
Semivolatiles	Fluorene	86-73-7	8270C	Split	0 / 15	-	-	88 - 0.0566	170 - 370	ug/kg		-
Semivolatiles	Fluorene	86-73-7	8270C SIM	N	37 / 367	0.7 J Z	110 J FD	0.66 - 0.0567	1.7 - 87	ug/kg	SL-125-SA6	4 - 5
Semivolatiles	Fluorene	86-73-7	8270C SIM	Split	0 / 15	-	-	0.89 - 0.0568	1.8 - 3.7	ug/kg		-
Semivolatiles	Hexachlorobenzene	118-74-1	8270C	N	0 / 373	-	-	17 - 0.0569	170 - 3500	ug/kg		-
Semivolatiles	Hexachlorobenzene	118-74-1	8270C	Split	0 / 15	-	-	88 - 0.0570	170 - 370	ug/kg		-
Semivolatiles	Hexachlorobutadiene	87-68-3	8270C	N	0 / 373	-	-	66 - 0.0571	170 - 3500	ug/kg		-
Semivolatiles	Hexachlorobutadiene	87-68-3	8270C	Split	0 / 15	-	-	88 - 0.0572	170 - 370	ug/kg		-
Semivolatiles	Hexachlorocyclopentadiene	77-47-4	8270C	N	0 / 373	-	-	170 - 0.0573	500 - 11000	ug/kg		-
Semivolatiles	Hexachlorocyclopentadiene	77-47-4	8270C	Split	0 / 15	-	-	350 - 0.0574	700 - 1500	ug/kg		-
Semivolatiles	Hexachloroethane	67-72-1	8270C	N	0 / 373	-	-	17 - 0.0575	170 - 3500	ug/kg		-
Semivolatiles	Hexachloroethane	67-72-1	8270C	Split	0 / 15	-	-	88 - 0.0576	170 - 370	ug/kg		-
Semivolatiles	Indeno(1,2,3-Cd)Pyrene	193-39-5	8270C	N	36 / 39	17 J Z	650	17 - 0.0577	170 - 1800	ug/kg	SL-292-SA6	0 - 0.5
Semivolatiles	Indeno(1,2,3-Cd)Pyrene	193-39-5	8270C	Split	0 / 15	-	-	88 - 0.0578	170 - 370	ug/kg		-
Semivolatiles	Indeno(1,2,3-Cd)Pyrene	193-39-5	8270C SIM	N	80 / 334	0.74 J FD, Q, Z	450	0.66 - 0.0579	1.7 - 87	ug/kg	SL-297-SA6	0 - 0.5
Semivolatiles	Indeno(1,2,3-Cd)Pyrene	193-39-5	8270C SIM	Split	1 / 15	8.9	8.9	0.89 - 0.0580	1.8 - 3.7	ug/kg	SL-282-SA6	0 - 0.5
Semivolatiles	Isophorone	78-59-1	8270C	N	0 / 373	-	-	17 - 0.0581	170 - 3500	ug/kg		-
Semivolatiles	Isophorone	78-59-1	8270C	Split	0 / 15	-	-	88 - 0.0582	170 - 370	ug/kg		-
Semivolatiles	Naphthalene	91-20-3	8270C	N	1 / 4	24 J Z	24 J Z	18 - 0.0583	180 - 1800	ug/kg	SL-083-SA6	4 - 5
Semivolatiles	Naphthalene	91-20-3	8270C	Split	0 / 15	-	-	88 - 0.0584	170 - 370	ug/kg		-
Semivolatiles	Naphthalene	91-20-3	8270C SIM	N	55 / 369	0.68 J Z	36	0.66 - 0.0585	1.7 - 87	ug/kg	SL-074-SA6	9 - 10
Semivolatiles	Naphthalene	91-20-3	8270C SIM	Split	1 / 15	1.1 J Z	1.1 J Z	0.89 - 0.0586	1.8 - 3.7	ug/kg	SL-284-SA6	14 - 15
Semivolatiles	Nitrobenzene	98-95-3	8270C	N	0 / 373	-	-	17 - 0.0587	170 - 3500	ug/kg		-
Semivolatiles	Nitrobenzene	98-95-3	8270C	Split	0 / 15	-	-	88 - 0.0588	170 - 370	ug/kg		-
Semivolatiles	N-Nitrosodimethylamine	62-75-9	1625C	N	7 / 113	18.5 J Z	846	16.5 - 0.0589	33.0 - 3420	ng/kg	SL-253-SA6	4 - 5
Semivolatiles	N-Nitrosodimethylamine	62-75-9	8270C SIM	N	1 / 370	58	58	0.66 - 0.0590	1.7 - 87	ug/kg	SL-114-SA6	4 - 5
Semivolatiles	N-Nitrosodimethylamine	62-75-9	8270C SIM	Split	0 / 15	-	-	0.89 - 0.0591	1.8 - 3.7	ug/kg		-
Semivolatiles	N-Nitroso-Di-N-Propylamine	621-64-7	8270C	N	0 / 373	-	-	17 - 0.0592	170 - 3500	ug/kg		-
Semivolatiles	N-Nitroso-Di-N-Propylamine	621-64-7	8270C	Split	0 / 15	-	-	88 - 0.0593	170 - 370	ug/kg		-
Semivolatiles	N-Nitrosodiphenylamine	86-30-6	8270C	N	0 / 373	-	-	17 - 0.0594	170 - 3500	ug/kg		-
Semivolatiles	N-Nitrosodiphenylamine	86-30-6	8270C	Split	0 / 15	-	-	88 - 0.0595	170 - 370	ug/kg		-
Semivolatiles	Pentachlorophenol	87-86-5	8270C	N	3 / 373	190 J Z	410 J Z	170 - 0.0596	500 - 11000	ug/kg	SL-214-SA6 SL-220-SA6	0 - 0.5 0 - 0.5
Semivolatiles	Pentachlorophenol	87-86-5	8270C	Split	0 / 15	-	-	170 - 0.0597	350 - 730	ug/kg		-
Semivolatiles	Phenanthrene	85-01-8	8270C	N	25 / 28	18 J Z	1600	17 - 0.0598	170 - 1800	ug/kg	SL-292-SA6	0 - 0.5
Semivolatiles	Phenanthrene	85-01-8	8270C	Split	0 / 15	-	-	88 - 0.0599	170 - 370	ug/kg		-
Semivolatiles	Phenanthrene	85-01-8	8270C SIM	N	124 / 345	0.72 J Z	2600	0.66 - 0.0600	1.7 - 87	ug/kg	SL-125-SA6	4 - 5
Semivolatiles	Phenanthrene	85-01-8	8270C SIM	Split	0 / 15	-	-	0.89 - 0.0601	1.8 - 3.7	ug/kg		-
Semivolatiles	Phenol	108-95-2	8270C	N	0 / 373	-	-	17 - 0.0602	170 - 3500	ug/kg		-
Semivolatiles	Phenol	108-95-2	8270C	Split	0 / 15	-	-	88 - 0.0603	170 - 370	ug/kg		-
Semivolatiles	Pyrene	129-00-0	8270C	N	50 / 54	17 J Z	2200	17 - 0.0604	170 - 1800	ug/kg	SL-292-SA6	0 - 0.5
Semivolatiles	Pyrene	129-00-0	8270C	Split	0 / 15	-	-	88 - 0.0605	170 - 370	ug/kg		-
Semivolatiles	Pyrene	129-00-0	8270C SIM	N	134 / 320	0.71 J Z	1900	0.66 - 0.0606	1.7 - 87	ug/kg	SL-125-SA6	4 - 5
Semivolatiles	Pyrene	129-00-0	8270C SIM	Split	1 / 15	7.2	7.2	0.89 - 0.0607	1.8 - 3.7	ug/kg	SL-282-SA6	0 - 0.5
Semivolatiles	Tetralin	119-64-2	8270C	N	0 / 373	-	-	170 - 0.0608	170 - 3500	ug/kg		-
Semivolatiles	Tetralin	119-64-2	8270C	Split	0 / 15	-	-	170 - 0.0609	170 - 370	ug/kg		-
Volatiles	1,1,1,2-Tetrachloroethane	630-20-6	8260B	N	0 / 35	-	-	0.10 - 0.0610	3.8 - 4.9	ug/kg		-
Volatiles	1,1,1-Trichloroethane	71-55-6	8260B	N	0 / 35	-	-	0.19 - 0.0611	3.8 - 4.9	ug/kg		-
Volatiles	1,1,2,2-Tetrachloroethane	79-34-5	8260B	N	0 / 35	-	-	0.22 - 0.0612	3.8 - 4.9	ug/kg		-
Volatiles	1,1,2-Trichloroethane	79-00-5	8260B	N	0 / 35	-	-	0.25 - 0.0613	3.8 - 4.9	ug/kg		-
Volatiles	1,1-Dichloroethane	75-34-3	8260B	N	0 / 35	-	-	0.09 - 0.0614	3.8 - 4.9	ug/kg		-
Volatiles	1,1-Dichloroethene	75-35-4	8260B	N	0 / 35	-	-	0.37 - 0.0615	3.8 - 4.9	ug/kg		-
Volatiles	1,1-Dichloropropene	563-58-6	8260B	N	0 / 35	-	-	0.12 - 0.0616	3.8 - 4.9	ug/kg		-

