

Table 2-1
Additional Site Characterization Needs
Benning Road Road Facility RI/FS Project

Location	Target Area	Medium	Chemical	Concentration	Unit	Comments	Proposed Action
SUS08	1	surface soil	Vanadium	1700	mg/kg	17,100 ppm detected in 2009 USEPA SI Report	Delineate surface soils for V, PCBs, and Dioxins
			PCBs	840	ug/kg	2.7 ppm (Aroclor 1254) detected in 2009 USEPA SI Report	
			Dioxin	36.4	pg/g	Above PSL of 22 pg/g	
SUS05	5	surface soil	PCBs	5700	µg/kg	Above PSL of 1.0 mg/kg	Delineate surface soils for PCBs
SUS06	14	surface soil	PCBs	1900	µg/kg	Above PSL of 1.0 mg/kg	Delineate surface soils for PCBs
SUS10	10	surface soil	PCBs	1000	µg/kg	Exactly at the PSL of 1.0 mg/kg	Delineate surface soils for PCBs and dioxins
			Dioxin	27	pg/g	Above PSL of 22 pg/g	
SUS12	4	surface soil	PCBs	2,900	µg/kg	Above PSL of 1.0 mg/kg	Delineate surface soils for PCBs
SUS18	9	surface soil	PCBs	1400	µg/kg	Above PSL of 1.0 mg/kg	Delineate surface soils for PCBs and dioxins
			Dioxin	22.3	pg/g	Above PSL of 22 pg/g	
SUS20	7	surface soil	PCBs	5100	µg/kg	Above PSL of 1.0 mg/kg	Delineate surface soils for PCBs
SUS21	12	surface soil	PCBs	7200	µg/kg	Above PSL of 1.0 mg/kg	Delineate surface soils for PCBs
SUS11	5	surface soil	Dioxin	58.7	pg/g	Within cooling tower excavation area	None
SUS/DP19	20	surface and subsurface soil	Benzo(a)pyrene	2300 (1.5-2.5) 14000 (9.5-10.5)	ug/kg	Vertically delineated at 14.5 ft bgs.	Horizontally delineate surface and subsurface soils for PAHs
SB-3	5	shallow subsurface soil (2.5-3.5 ft bgs)	TPH-DRO	4700	mg/kg	Within cooling tower excavation area	Confirmatory sidewall and bottom excavation samples will be collected for during CT removal to horizontally and vertically bound contamination
			TPH-ORO	17000	mg/kg		
DP44	11	shallow subsurface soil (2.5-3.5 ft bgs)	PCBs	3100	µg/kg	Vertically delineated at 9.5 ft bgs.	Horizontally delineate shallow subsurface soils for PCBs
MW-01B	19	Groundwater	PCE	110	µg/L	Above PSL of 5 µg/l	Horizontally and vertically delineate groundwater for PCE
MW-01A MW-01B MW-02A MW-02B	19	Groundwater	Naphthalene	0.2 0.27 13 J 2.6	µg/L	Above PSL of 0.17 µg/l	Horizontal and vertical delineation of groundwater for naphthalene
MW-13B SB-32	18	Groundwater	MTBE	190 740	µg/L	Above PSL of 14 µg/l	Horizontal delineation of lower aquifer for MTBE
MW-09A MW-09B MW-12A MW-12B	N/A	Groundwater	TCDD TEQ	2.65 0.122 14.1 3.34	pg/L	Detections may be due to turbid samples	Redevelop and resample wells
Building 75 Area	Former Timber Pole Storage Area	surface and subsurface soil	Full Suite	N/A	N/A	Possible soil impacts from treated utility poles require investigation	Sample surface soils for full suite of analytes
Former Buildings 38 and 39	Former Transformer Shops	surface and subsurface soil	Full Suite	N/A	N/A	Possible soil impacts from former transformer operations require investigation	Sample surface soils for full suite of analytes

Notes:

Target Area 1 - Former sludge dewatering area: clarifier sludge was dewatered here from the mid-1970s to the late 2000s
Target Area 4 - 2003 Salvage Yard Investigation: a soil investigation and removal was completed in an area formerly used for storing used electrical equipment
Target Area 5 - Cooling Towers: constructed in the 1968-1970, the cooling towers contained PCB-impacted caulking which impacted the surrounding soils
Target Area 7 - 1988 Parking Lot Cleanup Area: PCB-contaminated soil was detected and removed in an area previously used to store PCB capacitor banks
Target Area 9 - Green Tag Storage Area: Building 66 used for temporary storage of empty transformer casing marked to indicate they contained <50 ppm PCBs
Target Area 10 - Red Tag Storage Area: Area used for temporary storage of empty transformer casing marked to indicate they contained 50-499 ppm PCBs
Target Area 11 - PCB Building 68: Building used for temporary storage of PCBs wastes and other hazardous wastes in drums
Target Area 12 - Building #57: Building houses two 10,000 gal holding tanks for accumulated waste oil containing <50 ppm PCBs.
Target Area 14 - Former Railroad Switchyard: area used as a switchyard from early 1900s - circa 2000, then used for storage, and substation #45 since 2011
Target Area 18 - Kenilworth Fueling Island: 20,000 gal UST, found leaking in 1995, remediated with case closure in 1997, and UST removal in 2012
Target Area 19 - PCE and Naphthalene in Groundwater: adjacent to southern portion of former power plant where chlorinated solvents were stored and used

**Table 3-1
Permits Previously Obtained for RI/FS Field Activities
Benning Road Facility RI/FS Project**

Permit Name	Issuing Agency	Permit Number	Purpose	Date Applied for	Date Received
Nationwide Permit 6	USACE	CENAB-OP-RMS 2012-02685	River sediment sampling	8/24/2012	1/8/2013
Maryland State Programmatic General Permit 4	USACE	CENAB-OP-RMS 2012-61826	Background sediment sampling in MD	1/4/2013	2/7/2013
Water Quality Certification	DOEE	DC-13-001	River sediment sampling	8/13/2012	1/23/2013
Tidal Wetland License	Maryland Board of Public Works	12-1506 (formerly 13-0001EM)	River sediment sampling	1/7/2013	4/3/2013
Special Use Permit	NPS	NCR 9500-13-001	River sediment sampling	8/22/2012	9/10/2013
*Special Use Permit	NPS	NCR NACE 5700 1415	One geotechnical boring in Anacostia Park	12/11/2012	2/5/2015
Building Permit	DCRA	B1307613	Staging area on Kingman Island	5/28/2013	6/7/2013
Soil Boring Permit	DCRA	SB1300069	Environmental and geotechnical borings	12/12/2012	1/14/2013
Soil Boring Permit	DCRA	SB1400431	Monitoring well installation	8/6/2014	9/11/2014
Miss Utility Ticket	Miss Utility	Various	Sub-surface excavation/drilling	Various	Various

Notes:

USACE - US Army Corps of Engineers

DOEE - Department of Energy and Environment

NPS - National Park Service

DCRA - Department of Consumer and Regulatory Affairs

*This permit received after conclusion of RI/FS field activities

Table 3-2
 Landside and Waterside Sampling Programs
 Benning Road Facility RI/FS Project

Sample Location	Sample Media	Number of Samples	Parameters	Rationale
Landside Investigation				
Phase I: Additional Site Characterization				
Phase I, Task 1: Onsite Monitoring Well Resampling				
MW1A	Groundwater	1	PCBc, PAH, PCDD/PCDFs, VOCs ¹	Resample onsite monitoring wells to confirm detections of: hydrophobic compounds, PCBs, naphthalene, PCE, and MTBE
MW1B		1	PCBc, PAHs, VOCs ¹	
MW2A		1	PCBc, PAHs, VOCs ¹ , SHC, APAHs	
MW2B		1	PCBc, PAHs	
MW3A		1	PCBc	
MW3B		1	PCBc	
MW4A		1	PCBc, PCDD/PCDFs	
MW4B		1	PCBc, Pesticides ²	
MW5A		1	VOCs ¹	
MW5B		1	Pesticides ²	
MW6A		1	Pesticides ²	
MW7A		1	PCBc, Pesticides ² , PCDD/PCDFs	
MW7B		1	PCBc, PCDD/PCDFs	
MW8A		1	PCBc	
MW8B		1	PCBc, Pesticides ²	
MW9A		1	PCDD/PCDFs, VOCs ¹	
MW9B		1	PCDD/PCDFs, VOCs ¹	
MW10B		1	VOCs	
MW11A		1	PCBc, Pesticides ² , PCDD/PCDFs	
MW11B		1	PCBc, PCDD/PCDFs	
MW12A	1	PCDD/PCDFs		
MW12B	1	PCDD/PCDFs		
MW13B	1	Pesticides ² , VOCs		
MW14A	1	PCBc		
MW14B	1	PCBc, Pesticides ² , VOCs		
MW15A	1	PCBc, VOCs		
MW15B	1	PCBc, VOCs		
Task sample total		27		
Phase I, Task 2: Surface and Subsurface Soil Delineation Sampling				
SUS05 Area	Surface Soil	8	PCBa	Delineate surface and subsurface soil contamination, characterize metals in the former coal pile area, characterize former operations areas not sampled during Phase 1 RI/FS
SUS06 Area		8	PCBa	
SUS08 Area		8	PCBa, PCDD/PCDFs, Metals	
SUS10 Area		8	PCBa, PCDD/PCDFs	
SUS12 Area		8	PCBa	
SUS18 Area		8	PCBa, PCDD/PCDFs	
SUS19 Area		8	PAHs	
SUS20 Area		8	PCBa	
SUS21 Area		8	PCBa	
DP44 Area		8	PCBa	
TA#1		8	Metals	
Former Timber Pole Area		3	PCBa, Metals, VOCs, SVOCs, TPH, Pesticides, PCDD/PCDF	
Former Bldgs. 38 & 39		2	PCBa, Metals, VOCs, SVOCs, TPH, Pesticides, PCDD/PCDF	
DP19 Area		Subsurface soil (2, 10, 15 ft)	24	
Task sample total		117		
Phase I, Task 3: Onsite Soil Forensics Sampling				
22 locations	Surface and subsurface soil up to 20 ft		See Table 3-3	Collect expanded forensic data to refine forensic evaluation

Table 3-2
 Landside and Waterside Sampling Programs
 Benning Road Facility RI/FS Project

Sample Location	Sample Media	Number of Samples	Parameters	Rationale
Phase I, Task 4: DPT Groundwater Sampling				
MW1 / MW2 area (UWZ and LWZ)	Groundwater	26	VOCs ¹ , PAHs	Delineate groundwater contamination: PCE and naphthalene in MW-1 / MW-2 area, MTBE downgradient of TA18
Downgradient of TA18 (UWZ and LWZ)		14	VOCs	
Task sample total		40		
Phase sample total		#REF!		
Phase II: Site-Specific Background Sampling				
Phase II, Task 1: Background Surface and Subsurface Soil Sampling				
SU-BK-01	Surface (0-1 ft) and subsurface (3-4 ft) soil	2	All: PCBa, Metals, VOCs, SVOCs, PCDD/PCDFs, DRO/ORO, pesticides Forensics Subset 1 (up to 12 samples): SHC, APAHs, GBM Forensics Subset 2 (up to 12 samples): PCBc	Collect background soil data to support the Background and Forensic Evaluations
SU-BK-02		2		
SOBACK1		2		
SOBACK2		2		
SOBACK3		2		
SOBACK4		2		
SOBACK5		2		
SOBACK6		2		
SOBACK7		2		
SOBACK8		2		
SOBACK9		2		
SOBACK10		2		
SOBACK11		2		
SOBACK12		2		
SOBACK13		2		
SOBACK14		2		
SOBACK15		2		
SOBACK16		2		
SOBACK17	2			
SOBACK18	2			
Task sample total		40		
Phase II, Task 2: Background Monitoring Well Sampling				
SB1500325	Groundwater	1	PCBa, Dissolved and Total Metals, VOCs, SVOCs, PCDD/PCDFs, pesticides, DRO/ORO	Collect background groundwater data
SB1300013		1		
SB1500308		1		
Task sample total		3		
Phase II, Task 3: Background DPT Groundwater Sampling				
Geoprobe 01	Groundwater (UWZ and LWZ)	2	All: PCBa, Dissolved and Total Metals, VOCs, SVOCs, PCDD/PCDFs, pesticides, DRO/ORO Forensics Subset 1 (up to 12 samples including Task 2 established well samples): SHC, APAHs, GBM Forensics Subset 2 (up to 12 samples including Task 2 established well samples): PCBc	Collect background groundwater data
Geoprobe 02		2		
Geoprobe 03		2		
Geoprobe 04		2		
Geoprobe 05		2		
Geoprobe 06		2		
Geoprobe 07		2		
Geoprobe 08		2		
Geoprobe 09		2		
Task sample total		18		
Phase sample total		61		

Table 3-2
 Landside and Waterside Sampling Programs
 Benning Road Facility RI/FS Project