Table 3-6
Summary of Analytical Results for Chemicals - Validated Data
Combined Soils - HSA - 6

Group	Chemical	CAS No	Analytic Method	Sample Type	Detection Frequency	Minimum Concentration	Maximum Concentration	Range of Method Detection Limit	Range of Method Reporting Limit	Unit	Location of Maximum Concentration	Depth of Maximum Concentration
Volatiles	1,2,3-Trichlorobenzene	87-61-6	8260B	N	0 / 35	-	-	0.13 - 0.0617	3.8 - 4.9	ug/kg		-
Volatiles	1,2,3-Trichloropropane	96-18-4	8260B	N	0 / 35	-	-	0.31 - 0.0618	3.8 - 4.9	ug/kg		-
Volatiles	1,2,4-Trichlorobenzene	120-82-1	8260B	N	0 / 35	-	-	0.17 - 0.0619	3.8 - 4.9	ug/kg		-
Volatiles	1,2,4-Trimethylbenzene	95-63-6	8260B	N	0 / 35	-	-	0.38 - 0.0620	3.8 - 4.9	ug/kg		-
Volatiles	1,2-Dibromo-3-chloropropane	96-12-8	8260B	N	0 / 35	-	-	0.66 - 0.0621	3.8 - 4.9	ug/kg		-
Volatiles	1,2-Dibromoethane	106-93-4	8260B	N	0 / 35	-	-	0.16 - 0.0622	3.8 - 4.9	ug/kg		-
Volatiles	1,2-Dichlorobenzene	95-50-1	8260B	N	0 / 35	-	-	0.08 - 0.0623	3.8 - 4.9	ug/kg		-
Volatiles	1,2-Dichloroethane	107-06-2	8260B	N	1 / 35	2.5 J Z	2.5 J Z	0.14 - 0.0624	3.8 - 4.9	ug/kg	SL-084-SA6	4 - 5
Volatiles	1,2-Dichloropropane	78-87-5	8260B	N	0 / 35	-	-	0.16 - 0.0625	3.8 - 4.9	ug/kg		-
Volatiles	1,3,5-Trimethylbenzene	108-67-8	8260B	N	0 / 35	-	-	0.09 - 0.0626	3.8 - 4.9	ug/kg		-
Volatiles	1,3-Dichlorobenzene	541-73-1	8260B	N	0 / 35	-	-	0.11 - 0.0627	3.8 - 4.9	ug/kg		-
Volatiles	1,3-Dichloropropane	142-28-9	8260B	N	0 / 35	-	-	0.07 - 0.0628	3.8 - 4.9	ug/kg		-
Volatiles	1,4-Dichlorobenzene	106-46-7	8260B	N	1 / 35	0.33 J Z	0.33 J Z	0.15 - 0.0629	3.8 - 4.9	ug/kg	SL-030-SA6	9 - 10
Volatiles	1,4-Dioxane	123-91-1	8260B SIM	N	0 / 35	-	-	4.6 - 0.0630	9.7 - 23	ug/kg		-
Volatiles	2,2-Dichloropropane	594-20-7	8260B	N	0 / 35	-	-	0.16 - 0.0631	3.8 - 4.9	ug/kg		-
Volatiles	2-Butanone	78-93-3	8260B	N	2 / 35	5.1 J Z	13	1.1 - 0.0632	7.5 - 9.9	ug/kg	SL-030-SA6	9 - 10
Volatiles	2-Chloroethyl Vinyl Ether	110-75-8	8260B	N	0 / 35	-	-	0.28 - 0.0633	3.8 - 4.9	ug/kg		-
Volatiles	2-Chlorotoluene	95-49-8	8260B	N	0 / 35	-	-	0.13 - 0.0634	3.8 - 4.9	ug/kg		-
Volatiles	2-Hexanone	591-78-6	8260B	N	0 / 35	-	-	1.5 - 0.0635	7.5 - 9.9	ug/kg		-
Volatiles	4-Chlorotoluene	106-43-4	8260B	N	0 / 35	-	-	0.13 - 0.0636	3.8 - 4.9	ug/kg		-
Volatiles	4-Methyl-2-Pentanone	108-10-1	8260B	N	0 / 35	-	-	0.37 - 0.0637	7.5 - 9.9	ug/kg		-
Volatiles	Acetone	67-64-1	8260B	N	7 / 35	7.3 J Z	17	4.9 - 0.0638	7.5 - 9.9	ug/kg	SL-285-SA6	7.5 - 7.5
Volatiles	Benzene	71-43-2	8260B	N	0 / 35	-	-	0.09 - 0.0639	3.8 - 4.9	ug/kg		-
Volatiles	Bromobenzene	108-86-1	8260B	N	0 / 35	-	-	0.12 - 0.0640	3.8 - 4.9	ug/kg		-
Volatiles	Bromochloromethane	74-97-5	8260B	N	0 / 35	-	-	0.31 - 0.0641	3.8 - 4.9	ug/kg		-
Volatiles	Bromodichloromethane	75-27-4	8260B	N	0 / 35	-	-	0.07 - 0.0642	3.8 - 4.9	ug/kg		-
Volatiles	Bromoform	75-25-2	8260B	N	0 / 35	-	-	0.38 - 0.0643	3.8 - 4.9	ug/kg		-
Volatiles	Bromomethane	74-83-9	8260B	N	0 / 35	-	-	0.24 - 0.0644	3.8 - 4.9	ug/kg		-
Volatiles	Carbon tetrachloride	56-23-5	8260B	N	0 / 35	-	-	0.13 - 0.0645	3.8 - 4.9	ug/kg		-
Volatiles	Chlorobenzene	108-90-7	8260B	N	0 / 35	-	-	0.10 - 0.0646	3.8 - 4.9	ug/kg		-
Volatiles	Chloroethane	75-00-3	8260B	N	0 / 35	-	-	0.12 - 0.0647	3.8 - 4.9	ug/kg		-
Volatiles	Chloroform	67-66-3	8260B	N	2 / 35	0.12 J Z	0.17 J FD, Z	0.11 - 0.0648	3.8 - 4.9	ug/kg	SL-074-SA6	4 - 5
Volatiles	Chloromethane	74-87-3	8260B	N	0 / 35	-	-	0.31 - 0.0649	3.8 - 4.9	ug/kg		-
Volatiles	Chlorotrifluoroethene	79-38-9	8260B	N	0 / 35	-	-	0.47 - 0.0650	4.7 - 5.7	ug/kg		-
Volatiles	cis-1,2-Dichloroethene	156-59-2	8260B	N	0 / 35	-	-	0.18 - 0.0651	3.8 - 4.9	ug/kg		-
Volatiles	cis-1,3-Dichloropropene	10061-01-5	8260B	N	0 / 35	-	-	0.15 - 0.0652	3.8 - 4.9	ug/kg		-
Volatiles	Dibromochloromethane	124-48-1	8260B	N	0 / 35	-	-	0.19 - 0.0653	3.8 - 4.9	ug/kg		-
Volatiles	Dibromomethane	74-95-3	8260B	N	0 / 35	-	-	0.23 - 0.0654	3.8 - 4.9	ug/kg		-
Volatiles	Dichlorodifluoromethane	75-71-8	8260B	N	0 / 35	-	-	0.11 - 0.0655	3.8 - 4.9	ug/kg		-
Volatiles	EFH (C12-C14)	PHCC12C14	8015B EFH	Split	0 / 15	-	-	0.52 - 0.0656	1.0 - 11	mg/kg		-
Volatiles	EFH (C12-C14)	PHCC12C14	8015M	N	7 / 284	0.46 J Z	36 J FD	0.40 - 0.0657	1.2 - 640	mg/kg	SL-252-SA6	4 - 5
Volatiles	EFH (C15-C20)	PHCC15C20	8015B EFH	Split	1 / 15	1.3	1.3	0.52 - 0.0658	1.0 - 11	mg/kg	SL-285-SA6	6 - 7
Volatiles	EFH (C15-C20)	PHCC15C20	8015M	N	129 / 284	0.42 J H, Z	350 J FD	0.40 - 0.0659	1.2 - 640	mg/kg	SL-252-SA6	4 - 5
Volatiles	EFH (C21-C30)	PHCC21C30	8015B EFH	Split	10 / 15	0.6 J Z	89	0.52 - 0.0660	1.0 - 11	mg/kg	SL-283-SA6	0 - 0.5
Volatiles	EFH (C21-C30)	PHCC21C30	8015M	N	231 / 284	0.45 J Z	1900	0.40 - 0.0661	1.2 - 640	mg/kg	SL-113-SA6	0 - 0.5
Volatiles	EFH (C30-C40)	PHCC30C40	8015B EFH	Split	7 / 15	0.63 J Z	120	0.52 - 0.0662	1.0 - 11	mg/kg	SL-283-SA6	0 - 0.5
Volatiles	EFH (C30-C40)	PHCC30C40	8015M	N	267 / 284	0.56 J Z	5100	0.40 - 0.0663	1.2 - 640	mg/kg	SL-278-SA6 SL-305-SA6	0 - 0.5 0 - 0.5
Volatiles	EFH (C8-C11)	PHCC8C11	8015B EFH	Split	10 / 15	0.59 J Z	2.6	0.52 - 0.0664	1.0 - 11	mg/kg	SL-285-SA6	6 - 7
Volatiles	EFH (C8-C11)	PHCC8C11	8015M	N	28 / 284	0.41 J Z	4.1 J Z	0.40 - 0.0665	1.2 - 640	mg/kg	SL-051-SA6	0 - 0.5
Volatiles	Ethylbenzene	100-41-4	8260B	N	1 / 35	0.07 J Z	0.07 J Z	0.06 - 0.0666	3.8 - 4.9	ug/kg	SL-065-SA6	1.5 - 2.5
Volatiles	Freon 113	76-13-1	8260B	N	0 / 35	-	-	0.10 - 0.0667	3.8 - 4.9	ug/kg		-
Volatiles	Freon 113a	75-88-7	8260B	N	0 / 35	-	-	0.47 - 0.0668	4.7 - 5.7	ug/kg		-
Volatiles	GRO (C5-C12)	GROC5C12	8015B GRO	N	0 / 11	-	-	0.50 - 0.0669	0.99 - 1.1	mg/kg		-
Volatiles	GRO (C5-C12)	GROC5C12	8015B GRO	Split	0 / 1	-	-	0.55 - 0.0670	1.1 - 1.1	mg/kg		-

Table 3-6
Summary of Analytical Results for Chemicals - Validated Data
Combined Soils - HSA - 6

Group	Chemical	CAS No	Analytic Method	Sample Type	Detection Frequency	Minimum Concentration	Maximum Concentration	Range of Method Detection Limit	Range of Method Reporting Limit	Unit	Location of Maximum Concentration	Depth of Maximum Concentration
Volatiles	GRO (C5-C12)	GROC5C12	8015M	N	3 / 183	0.3 J Z	0.6 J Z	0.2 - 0.0671	0.9 - 44	mg/kg	SL-284-SA6	9 - 10
Volatiles	Hexachlorobutadiene	87-68-3	8260B	N	0 / 35	-	-	0.13 - 0.0672	3.8 - 4.9	ug/kg		-
Volatiles	Isopropylbenzene	98-82-8	8260B	N	1 / 35	0.29 J Z	0.29 J Z	0.06 - 0.0673	3.8 - 4.9	ug/kg	SL-278-SA6	0 - 0.5
Volatiles	Isopropyltoluene	99-87-6	8260B	N	0 / 35	-	-	0.10 - 0.0674	3.8 - 4.9	ug/kg		-
Volatiles	m,p-Xylene	179601-23-1	8260B	N	1 / 35	0.21 J Z	0.21 J Z	0.16 - 0.0675	3.8 - 4.9	ug/kg	SL-065-SA6	1.5 - 2.5
Volatiles	Methyl tert-Butyl Ether	1634-04-4	8260B	N	0 / 35	-	-	0.20 - 0.0676	3.8 - 4.9	ug/kg		-
Volatiles	Methylene chloride	75-09-2	8260B	N	2 / 35	65	82 J FD, Q	0.23 - 0.0677	3.8 - 4.9	ug/kg	SL-074-SA6	4 - 5
Volatiles	N-Butylbenzene	104-51-8	8260B	N	0 / 35	-	-	0.11 - 0.0678	3.8 - 4.9	ug/kg		-
Volatiles	N-Propylbenzene	103-65-1	8260B	N	0 / 35	-	-	0.07 - 0.0679	3.8 - 4.9	ug/kg		-
Volatiles	o-Xylene	95-47-6	8260B	N	0 / 35	-	-	0.16 - 0.0680	3.8 - 4.9	ug/kg		-
Volatiles	sec-Butylbenzene	135-98-8	8260B	N	0 / 35	-	-	0.06 - 0.0681	3.8 - 4.9	ug/kg		-
Volatiles	Styrene	100-42-5	8260B	N	0 / 35	-	-	0.09 - 0.0682	3.8 - 4.9	ug/kg		-
Volatiles	tert-Butylbenzene	98-06-6	8260B	N	0 / 35	-	-	0.15 - 0.0683	3.8 - 4.9	ug/kg		-
Volatiles	Tetrachloroethene	127-18-4	8260B	N	0 / 35	-	-	0.19 - 0.0684	3.8 - 4.9	ug/kg		-
Volatiles	Toluene	108-88-3	8260B	N	18 / 35	0.09 J Z	0.38 J Z	0.07 - 0.0685	3.8 - 4.9	ug/kg	SL-065-SA6	1.5 - 2.5
Volatiles	trans-1,2-Dichloroethene	156-60-5	8260B	N	0 / 35	-	-	0.11 - 0.0686	3.8 - 4.9	ug/kg		-
Volatiles	trans-1,3-Dichloropropene	10061-02-6	8260B	N	0 / 35	-	-	0.16 - 0.0687	3.8 - 4.9	ug/kg		-
Volatiles	Trichloroethene	79-01-6	8260B	N	0 / 35	-	-	0.14 - 0.0688	3.8 - 4.9	ug/kg		-
Volatiles	Trichlorofluoromethane	75-69-4	8260B	N	0 / 35	-	-	0.27 - 0.0689	3.8 - 4.9	ug/kg		-
Volatiles	Vinyl Chloride	75-01-4	8260B	N	0 / 35	-	-	0.19 - 0.0690	3.8 - 4.9	ug/kg		-

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
FD - Field duplicate results outside of criteria
Z - Analytes reported below the reporting limits and above the method detection limit
- Second column confirmation outside of criteria

Section 4
Data Usability Assessment

The purposes of the DUAR provided in Appendix C and summarized here are to: (1) describe the data validation processes performed on the data sets and (2) determine whether the sample results meet the data quality objectives (DQOs) outlined in the *Master Work Plan/Field Sampling and Analysis Plan Co-Located Chemical Sampling at Area IV, Santa Susana Field Laboratory, Ventura County, California* (CDM 2011a).

4.1 Usability Summary

For the Subareas 3 and 6 data usability assessment, 91 data sets, or SDGs were reviewed. A 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 Sections 2.5.1 and 2.5.2.

Samples were collected and analyzed in accordance with the WP/FSAP (CDM 2011a), and WP/FSAP Addendums for Subareas 3 and 6 with the exception of deviations during the field investigation as stated in Section 2.8.

The validated data for Subareas 3 and 6 samples are usable as reported, with the exception of the rejected data. Two dinoseb results, one 2,4 dinitrophenol and one benzoic acid result were rejected for Subarea 3. For all Subarea 3 data, 0.19 percent of the results were rejected. For Subarea 6 data two fluoride results, 20 antimony results, one ethanol result, 10 m-terphenyl, 10 o-terphenyl, and 11 p-terphenyl results, two EFH (C12-C14) and three EFH (CC8-C11) results, 81 pesticide results, 10 PCB/PCT results, 109 herbicide results, and 39 SVOC results and eight SVOC SIM results were rejected. For all Subarea 6 data, 0.47 percent of the results were rejected. These rejected data do not impact project objectives and goals. 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).

Table 4-1 presents all SDGs that include Subareas 3 and 6 soil samples and those SDGs that were validated as Level III or Level IV. Some SDGs contain samples from other subareas, but all samples in an SDG were validated together. An index of samples associated with each SDG is presented at the beginning of Appendix C.