Sample Location	Sample Media	Number of Samples	Parameters	Rationale
Phase III: NPS Property Investigation				
Phase III, Task 1: Incremental Surface Soil Sampling				
3 Decision Units	One surface soil incremental sample per DU	3	<u>All</u> : PCBa, Metals, SVOCs, PCDD/PCDFs, pesticides, TPH <u>Forensics (all)</u> : PCBc, SHC, APAHs, GBM	Investigate potential surface soil impacts on NPS property
Task sample total		3		
Phase III, Task 2: Discrete Subsurface Soil and Groundwater Sampling				
3 Decision Units	3 grab subsurface soil per DU (5, 10, 15 ft)	9	<u>All</u> : PCBa, PAHs, Metals, TPH <u>Forensics subset (minimum of 3)</u> : PCBc, SHC, APAHs, GBM	Investigate potential subsurface soil impacts on NPS property
3 Decision Units	One grab groundwater per DU	3	<u>All</u> : PCBa, Dissolved and Total Metals, TPH, VOCs, SVOCs, Pesticides, PCDD/PCDFs <u>Forensics subset (all)</u> : PCBc, SHC, APAHs, GBM	Investigate potential groundwater impacts on NPS property
Task sample total		12		
Phase III, Task 3: Geotechnical boring				
SB-6	Subsurface soil	8	Physical parameters	Assess physical properties of soils on NPS property
Phase sample total		23		
Landside Sample Total		#REF!		
Waterside Investigation				
Phase I: Sediment Profile Imaging at Near-Site and Background Locations				
15 Near-Site Locations	Surface Sediment	15	SPI imaging	Determine depth of the bioactive zone
5 Background Locations		5		
Phase sample total		20		
Phase II: Near-Site and Background Sediment Sampling				
Phase II, Task 1: Near-Site Surface Sediment Sampling				
15 Near-Site Locations	Surface Sediment	15	<u>All</u> : PCBa (rapid TAT), metals (rapid TAT), APAH (rapid TAT), TOC (rapid TAT), DRO/ORO, AVS/SEM, pesticides, PCDD/PCDFs, physical (grain size) <u>Forensics Subset 1 (up to 5 samples)</u> : SHCs, GBM <u>Forensics Subset 2 (up to 5 samples)</u> : PCBc	Collect near-Site sediment data to support the Ecological Risk Assessment and Forensic Evaluation
10 Near-Site Locations	Surface Sediment	10	<u>Pore Water Analysis</u> : PCBc, metals, PAHs, ammonia, dissolved organic carbon (DOC), particulate organic carbon (POC), hardness <u>Benthic Macroinvertebrate Survey</u> <u>Laboratory Toxicity Testing</u>	Collect near-Site sediment data to support the Ecological Risk Assessment and Forensic Evaluation
Task sample total		25		

Table 3-2
Landside and Waterside Sampling Programs
Benning Road Facility RI/FS Project

Sample Location	Sample Media	Number of Samples	Parameters	Rationale
Phase II, Task 2: Background Surface and Subsurface Sediment Sampling				
6 Upstream Background Locations	Surface Sediment	6	<u>Chemical</u> : PCBa, metals, TOC, AVS/SEM (except SEDBACK21), VOCs, SVOCs, pesticides, PCDD/PCDFs, cyanide <u>Forensics (all)</u> : PCBc, SHC, APAHs, GBM <u>Physical</u> : grain size <u>Pore Water Analysis (except SEDBACK21)</u> : PCBc, metals, PAHs, ammonia, DOC, hardness <u>Benthic Macroinvertebrate Survey (except SEDBACK21)</u> <u>Laboratory Toxicity Testing (except SEDBACK21)</u>	Collect additional Background sediment data to support the Ecological Risk Assessment, Background and Forensic Evaluations
6 Upstream Background Locations	4 Subsurface Sediment depths (1-3, 3-5, 5-7, 7-9 ft)	24	<u>Chemical</u> : PCBa, metals, TOC, VOCs, SVOCs, pesticides, PCDD/PCDFs, DRO/ORO, cyanide <u>Physical</u> : grain size <u>Forensic subset 1 (up to 12 samples)</u> : SHC, APAHs, GBM <u>Forensics subset 2 (up to 12 samples)</u> : PCBc	Collect additional Background sediment data to support the Background and Forensic Evaluations
15 Forensics Sediment Sampling Locations	Surface and subsurface sediment (1-ft intervals between 0-10 ft)	150	<u>Tier 1</u> : 0-1, 2-3, 4-5, 6-7, and 8-9 ft samples analyzed immediately for PAHs, PCBa, SHC <u>Tier 2</u> : All intervals archived for possible analysis for PCBa, PCBc, PAHs, SHC, APAH, GBM and Priority Pollutants ³	Collect additional sediment forensics data
2 City Stormwater Outfalls (F-294-739 and F-656-309)	Storm Drain Sediment	2	<u>Chemical</u> : PCBa, metals, VOCs, SVOCs, pesticides, PCDD/PCDFs, cyanide <u>Forensics (all)</u> : PCBc, SHC, APAHs, GBM	Collect storm drain sediment data to support the Background and Forensic Evaluations
Task sample total		182		
Phase II, Task 3: High Resolution Coring				
SED1.5C	Surface and Subsurface Sediment (0-10 ft)	30	<u>Radioisotopes</u> : Be-7, Cs-137, Pb-210 <u>Chemistry</u> : PCBa, PAHs, metals, DRO/ORO <u>Forensics subset (maximum of 12)</u> : PCBc, SHC, APAH, GBM	Determine rate of sediment and contaminant deposition over time
SED5B		30		
SED7F		30		
Task sample total		90		
Phase sample total		297		
Waterside Sample Total		317		

Notes

¹VOCs, where PCE is detected above 2 ug/L samples will be also analyzed by CSIA to measure the relative abundance of 13C and 37Cl isotopes

²Pesticides, where pesticides are detected above the PSLs by EPA Method 8081, then they will be verified by GC/MS/MS.

³Priority Pollutants are VOCs, SVOCs, pesticides, PCDD/PCDF, PCBa, metals, and cyanide

PCBc - PCB congeners

PCBa - PCB aroclors

SHC - Saturated Hydrocarbons by gas chromatography/flame-ionization detection (GC/FID)

APAH - Parent and Alkylated PAHs by ID0016

GBM - Geochemical Biomarkers by 8270M

Table 3-3
Onsite Soil Forensics Sampling Program
Benning Road Facility RI/FS Project

Previous RI/FS Sample ID	Sample Collection Interval ⁽¹⁾		Sample Interval ⁽²⁾		Tier 1 Sample Analysis ⁽³⁾			Tier 2 Forensics Sample Analysis ⁽⁴⁾			General Comment
	Start Depth	End Depth	Start Depth	End Depth	SW8270 PAH16 PAHs	USEPA 8082 PCB	USEPA 8015C SHC	USEPA 1668 PCBc	USEPA 8270M APAH	USEPA 8270M Biomarkers	
None (near DP36)	0.0	1.0	0.0	1.0	Y	Y	Y	CHD	CHD	CHD	Aerial photographs identify (1957 - 2001) "Transformer Row" in an area west of the power plant and east of the river.
	1.0	2.0	1.0	2.0	Y	Y	Y	CHD	CHD	CHD	
	2.0	3.0						CHD	CHD	CHD	
	3.0	4.0	2.0	5.0	Y	Y	Y	CHD	CHD	CHD	
	4.0	5.0						CHD	CHD	CHD	
	5.0	6.0						CHD	CHD	CHD	
	6.0	7.0						CHD	CHD	CHD	
	7.0	8.0	5.0	10.0	Y	Y	Y	CHD	CHD	CHD	
	8.0	9.0						CHD	CHD	CHD	
	9.0	10.0						CHD	CHD	CHD	
	10.0	11.0						CHD	CHD	CHD	
	11.0	12.0						CHD	CHD	CHD	
	12.0	13.0	10.0	15.0	Y	Y	Y	CHD	CHD	CHD	
	13.0	14.0						CHD	CHD	CHD	
14.0	15.0						CHD	CHD	CHD		
SUS/DP02	0.3	0.8									Aerial photographs identify (1957 - 2001) "Transformer Row" in an area west of the power plant and east of the river.
	0.0	0.5	0.0	1.0	Y	Y	Y	CHD	CHD	CHD	
	0.5	1.0									
	1.0	1.5	1.0	2.0	Y	Y	Y	CHD	CHD	CHD	
	1.5	2.0									
	2.0	2.5						CHD	CHD	CHD	
	2.5	3.0									
	3.0	3.5	2.0	5.0	Y	Y	Y	CHD	CHD	CHD	
	3.5	4.0									
	4.0	4.5						CHD	CHD	CHD	
	4.5	5.0									
	5.0	5.5						CHD	CHD	CHD	
	5.5	6.0									
	6.0	6.5						CHD	CHD	CHD	
	6.5	7.0									
	7.0	7.5	5.0	10.0	CH	CH	CH	CHD	CHD	CHD	
	7.5	8.0									
	8.0	8.5						CHD	CHD	CHD	
	8.5	9.0									
9.0	9.5						CHD	CHD	CHD		
9.5	10.0										
10.0	10.5						CHD	CHD	CHD		
10.5	11.0										
11.0	11.5						CHD	CHD	CHD		
11.5	12.0										
12.0	12.5	10.0	15.0	CH	CH	CH	CHD	CHD	CHD		
12.5	13.0										
13.0	13.5						CHD	CHD	CHD		
13.5	14.0										
14.0	14.5						CHD	CHD	CHD		
14.5	15.0										
15.0	15.5	15.0	16.0	CHD	CHD	CHD	CHD	CHD	CHD		
15.5	16.0										
SUS/DP06	0.0	1.0									A1260
	0.0	0.5	0.0	1.0	Y	Y	Y	CHD	CHD	CHD	
	0.5	1.0									
	1.0	1.5	1.0	2.0	Y	Y	Y	CHD	CHD	CHD	
	1.5	2.0									
	2.0	2.5						CHD	CHD	CHD	
	2.5	3.0									
	3.0	3.5	2.0	5.0	Y	Y	Y	CHD	CHD	CHD	
	3.5	4.0									
	4.0	4.5						CHD	CHD	CHD	
	4.5	5.0									
	5.0	5.5						CHD	CHD	CHD	
	5.5	6.0									
	6.0	6.5						CHD	CHD	CHD	
	6.5	7.0									
	7.0	7.5	5.0	10.0	CH	CH	CH	CHD	CHD	CHD	
	7.5	8.0									
	8.0	8.5						CHD	CHD	CHD	
	8.5	9.0									
9.0	9.5						CHD	CHD	CHD		
9.5	10.0										
10.0	10.5						CHD	CHD	CHD		
10.5	11.0										
11.0	11.5						CHD	CHD	CHD		
11.5	12.0										
12.0	12.5	10.0	15.0	CH	CH	CH	CHD	CHD	CHD		
12.5	13.0										
13.0	13.5						CHD	CHD	CHD		
13.5	14.0										
14.0	14.5						CHD	CHD	CHD		
14.5	15.0										
15.0	15.5	15.0	16.0	CHD	CHD	CHD	CHD	CHD	CHD		
15.5	16.0										

Table 3-3
Onsite Soil Forensics Sampling Program
Benning Road Facility RI/FS Project