Table 4-1 Sample Delivery Groups and Validation Levels for Subarea 3 and Subarea 6

Sample Delivery Group	Level of Validation Performed	CDM Review
Subarea 3		
DE253	Level III	
DE266	Level IV	
DE267	Level III	
DE268	Level III	
DE269	Level III	
DE281	Level III	Yes
DX142	Level III	
DX148	Level III	
DX149	Level III	
DX150	Level III	
DX154	Level III	
Sample Delivery Group	**Level of Validation Performed**	**CDM Review**
Subarea 6		
DE197	Level III	Yes
DE198	Level III	
DE199	Level III	
DE200	Level III	
DE201	Level III	
DE202	Level III	
DE203	Level III	
DE204	Level III	
DE205	Level III	Yes
DE206	Level III	
DE207	Level III	
DE208	Level III	
DE209	Level III	
DE210	Level III	
DE211	Level III	
DE212	Level III	
DE213	Level III	
DE214	Level III	
DE215	Level III	Yes
DE217	Level III	
DE218	Level III	
DE219	Level III	
DE220	Level III	
DE221	Level III	
DE222	Level III	
DE223	Level III	
DE224	Level III	
DE225	Level III	
DE226	Level III	Yes
DE227	Level III	
DE228	Level III	
DE229	Level III	
DE230	Level III	
DE231	Level III	
DE232	Level III	
DE233	Level III	

Table 4-1 Sample Delivery Groups and Validation Levels for Subarea 3 and Subarea 6

Sample Delivery Group	Level of Validation Performed	CDM Review
DE234	Level III	
DE235	Level III	
DE236	Level III	
DE237	Level III	
DE238	Level III	
DE239	Level III	
DE240	Level III	
DE241	Level III	
DE260	Level III	
DE261	Level III	
DE262	Level IV	Yes
DE263	Level III	
DE266	Level IV	
DE290	Level III	
DE291	Level III	
DX110	Level III	
DX111	Level III	
DX112	Level III	
DX113	Level III	
DX114	Level III	Yes
DX115	Level III	
DX116	Level III	
DX117	Level III	
DX118	Level III	
DX119	Level III	
DX120	Level III	
DX121	Level III	
DX122	Level III	
DX123	Level III	
DX124	Level III	
DX125	Level III	Yes
DX126	Level III	
DX127	Level III	
DX128	Level III	
DX129	Level III	
DX130	Level III	
DX131	Level III	
DX132	Level III	
DX133	Level III	
DX146	Level III	
DX147	Level III	
DX148	Level III	
DX156	Level III	
11L003	Level IV	Yes

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

In order to evaluate the quality of the laboratory and the validation firm, CDM chemists reviewed 10 percent of the Subareas 3 and 6 soil sample SDGs. The purpose of the review was to identify any QC issues with the laboratory not identified by the validation firm or any discrepancies in validation

procedures by the validation firm. No additional qualifiers were applied to the data based on CDM'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 WP/FSAP (CDM 2011a) have been met. The following data measurement tasks were evaluated:

- Specification and adherence to analytical method and reporting detection limit requirements
- Identification of the appropriate laboratory analytical QC requirements and verification of whether these QC requirements were met
- Verification that measurement performance criteria (representativeness and completeness) for the data were met
- Verification that field procedures were followed, deviations were documented, and 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 (except for the rejected results) to support their intended use.

4.4 Summary of Field and Laboratory QA Activities

CDM completed sampling activities in Subareas 3 and 6 in accordance with the approved WP/FSAP (CDM 2011a) and Addendums to the WP/FSAP (CDM 2011b, CDM 2011c). A total of 13 soil samples were collected and analyzed from two surface locations and eight soil boring locations in Subarea 3. For Subarea 6, 374 soil samples were collected and analyzed from 18 drainage locations, 128 surface locations, and 162 soil boring locations. Table 2-1 and Table 2-2 provide a summary of the samples collected and the laboratory analyses requested; associated QA activities are described below.

4.5 Field Quality QA/QC

The field QC samples were collected at a frequency of 1 per 20 samples (5 percent) for MS/MSDs and field duplicates. MS/MSD and field duplicate samples were collected by CDM at one sample location for Subarea 3 and 20 sample locations for Subarea 6 and analyzed by LLI and EMAX. MS/MSD and field duplicate samples met the frequency requirements detailed in the WP/FSAP (CDM 2011a).

Section 2.4.2 identifies the equipment blanks collected for Subareas 3 and 6. During the validation process, qualifiers are applied accordingly. For reporting purposes, detected equipment blank results collected from each specific subarea are presented in their respective subarea TM. A field blank sample is collected from each lot number of ASTM water used by HGL for decontamination. No field blanks were collected during sampling in Subareas 3 and 6. Samples from Subareas 3 and 6 have been associated with the appropriate field blanks previously collected. The equipment rinsate blank results collected in Subareas 3 and 6 are presented in Appendix C and a summary of the detected results is presented in Tables 4-2 and 4-3.

Table 4-2 Equipment Blanks for Subarea 3 Samples – Detected Results Only

EB-SA3-SB-101211 EB-SA3 10/12/2011			
Analyte	**Units**	**Concentration/RL**	**Final Qualifier**
1,2,3,4,7,8-HxCDD	pg/L	0.305/10.2	J
1,2,3,6,7,8-HxCDD	pg/L	0.290/10.2	J
2,3,7,8-TCDD	pg/L	0.436/2.03	J
Boron	mg/L	0.0047/0.0500	J
Diethylphthalate	µg/L	0.14/1.1	J
Di-n-Butylphthalate	µg/L	0.28/1.1	J
Naphthalene	µg/L	0.13/0.055	
RDX	µg/L	1.7/0.6	
EB-SA3-SB-110711 EB-SA3 11/07/2011			
Analyte	**Units**	**Concentration/RL**	**Final Qualifier**
N-Nitrosodimethylamine	ng/L	2.25/1.08	

Notes:
Blank result greater than RL
HxCDD = hexachlorodibenzofuran
TCDD = tetrachlorodibenzodioxin
RL = Reporting Limit
µg/L = microgram per liter
mg/L = milligram per liter
pg/L =- picogram per liter
ng/L = nanogram per liter
RDX = 1,3,5-Trinitroperhydro-1,3,5-triazine

Table 4-3 Equipment Blanks for Subarea 6 Soil Samples – Detected Results Only

EB-SA6-SS-071211 EB-SA6 7/12/2011			
Analyte	**Units**	**Concentration/RL**	**Final Qualifier**
Calcium	mg/L	0.0775/0.2	J
Heptachlor	µg/L	0.011/0.01	
Iron	mg/L	0.0154/0.2	J
Naphthalene	µg/L	0.05/0.052	J
N-Nitrosodimethylamine	ng/L	4.95/0.998	
RDX	µg/L	0.87/0.6	
EB-SA6-SB-071311 EB-SA6 07/13/2011			
Analyte	**Units**	**Concentration/RL**	**Final Qualifier**
Calcium	mg/L	0.0740/0.2	J
Methylene Chloride	µg/L	3/5	J
Naphthalene	µg/L	0.068/0.051	
N-Nitrosodimethylamine	ng/L	5.16/1.06	
RDX	µg/L	0.95/0.6	

Table 4-3 Equipment Blanks for Subarea 6 Soil Samples – Detected Results Only

EB-SA6-SS-071911 EB-SA6 07/19/2011			
Analyte	**Units**	**Concentration/RL**	**Final Qualifier**
Bis(2-Ethylhexyl) phthalate	µg/L	0.27/1.1	J
Butylbenzylphthalate	µg/L	0.17/1.1	J
Heptachlor	µg/L	0.0087/0.0097	J
Naphthalene	µg/L	0.082/0.054	
RDX	µg/L	1.1/0.6	
EB-SA6-SB-072011 EB-SA6 07/20/2011			
Analyte	**Units**	**Concentration/RL**	**Final Qualifier**
Bis(2-Ethylhexyl) phthalate	µg/L	0.27/1.1	J
Butylbenzylphthalate	µg/L	0.18/1.1	J
Naphthalene	µg/L	0.046/0.054	J
RDX	µg/L	1.0/0.6	
EB-SA6-SS-072611 EB09-SA8N 05/10/2011			
Analyte	**Units**	**Concentration/RL**	**Final Qualifier**
1,2,3,7,8-Pentachlorodibenzofuran	pg/L	1.65/9.94	J
Di-n-Butylphthalate	µg/L	0.14/0.98	J
Heptachlor	µg/L	0.0074/0.0098	J
Naphthalene	µg/L	0.11/0.049	
N-Nitrosodimethylamine	ng/L	3.56/0.996	J
RDX	µg/L	0.98/0.6	
EB-SA6-SB-072711 EB-SA6 07/27/2011			
Analyte	**Units**	**Concentration/RL**	**Final Qualifier**
1,2,3,7,8-PeCDF	pg/L	0.377/9.8	J
2,3,7,8-TCDF	pg/L	0.571/1.96	J
Bis(2-Ethylhexyl) phthalate	µg/L	0.062/1.1	J
Diethylphthalate	µg/L	0.08/1.1	J
Di-n-Butylphthalate	µg/L	0.5/1.1	J
Naphthalene	µg/L	0.087/0.053	
N-Nitrosodimethylamine	ng/L	2.3/0.964	J
RDX	µg/L	2.0/0.6	
Sodium	mg/L	0.295/1.0	J
Strontium	mg/L	0.00026/0.005	J