Previous RI/FS Sample ID	Sample Collection Interval ⁽¹⁾		Sample Interval ⁽²⁾		Tier 1 Sample Analysis ⁽³⁾			Tier 2 Forensics Sample Analysis ⁽⁴⁾			General Comment
	Start Depth	End Depth	Start Depth	End Depth	SW8270 PAH16 PAHs	USEPA 8082 PCB	USEPA 8015C SHC	USEPA 1668 PCBc	USEPA 8270M APAH	USEPA 8270M Biomarkers	
DP37	0.0	1.0									Bulk Fuel Oil Storage Area; Used Oil Storage
	0.0	0.5	0.0	1.0	Y	Y	Y	CHD	CHD	CHD	
	0.5	1.0									
	1.0	1.5	1.0	2.0	Y	Y	Y	CHD	CHD	CHD	
	1.5	2.0									
	2.0	2.5						CHD	CHD	CHD	
	2.5	3.0									
	3.0	3.5	2.0	5.0	Y	Y	Y	CHD	CHD	CHD	
	3.5	4.0									
	4.0	4.5						CHD	CHD	CHD	
	4.5	5.0									
	5.0	5.5						CHD	CHD	CHD	
	5.5	6.0									
	6.0	6.5	5.0	10.0	CH	CH	CH	CHD	CHD	CHD	
	6.5	7.0									
	7.0	7.5						CHD	CHD	CHD	
	7.5	8.0									
	8.0	8.5						CHD	CHD	CHD	
	8.5	9.0									
	9.0	9.5						CHD	CHD	CHD	
9.5	10.0										
10.0	10.5						CHD	CHD	CHD		
10.5	11.0										
11.0	11.5	10.0	15.0	CH	CH	CH	CHD	CHD	CHD		
11.5	12.0										
12.0	12.5						CHD	CHD	CHD		
12.5	13.0										
13.0	13.5						CHD	CHD	CHD		
13.5	14.0										
14.0	14.5						CHD	CHD	CHD		
14.5	15.0										
15.0	15.5	15.0	16.0	CHD	CHD	CHD	CHD	CHD	CHD		
15.5	16.0										
SUS/DP08	0.0	1.0									A1254, A1260; Former Sludge Dewatering Area
	0.0	0.5	0.0	1.0	Y	Y	Y	CHD	CHD	CHD	
	0.5	1.0									
	1.0	1.5	1.0	2.0	Y	Y	Y	CHD	CHD	CHD	
	1.5	2.0									
	2.0	2.5						CHD	CHD	CHD	
	2.5	3.0									
	3.0	3.5	2.0	5.0	Y	Y	Y	CHD	CHD	CHD	
	3.5	4.0									
	4.0	4.5						CHD	CHD	CHD	
	4.5	5.0									
	5.0	5.5						CHD	CHD	CHD	
	5.5	6.0									
	6.0	6.5	5.0	10.0	Y	Y	Y	CHD	CHD	CHD	
	6.5	7.0									
	7.0	7.5						CHD	CHD	CHD	
	7.5	8.0									
	8.0	8.5						CHD	CHD	CHD	
	8.5	9.0									
	9.0	9.5						CHD	CHD	CHD	
9.5	10.0										
10.0	10.5						CHD	CHD	CHD		
10.5	11.0										
11.0	11.5	10.0	15.0	Y	Y	Y	CHD	CHD	CHD		
11.5	12.0										
12.0	12.5						CHD	CHD	CHD		
12.5	13.0										
13.0	13.5						CHD	CHD	CHD		
13.5	14.0										
14.0	14.5						CHD	CHD	CHD		
14.5	15.0										
15.0	15.5	15.0	16.0	CHD	CHD	CHD	CHD	CHD	CHD		
15.5	16.0										
SUS/DP05	0.0	1.0									A1254; Former USTs (no 2 Fuel Oil)
	0.0	0.5	0.0	1.0	Y	Y	Y	CHD	CHD	CHD	
	0.5	1.0									
	1.0	1.5	1.0	2.0	Y	Y	Y	CHD	CHD	CHD	
	1.5	2.0									
	2.0	2.5						CHD	CHD	CHD	
	2.5	3.0									
	3.0	3.5	2.0	5.0	Y	Y	Y	CHD	CHD	CHD	
	3.5	4.0									
	4.0	4.5						CHD	CHD	CHD	
	4.5	5.0									
	5.0	5.5						CHD	CHD	CHD	
	5.5	6.0									
	6.0	6.5	5.0	10.0	CH	CH	CH	CHD	CHD	CHD	
	6.5	7.0									
	7.0	7.5						CHD	CHD	CHD	
	7.5	8.0									
	8.0	8.5						CHD	CHD	CHD	
	8.5	9.0									
	9.0	9.5						CHD	CHD	CHD	
9.5	10.0										
10.0	10.5						CHD	CHD	CHD		
10.5	11.0										
11.0	11.5	10.0	15.0	CH	CH	CH	CHD	CHD	CHD		
11.5	12.0										
12.0	12.5						CHD	CHD	CHD		
12.5	13.0										
13.0	13.5						CHD	CHD	CHD		
13.5	14.0										
14.0	14.5						CHD	CHD	CHD		
14.5	15.0										
15.0	15.5	15.0	16.0	CHD	CHD	CHD	CHD	CHD	CHD		
15.5	16.0										

Table 3-3
Onsite Soil Forensics Sampling Program
Benning Road Facility RI/FS Project

Previous RI/FS Sample ID	Sample Collection Interval ⁽¹⁾		Sample Interval ⁽²⁾		Tier 1 Sample Analysis ⁽³⁾			Tier 2 Forensics Sample Analysis ⁽⁴⁾			General Comment
	Start Depth	End Depth	Start Depth	End Depth	SW8270 PAH16 PAHs	USEPA 8082 PCB	USEPA 8015C SHC	USEPA 1668 PCBc	USEPA 8270M APAH	USEPA 8270M Biomarkers	
DP39	0.0	0.5	0.0	1.0	Y	Y	Y	CHD	CHD	CHD	TPH, PAH; Bulk Fuel Storage Area; Used Oil Storage
	0.5	1.0	1.0	2.0	Y	Y	Y	CHD	CHD	CHD	
	1.0	1.5						CHD	CHD	CHD	
	1.5	2.0						CHD	CHD	CHD	
	2.0	2.5						CHD	CHD	CHD	
	2.5	3.0						CHD	CHD	CHD	
	3.0	3.5	2.0	5.0	Y	Y	Y	CHD	CHD	CHD	
	3.5	4.0						CHD	CHD	CHD	
	4.0	4.5						CHD	CHD	CHD	
	4.5	5.0						CHD	CHD	CHD	
	5.0	5.5						CHD	CHD	CHD	
	5.5	6.0						CHD	CHD	CHD	
	6.0	6.5	5.0	10.0	Y	Y	Y	CHD	CHD	CHD	
	6.5	7.0						CHD	CHD	CHD	
	7.0	7.5						CHD	CHD	CHD	
	7.5	8.0						CHD	CHD	CHD	
	8.0	8.5						CHD	CHD	CHD	
	8.5	9.0						CHD	CHD	CHD	
	9.0	9.5						CHD	CHD	CHD	
	9.5	10.0						CHD	CHD	CHD	
10.0	10.5						CHD	CHD	CHD		
10.5	11.0						CHD	CHD	CHD		
11.0	11.5						CHD	CHD	CHD		
11.5	12.0	10.0	15.0	Y	Y	Y	CHD	CHD	CHD		
12.0	12.5						CHD	CHD	CHD		
12.5	13.0						CHD	CHD	CHD		
13.0	13.5						CHD	CHD	CHD		
13.5	14.0						CHD	CHD	CHD		
14.0	14.5						CHD	CHD	CHD		
14.5	15.0						CHD	CHD	CHD		
15.0	15.5	15.0	16.0	CHD	CHD	CHD	CHD	CHD	CHD		
15.5	16.0						CHD	CHD	CHD		
SUS/DP12	0.0	1.0									
	0.0	0.5	0.0	1.0	Y	Y	Y	CHD	CHD	CHD	A1248, A1260, TPH, PAH; Salvage Yard
	0.5	1.0	1.0	2.0	Y	Y	Y	CHD	CHD	CHD	
	1.0	1.5						CHD	CHD	CHD	
	1.5	2.0						CHD	CHD	CHD	
	2.0	2.5						CHD	CHD	CHD	
	2.5	3.0	2.0	5.0	Y	Y	Y	CHD	CHD	CHD	
	3.0	3.5						CHD	CHD	CHD	
	3.5	4.0						CHD	CHD	CHD	
	4.0	4.5						CHD	CHD	CHD	
	4.5	5.0						CHD	CHD	CHD	
	5.0	5.5						CHD	CHD	CHD	
	5.5	6.0						CHD	CHD	CHD	
	6.0	6.5	5.0	10.0	Y	Y	Y	CHD	CHD	CHD	
	6.5	7.0						CHD	CHD	CHD	
	7.0	7.5						CHD	CHD	CHD	
	7.5	8.0						CHD	CHD	CHD	
	8.0	8.5						CHD	CHD	CHD	
	8.5	9.0						CHD	CHD	CHD	
	9.0	9.5						CHD	CHD	CHD	
	9.5	10.0						CHD	CHD	CHD	
10.0	10.5						CHD	CHD	CHD		
10.5	11.0						CHD	CHD	CHD		
11.0	11.5						CHD	CHD	CHD		
11.5	12.0	10.0	15.0	Y	Y	Y	CHD	CHD	CHD		
12.0	12.5						CHD	CHD	CHD		
12.5	13.0						CHD	CHD	CHD		
13.0	13.5						CHD	CHD	CHD		
13.5	14.0						CHD	CHD	CHD		
14.0	14.5						CHD	CHD	CHD		
14.5	15.0						CHD	CHD	CHD		
15.0	15.5	15.0	16.0	CHD	CHD	CHD	CHD	CHD	CHD		
15.5	16.0						CHD	CHD	CHD		
SUS/DP10	0.5	1.0									
	0.0	0.5	0.0	1.0	Y	Y	Y	CHD	CHD	CHD	A1248, A1260; Red Storage Area
	0.5	1.0	1.0	2.0	Y	Y	Y	CHD	CHD	CHD	
	1.0	1.5						CHD	CHD	CHD	
	1.5	2.0						CHD	CHD	CHD	
	2.0	2.5						CHD	CHD	CHD	
	2.5	3.0	2.0	5.0	Y	Y	Y	CHD	CHD	CHD	
	3.0	3.5						CHD	CHD	CHD	
	3.5	4.0						CHD	CHD	CHD	
	4.0	4.5						CHD	CHD	CHD	
	4.5	5.0						CHD	CHD	CHD	
	5.0	5.5						CHD	CHD	CHD	
	5.5	6.0						CHD	CHD	CHD	
	6.0	6.5	5.0	10.0	CH	CH	CH	CHD	CHD	CHD	
	6.5	7.0						CHD	CHD	CHD	
	7.0	7.5						CHD	CHD	CHD	
	7.5	8.0						CHD	CHD	CHD	
	8.0	8.5						CHD	CHD	CHD	
	8.5	9.0						CHD	CHD	CHD	
	9.0	9.5						CHD	CHD	CHD	
	9.5	10.0						CHD	CHD	CHD	
10.0	10.5						CHD	CHD	CHD		
10.5	11.0						CHD	CHD	CHD		
11.0	11.5						CHD	CHD	CHD		
11.5	12.0	10.0	15.0	CH	CH	CH	CHD	CHD	CHD		
12.0	12.5						CHD	CHD	CHD		
12.5	13.0						CHD	CHD	CHD		
13.0	13.5						CHD	CHD	CHD		
13.5	14.0						CHD	CHD	CHD		
14.0	14.5						CHD	CHD	CHD		
14.5	15.0						CHD	CHD	CHD		
15.0	15.5	15.0	16.0	CHD	CHD	CHD	CHD	CHD	CHD		
15.5	16.0						CHD	CHD	CHD		

Table 3-3
Onsite Soil Forensics Sampling Program
Benning Road Facility RI/FS Project

Previous RI/FS Sample ID	Sample Collection Interval ⁽¹⁾		Sample Interval ⁽²⁾		Tier 1 Sample Analysis ⁽³⁾			Tier 2 Forensics Sample Analysis ⁽⁴⁾			General Comment
	Start Depth	End Depth	Start Depth	End Depth	SW8270 PAH16 PAHs	USEPA 8082 PCB	USEPA 8015C SHC	USEPA 1668 PCBc	USEPA 8270M APAH	USEPA 8270M Biomarkers	
DP44	0.0	0.5	0.0	1.0	Y	Y	Y	CHD	CHD	CHD	TPH, PAH; Bulk Fuel Storage Area; Used Oil Storage
	0.5	1.0	1.0	2.0	Y	Y	Y	CHD	CHD	CHD	
	1.0	1.5						CHD	CHD	CHD	
	1.5	2.0						CHD	CHD	CHD	
	2.0	2.5						CHD	CHD	CHD	
	2.5	3.0						CHD	CHD	CHD	
	3.0	3.5	2.0	5.0	Y	Y	Y	CHD	CHD	CHD	
	3.5	4.0						CHD	CHD	CHD	
	4.0	4.5						CHD	CHD	CHD	
	4.5	5.0						CHD	CHD	CHD	
	5.0	5.5						CHD	CHD	CHD	
	5.5	6.0						CHD	CHD	CHD	
	6.0	6.5	5.0	10.0	CH	CH	CH	CHD	CHD	CHD	
	6.5	7.0						CHD	CHD	CHD	
	7.0	7.5						CHD	CHD	CHD	
	7.5	8.0						CHD	CHD	CHD	
	8.0	8.5						CHD	CHD	CHD	
	8.5	9.0						CHD	CHD	CHD	
	9.0	9.5						CHD	CHD	CHD	
	9.5	10.0						CHD	CHD	CHD	
10.0	10.5						CHD	CHD	CHD		
10.5	11.0						CHD	CHD	CHD		
11.0	11.5						CHD	CHD	CHD		
11.5	12.0	10.0	15.0	CH	CH	CH	CHD	CHD	CHD		
12.0	12.5						CHD	CHD	CHD		
12.5	13.0						CHD	CHD	CHD		
13.0	13.5						CHD	CHD	CHD		
13.5	14.0						CHD	CHD	CHD		
14.0	14.5						CHD	CHD	CHD		
14.5	15.0						CHD	CHD	CHD		
15.0	15.5	15.0	16.0	CHD	CHD	CHD	CHD	CHD	CHD		
15.5	16.0						CHD	CHD	CHD		
SUS/DP11/SB3	0.0	1.0									
	0.0	0.5	0.0	1.0	Y	Y	Y	CHD	CHD	CHD	Heavy petroleum signature (e.g., bunker, #6 fuel oil, etc.)
	0.5	1.0	1.0	2.0	Y	Y	Y	CHD	CHD	CHD	
	1.0	1.5						CHD	CHD	CHD	
	1.5	2.0						CHD	CHD	CHD	
	2.0	2.5						CHD	CHD	CHD	
	2.5	3.0						CHD	CHD	CHD	
	3.0	3.5	2.0	5.0	Y	Y	Y	CHD	CHD	CHD	
	3.5	4.0						CHD	CHD	CHD	
	4.0	4.5						CHD	CHD	CHD	
	4.5	5.0						CHD	CHD	CHD	
	5.0	5.5						CHD	CHD	CHD	
	5.5	6.0						CHD	CHD	CHD	
	6.0	6.5	5.0	10.0	CH	CH	CH	CHD	CHD	CHD	
	6.5	7.0						CHD	CHD	CHD	
	7.0	7.5						CHD	CHD	CHD	
	7.5	8.0						CHD	CHD	CHD	
	8.0	8.5						CHD	CHD	CHD	
	8.5	9.0						CHD	CHD	CHD	
	9.0	9.5						CHD	CHD	CHD	
	9.5	10.0						CHD	CHD	CHD	
10.0	10.5						CHD	CHD	CHD		
10.5	11.0						CHD	CHD	CHD		
11.0	11.5						CHD	CHD	CHD		
11.5	12.0	10.0	15.0	CH	CH	CH	CHD	CHD	CHD		
12.0	12.5						CHD	CHD	CHD		
12.5	13.0						CHD	CHD	CHD		
13.0	13.5						CHD	CHD	CHD		
13.5	14.0						CHD	CHD	CHD		
14.0	14.5						CHD	CHD	CHD		
14.5	15.0						CHD	CHD	CHD		
15.0	15.5	15.0	16.0	CHD	CHD	CHD	CHD	CHD	CHD		
15.5	16.0						CHD	CHD	CHD		
None	0.0	1.0	0.0	1.0	Y	Y	Y	CHD	CHD	CHD	Laydown Area adjacent to Building #59
	1.0	2.0	1.0	2.0	Y	Y	Y	CHD	CHD	CHD	
	2.0	3.0						CHD	CHD	CHD	
	3.0	4.0	2.0	5.0	Y	Y	Y	CHD	CHD	CHD	
	4.0	5.0						CHD	CHD	CHD	
	5.0	6.0						CHD	CHD	CHD	
	6.0	7.0						CHD	CHD	CHD	
	7.0	8.0	5.0	10.0	Y	Y	Y	CHD	CHD	CHD	
	8.0	9.0						CHD	CHD	CHD	
	9.0	10.0						CHD	CHD	CHD	
	10.0	11.0						CHD	CHD	CHD	
	11.0	12.0						CHD	CHD	CHD	
	12.0	13.0	10.0	15.0	Y	Y	Y	CHD	CHD	CHD	
	13.0	14.0						CHD	CHD	CHD	
	14.0	15.0						CHD	CHD	CHD	
	15.0	16.0	15.0	16.0	CHD	CHD	CHD	CHD	CHD	CHD	
None	0.0	1.0	0.0	1.0	Y	Y	Y	CHD	CHD	CHD	Laydown Area and Former Timber Pole Area adjacent to Building #75
	1.0	2.0	1.0	2.0	Y	Y	Y	CHD	CHD	CHD	
	2.0	3.0						CHD	CHD	CHD	
	3.0	4.0	2.0	5.0	Y	Y	Y	CHD	CHD	CHD	
	4.0	5.0						CHD	CHD	CHD	
	5.0	6.0						CHD	CHD	CHD	
	6.0	7.0						CHD	CHD	CHD	
	7.0	8.0	5.0	10.0	Y	Y	Y	CHD	CHD	CHD	
	8.0	9.0						CHD	CHD	CHD	
	9.0	10.0						CHD	CHD	CHD	
	10.0	11.0						CHD	CHD	CHD	
	11.0	12.0						CHD	CHD	CHD	
	12.0	13.0	10.0	15.0	Y	Y	Y	CHD	CHD	CHD	
	13.0	14.0						CHD	CHD	CHD	
	14.0	15.0						CHD	CHD	CHD	
	15.0	16.0	15.0	16.0	CHD	CHD	CHD	CHD	CHD	CHD	

Table 3-3
Onsite Soil Forensics Sampling Program
Benning Road Facility RI/FS Project

Previous RI/FS Sample ID	Sample Collection Interval ⁽¹⁾		Sample Interval ⁽²⁾		Tier 1 Sample Analysis ⁽³⁾			Tier 2 Forensics Sample Analysis ⁽⁴⁾			General Comment
	Start Depth	End Depth	Start Depth	End Depth	SW8270 PAH16 PAHs	USEPA 8082 PCB	USEPA 8015C SHC	USEPA 1668 PCBc	USEPA 8270M APAH	USEPA 8270M Biomarkers	
SUS/DP15	0.2	1.0									
	0.0	0.5	0.0	1.0	Y	Y	Y	CHD	CHD	CHD	A1248, A1260
	0.5	1.0									
	1.0	1.5	1.0	2.0	Y	Y	Y	CHD	CHD	CHD	
	1.5	2.0									
	2.0	2.5						CHD	CHD	CHD	
	2.5	3.0									
	3.0	3.5	2.0	5.0	Y	Y	Y	CHD	CHD	CHD	
	3.5	4.0									
	4.0	4.5						CHD	CHD	CHD	
	4.5	5.0									
	5.0	5.5						CHD	CHD	CHD	
	5.5	6.0									
	6.0	6.5	5.0	10.0	Y	Y	Y	CHD	CHD	CHD	
	6.5	7.0									
	7.0	7.5						CHD	CHD	CHD	
	7.5	8.0									
	8.0	8.5						CHD	CHD	CHD	
	8.5	9.0									
	9.0	9.5						CHD	CHD	CHD	
9.5	10.0										
10.0	10.5						CHD	CHD	CHD		
10.5	11.0										
11.0	11.5						CHD	CHD	CHD		
11.5	12.0										
12.0	12.5	10.0	15.0	Y	Y	Y	CHD	CHD	CHD		
12.5	13.0										
13.0	13.5						CHD	CHD	CHD		
13.5	14.0										
14.0	14.5						CHD	CHD	CHD		
14.5	15.0										
15.0	15.5	15.0	16.0	CHD	CHD	CHD	CHD	CHD	CHD		
15.5	16.0										
SUS/DP19	0.8	1.0									
	0.0	0.5	0.0	1.0	Y	Y	Y	CHD	CHD	CHD	Petroleum hydrocarbon signature
	0.5	1.0									
	1.0	1.5	1.0	2.0	Y	Y	Y	CHD	CHD	CHD	
	1.5	2.0									
	2.0	2.5						CHD	CHD	CHD	
	2.5	3.0									
	3.0	3.5	2.0	5.0	Y	Y	Y	CHD	CHD	CHD	
	3.5	4.0									
	4.0	4.5						CHD	CHD	CHD	
	4.5	5.0									
	5.0	5.5						CHD	CHD	CHD	
	5.5	6.0									
	6.0	6.5	5.0	10.0	Y	Y	Y	CHD	CHD	CHD	
	6.5	7.0									
	7.0	7.5						CHD	CHD	CHD	
	7.5	8.0									
	8.0	8.5						CHD	CHD	CHD	
	8.5	9.0									
	9.0	9.5						CHD	CHD	CHD	
9.5	10.0										
10.0	10.5						CHD	CHD	CHD		
10.5	11.0										
11.0	11.5						CHD	CHD	CHD		
11.5	12.0										
12.0	12.5	10.0	15.0	Y	Y	Y	CHD	CHD	CHD		
12.5	13.0										
13.0	13.5						CHD	CHD	CHD		
13.5	14.0										
14.0	14.5						CHD	CHD	CHD		
14.5	15.0										
15.0	15.5	15.0	16.0	CHD	CHD	CHD	CHD	CHD	CHD		
15.5	16.0										
SUS/DP20	0.4	1.0									
	0.0	0.5	0.0	1.0	Y	Y	Y	CHD	CHD	CHD	A1248, A1260
	0.5	1.0									
	1.0	1.5	1.0	2.0	Y	Y	Y	CHD	CHD	CHD	
	1.5	2.0									
	2.0	2.5						CHD	CHD	CHD	
	2.5	3.0									
	3.0	3.5	2.0	5.0	Y	Y	Y	CHD	CHD	CHD	
	3.5	4.0									
	4.0	4.5						CHD	CHD	CHD	
	4.5	5.0									
	5.0	5.5						CHD	CHD	CHD	
	5.5	6.0									
	6.0	6.5	5.0	10.0	CH	CH	CH	CHD	CHD	CHD	
	6.5	7.0									
	7.0	7.5						CHD	CHD	CHD	
	7.5	8.0									
	8.0	8.5						CHD	CHD	CHD	
	8.5	9.0									
	9.0	9.5						CHD	CHD	CHD	
9.5	10.0										
10.0	10.5						CHD	CHD	CHD		
10.5	11.0										
11.0	11.5						CHD	CHD	CHD		
11.5	12.0										
12.0	12.5	10.0	15.0	CH	CH	CH	CHD	CHD	CHD		
12.5	13.0										
13.0	13.5						CHD	CHD	CHD		
13.5	14.0										
14.0	14.5						CHD	CHD	CHD		
14.5	15.0										
15.0	15.5	15.0	16.0	CHD	CHD	CHD	CHD	CHD	CHD		
15.5	16.0										

Table 3-3
Onsite Soil Forensics Sampling Program
Benning Road Facility RI/FS Project

Previous RI/FS Sample ID	Sample Collection Interval ⁽¹⁾		Sample Interval ⁽²⁾		Tier 1 Sample Analysis ⁽³⁾			Tier 2 Forensics Sample Analysis ⁽⁴⁾			General Comment
	Start Depth	End Depth	Start Depth	End Depth	SW8270 PAH16 PAHs	USEPA 8082 PCB	USEPA 8015C SHC	USEPA 1668 PCBc	USEPA 8270M APAH	USEPA 8270M Biomarkers	
SUS/DP18	0.0	1.0									
	0.0	0.5	0.0	1.0	Y	Y	Y	CHD	CHD	CHD	Green tag storage area
	0.5	1.0									
	1.0	1.5	1.0	2.0	Y	Y	Y	CHD	CHD	CHD	
	1.5	2.0									
	2.0	2.5						CHD	CHD	CHD	
	2.5	3.0									
	3.0	3.5	2.0	5.0	Y	Y	Y	CHD	CHD	CHD	
	3.5	4.0									
	4.0	4.5						CHD	CHD	CHD	
	4.5	5.0									
	5.0	5.5						CHD	CHD	CHD	
	5.5	6.0									
	6.0	6.5	5.0	10.0	CH	CH	CH	CHD	CHD	CHD	
	6.5	7.0									
	7.0	7.5						CHD	CHD	CHD	
	7.5	8.0									
	8.0	8.5						CHD	CHD	CHD	
	8.5	9.0									
	9.0	9.5						CHD	CHD	CHD	
9.5	10.0										
10.0	10.5						CHD	CHD	CHD		
10.5	11.0										
11.0	11.5						CHD	CHD	CHD		
11.5	12.0										
12.0	12.5	10.0	15.0	CH	CH	CH	CHD	CHD	CHD		
12.5	13.0										
13.0	13.5						CHD	CHD	CHD		
13.5	14.0										
14.0	14.5						CHD	CHD	CHD		
14.5	15.0										
15.0	15.5	15.0	16.0	CHD	CHD	CHD	CHD	CHD	CHD		
15.5	16.0										
SUS/DP21/DP35	1.0	1.8									
	0.0	0.5	0.0	1.0	Y	Y	Y	CHD	CHD	CHD	Building 57; A260, A1248, A1254; Fueling Island
	0.5	1.0									
	1.0	1.5	1.0	2.0	Y	Y	Y	CHD	CHD	CHD	
	1.5	2.0									
	2.0	2.5						CHD	CHD	CHD	
	2.5	3.0									
	3.0	3.5	2.0	5.0	Y	Y	Y	CHD	CHD	CHD	
	3.5	4.0									
	4.0	4.5						CHD	CHD	CHD	
	4.5	5.0									
	5.0	5.5						CHD	CHD	CHD	
	5.5	6.0									
	6.0	6.5	5.0	10.0	CH	CH	CH	CHD	CHD	CHD	
	6.5	7.0									
	7.0	7.5						CHD	CHD	CHD	
	7.5	8.0									
	8.0	8.5						CHD	CHD	CHD	
	8.5	9.0									
	9.0	9.5						CHD	CHD	CHD	
9.5	10.0										
10.0	10.5						CHD	CHD	CHD		
10.5	11.0										
11.0	11.5						CHD	CHD	CHD		
11.5	12.0										
12.0	12.5	10.0	15.0	CH	CH	CH	CHD	CHD	CHD		
12.5	13.0										
13.0	13.5						CHD	CHD	CHD		
13.5	14.0										
14.0	14.5						CHD	CHD	CHD		
14.5	15.0										
15.0	15.5	15.0	16.0	CHD	CHD	CHD	CHD	CHD	CHD		
15.5	16.0										
SUS/DP04	0.0	1.0									
	0.0	0.5	0.0	1.0	Y	Y	Y	CHD	CHD	CHD	Coal Storage Area
	0.5	1.0									
	1.0	1.5	1.0	2.0	Y	Y	Y	CHD	CHD	CHD	
	1.5	2.0									
	2.0	2.5						CHD	CHD	CHD	
	2.5	3.0									
	3.0	3.5	2.0	5.0	Y	Y	Y	CHD	CHD	CHD	
	3.5	4.0									
	4.0	4.5						CHD	CHD	CHD	
	4.5	5.0									
	5.0	5.5						CHD	CHD	CHD	
	5.5	6.0									
	6.0	6.5	5.0	10.0	CH	CH	CH	CHD	CHD	CHD	
	6.5	7.0									
	7.0	7.5						CHD	CHD	CHD	
	7.5	8.0									
	8.0	8.5						CHD	CHD	CHD	
	8.5	9.0									
	9.0	9.5						CHD	CHD	CHD	
9.5	10.0										
10.0	10.5						CHD	CHD	CHD		
10.5	11.0										
11.0	11.5						CHD	CHD	CHD		
11.5	12.0										
12.0	12.5	10.0	15.0	CH	CH	CH	CHD	CHD	CHD		
12.5	13.0										
13.0	13.5						CHD	CHD	CHD		
13.5	14.0										
14.0	14.5						CHD	CHD	CHD		
14.5	15.0										
15.0	15.5						CHD	CHD	CHD		
15.5	16.0										
16.0	16.5						CHD	CHD	CHD		
16.5	17.0										
17.0	17.5	15.0	20.0	CH	CH	CH	CHD	CHD	CHD		
17.5	18.0										
18.0	18.5						CHD	CHD	CHD		
18.5	19.0										
19.0	19.5						CHD	CHD	CHD		
19.5	20.0										