Table 4-3 Equipment Blanks for Subarea 6 Soil Samples – Detected Results Only

EB-SA6-SB-080211 EB-SA6 08/02/2011			
Analyte	**Units**	**Concentration/RL**	**Final Qualifier**
2,3,7,8-TCDF	pg/L	0.136/2.07	J
4-Amino-2,6-Dinitrotoluene	µg/L	0.34/0.6	J
Anthracene	µg/L	0.12/0.051	
Benzo(a)anthracene	µg/L	0.015/0.051	J
Benzo(b)fluoranthene	µg/L	0.013/0.051	J
EB-SA6-SB-080211 EB-SA6 08/02/2011			
Bis(2-Ethylhexyl) phthalate	µg/L	0.27/1.0	J
Butylbenzylphthalate	µg/L	0.14/1.0	J
Chrysene	µg/L	0.014/0.051	J
Diethylphthalate	µg/L	0.086/1.0	J
Di-n-Butylphthalate	µg/L	0.22/1.0	J
Di-n-Octylphthalate	µg/L	0.20/1.0	J
Napthalene	µg/L	0.044/0.051	J
N-Nitrosodimethylamine	µg/L	4.53/1.09	J
RDX	µg/L	1.6/0.6	
EB-SA6-SB-080911 EB-SA6 08/09/2011			
Analyte	**Units**	**Concentration/RL**	**Final Qualifier**
Acetone	µg/L	13/20	J
Bis(2-Ethylhexyl) phthalate	µg/L	0.094/1.0	J
Butylbenzylphthalate	µg/L	0.15/1.0	J
Diethylphthalate	µg/L	0.065/1.0	J
Di-n-Butylphthalate	µg/L	0.16/1.0	J
Di-n-Octylphthalate	µg/L	0.14/1.0	J
GRO (C5-C12)	µg/L	91/50	
Lead	mg/L	0.000083/0.001	J
Napthalene	µg/L	0.048/0.051	J
RDX	µg/L	1.1/0.6	
EB-SA6-SB-081711 EB-SA6 08/17/2011			
Analyte	**Units**	**Concentration/RL**	**Final Qualifier**
Bis(2-Ethylhexyl) phthalate	µg/L	0.1/0.95	J
Diethylphthalate	µg/L	0.22/0.95	J
Di-n-Butylphthalate	µg/L	0.69/0.95	J
Di-n-Octylphthalate	µg/L	0.073/0.95	J
Lead	mg/L	0.00029/0.001	J
Naphthalene	µg/L	0.063/0.048	
N-Nitrosodimethylamine	µg/L	2.49/1.01	J
RDX	µg/L	1.9/0.6	

Table 4-3 Equipment Blanks for Subarea 6 Soil Samples – Detected Results Only

EB-SA6-SB-082311 EB-SA6 08/23/2011			
Analyte	**Units**	**Concentration/RL**	**Final Qualifier**
2,3,4,6,7,8-HxCDF	pg/L	0.554/9.95	J
4-Amino-2,6-Dinitrotoluene	µg/L	0.59/0.6	J
Acetone	µg/L	34/20	
Bis(2-Ethylhexyl) phthalate	µg/L	0.12/1.0	J
Boron	mg/L	0.0052/0.05	J
Butylbenzylphthalate	µg/L	0.14/1.0	J
Chloroform	µg/L	1/5	J
EB-SA6-SB-082311 EB-SA6 08/23/2011			
Diethylphthalate	µg/L	0.28/1.0	J
Di-n-Butylphthalate	µg/L	0.85/1.0	J
Di-n-Octylphthalate	µg/L	0.17/1.0	J
Lead	mg/L	0.000093/0.001	J
Methylene Chloride	µg/L	14/5	
Naphthalene	µg/L	0.082/0.051	
N-Nitrosodimethylamine	µg/L	3.27/1.04	J
RDX	µg/L	3.6/0.6	
EB-SA6-SB-082411 EB-SA6 08/02/2011			
Analyte	**Units**	**Concentration/RL**	**Final Qualifier**
4-Amino-2,6-Dinitrotoluene	µg/L	0.34/0.6	J
Acetone	µg/L	36/20	
Bis(2-Ethylhexyl) phthalate	µg/L	0.098/1.1	J
Boron	mg/L	0.0041/0.05	J
Butylbenzylphthalate	µg/L	0.14/1.1	J
Chloroform	µg/L	1/5	J
Diethylphthalate	µg/L	0.33/1.1	J
Di-n-Butylphthalate	µg/L	0.85/1.1	J
Di-n-Octylphthalate	µg/L	0.24/1.1	J
GRO (C5-C12)	µg/L	50/50	
Methylene Chloride	µg/L	13/5	
Naphthalene	µg/L	0.042/0.053	J
N-Nitrosodimethylamine	µg/L	3.17/1.02	J
RDX	µg/L	3.5/0.6	

Table 4-3 Equipment Blanks for Subarea 6 Soil Samples – Detected Results Only

EB-SA6-SB-083011 EB-SA6 08/30/2011			
Analyte	**Units**	**Concentration/RL**	**Final Qualifier**
2,3,4,7,8-PeCDF	µg/L	0.473/10.3	J
4-Amino-2,6-Dinitrotoluene	µg/L	0.46/0.6	J
Bis(2-Ethylhexyl) phthalate	µg/L	0.2/0.99	J
Butylbenzylphthalate	µg/L	0.14/0.99	J
Diethylphthalate	µg/L	0.34/0.99	J
Di-n-Butylphthalate	µg/L	0.95/0.99	J
Di-n-Octylphthalate	µg/L	0.16/0.99	J
N-Nitrosodimethylamine	ng/L	2.89/1.01	J
RDX	µg/L	3.4/0.6	
EB-SA6-SB-090711 EB-SA6 09/07/2011			
Analyte	**Units**	**Concentration/RL**	**Final Qualifier**
1,2,3,6,7,8-HxCDF	pg/L	0.296/9.85	J
4-Amino-2,6-Dinitrotoluene	µg/L	0.38/0.6	J
Acetone	µg/L	25/20	
Diethylphthalate	µg/L	0.23/1.0	J
Methylene Chloride	mg/L	6/5	
N-Nitrosodimethylamine	ng/L	2.79/1.03	J
RDX	µg/L	2.8/0.6	
EB-SA6-SB-100311 EB-SA6 10/03/2011			
Analyte	**Units**	**Concentration/RL**	**Final Qualifier**
N-Nitrosodimethylamine	ng/L	2.62/0.957	J
EB-SA6-SB-100411 EB-SA6 10/04/2011			
Analyte	**Units**	**Concentration/RL**	**Final Qualifier**
N-Nitrosodimethylamine	ng/L	2.24/0.955	J
EB-SA6-SB-100511 EB-SA6 10/05/2011			
Analyte	**Units**	**Concentration/RL**	**Final Qualifier**
1,2,3,6,7,8-HxCDD	pg/L	0.198/10.6	J
1,2,3,6,7,8,9-HxCDD	pg/L	0.19/10.6	J
1,2,3,7,8,9-HxCDF	pg/L	0.139/10.6	J
1,2,3,7,8-PeCDF	pg/L	0.26/10.6	J
4-Amino-2,6-Dinitrotoluene	µg/L	0.99/0.6	
Acetone	µg/L	26/20	
Bis(2-Ethylhexyl) phthalate	µg/L	0.11/0.95	J
Diethylphthalate	µg/L	0.26/0.95	J
Di-n-Butylphthalate	µg/L	0.7/0.95	J

Table 4-3 Equipment Blanks for Subarea 6 Soil Samples – Detected Results Only

EB-SA6-SB-100511 EB-SA6 10/05/2011			
Naphthalene	µg/L	0.034/0.048	J
N-Nitrosodimethylamine	ng/L	2.86/1.01	J
RDX	µg/L	3.2/0.6	
EB-SA6-SB-NDMA-100511 EB-SA6 10/05/2011			
Analyte	**Units**	**Concentration/RL**	**Final Qualifier**
N-Nitrosodimethylamine	ng/L	2.69/0.982	J
EB-SA6-SB-100611 EB-SA6 10/06/2011			
Analyte	**Units**	**Concentration/RL**	**Final Qualifier**
1,2,3,6,7,8-HxCDD	pg/L	0.354/9.55	J
4-Amino-2,6-Dinitrotoluene	µg/L	0.89/0.6	
Bis(2-Ethylhexyl) phthalate	µg/L	0.13/0.95	J
Diethylphthalate	µg/L	0.15/0.95	J
Di-n-Butylphthalate	µg/L	0.30/0.95	J
Lead	mg/L	0.0015/0.001	
Methylene Chloride	µg/L	7/5	
Naphthalene	µg/L	0.033/0.048	J
N-Nitrosodimethylamine	ng/L	2.35/1.03	J
RDX	µg/L	3.2/06	
EB-SA6-SB-NDMA-100611 EB-SA6 10/06/2011			
Analyte	**Units**	**Concentration/RL**	**Final Qualifier**
N-Nitrosodimethylamine	ng/L	1.05/0.952	J
EB-SA6-SB-113011 EB-SA6 11/30/2011			
Analyte	**Units**	**Concentration/RL**	**Final Qualifier**
N-Nitrosodimethylamine	ng/L	2.65/0.958	J
EB-SA6-SB-120111S EB-SA6 12/01/2011			
Analyte	**Units**	**Concentration/RL**	**Final Qualifier**
Aluminum	mg/L	0.0254/0.1	J
Copper	mg/L	0.000858/0.001	J
GRO (C5-C-12)	µg/L	29/50	J
Methylene Chloride	µg/L	1.4/1.0	
Nitrate	mg/L	0.284/0.443	J