Table 3-3
Onsite Soil Forensics Sampling Program
Benning Road Facility RI/FS Project

Previous RI/FS Sample ID	Sample Collection Interval ⁽¹⁾		Sample Interval ⁽²⁾		Tier 1 Sample Analysis ⁽³⁾			Tier 2 Forensics Sample Analysis ⁽⁴⁾			General Comment
	Start Depth	End Depth	Start Depth	End Depth	SW8270 PAH16 PAHs	USEPA 8082 PCB	USEPA 8015C SHC	USEPA 1668 PCBc	USEPA 8270M APAH	USEPA 8270M Biomarkers	
DP41	0.0	0.5	0.0	1.0	Y	Y	Y	CHD	CHD	CHD	A1254, A1260; Former Sludge Dewatering Area
	0.5	1.0									
	1.0	1.5	1.0	2.0	Y	Y	Y	CHD	CHD	CHD	
	1.5	2.0									
	2.0	2.5						CHD	CHD	CHD	
	2.5	3.0									
	3.0	3.5	2.0	5.0	Y	Y	Y	CHD	CHD	CHD	
	3.5	4.0									
	4.0	4.5						CHD	CHD	CHD	
	4.5	5.0									
	5.0	5.5						CHD	CHD	CHD	
	5.5	6.0									
	6.0	6.5	5.0	10.0	Y	Y	Y	CHD	CHD	CHD	
	6.5	7.0									
	7.0	7.5						CHD	CHD	CHD	
	7.5	8.0									
	8.0	8.5						CHD	CHD	CHD	
	8.5	9.0									
	9.0	9.5						CHD	CHD	CHD	
	9.5	10.0									
10.0	10.5						CHD	CHD	CHD		
10.5	11.0										
11.0	11.5						CHD	CHD	CHD		
11.5	12.0										
12.0	12.5	10.0	15.0	Y	Y	Y	CHD	CHD	CHD		
12.5	13.0										
13.0	13.5						CHD	CHD	CHD		
13.5	14.0										
14.0	14.5						CHD	CHD	CHD		
14.5	15.0										
15.0	15.5	CHD	CHD	CHD	CHD	CHD	CHD	CHD	CHD		
15.5	16.0										
DP43	0.0	0.5	0.0	1.0	Y	Y	Y	CHD	CHD	CHD	A1248, A1260, TPH, PAH; Salvage Yard
	0.5	1.0									
	1.0	1.5	1.0	2.0	Y	Y	Y	CHD	CHD	CHD	
	1.5	2.0									
	2.0	2.5						CHD	CHD	CHD	
	2.5	3.0									
	3.0	3.5	2.0	5.0	Y	Y	Y	CHD	CHD	CHD	
	3.5	4.0									
	4.0	4.5						CHD	CHD	CHD	
	4.5	5.0									
	5.0	5.5						CHD	CHD	CHD	
	5.5	6.0									
	6.0	6.5	5.0	10.0	Y	Y	Y	CHD	CHD	CHD	
	6.5	7.0									
	7.0	7.5						CHD	CHD	CHD	
	7.5	8.0									
	8.0	8.5						CHD	CHD	CHD	
	8.5	9.0									
	9.0	9.5						CHD	CHD	CHD	
	9.5	10.0									
10.0	10.5						CHD	CHD	CHD		
10.5	11.0										
11.0	11.5						CHD	CHD	CHD		
11.5	12.0										
12.0	12.5	10.0	15.0	Y	Y	Y	CHD	CHD	CHD		
12.5	13.0										
13.0	13.5						CHD	CHD	CHD		
13.5	14.0										
14.0	14.5						CHD	CHD	CHD		
14.5	15.0										
15.0	15.5	15.0	16.0	CHD	CHD	CHD	CHD	CHD	CHD		
15.5	16.0										
None	0.0	1.0	0.0	1.0	Y	Y	Y	CHD	CHD	CHD	Former Buildings 38 and 39; Former Transformer Shops
	1.0	2.0	1.0	2.0	Y	Y	Y	CHD	CHD	CHD	
	2.0	3.0						CHD	CHD	CHD	
	3.0	4.0	2.0	5.0	Y	Y	Y	CHD	CHD	CHD	
	4.0	5.0						CHD	CHD	CHD	
	5.0	6.0						CHD	CHD	CHD	
	6.0	7.0						CHD	CHD	CHD	
	7.0	8.0	5.0	10.0	Y	Y	Y	CHD	CHD	CHD	
	8.0	9.0						CHD	CHD	CHD	
	9.0	10.0						CHD	CHD	CHD	
	10.0	11.0						CHD	CHD	CHD	
	11.0	12.0						CHD	CHD	CHD	
	12.0	13.0	10.0	15.0	Y	Y	Y	CHD	CHD	CHD	
	13.0	14.0						CHD	CHD	CHD	
	14.0	15.0						CHD	CHD	CHD	
15.0	16.0	15.0	16.0	CHD	CHD	CHD	CHD	CHD	CHD		

Number of Samples 88 88 88

Notes: ⁽¹⁾ Discrete samples (1 ft) will be collected to the target depth indicated in Sample Collection Interval column. ⁽²⁾ Tier 1 samples will be composited over the intervals specified, while retaining the individual discrete samples in archive for possible forensics analysis of the discrete sample intervals. Field screening (FID*/visual/odor) will be conducted and recorded at all locations during the Landside investigation. ⁽³⁾ Samples with a "Y" designation are Tier 1" samples and will be submitted for the analyses indicated. ⁽⁴⁾ Petroleum Hydrocarbon and PCB forensics will be conducted at this location. Samples with a "Collect and Hold" (CH) and "Collect and Hold Discrete" (CHD) are the samples that will be archived pending the results from the Tier 1 sample analyses. Following the results from the Tier 1 sample and analysis, PEPCO will review and propose to DOEE which "CH" and "CHD" samples will be submitted for forensics analysis (Tier 2).

**Table 5-1
Field and Laboratory QC Limits
Benning Road Facility RI/FS Project**

QC Sample	Field Duplicate	MS/MSD	LCS/LCSD	MS/MSD	LCS/LCSD	Surrogate Spikes	Laboratory Method Blanks	Equipment Rinsate Blanks and/or Trip Blanks	Cooler Temperature Blanks
DQI	Precision			Accuracy - Bias			Accuracy-Bias/ Contamination		Accuracy-Bias/Preservation
VOCs	Soil RPD ≤ 50%: Aqueous RPD ≤ 30%	See laboratory % recovery limits in Appendix B				Target analytes < RL*	Target analytes < RL	4°C □ 2°C	
PCDD/PCDFs		See laboratory % recovery limits in Appendix B				Target analytes < EML	Target analytes < EML		
Be-7, Cs-137, Pb-210	RPD ≤ 50%	NA	RPD<20%	NA	75-125%	15-125%	Target analytes < RL	NA	NA

Notes:

*VOCs and SVOCs: Common laboratory contaminants should be <5x Reporting Limit

DQI – Data Quality Indicator

NA – Not applicable

LCS - Laboratory Control Sample

LCSD - Laboratory Control Sample Duplicate

RPD - Relative Percent Difference

EML = Estimated Minimum Level

RL = Reporting Limit

MS/MSDs not applicable to PCDD/PCDF or PCB – congener analyses

Note all limits are subject to change based on final laboratory selection and required annual laboratory QC limit updates.

**Table 5-2
Additional Analytes and Reporting Limits for VOCs, Saturated Hydrocarbons,
and Geochemical Biomarkers in Soil and Groundwater
Benning Road Facility RI/FS Project**

Parameter	Project Screening Limits ¹				Laboratory Limits ²			
	Water (ug/L)		Solids (mg/Kg)		Water (ug/L)		Solids (mg/Kg)	
	GW	SW	SO	SE	RL	MDL	RL	MDL
VOCs by SW-846 8260C								
Tert-butyl alcohol (TBA)	1.41E+02	NV	1.15E+04	NV	1.00E+01	4.47E+00	5.00E-02	3.14E-02
Diisopropyl ether (DIPE)	NV	NV	NV	NV	1.00E+00	1.45E-01	5.00E-03	1.43E-03
Tert-amyl methyl ether (TAME)	NV	NV	NV	NV	1.00E+00	2.02E-01	5.00E-03	1.46E-03
Tert-butyl ethyl ether (ETBE)	NV	NV	NV	NV	1.00E+00	1.71E-01	5.00E-03	1.31E-03
SHCs by SW-846 8015D								
Total Petroleum Hydrocarbons (C9-C44)	NV	NV	NV	NV	3.30E+01	5.56E+00	2.21E+00	4.87E-01
Nonane (C9)	NV	NV	NV	NV	1.00E+00	3.19E-01	6.70E-02	1.99E-02
Decane (C10)	NV	NV	NV	NV	1.00E+00	1.17E-01	6.70E-02	2.14E-02
Undecane	NV	NV	NV	NV	1.00E+00	9.40E-02	6.70E-02	2.00E-02
Dodecane (C12)	NV	NV	NV	NV	1.00E+00	1.32E-01	6.70E-02	1.46E-02
Tridecane	NV	NV	NV	NV	5.00E+00	8.85E-01	6.70E-02	1.84E-02
2,6,10-Trimethyldodecane (1380)	NV	NV	NV	NV	1.00E+00	9.80E-02	6.70E-02	1.01E-02
Tetradecane (C14)	NV	NV	NV	NV	1.00E+00	9.80E-02	6.70E-02	1.01E-02
2,6,10-Trimethyltridecane (1470)	NV	NV	NV	NV	1.00E+00	1.44E-01	6.70E-02	7.99E-03
n-Pentadecane (C15)	NV	NV	NV	NV	1.00E+00	1.44E-01	6.70E-02	7.99E-03
Hexadecane (C16)	NV	NV	NV	NV	1.00E+00	1.49E-01	6.70E-02	1.01E-02
Norpristane (1650)	NV	NV	NV	NV	1.00E+00	1.36E-01	6.70E-02	2.21E-02
n-Heptadecane (C17)	NV	NV	NV	NV	1.00E+00	1.36E-01	6.70E-02	2.21E-02
Pristane	NV	NV	NV	NV	1.00E+00	1.75E-01	6.70E-02	1.43E-02
Octadecane (C18)	NV	NV	NV	NV	1.00E+00	8.00E-02	6.70E-02	1.34E-02
Phytane	NV	NV	NV	NV	1.00E+00	NA	6.70E-02	8.42E-03
Nonadecane (C19)	NV	NV	NV	NV	1.00E+00	1.69E-01	6.70E-02	1.72E-02
Eicosane (C20)	NV	NV	NV	NV	1.00E+00	5.90E-02	6.70E-02	9.48E-03
Heneicosane (C21)	NV	NV	NV	NV	1.00E+00	7.70E-02	6.70E-02	8.02E-03
Docosane (C22)	NV	NV	NV	NV	1.00E+00	4.20E-02	6.70E-02	6.99E-03
n-Tricosane (C23)	NV	NV	NV	NV	1.00E+00	7.40E-02	6.70E-02	8.52E-03
Tetracosane (C24)	NV	NV	NV	NV	1.00E+00	7.60E-02	6.70E-02	1.12E-02
Pentacosane (C25)	NV	NV	NV	NV	5.00E+00	5.92E-01	6.70E-02	3.55E-02
Hexacosane (C26)	NV	NV	NV	NV	1.00E+00	1.12E-01	6.70E-02	9.84E-03
Heptacosane (C27)	NV	NV	NV	NV	1.00E+00	1.03E-01	6.70E-02	8.07E-03
Octacosane (C28)	NV	NV	NV	NV	1.00E+00	2.09E-01	6.70E-02	1.44E-02
Nonacosane (C29)	NV	NV	NV	NV	1.00E+00	1.17E-01	6.70E-02	4.46E-02
triacontane (C30)	NV	NV	NV	NV	1.00E+00	1.24E-01	6.70E-02	7.68E-03
Hentriacontane (C31)	NV	NV	NV	NV	1.00E+00	1.30E-01	6.70E-02	9.49E-03
Dotriacontane (C32)	NV	NV	NV	NV	1.00E+00	1.26E-01	6.70E-02	8.44E-03
Trtriacontane (C33)	NV	NV	NV	NV	1.00E+00	1.32E-01	6.70E-02	9.43E-03
Tetracontane (C34)	NV	NV	NV	NV	1.00E+00	1.65E-01	6.70E-02	1.07E-02
Pentatriacontane (C35)	NV	NV	NV	NV	1.00E+00	1.55E-01	6.70E-02	1.17E-02
Hexatriacontane (C36)	NV	NV	NV	NV	1.00E+00	1.38E-01	6.70E-02	1.33E-02
Heptatriacontane (C37)	NV	NV	NV	NV	1.00E+00	1.83E-01	6.70E-02	1.49E-02
Octatriacontane (C38)	NV	NV	NV	NV	1.00E+00	1.81E-01	6.70E-02	1.56E-02
Nonatriacontane (C39)	NV	NV	NV	NV	1.00E+00	1.74E-01	6.70E-02	2.18E-02
Tetracontane (C40)	NV	NV	NV	NV	1.00E+00	1.74E-01	6.70E-02	2.18E-02
Total Saturated Hydrocarbons	NV	NV	NV	NV	1.00E+00	5.00E-01	6.70E-02	3.35E-02
Geochemical biomarkers by SW-846 8270D-SIM								
Hopane (T19)	NV	NV	NV	NV	1.00E-02	2.27E-03	1.00E-03	2.86E-04
C23 Tricyclic Terpane (T4)	NV	NV	NV	NV	1.00E-02	2.27E-03	1.00E-03	2.86E-04
C24 Tricyclic Terpane (T5)	NV	NV	NV	NV	1.00E-02	2.27E-03	1.00E-03	2.86E-04
C25 Tricyclic Terpane (T6)	NV	NV	NV	NV	1.00E-02	2.27E-03	1.00E-03	2.86E-04
C24 Tetracyclic Terpane (T6a)	NV	NV	NV	NV	1.00E-02	2.27E-03	1.00E-03	2.86E-04
C26 Tricyclic Terpane-22S (T6b)	NV	NV	NV	NV	1.00E-02	2.27E-03	1.00E-03	2.86E-04
C26 Tricyclic Terpane-22R (T6c)	NV	NV	NV	NV	1.00E-02	2.27E-03	1.00E-03	2.86E-04
C28 Tricyclic Terpane-22S (T7)	NV	NV	NV	NV	1.00E-02	2.27E-03	1.00E-03	2.86E-04
C28 Tricyclic Terpane-22R (T8)	NV	NV	NV	NV	1.00E-02	2.27E-03	1.00E-03	2.86E-04
C29 Tricyclic Terpane-22S (T9)	NV	NV	NV	NV	1.00E-02	2.27E-03	1.00E-03	2.86E-04
C29 Tricyclic Terpane-22R (T10)	NV	NV	NV	NV	1.00E-02	2.27E-03	1.00E-03	2.86E-04
18a-22,29,30-Trisnorhopane-TS (T11)	NV	NV	NV	NV	1.00E-02	2.27E-03	1.00E-03	2.86E-04
C30 Tricyclic Terpane-22S	NV	NV	NV	NV	1.00E-02	2.27E-03	1.00E-03	2.86E-04
C30 Tricyclic Terpane-22R	NV	NV	NV	NV	1.00E-02	2.27E-03	1.00E-03	2.86E-04
17a(H)-22,29,30-Trisnorhopane-TM (T12)	NV	NV	NV	NV	1.00E-02	2.27E-03	1.00E-03	2.86E-04
17a/b,21b/a 28,30-Bisnorhopane (T14a)	NV	NV	NV	NV	1.00E-02	2.27E-03	1.00E-03	2.86E-04
17a(H),21b(H)-25-Norhopane (T14b)	NV	NV	NV	NV	1.00E-02	2.27E-03	1.00E-03	2.86E-04
30-Norhopane (T15)	NV	NV	NV	NV	1.00E-02	2.27E-03	1.00E-03	2.86E-04
18a(H)-30-Norhopane-C29Ts (T16)	NV	NV	NV	NV	1.00E-02	2.27E-03	1.00E-03	2.86E-04

**Table 5-2
Additional Analytes and Reporting Limits for VOCs, Saturated Hydrocarbons,
and Geochemical Biomarkers in Soil and Groundwater
Benning Road Facility RI/FS Project**

Parameter	Project Screening Limits ¹				Laboratory Limits ²			
	Water (ug/L)		Solids (mg/Kg)		Water (ug/L)		Solids (mg/Kg)	
	GW	SW	SO	SE	RL	MDL	RL	MDL
17a(H)-Diahopane (X)	NV	NV	NV	NV	1.00E-02	2.27E-03	1.00E-03	2.86E-04
30-Normoretane (T17)	NV	NV	NV	NV	1.00E-02	2.27E-03	1.00E-03	2.86E-04
18a(H)&18b(H)-Oleananes (T18)	NV	NV	NV	NV	1.00E-02	2.27E-03	1.00E-03	2.86E-04
Moretane (T20)	NV	NV	NV	NV	1.00E-02	2.27E-03	1.00E-03	2.86E-04
30-Homohopane-22S (T21)	NV	NV	NV	NV	1.00E-02	2.27E-03	1.00E-03	2.86E-04
30-Homohopane-22R (T22)	NV	NV	NV	NV	1.00E-02	2.27E-03	1.00E-03	2.86E-04
Gammacerane/C32-Diahopane	NV	NV	NV	NV	1.00E-02	2.27E-03	1.00E-03	2.86E-04
30,31-Bishomohopane-22S (T26)	NV	NV	NV	NV	1.00E-02	2.27E-03	1.00E-03	2.86E-04
30,31-Bishomohopane-22R (T27)	NV	NV	NV	NV	1.00E-02	2.27E-03	1.00E-03	2.86E-04
30,31-Trishomohopane-22S (T30)	NV	NV	NV	NV	1.00E-02	2.27E-03	1.00E-03	2.86E-04
30,31-Trishomohopane-22R (T31)	NV	NV	NV	NV	1.00E-02	2.27E-03	1.00E-03	2.86E-04
Tetrakishomohopane-22S (T32)	NV	NV	NV	NV	1.00E-02	2.27E-03	1.00E-03	2.86E-04
Tetrakishomohopane-22R (T33)	NV	NV	NV	NV	1.00E-02	2.27E-03	1.00E-03	2.86E-04
Pentakishomohopane-22S (T34)	NV	NV	NV	NV	1.00E-02	2.27E-03	1.00E-03	2.86E-04
Pentakishomohopane-22R (T35)	NV	NV	NV	NV	1.00E-02	2.27E-03	1.00E-03	2.86E-04
13b(H),17a(H)-20S-Diacholestane (S4)	NV	NV	NV	NV	1.50E-02	4.32E-03	1.00E-03	2.23E-04
13b(H),17a(H)-20R-Diacholestane (S5)	NV	NV	NV	NV	1.50E-02	4.32E-03	1.00E-03	2.23E-04
13b,17a-20S-Methylcholestane (S8)	NV	NV	NV	NV	1.50E-02	4.32E-03	1.00E-03	2.23E-04
17a(H)20SC27/C29dia	NV	NV	NV	NV	1.50E-02	4.32E-03	1.00E-03	2.23E-04
17a(H)20rc27/C29dia	NV	NV	NV	NV	1.50E-02	4.32E-03	1.00E-03	2.23E-04
Unknown Sterane (S18)	NV	NV	NV	NV	1.50E-02	4.32E-03	1.00E-03	2.23E-04
13a,17b-20S-Ethylcholestane (S19)	NV	NV	NV	NV	1.50E-02	4.32E-03	1.00E-03	2.23E-04
14a,17a-20S-Methylcholestane (S20)	NV	NV	NV	NV	1.50E-02	4.32E-03	1.00E-03	2.23E-04
14a,17a-20R-Methylcholestane (S24)	NV	NV	NV	NV	1.50E-02	4.32E-03	1.00E-03	2.23E-04
14a(H),17a(H)-20S-Ethylcholestane (S25)	NV	NV	NV	NV	1.50E-02	4.32E-03	1.00E-03	2.23E-04
14a(H),17a(H)-20R-Ethylcholestane (S28)	NV	NV	NV	NV	1.50E-02	4.32E-03	1.00E-03	2.23E-04
14b(H),17b(H)-20R-Cholestane (S14)	NV	NV	NV	NV	1.50E-02	4.32E-03	1.00E-03	2.23E-04
14b(H),17b(H)-20S-Cholestane (S15)	NV	NV	NV	NV	1.50E-02	4.32E-03	1.00E-03	2.23E-04
14b,17b-20R-Methylcholestane (S22)	NV	NV	NV	NV	1.50E-02	4.32E-03	1.00E-03	2.23E-04
14b,17b-20S-Methylcholestane (S23)	NV	NV	NV	NV	1.50E-02	4.32E-03	1.00E-03	2.23E-04
14b(H),17b(H)-20R-Ethylcholestane (S26)	NV	NV	NV	NV	1.50E-02	4.32E-03	1.00E-03	2.23E-04
14b(H),17b(H)-20S-Ethylcholestane (S27)	NV	NV	NV	NV	1.50E-02	4.32E-03	1.00E-03	2.23E-04
C26,20R- +C27,20S-Triaromatic Steroid	NV	NV	NV	NV	1.50E-02	4.32E-03	1.00E-03	2.23E-04
C28,20S-Triaromatic Steroid	NV	NV	NV	NV	1.50E-02	4.32E-03	1.00E-03	2.23E-04
C27,20R-Triaromatic Steroid	NV	NV	NV	NV	1.50E-02	4.32E-03	1.00E-03	2.23E-04
C28,20R-Triaromatic Steroid	NV	NV	NV	NV	1.50E-02	4.32E-03	1.00E-03	2.23E-04

Notes:

1. Project Screening Limits derived the following sources by matrix:

Groundwater (GW) = USEPA National Recommended Water Quality Criteria 2009 for human health (organisms only), default DAF of 10 applied., DC LUST Soil and Groundwater Standards.

Surface Water (SW) = lowest of DDOE WQS Criteria, USEPA Region 3 Surface Water Criteria, and literature based benchmarks (Suter & Tsao 1996 and Buchman 2008)

Soils (SO) = Regional Screening Levels (RSLs), Industrial Soil (USEPA, May 2010), DC LUST Soil and Groundwater Standards

Sediment (SE) = lowest of the NOAA SQuIRTS, USEPA Region 3 BTAG Freshwater Sediment Screening Benchmarks, USEPA Region 5 Ecological Screening Levels, or Ontario Ministry of the Environment Provincial Sediment Quality Guidelines

NOTE: Project Screening Limits are risk based and may not be achievable using EPA method laboratory techniques.

2. Adjustments for sample moisture and dilutions may elevate sample specific limits. Note all limits are subject to change based on final laboratory selection and required annual laboratory detection limit updates.