Table 4-3 Equipment Blanks for Subarea 6 Soil Samples – Detected Results Only

EB-SA6-SB-120111 EB-SA6 12/01/2011			
Analyte	**Units**	**Concentration/RL**	**Final Qualifier**
Bis(2-Ethylhexyl) phthalate	µg/L	0.075/1.0	J
Boron	mg/L	0.0043/0.05	J
Copper	mg/L	0.0005/0.002	J
Diethylphthalate	µg/L	0.077/1.0	J
Di-n-Butylphthalate	µg/L	0.28/1.0	J
Naphthalene	µg/L	0.037/0.051	J
N-Nitrosodimethylamine	ng/L	0.954/1.09	J
RDX	µg/L	1.1/0.6	
Strontium	mg/L	0.00045/0.005	J

Notes:
Blank result greater than RL
GRO = gasoline range organics
HxCDD = hexachlorodibenzo-p-dioxin
HxCDF = hexachlorodibenzofuran
PeCDF = pentachlorodibenzo-p-dioxin
TCDF = tetrachlorodibenzofuran
RL = Reporting Limit
µg/L = microgram per liter
pg/L = picogram per liter
RDX = 1,3,5-Trinitroperhydro-1,3,5-triazine
mg/L = milligram per liter
ng/L = nanogram per liter

Table 4-4 Field Blanks for Subareas 3 and 6 Soil Samples – Detected Results Only

FB07-SA8N-QC-042711 (Associated with Subarea 6 Samples) FB07-SA8N 04/27/2011			
Analyte	**Units**	**Concentration/RL**	**Final Qualifier**
1-Methylnaphthalene	µg/L	0.026/0.05	J
2-Methylnaphthalene	µg/L	0.030/0.05	J
Naphthalene	µg/L	0.22/0.05	
FB07-SA7-QC-102611 (Associated with Subarea 3 Samples) FB-SA7 10/26/2011			
Analyte	**Units**	**Concentration/RL**	**Final Qualifier**
Di-N-Octyl Phthalate	µg/L	0.083/0.98	J
1,2,3,4,7,8-HxCDD	pg/L	0.251/10.4	J
1,2,3,6,7,8-HxCDF	pg/L	0.219/10.4	J
Strontium	mg/L	0.0018/0.005	J
Titanium	mg/L	0.0006/0.01	J
Magnesium	mg/L	1.22/0.1	
Sodium	mg/L	8.3/1.0	
Boron	mg/L	0.148/0.05	
Calcium	mg/L	9.89/0.2	

Notes:
Blank result greater than RL
RL = Reporting Limit
HxCDD = hexachlorodibenzo-p-dioxin
HxCDF = hexachlorodibenzofuran
µg/L = microgram per liter
pg/L = picogram per liter
mg/L = milligram per liter

Five trip blank samples were shipped with the Subarea 3 soil samples and 45 trip blank samples were shipped with the Subarea 6 soil samples. The results for these samples are presented in Appendix C. For the trip blanks submitted with the Subarea 3 and Subarea 6 samples, no analytes were detected. 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. Temperature blanks were to be included with each shipment of samples. Based on validation results, all temperature blanks submitted with Subareas 3 and 6 samples met criteria.

The number of field QC samples collected satisfies the minimum requirements for the Subareas 3 and 6 sampling programs. 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, 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. Four individual analyte results for samples from Subarea 3 (0.19 percent of all the analytes) and 306 individual analyte results for samples from Subarea 6 (0.47 percent of all analytes) were rejected as discussed in Section 4.7 and in Appendix C.

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.

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

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

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

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

For the Subareas 3 and 6 soil data sets, 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 WP/FSAP (CDM 2011a) 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 3 individual analyte results were qualified as estimated "J/UJ" based on precision criteria:

- Some of the metal analyte results due to laboratory precision criteria

The following Subarea 6 individual analyte results were qualified as estimated "J/UJ" based on precision criteria:

- Some of the fluoride/nitrate, metals, mercury and PCB/PCT analyte results due to laboratory precision criteria

Field duplicate precision criteria required the qualification of some results for dioxins, various metal analytes, TPH and glycols, PCB/PCTs and SVOC SIM for Subarea 3 samples. For Subarea 6 samples, some dioxin results, nitrate/fluoride, various metal analyte results, hexavalent chromium results, mercury results, alcohol and terphenyls, TPHs and glycols, pesticide results, PCB/PCT results, herbicide results, VOC results, SVOC results, SVOC SIM results, and formaldehyde were also qualified as estimated “J/UJ” based on field duplicate precision criteria. 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 discernable pattern or reason for the laboratory and field duplicate sample RPD exceedances identified. No field sampling issues were identified that would cause the RPD results that were outside of criteria. These exceedances are reasonable for this type of sampling activity.

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:

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

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

Analytical accuracy for the entire data collection activity is difficult to assess because several sources of error exist. Errors can be introduced by any of the following:

- Sampling procedure
- Field contamination
- Sample preservation and handling
- Sample matrix
- Sample preparation
- Analytical techniques

Accuracy is maintained to the extent possible by adhering to the 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.

Reporting Limit Matrix Spikes: RL-MSs are samples to which a known amount of a target analyte has been added to the sample at the reporting limit concentration. 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. The RL-MS is designed to verify the laboratory methods ability to accurately quantify the spiked compound at the RL in the site matrix. The RL-MS is an extra QC sample used for the modified methods identified in Table 2-3.

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

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

Reporting Limit Laboratory Control Samples: RL-LCSs consist of a portion of analyte-free water or solid phase sample that is spiked at the reporting limit with target analytes at a known concentration. The RL-LCS is designed to verify the laboratory methods ability to accurately quantify the spiked compound at the RL. The RL-LCS is an extra QC sample used for the modified methods identified in Table 2-3.

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 Subareas 3 and 6 soil data sets, accuracy was evaluated by reviewing the %R values 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. No qualifiers were applied to applicable sample results based on the accuracy results of the RL-LCS and RL-MS samples. These QC samples are intended to evaluate the effects of the method modifications on the RLs program-wide. A statistically robust population of RL-LCS and RL-MS samples has not yet been achieved. When enough data has been collected, decisions regarding the accuracy and precision of these RLs will be addressed by all parties, including possible changes to the RLs.

The following Subarea 3 individual analyte results were qualified as estimated "J/UJ" based on accuracy criteria:

- Some of the fluoride/nitrate results, metals, TPH and glycol results, SVOC results and energetic results due to MSs
- Some of the PCB/PCT results, herbicide results and SVOC results due to LCSs
- Some of the pesticide results due to surrogates

- Some of the metal analyte results due to serial dilutions

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

- Two herbicide results (dinoseb) based on LCSs
- Two SVOC results (2,4-dinitrophenol and benzoic acid) based on MSs

The following Subarea 6 individual analyte results were qualified as estimated "J/UJ" based on accuracy criteria:

- Some of the dioxins, fluoride/nitrate results, perchlorate, metal results, hexavalent chromium, mercury, alcohols and terphenyls, TPH and glycols, pesticide results, herbicide results, VOCs, SVOC results, SVOC SIM results and energetics due to MSs
- Some of the metals, TPH and glycols, pesticide results, herbicide results, VOC results, SVOC results and SVOC SIM results due to LCSs
- Some of the alcohol and terphenyls, TPH and glycols, pesticide results, PCB/PCT results, herbicide results, VOC results, SVOC results and formaldehyde results due to surrogates
- Some of the metal analyte results due to serial dilutions
- Some of the SVOC analyte results due to internal standards
- Some of the dioxin results, pesticide results, PCB/PCT results and herbicide results due to second column confirmations
- Some of the pesticide results, PCB/PCT results, herbicide results, VOC results, SVOC results, and SVOC SIM results due to calibrations
- Some of the NDMA results, TPH and glycol results, pesticide results and PCB/PCT results due to holding times

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

- Two fluoride results based on MSs
- Twenty antimony results based on MSs and LCSs
- Thirty-two alcohol and terphenyl results (one ethanol result; ten m-terphenyl and o-terphenyl results; and 11 p-terphneyl results) based on MSs and surrogates
- Five TPH and glycols results (two for EFH [C12-C14] and three for EFH [C8-C11] results) based on MSs
- Eighty-one pesticide results based on MSs and surrogates
- Ten PCB/PCT results based on surrogates
- One hundred and nine herbicide results based on MSs, LCSs and surrogates
- Thirty-nine SVOC results based on MSs and LCSs
- Eight SVOC SIM results based on LCSs

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 2.4.4. Field blanks, equipment blanks, trip blanks and laboratory method blanks are analyzed to identify possible sources of contamination. The DUAR and laboratory validation reports in Appendix C discuss the results that were qualified based on field and laboratory blank contamination.