RL - Reporting Limit

MDL - Method Detection Limit

VOCs - Volatile Organic Compounds

SHCs - Saturated Hydrocarbons

NV - No value available

Table 5-3
Analyte List and Detection Limits for PCDD/PCDFs
Benning Road Facility RI/FS Project

Parameter	CAS Number	Project Screening Limit ¹				Lower Calibration Level/ Estimated Detection Limit ²			
		Water (pg/L)		Solids (pg/g)		Water (pg/L)		Solids (pg/g)	
		GW	SW	SO	SE	EML	EDL	EML	EDL
PCDD/PCDFs –by EPA Method 8290A									
1,2,3,4,6,7,8-HPCDD	35822-46-9	NV	NV	NV	NV	25	1.3	2.5	0.23
1,2,3,4,6,7,8-HPCDF	67562-39-4	NV	NV	NV	NV	25	1.1	2.5	0.12
1,2,3,4,7,8-HxCDD	39227-28-6	NV	NV	NV	NV	25	0.80	2.5	0.14
1,2,3,4,7,8-HxCDF	70648-26-9	NV	NV	NV	NV	25	0.59	2.5	0.13
1,2,3,4,7,8,9-HPCDF	55673-89-7	NV	NV	NV	NV	25	1.08	2.5	0.210
1,2,3,6,7,8-HxCDD	57653-85-7	NV	NV	NV	NV	25	0.83	2.5	0.15
1,2,3,6,7,8-HxCDF	57117-44-9	NV	NV	NV	NV	25	0.54	2.5	0.120
1,2,3,7,8,9-HxCDD	19408-74-3	NV	NV	NV	NV	25	0.85	2.5	0.16
1,2,3,7,8,9-HxCDF	72918-21-9	NV	NV	NV	NV	25	0.81	2.5	0.17
1,2,3,7,8-PeCDD	40321-76-4	NV	NV	NV	NV	25	0.88	2.5	0.13
1,2,3,7,8-PECDF	57117-41-6	NV	NV	NV	NV	25	0.58	2.5	0.09
2,3,4,6,7,8-HxCDF	60851-34-5	NV	NV	NV	NV	25	0.60	2.5	0.130
2,3,4,7,8-PECDF	57117-31-4	NV	NV	NV	NV	25	0.61	2.5	0.10
2,3,7,8-TCDD	1746-01-6	5.10E-08	0.00001	18	0.85	5	0.74	0.5	0.09
2,3,7,8-TCDF	51207-31-9	NV	NV	NV	NV	5	0.7	0.5	0.08
OCDD	3268-87-9	NV	NV	NV	NV	50	2.3	5	0.32
OCDF	39001-02-0	NV	NV	NV	NV	50	2.2	5	0.27
Total HpCDF	3898-75-3	NV	NV	NV	NV	NA	NA	NA	NA
Total HpCDD	37871-00-4	NV	NV	NV	NV	NA	NA	NA	NA
Total HxCDF	55684-94-1	NV	NV	NV	NV	NA	NA	NA	NA
Total HxCDD	34465-46-8	NV	NV	NV	NV	NA	NA	NA	NA
Total PeCDF	60402-15-4	NV	NV	NV	NV	NA	NA	NA	NA
Total PeCDD	36088-22-9	NV	NV	NV	NV	NA	NA	NA	NA
Total TCDF	55722-27-5	NV	NV	NV	NV	NA	NA	NA	NA
1,2,3,4,6,7,9-Heptachlorodibenzofuran	70648-25-8	NV	NV	NV	NV	25	NA	2.5	NA
1,2,3,4,6,7,9-Heptachlorodibenzo-p-dioxin	58200-70-7	NV	NV	NV	NV	25	NA	2.5	NA
1,2,3,4,6,7-Hexachlorodibenzofuran	79060-60-9	NV	NV	NV	NV	25	NA	2.5	NA
1,2,3,4,6,7-Hexachlorodibenzo-p-dioxin	58200-66-1	NV	NV	NV	NV	25	NA	2.5	NA
1,2,3,4,6,8,9-Heptachlorodibenzofuran	69698-58-4	NV	NV	NV	NV	25	NA	2.5	NA
1,2,3,4,6,8-Hexachlorodibenzofuran	69698-60-8	NV	NV	NV	NV	25	NA	2.5	NA
1,2,3,4,6,8-Hexachlorodibenzo-p-dioxin	58200-67-2	NV	NV	NV	NV	25	NA	2.5	NA
1,2,3,4,6,9-Hexachlorodibenzofuran	91538-83-9	NV	NV	NV	NV	25	NA	2.5	NA
1,2,3,4,6,9-Hexachlorodibenzo-p-dioxin	58200-68-3	NV	NV	NV	NV	25	NA	2.5	NA
1,2,3,4,6-Pentachlorodibenzofuran	83704-47-6	NV	NV	NV	NV	25	NA	2.5	NA
1,2,3,4,6-Pentachlorodibenzo-p-dioxin	67028-19-7	NV	NV	NV	NV	25	NA	2.5	NA
1,2,3,4,7,9-Hexachlorodibenzofuran	91538-84-0	NV	NV	NV	NV	25	NA	2.5	NA
1,2,3,4,7-Pentachlorodibenzofuran	83704-48-7	NV	NV	NV	NV	25	NA	2.5	NA
1,2,3,4,7-Pentachlorodibenzo-p-dioxin	39227-61-7	NV	NV	NV	NV	25	NA	2.5	NA
1,2,3,4,8,9-Hexachlorodibenzofuran	92341-07-6	NV	NV	NV	NV	25	NA	2.5	NA
1,2,3,4,8-Pentachlorodibenzofuran	67517-48-0	NV	NV	NV	NV	25	NA	2.5	NA
1,2,3,4,9-Pentachlorodibenzofuran	83704-49-8	NV	NV	NV	NV	25	NA	2.5	NA
1,2,3,4-Tetrachlorodibenzofuran	24478-72-6	NV	NV	NV	NV	25	NA	2.5	NA
1,2,3,4-Tetrachlorodibenzo-p-dioxin	30746-58-8	NV	NV	NV	NV	25	NA	2.5	NA
1,2,3,6,7,9-Hexachlorodibenzofuran	92341-06-5	NV	NV	NV	NV	25	NA	2.5	NA
1,2,3,6,7,9-Hexachlorodibenzo-p-dioxin	64461-98-9	NV	NV	NV	NV	25	NA	2.5	NA
1,2,3,6,7-Pentachlorodibenzofuran	57117-42-7	NV	NV	NV	NV	25	NA	2.5	NA
1,2,3,6,7-Pentachlorodibenzo-p-dioxin	71925-15-0	NV	NV	NV	NV	25	NA	2.5	NA
1,2,3,6,8,9-Hexachlorodibenzofuran	75198-38-8	NV	NV	NV	NV	25	NA	2.5	NA
1,2,3,6,8,9-Hexachlorodibenzo-p-dioxin	58200-69-4	NV	NV	NV	NV	25	NA	2.5	NA
1,2,3,6,8-Pentachlorodibenzofuran	83704-51-2	NV	NV	NV	NV	25	NA	2.5	NA
1,2,3,6,8-Pentachlorodibenzo-p-dioxin	71925-16-1	NV	NV	NV	NV	25	NA	2.5	NA
1,2,3,6,9-Pentachlorodibenzofuran	83704-52-3	NV	NV	NV	NV	25	NA	2.5	NA
1,2,3,6,9-Pentachlorodibenzo-p-dioxin	82291-34-7	NV	NV	NV	NV	25	NA	2.5	NA
1,2,3,6-Tetrachlorodibenzofuran	83704-21-6	NV	NV	NV	NV	25	NA	2.5	NA
1,2,3,6-Tetrachlorodibenzo-p-dioxin	71669-25-5	NV	NV	NV	NV	25	NA	2.5	NA
1,2,3,7,9-Pentachlorodibenzofuran	83704-53-4	NV	NV	NV	NV	25	NA	2.5	NA
1,2,3,7,9-Pentachlorodibenzo-p-dioxin	71925-17-2	NV	NV	NV	NV	25	NA	2.5	NA
1,2,3,7-Tetrachlorodibenzofuran	83704-22-7	NV	NV	NV	NV	25	NA	2.5	NA
1,2,3,7-Tetrachlorodibenzo-p-dioxin	67028-18-6	NV	NV	NV	NV	25	NA	2.5	NA
1,2,3,8,9-Pentachlorodibenzofuran	83704-54-5	NV	NV	NV	NV	25	NA	2.5	NA
1,2,3,8,9-Pentachlorodibenzo-p-dioxin	71925-18-3	NV	NV	NV	NV	25	NA	2.5	NA
1,2,3,8-Tetrachlorodibenzofuran	62615-08-1	NV	NV	NV	NV	25	NA	2.5	NA
1,2,3,8-Tetrachlorodibenzo-p-dioxin	53555-02-5	NV	NV	NV	NV	25	NA	2.5	NA

Table 5-3
Analyte List and Detection Limits for PCDD/PCDFs
Benning Road Facility RI/FS Project

Parameter	CAS Number	Project Screening Limit ¹				Lower Calibration Level/ Estimated Detection Limit ²			
		Water (pg/L)		Solids (pg/g)		Water (pg/L)		Solids (pg/g)	
		GW	SW	SO	SE	EML	EDL	EML	EDL
1,2,3,9-Tetrachlorodibenzofuran	83704-23-8	NV	NV	NV	NV	25	NA	2.5	NA
1,2,3,9-Tetrachlorodibenzo-p-dioxin	71669-26-6	NV	NV	NV	NV	25	NA	2.5	NA
1,2,4,6,7,8-Hexachlorodibenzofuran	67562-40-7	NV	NV	NV	NV	25	NA	2.5	NA
1,2,4,6,7,9-Hexachlorodibenzofuran	75627-02-0	NV	NV	NV	NV	25	NA	2.5	NA
1,2,4,6,7,9-Hexachlorodibenzo-p-dioxin	39227-62-8	NV	NV	NV	NV	25	NA	2.5	NA
1,2,4,6,7-Pentachlorodibenzofuran	83704-50-1	NV	NV	NV	NV	25	NA	2.5	NA
1,2,4,6,7-Pentachlorodibenzo-p-dioxin	82291-35-8	NV	NV	NV	NV	25	NA	2.5	NA
1,2,4,6,8,9-Hexachlorodibenzofuran	69698-59-5	NV	NV	NV	NV	25	NA	2.5	NA
1,2,4,6,8,9-Hexachlorodibenzo-p-dioxin	58802-09-8	NV	NV	NV	NV	25	NA	2.5	NA
1,2,4,6,8-Pentachlorodibenzofuran	69698-57-3	NV	NV	NV	NV	25	NA	2.5	NA
1,2,4,6,8-Pentachlorodibenzo-p-dioxin	71998-76-0	NV	NV	NV	NV	25	NA	2.5	NA
1,2,4,6,9-Pentachlorodibenzofuran	70648-24-7	NV	NV	NV	NV	25	NA	2.5	NA
1,2,4,6,9-Pentachlorodibenzo-p-dioxin	82291-36-9	NV	NV	NV	NV	25	NA	2.5	NA
1,2,4,6-Tetrachlorodibenzofuran	71998-73-7	NV	NV	NV	NV	25	NA	2.5	NA
1,2,4,6-Tetrachlorodibenzo-p-dioxin	71669-27-7	NV	NV	NV	NV	25	NA	2.5	NA
1,2,4,7,8-Pentachlorodibenzofuran	58802-15-6	NV	NV	NV	NV	25	NA	2.5	NA
1,2,4,7,8-Pentachlorodibenzo-p-dioxin	58802-08-7	NV	NV	NV	NV	25	NA	2.5	NA
1,2,4,7,9-Pentachlorodibenzofuran	71998-74-8	NV	NV	NV	NV	25	NA	2.5	NA
1,2,4,7,9-Pentachlorodibenzo-p-dioxin	82291-37-0	NV	NV	NV	NV	25	NA	2.5	NA
1,2,4,7-Tetrachlorodibenzofuran	83719-40-8	NV	NV	NV	NV	25	NA	2.5	NA
1,2,4,7-Tetrachlorodibenzo-p-dioxin	71669-28-8	NV	NV	NV	NV	25	NA	2.5	NA
1,2,4,8,9-Pentachlorodibenzofuran	70648-23-6	NV	NV	NV	NV	25	NA	2.5	NA
1,2,4,8,9-Pentachlorodibenzo-p-dioxin	82291-38-1	NV	NV	NV	NV	25	NA	2.5	NA
1,2,4,8-Tetrachlorodibenzofuran	64126-87-0	NV	NV	NV	NV	25	NA	2.5	NA
1,2,4,8-Tetrachlorodibenzo-p-dioxin	71669-29-9	NV	NV	NV	NV	25	NA	2.5	NA
1,2,4,9-Tetrachlorodibenzofuran	83704-24-9	NV	NV	NV	NV	25	NA	2.5	NA
1,2,4,9-Tetrachlorodibenzo-p-dioxin	71665-99-1	NV	NV	NV	NV	25	NA	2.5	NA
1,2,6,7,8-Pentachlorodibenzofuran	69433-00-7	NV	NV	NV	NV	25	NA	2.5	NA
1,2,6,7,9-Pentachlorodibenzofuran	70872-82-1	NV	NV	NV	NV	25	NA	2.5	NA
1,2,6,7-Tetrachlorodibenzofuran	83704-25-0	NV	NV	NV	NV	25	NA	2.5	NA
1,2,6,7-Tetrachlorodibenzo-p-dioxin	40581-90-6	NV	NV	NV	NV	25	NA	2.5	NA
1,2,6,8-Tetrachlorodibenzofuran	83710-07-0	NV	NV	NV	NV	25	NA	2.5	NA
1,2,6,8-Tetrachlorodibenzo-p-dioxin	67323-56-2	NV	NV	NV	NV	25	NA	2.5	NA
1,2,6,9-Tetrachlorodibenzofuran	70648-18-9	NV	NV	NV	NV	25	NA	2.5	NA
1,2,6,9-Tetrachlorodibenzo-p-dioxin	40581-91-7	NV	NV	NV	NV	25	NA	2.5	NA
1,2,7,8-Tetrachlorodibenzofuran	58802-20-3	NV	NV	NV	NV	25	NA	2.5	NA
1,2,7,8-Tetrachlorodibenzo-p-dioxin	34816-53-0	NV	NV	NV	NV	25	NA	2.5	NA
1,2,7,9-Tetrachlorodibenzofuran	83704-26-1	NV	NV	NV	NV	25	NA	2.5	NA
1,2,7,9-Tetrachlorodibenzo-p-dioxin	71669-23-3	NV	NV	NV	NV	25	NA	2.5	NA
1,2,8,9-Tetrachlorodibenzofuran	70648-22-5	NV	NV	NV	NV	25	NA	2.5	NA
1,2,8,9-Tetrachlorodibenzo-p-dioxin	62470-54-6	NV	NV	NV	NV	25	NA	2.5	NA
1,3,4,6,7,8-Hexachlorodibenzofuran	71998-75-9	NV	NV	NV	NV	25	NA	2.5	NA
1,3,4,6,7,9-Hexachlorodibenzofuran	92341-05-4	NV	NV	NV	NV	25	NA	2.5	NA
1,3,4,6,7-Pentachlorodibenzofuran	83704-36-3	NV	NV	NV	NV	25	NA	2.5	NA
1,3,4,6,8-Pentachlorodibenzofuran	83704-55-6	NV	NV	NV	NV	25	NA	2.5	NA
1,3,4,6,9-Pentachlorodibenzofuran	70648-15-6	NV	NV	NV	NV	25	NA	2.5	NA
1,3,4,6-Tetrachlorodibenzofuran	83704-27-2	NV	NV	NV	NV	25	NA	2.5	NA
1,3,4,7,8-Pentachlorodibenzofuran	58802 16-7	NV	NV	NV	NV	25	NA	2.5	NA
1,3,4,7,9-Pentachlorodibenzofuran	70648-20-3	NV	NV	NV	NV	25	NA	2.5	NA
1,3,4,7-Tetrachlorodibenzofuran	70648-16-7	NV	NV	NV	NV	25	NA	2.5	NA
1,3,4,8-Tetrachlorodibenzofuran	92341-04-3	NV	NV	NV	NV	25	NA	2.5	NA
1,3,4,9-Tetrachlorodibenzofuran	83704-28-3	NV	NV	NV	NV	25	NA	2.5	NA
1,3,6,7,8-Pentachlorodibenzofuran	70648-21-4	NV	NV	NV	NV	25	NA	2.5	NA
1,3,6,7-Tetrachlorodibenzofuran	57117-36-9	NV	NV	NV	NV	25	NA	2.5	NA
1,3,6,8-Tetrachlorodibenzofuran	71998-72-6	NV	NV	NV	NV	25	NA	2.5	NA
1,3,6,8-Tetrachlorodibenzo-p-dioxin	33423-92-6	NV	NV	NV	NV	25	NA	2.5	NA
1,3,6,9-Tetrachlorodibenzofuran	83690-98-6	NV	NV	NV	NV	25	NA	2.5	NA
1,3,6,9-Tetrachlorodibenzo-p-dioxin	71669-24-4	NV	NV	NV	NV	25	NA	2.5	NA
1,3,7,8-Tetrachlorodibenzofuran	57117-35-8	NV	NV	NV	NV	25	NA	2.5	NA
1,3,7,8-Tetrachlorodibenzo-p-dioxin	50585-46-1	NV	NV	NV	NV	25	NA	2.5	NA
1,3,7,9-Tetrachlorodibenzofuran	64560-17-4	NV	NV	NV	NV	25	NA	2.5	NA
1,3,7,9-Tetrachlorodibenzo-p-dioxin	62470-53-5	NV	NV	NV	NV	25	NA	2.5	NA
1,4,6,7,8-Pentachlorodibenzofuran	83704-35-2	NV	NV	NV	NV	25	NA	2.5	NA

Table 5-3
Analyte List and Detection Limits for PCDD/PCDFs
Benning Road Facility RI/FS Project

Parameter	CAS Number	Project Screening Limit ¹				Lower Calibration Level/ Estimated Detection Limit ²			
		Water (pg/L)		Solids (pg/g)		Water (pg/L)		Solids (pg/g)	
		GW	SW	SO	SE	EML	EDL	EML	EDL
1,4,6,7-Tetrachlorodibenzofuran	66794-59-0	NV	NV	NV	NV	25	NA	2.5	NA
1,4,6,8-Tetrachlorodibenzofuran	82911-58-8	NV	NV	NV	NV	25	NA	2.5	NA
1,4,6,9-Tetrachlorodibenzofuran	70648-19-0	NV	NV	NV	NV	25	NA	2.5	NA
1,4,6,9-Tetrachlorodibenzo-p-dioxin	40581-93-9	NV	NV	NV	NV	25	NA	2.5	NA
1,4,7,8-Tetrachlorodibenzofuran	83704-29-4	NV	NV	NV	NV	25	NA	2.5	NA
1,4,7,8-Tetrachlorodibenzo-p-dioxin	40581-94-0	NV	NV	NV	NV	25	NA	2.5	NA
1,6,7,8-Tetrachlorodibenzofuran	83704-33-0	NV	NV	NV	NV	25	NA	2.5	NA
2,3,4,6,7-Pentachlorodibenzofuran	57117-43-8	NV	NV	NV	NV	25	NA	2.5	NA
2,3,4,6,8-Pentachlorodibenzofuran	67481-22-5	NV	NV	NV	NV	25	NA	2.5	NA
2,3,4,6-Tetrachlorodibenzofuran	83704-30-7	NV	NV	NV	NV	25	NA	2.5	NA
2,3,4,7-Tetrachlorodibenzofuran	83704-31-8	NV	NV	NV	NV	25	NA	2.5	NA
2,3,4,8-Tetrachlorodibenzofuran	83704-32-9	NV	NV	NV	NV	25	NA	2.5	NA
2,3,6,7-Tetrachlorodibenzofuran	57117-39-2	NV	NV	NV	NV	25	NA	2.5	NA
2,3,6,8-Tetrachlorodibenzofuran	57117-37-0	NV	NV	NV	NV	25	NA	2.5	NA
2,4,6,7-Tetrachlorodibenzofuran	57117-38-1	NV	NV	NV	NV	25	NA	2.5	NA
2,4,6,8-Tetrachlorodibenzofuran	58802-19-0	NV	NV	NV	NV	25	NA	2.5	NA
3,4,6,7-Tetrachlorodibenzofuran	57117-40-6	NV	NV	NV	NV	25	NA	2.5	NA

Notes:

- Project Screening Limits derived the following sources by matrix:
 Groundwater (GW) = USEPA National Recommended Water Quality Criteria 2009 for human health (organisms)
 Surface Water (SW) = lowest of DDOE WQS Criteria, USEPA Region 3 Surface Water Criteria, and literature based benchmarks (Suter & Tsao 1996 and Buchman 2008)
 Soils (SO) = Regional Screening Levels (RSLs), Industrial Soil (USEPA, May 2010), DC LUST Soil and Groundwater Standards
 Sediment (SE) = lowest of the NOAA SQUIRTS, USEPA Region 3 BTAG Freshwater Sediment Screening Benchmarks, USEPA Region 5 Ecological
 NOTE: Project Screening Limits are risk based and may not be achievable using EPA method laboratory techniques.
- Average estimated detection limits for soil and water method blanks. Note all PCDD/PCDF and PCB congener results above the sample specific EDL will be reported and reporting detection limits will be based on the EDL, not the EML or QL. Adjustments for sample moisture and dilutions may elevate sample specific limits. Note all limits are subject to change based on final laboratory selection and required annual laboratory detection limit updates

EML - Estimated Minimum Level
 EDL - Estimated Detection Limit
 NV - No value available
 NA - Not applicable

Table 5-4
New or Modified Sample Container, Preservation, and Holding Time Requirements
Benning Road Facility RI/FS Project

Parameter	Container ¹	Preservation	Holding Time ²
Solid Samples			
Parent and alkylated PAHs	1-8 oz amber glass with Teflon-lined cap	Ice, 4°C. Maintain in dark; lab storage at <-10°C.	200 days to extraction; 40 days from extraction to analysis ³
OCPs	1-8 oz amber glass with Teflon-lined cap	Ice, 4°C. Maintain in dark; lab storage at <-10°C.	365 days to extraction; 40 days from extraction to analysis ⁴
PCBs as Aroclors	1-8 oz amber glass with Teflon-lined cap	Ice, 4°C.	365 days to extraction; 40 days from extraction to analysis ⁵
Saturated hydrocarbons and geochemical biomarkers	1-8 oz amber glass with Teflon-lined cap	Ice, 4°C. Maintain in dark; lab storage at <-10°C.	365 days to extraction; 40 days from extraction to analysis
Aqueous Samples			
Saturated hydrocarbons and geochemical biomarkers	1-8 oz amber glass with Teflon-lined cap	Ice, 4°C.	14 days to extraction; 40 days from extraction to analysis
PCBs -Aroclors	2 x 1 L, amber glass	Ice, 4°C	365 days to extraction; 40 days from extraction to analysis
OCP	2 x 1 L, amber glass	Ice, 4°C	7 days to extraction per EPA 8081; 28 days to extraction for GC/MS/MS confirmation; 40 days from extraction to analysis

Notes:

1. Laboratory may provide alternate containers as long as the containers meet the requirements of the method and allow the collection of sufficient volume to perform the analyses and any reanalyses required by the method.
2. Holding time begins from date of sample collection.
3. Holding times for parent and alkylated PAHs in frozen soils and sediments have been extended based on Schumacher (2005) and industry standards for forensic analyses.
4. The holding time for OCPs in soils/sediments is extended in frozen samples based on EPA Method 1699.
5. The holding time for PCBs as Aroclors is extended based on Table 4-1 in SW-846 Chapter 4, Revision 4, 2007 and EPA Method 1668C.

Table 5-5
Analytical Methodologies
Benning Road Facility RI/FS Project

Parameter	Methodology
TCL VOCs	SW-846 5030B/5035A/8260B
TCL SVOCs	SW-846 8270C
TAL Metals	SW-846 6010C/6020A/7470A/7471B
TCL Pesticides (low level for aqueous samples)	SW-846 8081B
TCL PCBs - Aroclors	SW-846 8082A
PCB – Homologs (optional)	EPA 680 modified
DRO and ORO	SW-846 8015B
GRO	SW-846 8015B
AVS/SEM	EPA-821-R-91-100
PCB - congeners	EPA 1668
PCDD/PCDFs	SW-846 8290
Saturated hydrocarbons (n-alkanes and isoprenoids)	SW-846 8015D
Geochemical biomarkers	SW-846 8270D/ ASTM D7363
Radionuclides	DOE EML HASL-300, PO-01-RC/Ga-01-R, MARLAP
Parent and alkylated PAHs in pore water	ASTM D 7363

Table 5-6
 Additional Laboratory Preparation and Analytical SOPs
 Benning Road Facility RI/FS Project

Reference Number	Laboratory Performing Analysis	Title	Analytical Parameter
SOP No.2247	Alpha Analytical	Analysis of Parent and Alkylated Polynuclear Aromatic Hydrocarbons, Selected Heterocyclic Compounds, Steranes, Triterpanes and Triaromatic Steroids by GC / MS – SIM	Geochemical biomarkers
SOP No.2246	Alpha Analytical	Total Petroleum and Saturated Hydrocarbons by Gas Chromatography/Flame Ionization Detector	Saturated hydrocarbons
SOP DC_364	SGS-Wilmington	Standard Operating Procedure for the Analysis of Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans (PCDD/Fs)	PCDD/PCDFs
GL-RAD-A-013	GEL	Standard Operating Procedure for the Determination of Gamma Isotopes	Be-7, Ra-226, Cs-137
GL-RAD-A-016	GEL	Standard Operating Procedure for the Determination of Radiometric Polonium	Pb-210
GL-RAD-A-021	GEL	Standard Operating Procedure for Soil Sample Preparation for the Determination of Radionuclides	Be-7, Ra-226, Cs-137, Pb-210
GL-RAD-I-001	GEL	Standard Operating Procedure for Gamma Spectroscopy System Operation	Be-7, Ra-226, Cs-137
GL-RAD-I-009	GEL	Standard Operating Procedure for Alpha Spectroscopy System	Pb-210
MMS335-01	SGS-Marlborough	Determination of Parent and Alkyl Polycyclic Aromatics in Sediment Pore Water Using Solid-Phase Micoextraction and Gas Chromatography/Mass Spectrometry in Selected Ion Monitoring Mode	Parent and alkylated PAHs in pore water