In summary, for Subarea 3 samples, some dioxins, and metals results were qualified as non-detect due to laboratory blank contamination criteria. For Subarea 6 samples, some dioxins, NDMA results, metals, mercury, TPH and glycols, PCB/PCTs, herbicides, VOCs, and SVOC SIM analytes 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 the following: 37 percent of the dioxins for Subarea 3; and 30 percent of the dioxins; 11 percent of the NDMA results; and six percent of the metal results for Subarea 6. These results were qualified as non-detect "U" due to laboratory blank contamination.

For the dioxins, estimated detection limits (EDLs) are calculated for each sample. The EDLs 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" values because they are below the RL. Many of these estimated values have been subsequently qualified as non-detect "U" because the compound was detected in related laboratory blanks. The laboratory blank results correlate to the sample EDLs and 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" qualified data do not falsely diminish identification of site-related contaminants.

The other reported analytes that had blank qualifications greater than 5 percent do not indicate a laboratory blank contamination problem as the overall sample counts for those analytes were low. For example, there were only 113 NDMA samples analyzed for Subarea 6 and out of those samples 13 NDMA results were qualified due to blank contamination.

Tables 4-2 through 4-4 provide a summary of analytes observed in equipment blank samples. Most of the detected compounds in the equipment blanks were below the RLs but above the MDLs. Compounds detected above the RL in equipment blanks are highlighted yellow in the associated tables. The ASTM Type II water used to generate the equipment and travel blanks was previously analyzed as a field blank on April 27, 2011 and is associated with Subarea 6 samples. This field blank (source water) had a detection of naphthalene (above the RL) indicating inherent low level contamination in the source water used. Another field blank was collected on October 26, 2011 and is associated with Subarea 3 samples. This field blank had detections of magnesium, sodium boron and calcium (above the RL) also indicating inherent low level contamination in the source water used.

ASTM Type II water is not typically certified "clean" to the low RLs established for the low level methods used for the co-located sampling program. A review of the ASTM Type II field blanks for all Phase 1 sampling showed one detect of heptachlor, three detects of naphthalene, and one detect of RDX above their respective RL. One field blank had detects above the RLs for four metal analytes and one field blank had detects above the RLs for a variety of VOC analytes. A review of ASTM Type II water field blanks will continue to monitor for detected concentrations of analytes throughout the sampling program.

A review of all Phase 1 equipment blanks was also performed. In general, a variety of analytes were detected above their respective RLs. The most frequently detected analytes were naphthalene, NDMA and RDX. Naphthalene was detected in 28 percent of the equipment blanks, NDMA in 27 percent of the equipment blanks and RDX in 26 percent of the equipment blanks. Other analytes were detected in the equipment blanks with methylene chloride being detected in eight percent of the equipment blanks. All other analytes were detected in less than five percent of the equipment blank samples.

Further review of the equipment blanks is being conducted and all Phase 3 equipment blanks collected to-date are being evaluated 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. Associated sample results were qualified accordingly during the validation process regarding field blank contamination. No sample results were rejected due to detected concentrations in field blanks or laboratory blanks.

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 WP/FSAP for this sampling event and future sampling events, sample analysis should yield results representative of environmental conditions at the time of sampling. Similarly, reasonable comparability of analytical results for this and future sampling events can be achieved if approved 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 WP/FSAP (CDM 2011a) and laboratory statements of work (SOWs) to ensure that the laboratory analytical results were representative of true field conditions.

The most significant measure of representativeness is the accuracy of the sampling network and selection of appropriate locations and depths, etc. Field sampling accuracy was attained through adherence to the approved WP/FSAP for sample location and collection and by using approved 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. The sample analyses were performed by LLI. 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.

RLs for the modified methods identified in Table 2-3 are evaluated through the analysis of RL-LCS and RL-MS samples created by LLI. The evaluation of these QC samples is ongoing throughout all subareas of Area IV and recommendations regarding program-wide sample qualification based on the RL-LCS and RL-MS QC results have not been finalized. Qualification of individual sample results for Subareas 3 and 6, based on the current RL-LCS and RL-MS QC sample results, was not performed.

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 3, results for some of the analytes were qualified as estimated due to RL criteria except for NDMA, perchlorates, alcohols and terphenyls, formaldehyde, energetics, and cyanide results. For all methods analyzed for Subarea 6, results for some of the analytes were qualified as estimated due to RL criteria except for VOC SIM results and cyanide results.

In general, for the data validated in this TM, RLs for the sample results were low enough to compare to the RLs stated in the WP/FSAP (CDM 2011a). The RLs for this project are lower than "normal" environmental data analyses for some classes of compounds. Some analytical laboratory methods were modified in order to achieve the lowest practicable RLs in an attempt to comply with the AOC. All modified analyses are undergoing further studies evaluating the effect of the modifications on precision and accuracy. An independent study evaluating the precision and accuracy of the modified herbicide method has been completed. Review of the herbicide results indicate that the method modifications did not achieve precision and accuracy goals at this lower reporting limit for some of the analytes. Data are currently under further review and it is likely that reporting limits may be elevated for some analytes. These results are still considered usable for project decisions.

4.8 Review of Selected Validation Reports

CDM 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 WP/FSAP (CDM 2011a) versus the actual number of samples collected during the field program (see equation A).

Completeness for acceptable data is defined as the percentage of acceptable data obtained judged to be valid versus the total quantity of data generated (see equation B). Acceptable data include both

data that pass all the QC criteria (unqualified data) and data that may not pass all the QC criteria but had appropriate corrective actions taken (qualified but usable data).

Equation A.

$$\%\text{Completeness} = C \times \frac{100}{n}$$

Where:

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

Equation B.

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

Where:

V = number of measurements judged valid
n' = total number of measurements made

The overall completeness goal, as defined in the WP/FSAP (CDM 2011a), for this sampling event is 90 percent for each analytical test for all project data.

A total of 14 Subarea 3 and 393 Subarea 6 soil samples including the field duplicates were collected and analyzed. As discussed in Section 2.8, 10 locations were to be sampled in Subarea 3 and 244 locations in Subarea 6. Some locations required only a subsurface sample while other locations required both a surface (or drainage) 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. Of the locations to be sampled in Subarea 3, subsurface samples were not collected at two locations (SL-002 and SL-003) due to shallow refusal at less than 2.5 feet. For Subarea 6 no subsurface samples were collected at 83 locations due to shallow refusal at less than 2.5 feet bgs and samples were not collected at SL-140 and SL-141 due to archeological concerns.

As discussed in Section 2.8, the sampling deviations do not impact completeness objectives for this sampling program. Ninety-nine percent of the sample locations identified in the WP/FSAP Addendums for Subareas 3 and 6 were sampled meeting the completeness goal for the number of locations sampled versus number of locations planned to be sampled.

The completeness goal achieved for acceptable data was 99.8 percent of the number of measurements judged to be valid versus the total number of measurements made for all Subarea 3 samples and 99.5 percent for Subarea 6 samples analyzed. Tables 4-5 and 4-6 summarize all results that were estimated or rejected.

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

- Method 8151A
  - Two out of 20 individual herbicide analyte results (10 percent)
- Method 8270C
  - Two out of 615 SVOC results (0.32 percent)

The following Subarea 6 individual analyte results were rejected per analyses:

- Method 300

- Two out of 488 fluoride results (0.4 percent)

- Method 6020
  - Twenty out of 4,872 antimony results (0.41 percent)
- Method 8015B
  - Thirty-two out of 1,674 individual alcohol/terphenyl analyte results (1.9 percent)
- Method 8015M
  - Five out of 2,455 individual TPH and glycol analyte results (0.2 percent)
- Method 8081A
  - Eighty-one out of 3,066 individual pesticide analyte results (2.64 percent)
- Method 8082
  - Ten out of 4,500 individual PCB/PCT analyte results (0.22 percent)
- Method 8151A
  - One hundred and nine out of 1,460 individual herbicide analyte results (7.46 percent)
- Method 8270
  - Thirty-nine out of 18,949 individual SVOC analyte results (0.20 percent)
- Method 8270C SIM
  - Eight out of 8,286 individual SVOC SIM analyte results (0.09 percent)

Table 4-5 Summary of Data Completeness Following Data Validation – Subarea 3

	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	20	89		105	7	221	100
NDMA				7			100
Formaldehyde	1			6		7	100
Cyanide				7		7	100
Fluoride, Nitrate	7	8		3	2	20	100
Hexavalent Chromium		5		8		13	100
Mercury		3		10		13	100
Metals – 6010B	119	43		20		182	100
Metals – 6020	59	139		4	6	208	100
Perchlorate-314					13		100
Perchlorate-6850							100
Alcohols, terphenyls				42		42	100
Energetics				115	11	126	100
Total Petroleum Hydrocarbons, glycols	4	6		49	3	62	100
PCBs/PCTs	6	8		130	12	156	100
Pesticides	2	4		36		42	100
Herbicides	1	2	2	15		20	90
Semivolatiles		4	2	604	5	615	99.68
Semivolatiles SIM	20	42		260		322	100
Completeness Total for All Subarea 3 Samples Collected and Judged Valid							**99.8**

Table 4-6 Summary of Data Completeness Following Data Validation – Subarea 6

	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	1058	2854		2363	66	6341	100
NDMA	5	2		105	1	113	100
Fluoride, Nitrate	148	229	2	62	47	488	99.6
Hexavalent Chromium	30	219		117	7	373	100
Mercury	39	158		172	4	373	100
Metals – 6010B	3393	1136		690	3	5222	100
Metals – 6020	1479	4243	20	50	176	5968	99.59
Perchlorate-314	1			369	3	373	100
Perchlorate-6850	1	3		56		60	100
Alcohols, terphenyls	4	38	32	1563	37	1674	98.1
Total Petroleum Hydrocarbons, glycols	471	195	5	1715	80	2466	99.8
PCBs/PCTs	328	183	10	3826	153	4500	99.78
Pesticides	171	263	81	2175	376	3066	97.36
Herbicides	80	85	109	1131	55	1460	92.54
Volatiles	6	30		2223	86	2345	100
Volatiles SIM				35		35	100
Semivolatiles	55	492	39	18001	362	18949	99.8
Semivolatiles SIM	879	1010	8	6307	82	8286	99.9
Formaldehyde	2	10		100	1	113	100
Energetics		1		1921	4	1926	100
Cyanide				119		119	100
Completeness Total for All Subarea 6 Samples Collected and Judged Valid							**99.53**

The completeness goals for both the locations sampled and the number of measurements judged to be valid were met.

Sampling deviations from procedures described in the WP/FSAP (CDM 2011a) are discussed in Section 2.8 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 WP/FSAP (CDM 2011a) 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.

As discussed in Section 2.7, the EMAX split samples were also validated. Sample results were qualified based on second column confirmations, blank results, calibration, laboratory precision, field duplicate results, internal standards, MSs, surrogates and reporting limits. Validation qualifiers applied to the EMAX analyzed samples are similar to the qualifiers applied to LLI analyzed samples. One SVOC result (benzidine) was rejected due to failure of the MS criteria. A separate memorandum discusses the details of the precision and accuracy of the EMAX sample results compared to the LLI sample results. The results generally indicate acceptable performance by EMAX.

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

Over 99 percent of the data validated for Subareas 3 and 6, 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 laboratory in their subcontract agreement with CDM.

Sample results that were qualified as estimated are usable for project decisions. Numerous dioxin results were qualified as estimated and/or non-detect due to the low detection limits. This data is considered usable.

Field duplicate precision also met criteria a majority of the time. RPDs were outside criteria predominantly when the sample results were close to the RL and/or below the project required action limits. Decisions based on results close to the RL should be made with a degree of caution. The achievement of the completeness goals for number of samples collected, and the number of sample results acceptable for use provides sufficient quality data to support project decisions.

Section 5
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BZ-NE

HSA-3

HSA 6

SL-001
SL-006
SL-002
SL-004
SL-003
SL-009
SL-005
SL-011
SL-007
SL-010
SL-008
SL-012
SL-013

Legend

- Sample Location
- Area IV Subarea
- Removed Building

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

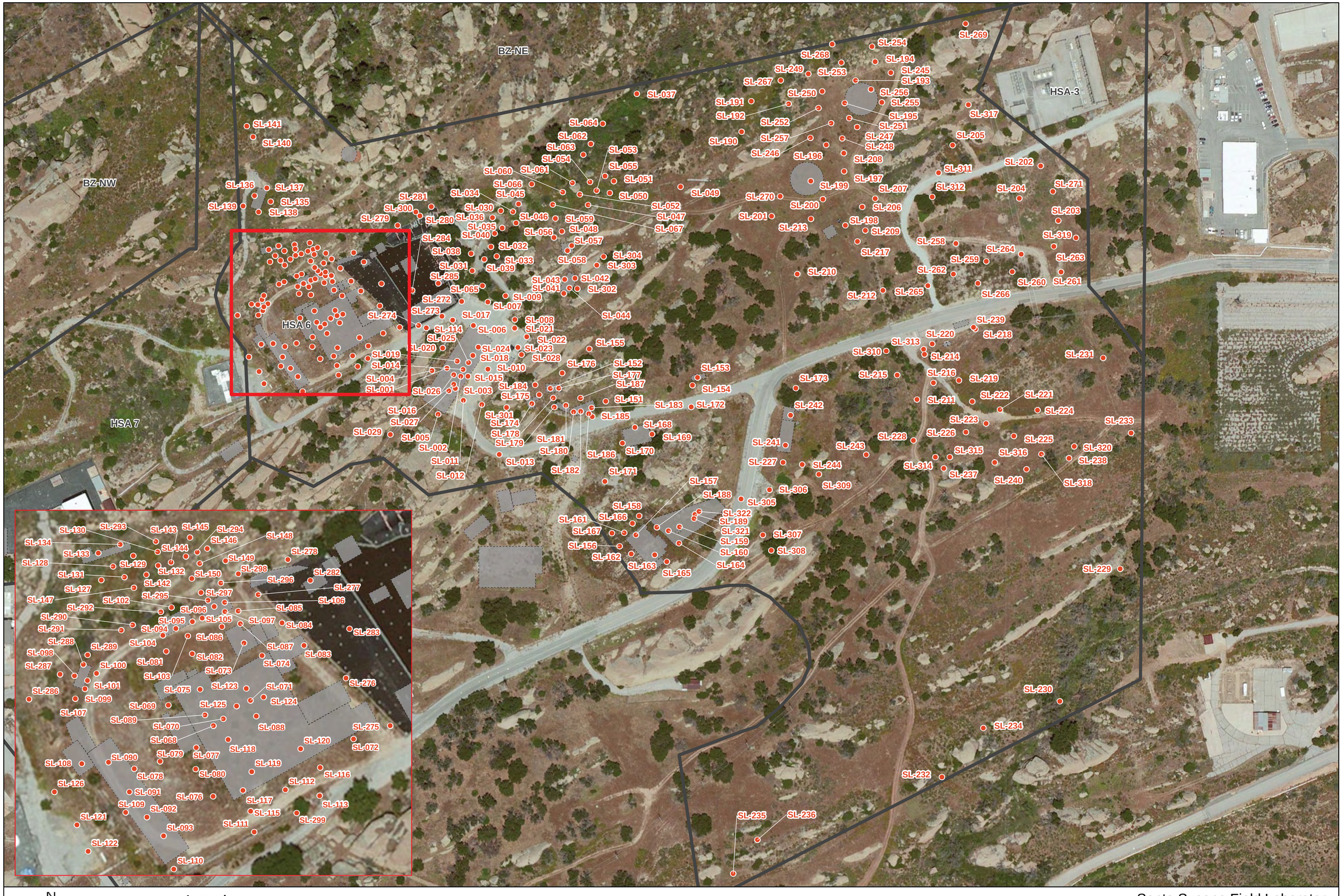
Subarea 3 Sample Locations

Santa Susana Field Laboratory
Ventura County, California
Exhibit 1

0 50 100 200 300 *Feet*

CDM Smith

Z:\gis\Public\Santa_Susana\MXD\AreaIV\SSFL_3_Sampling_Locations_18x24.mxd 2/29/2012



Legend

- Sample Location
- Area IV Subarea
- Removed Building

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

Subarea 6 Sample Locations

0 65 130 260 390 Feet

Santa Susana Field Laboratory
Ventura County, California
Exhibit 2

CDM Smith

Y:\SantaSusana\GIS\GIS_2011\MXD\SSFL_6_Sampling_Locations_18x24_20120725.mxd 7/27/2012